

~~F. C. BULLER~~ (J. J. O'Donnell)

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**STANDARD DRAFTING PRACTICES
FOR THE PREPARATION OF
WIRING DIAGRAMS**



BELL TELEPHONE LABORATORIES
INCORPORATED

SYSTEMS DEVELOPMENT DEPARTMENT

463 WEST STREET
NEW YORK

STANDARD DRAFTING PRACTICES
FOR THE PREPARATION OF
WIRING DIAGRAMS

1. GENERAL

1.01 This specification, together with the supplementary information herein referred to, covers the standard drafting practices for the preparation of wiring diagram drawings. It also contains useful tabulated information for the draftsman in making up these drawings.

Engineer's Responsibility

1.02 The engineer will be responsible for furnishing new and revised drawing information to the draftsman. This information should be originated in the form of a standard drawing order, properly approved. The drawing order may include complete information with or without reference to other drawings such as schematic, equipment, local cable, and connecting drawings, and any other information which may be of assistance in preparing the drawing. The information, however, should be sufficiently comprehensive so that the draftsman may proceed without unnecessary loss of time.

1.03 After a drawing order has been originated, all subsequent changes made by the engineer should be covered by supplementary orders. Where such changes are made verbally, they should be confirmed by supplementary drawing orders.

1.04 The engineer will also be responsible for the following:

(a) That information is furnished relative to the gauge of wire, source of ringing current, and standard and other explanatory notes covering the use of figures and conditional wiring.

(b) That the arrangement of apparatus, cabling, and wiring agree with the requirements specified by the customer and standard or special practices.

Draftsman's Responsibility

1.05 The draftsman shall be responsible for the following:

(a) That the size, form, and general arrangement of the drawing is in accordance with the requirements covered herein unless otherwise specified.

(b) That the drawing conforms with the schematic and standard practices such as apparatus and cable conventions, colors of wires, manufacturing notes (when the operation of the circuit is not affected).

(c) That designations of leads to connecting or associated circuits are in agreement and that designated wires on the circuit are in agreement with associated manufacturing and engineering notes.

(d) That drawing numbers are listed of schematics and Telephone Company's drawings from which the wiring diagram was made as well as the drawing numbers of connecting and associated drawings.

1.06 After completion of a drawing the draftsman shall send the drawing together with the drawing order, and supplements if any, and all attachments thereto to the drafting checker.

1.07 Checking all wiring diagrams carefully will often eliminate a large number of installer's complaints and unnecessary additional expense.

Supplementary Information

Drawings

ES-223291 - Grounding - Toll Switchboards
ES-378383 - Grounding - Lead Covered Cables
SD-66197-01 - Grounding - PBX
SD-80426-01 - Grounding - Toll
T-622406 - Grounding - Toll

Specifications

M-32463 - Manufacturing Information for Shielded Wire
X-62604 - Drafting Practices for the Preparation of Assembly, Equipment, and Cabling Drawings
X-62724 - Drafting Information for Circuit Schematic Drawings
BSP AA610.003 - Gauge and Insulation of Wire
BSP AA612.001 - Wiring Symbols, Wiring Abbreviations, and Definitions
BSP AA612.002 - Airline System of Depicting Wiring Diagrams
BSP AA612.005 - Wiring and Cabling, Forming, Fanning, Sewing, and Skinning
BSP AA612.013 - Strapping
BSP AA612.015 - Color Combinations and Uses, Wiring and Cabling
BSP AA612.019 - Wiring and Cabling, Crossbar Type Equipment
BSP AA613.001 - Abbreviations and Symbols Used in Designating Central Office, PBX, and Power Equipment
BSP AA618.201 - Assembly and Installation of Power Plant Bus Bar and Wiring
KS-5482 - Manufacturing Information for Flame Retarding Power Wire and Cable
KS-7133 - Manufacturing Information for Rubber Insulated Cordage

2. GENERAL REQUIREMENTS

Form

- 2.01 Drawings shall be so planned that they may be accommodated by the standard tracing forms provided for this purpose.
- 2.02 All wiring diagrams to be used for a trial installation shall be drawn on pencil tracings.
- 2.03 Title box, notes, and approval column shall be arranged as shown on page 19.
- 2.04 The issue column shall cover a brief but complete record of all changes made on the tracing. In no case shall the issue columns show "changed per engineer's marked print" or "redrawn due to extensive changes". When it is necessary to continue the issue column on a drawing the words "continued at A" or B, etc. shall be shown at the bottom of the issue column.

Layout Planning

- 2.05 The draftsman shall familiarize himself with the circuit. The schematics shall be analyzed, cross-connections checked, and all notes carefully read. Any question that may arise such as source of ground, ringing supply, number of figures required, etc., shall be taken up with the engineer before proceeding. The layout of equipment shall be checked against the schematic to see that all equipment is accounted for.

Apparatus Layout

- 2.06 The figures listed herein are specific and shall be arranged on drawings in accordance with the equipment layout. No space shall be reserved on a tracing (specification sheets included) for additional figures unless it is certain that the additions will be made before the drawing is issued. Any request for deviations to this rule or from the information and practices set forth in this specification shall be referred to the drafting supervisor.
- 2.07 The apparatus shall be arranged in the same general order as that shown on the equipment drawings, looking at the terminal or soldering side of the equipment. The equipment on the individual mounting plates shall be shown at different levels.
- 2.08 Apparatus wired from the front of a panel or frame shall be shown above or to one side of apparatus wired from the rear, and shall be designated by a bracket reading: "Apparatus wired from front of panel or frame".
- 2.09 Where the apparatus mounts in a vertical row on a group of mounting plates with a vertical cable arm, it may be shown in a vertical row in the actual order in which it is mounted, provided the size of the drawing will permit; otherwise, the apparatus may be shown in two or more vertical rows. THE TOP SECTION TO BE SHOWN AT THE LEFT.

- 2.10 Where the apparatus mounts in a horizontal row as on a mounting plate it may be shown in a horizontal row in the actual order in which it is mounted, provided the size of the drawing will permit; otherwise, the apparatus may be shown in two rows from left to right as though the mounting plate was made in two sections, THE LEFT SECTION SHOWN ABOVE THE RIGHT SECTION.

- 2.11 The above requirements may be disregarded on miscellaneous circuits, auxiliary signal, supervisor's telephone, and miscellaneous alarm circuits where it would not be feasible to follow the arrangements specified.

- 2.12 Where it is necessary to connect or double up a lead in a handmade cable with a lead in a switchboard cable, or to terminate one end of a lead in a triple or pair, an "insulated terminal" shall be shown located at a position adjacent to the apparatus at which the cables meet or where the triple or pair terminates.

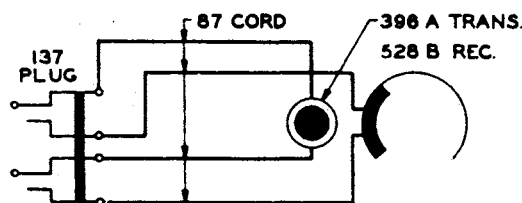
- 2.13 In order to properly associate the mounting of keys with their arrangement on the equipment drawing, one end of the key shall be indicated by the letter "J" on the wiring diagram. The purpose of the letter "J" is explained in a manufacturing note which is shown on the drawing. Where keys are shown in various ways on the same drawing, a number shall be added to the letter such as "J1", "J2", etc. Each of the designations shall be properly explained in a manufacturing note. (See page 4.)

- 2.14 The operation of key levers is indicated on the key top diagram shown on the schematic drawing. In the case of "splitting keys" where the operation of the key lever is not indicated, the key lever shall operate away from the operator to talk on the "A" cord and toward the operator to talk on the "C" cord, unless otherwise specified. (See page 26.)

- 2.15 Key top diagrams for all keys except E1 and individual push button keys, shall be shown on wiring diagrams under engineering notes. (See page 19.)

Figures

- 2.16 Wiring diagrams may be arranged in figures in order to provide flexibility in covering variable conditions.
- 2.17 On all wiring drawings, except circuit labels, subtitles for figures shall be as shown in Sketch A.
- 2.18 Lettered figures shall include optional or variable wiring and apparatus which form a part of a numbered figure.
- 2.19 The optional or variable features covered by lettered figures on wiring diagrams shall be properly explained under engineering notes such as "Specify Fig. A for Flashing Recall".
- 2.20 Numbered figures shall include a complete division of the circuit. The main figure shall be designated "Fig. 1" in all cases. The



OPR'S TELEPHONE SET

SKETCH A

divisions of the circuit covered by the numbered figures shall be shown immediately over the figure number. See Sketch A.

Apparatus Codes

2.21 Code numbers shall be conspicuously located at the various pieces of apparatus as shown on pages 21 and 25.

2.22 Code numbers of special apparatus covered by "D" specifications shall be shown as follows:

18 RES PER D- R REL PER D-

2.23 The abbreviation "No." instead of the number symbol (#) shall be used.

Designations

2.24 The designations shown for the apparatus on wiring diagrams shall correspond with those shown on the schematic drawings and shall be located in accordance with pages 21 and 25.

2.25 Stamped designations shall be shown in parenthesis. Designations in [] are for wiring information only and are not stamped.

2.26 In case apparatus, which is associated with a fundamental part of the circuit (such as tip and ring condensers), is not designated on the schematic drawing, such apparatus shall be designated on the wiring diagram to agree with the division of the circuit with which it is associated. Where two or more pieces of apparatus, having the same code numbers, are shown (and not designated on the schematic drawing) they shall be designated alphabetically or functionally for identification purposes.

Redraws

2.27 The drafting practices covered in this specification shall be employed on redraws, provided the expense involved in redrawing is approved by the engineering group supervisor.

2.28 The draftsman shall mark the old tracing "void", as shown on page 19. The marking shall be made in pencil and changed to ink when the new tracing is approved.

3. AIRLINE SYSTEM

3.01 In the airline system, each individual piece of apparatus (each group in some

cases) is numbered and the lines representing the individual wires from each piece of apparatus are carried a short distance and terminated at a common or base line, at an angle of 90°. These individual lines between apparatus and base lines are called feed lines. Each feed line is also numbered to correspond with the identification number of the piece of apparatus at which the other end of the connection terminates. It is not necessary to follow a connection through the base line and no provision is made for doing so. However, by observing the color and identification number included with the feed line, it is possible to jump directly between pieces of apparatus; hence the term "airline". Base lines are not used for relatively simple figures.

3.02 A typical wiring diagram, illustrating the airline system, is shown on page 21. More detailed information is covered in BSP AA612.002.

4. CIRCUIT LABELS

4.01 Circuit labels are made with the intention of affixing them to some part of the equipment casings or covers, therefore, the label must be restricted to the size of the space reserved for mounting them. As the labels are small in size the original drawings are made for reduction to the final size.

4.02 The size of conventions, lettering, and linework and the general form of the label are shown on page 22. A typical circuit label is shown on page 23.

4.03 When the condition permits, one figure shall be shown for the first, intermediate, and last figure of a series with the accompanying conditional wiring.

4.04 Schematic reference drawings from which the circuit label is made shall be listed above the title box and within the label as shown on pages 22 and 23.

4.05 The circuit requirements table and method of operation may be shown on a separate label or they may be made a part of the label with the circuit as shown on page 22.

4.06 The size of lettering and weight of lines used on the master tracing for reduction to the label size, are indicated by the tables on page 22.

4.07 When the reduction ratio required for the master tracing is not listed in the tables for weight of lines, size of lettering, etc., the ratio for the nearest reduction shall be used.

5. ENGINEERING NOTES

5.01 These notes list the circuit, equipment, local cable, bay layout, and connecting wiring drawings that are used in composing the wiring diagram. The various circuit features indicated on the circuit drawing are shown on the wiring diagram in separate figures, the particular figures required and the feature they produce or effect are specified in one of these notes such as "Specify one Fig. 1, 2, and 3 for

each station". These notes are shown on the drawings in the space reserved for them as shown on page 19.

6. MANUFACTURING NOTES

6.01 The following list of notes show the standard wording for manufacturing notes which are shown on the drawings in the space reserved for them as shown on page 19. Only those notes applying to the circuit and equipment involved on any particular drawing are required to appear on that drawing.

1. "A" denotes leads in handmade roof cables.
2. "B" terminal punching nearest base of the terminal strip.
3. (a) "C" wiring in separate cable form sewed to outside of regular cable form for electrical reasons.
(b) "C1" wiring, boiled in wax, taped, shellacked and run in separate cable form for electrical reasons and placed inside of the regular cable form, when to run on the outside of the form would interfere with the hinge action or other required movement of the regular form.
(c) "C1" forms composed of lacquered wire need not be boiled in wax.
(d) "C2" wiring in separate cable form sewed to outside of regular cable form for electrical reasons and not run in same form with other "C" wiring.
(e) "C4" wiring carrying commercial power within a unit which must be kept separate from other wiring.
4. (a) "D" wiring shall be (color) (gauge) (type) wire, not to be sewed in the cable form but run perpendicular and parallel to edges of the mounting unit, in the shortest possible manner.
(b) "D1" wiring shall be (color) (gauge) (type) wire run directly from terminal to terminal in the shortest possible manner and independent of all other leads.
(c) "D2" wiring shall be (color) (gauge) (type) wire not to be sewed in the cable form, generally dressed back against the mounting plate or panel, but to be run as indicated.
5. "E" denotes adjacent rows of punchings.
6. "F" bring from cable format separate stitch.
7. "H" terminal nearest brush rod looking at top or brush side (panel system).
8. (a) "J" top end of key looking at terminal side, keyshelf open.
(b) "J" bottom or left side of key looking at terminal side.
(c) "J" end of key nearer hinge looking at terminal side.
(d) "J" top end of key looking at terminal side.

- (e) "J" right end of key looking at terminal side.
- (f) "J" top or left side of key looking at terminal side.
- (g) "J" right end of key looking at terminal side keyshelf open.
- (h) "J" end of key nearest front of position (when mounted on flat top table and wired from underneath the table).

9. (a) "K" top or left row of punchings.
(b) "K1" denotes top or left terminal on strip (203 type).
(c) "K2" top left terminal on D-98153 terminal strip looking at local cable side of strip.
(d) "K3" bottom left terminal on D-98153 terminal strip looking at local cable side of strip.
10. Place "L" strap on first equipped circuit of group only.
11. ① denotes live leads to be insulated when not connected, as follows:

FIG	APP	COLOR	FIG	APP	COLOR
1	RES (A)	R-O	A	COND (PL)	R-W
2	RES LP (F)	Y-G	B	RES (C)	R-G

12. "LP" loop and do not cut when apparatus is wired only.
13. "P", "P1", and "P2" denotes pair.
14. "PT" denotes leads furnished as part of apparatus.
15. "Q" denotes quadruple.
16. "RU" denotes shielded rubber covered wire (720 cable).
17. Leads designated "SS" shall be surface strapping used on terminal strips as distinguished from strapping run near the base of terminals.
18. "SW" denotes surface wiring terminations which shall be run with 22SCB wire colored green unless otherwise specified.
19. "T" denotes triple.
20. "TW" denotes wires twisted together.
21. Leads designated "U" shall be 22 EDSCL wire shielded per M-32463.
22. Colors of jumpers on each 6 point row on D.P.C.T.S. starting with punching nearest base to be as follows:

Punching 1 - R 4 - BR-R
2 - R-G 5 - S
3 - BR 6 - S-R

23. For method of operation see CD-
24. Furnish () and () wiring when specified.
25. Furnish () and () wiring and apparatus when specified.
26. Furnish () wiring and apparatus and () wiring when specified.
27. Hairpin loops shall be run by installer or shop.
28. Leave these leads long enough to connect to any terminal on condenser, transformer, etc.
29. Omit on first circuit of group.
30. The knurled side of the plug shall be considered as the tip.
31. Wires not otherwise specified shall be (Specify gauge and insulation).
32. (a) 1W One conductor jumper wire.
 (b) 2W Two conductor jumper wire.
 (c) 3W Three conductor jumper wire.
 (d) 4W Four conductor jumper wire. (Spiral)
 (e) 4W(P) Four conductor jumper wire. (Multiple Twin)

-  Denotes cable.
-  Denotes splice.
-  End of wire shield. (Treatment to be as indicated by the connecting lead).
-  Riser to level of apparatus.
- Standard strapping furnished with apparatus.

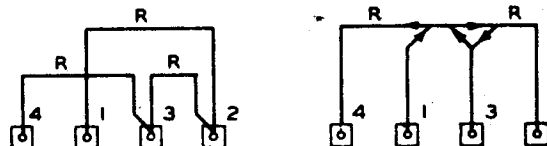
7. MANUFACTURING SCHEMATICS

- 7.01 This type of drawing is a combination wiring diagram and schematic. The engineer shall determine whether a manufacturing schematic or a wiring diagram shall be issued.
- 7.02 When a manufacturing schematic is to be issued, a reproduction of the schematic drawing (or portions thereof required for manufacturing purposes) shall be ordered, or when too many changes are required a new drawing may be made except that numbers, letters, and doubling up points shall be added to the relay conventions. The key conventions shall be arranged in accordance with wiring diagram practices. Battery and ground connections shall be shown in schematic form.
- 7.03 The following notes and sketches shall be shown as manufacturing notes:
- Starting at any terminal trace lead consistently with arrows, or against arrows to end of lead.
 - Do not make a reverse turn (switchback).
 - Doubling up points are shown in Sketches B and C.



SKETCH B

In this example, lead runs from terminal 1 to terminal 2 to terminal 3.



SKETCH C

In this example, lead runs from terminal 1 to terminal 2 to terminal 3 to terminal 4.

8. MODIFICATION DRAWINGS

- 8.01 This type of drawing is issued to modify existing wiring and equipment.
- 8.02 Modification drawings, which show undesirable practices such as splicing of leads, etc., shall not be specified on new equipment. When a modification drawing is satisfactory for use on new equipment it shall be so indicated by means of an engineering note on the drawing. The practice of specifying modification drawings on new equipment shall be restricted as far as practicable, since wiring record drawings and inspection or test methods are not prepared for such drawings.
- 8.03 The notation "MOD" shall be added following reference to the "ES Dwg." being modified i.e. "Made from B.T.Labs'. ES-12345-01, Iss. 1 (MOD)".
- 8.04 Modification notes shall be shown on wiring diagrams whenever the circuit does not agree with the schematic from which the wiring diagram originated. The modification notes shall describe the feature omitted, added, or changed rather than the detailed differences. Example: "Modification of B.T.Labs'. ES-12345-01, Iss. 1, consists of adding 90A cond. in each of the Tip and Ring Leads".
- 8.05 A separate wire list shall be shown in table form similar to Tables A, B, C, and D.

LIST OF APPARATUS, CABLE, AND WIRE REQUIRED FOR MODIFICATION			TITLE BOX
I		16 ESLB	
	1	6062 CABLE	
	1	E6123 REL	
FIG. 2	FIG. 1		BELL TELEPHONE

X INDICATES NUMBER OF FT. OF WIRE REQ.
TABLE A

WIRING TO BE CUT DEAD ON T-12345-30 TO AGREE WITH THIS DRAWING				
22 DSCL				
COLOR	FROM	TO	FIG.	REMARKS
R-O	REL (L)	REL (SL)	1	DISCONNECT, TAPE AT POS. (L) REL.
R-W	REL (CO)	REL (L)	1	

TABLE B

WIRING TO BE RECONNECTED ON T-12345-30 TO AGREE WITH THIS DRAWING			
COLOR	LOCATION	FIG.	REMARKS
BK	REL (B)	1	
R-G	REL (SL)	1	
R,O	REL (G)	1	SPLICE

TABLE C

ADDITIONAL WIRING REQUIRED TO MODIFY T-12345-30 TO AGREE WITH THIS DRAWING				
22 DSCL				
COLOR	FROM	TO	FIG.	REMARKS
R-G	RES (C)	REL (SL)	1	"L" wiring per 4 Ckts.
BL & BL-W "P"	RES (A) & (B)	REL (L)	1	
R-W	REL (R1)	REL (TP)	3	
16 ESCB				
BK-R	RES (E)	REL (T)	1	1 per 4 Ckts.
STRAP	REL (D) TERM 1	REL (D) TERM 2	1	"X" STRAP
22 EDC CABLE LEADS	REL (CO)	REL (D)	1	2 LEADS

TABLE D

9. STRAPPING AND LOOPING PRACTICES

General

9.01 Strapping is the process of connecting two or more terminals on the same or adjacent apparatus by means of bare or sleeved wire for the purpose of supplying battery or ground to the apparatus or to serve as a common lead for testing, listening, or other purposes. Method of strapping and gauge of wire used are covered in BSP AA612.013.

9.02 Strapping furnished with apparatus shall be shown in solid lines.

9.03 When strapping is required and loop leads are to be used, the color and gauge of the wire shall be shown. If strap wire is to be used no color is to be shown. When a common strap is used, it shall be indicated by a short oblique line at the apparatus terminal as shown on page 21, apparatus number 72.

9.04 Hairpin loops serve the same purpose as straps except that colored wire is used and they are not run in the cable form.

Hairpin Loops

9.05 Unless otherwise specified, hairpin loops shall be applied as follows:

- (a) On terminals of a sequence switch wired from same stitch in cable form.
- (b) On terminals in a horizontal row of selector banks.
- (c) Terminals of same key unit in toll system circuits.

Looping

9.06 Looping shall be applied as follows:

- (a) Jacks with staggered terminals shall be looped.
- (b) Trunk group keys with non-adjacent transfer scheme, and keys with movable springs shall be looped between springs of same unit.
- (c) Loop leads shall be used for multiplying keys except where harmonic ringing is used, in which case straps are used.

Strapping

9.07 Strapping shall be applied to terminals of apparatus as follows:

- (a) In general, terminals of same piece of apparatus, strapped from left to right and from bottom up.
- (b) Adjacent terminals of a vertical row, or arc, of a selector bank.
- (c) Adjacent jacks of same strip.
- (d) Springs of same key unit.
- (e) Adjacent key units of same key.
- (f) Adjacent ringing keys.
- (g) Adjacent switchboard lamps of same strip.
- (h) Battery or ground leads serving both "call" and "ans." lamps shall be run from left terminal of right lamp to right terminal of left lamp. Strap common leads for all "call" lamps in same position together, and all common leads for "ans." lamps together. Run an "L" strap between the two groups on first equipped circuit.
- (i) Resistances and condensers in adjacent equipment positions.
- (j) Corresponding terminals of relays in adjacent equipment positions when all relays are of same code on mounting plate.
- (k) Two relays mounted adjacent and served by one vertical cable arm shall be considered as one relay for strapping and loop purposes.

10. UNIVERSAL WIRING

10.01 Universal wiring is a term applied to the process of providing proper wiring and stitches on a local cable for use on an immediate installation and where apparatus may be added at some future time without altering the local cable in any way.

10.02 Where wiring is arranged for a circuit condition for which apparatus will be furnished at some future time, wires are looped or left dead at the position at which the apparatus may be added.

10.03 When wiring diagrams are to be arranged for universal wiring, the following procedure shall be followed:

- (a) Where minor wiring and apparatus changes are required, the complete information shall be shown on one circuit drawing by means of optional figures.
- (b) Where minor wiring and major apparatus changes require more than one drawing the colors and arrangement of leads common to all drawings shall correspond.
- (c) Where major wiring changes are required the procedure prescribed in item (b)

shall be followed, except that an additional drawing known as a universal wiring diagram shall be prepared which shall show the wiring (in diagram form) for all circuits. In general, the individual circuit drawing associated with a universal wiring diagram shall not be used unless the corresponding universal wiring diagram is specified.

11. WIRE COLORS

11.01 The colors, as used for leads, shall be abbreviated as follows:

BK - Black	S - Slate	R - Red
BL - Blue	G - Green	W - White
BR - Brown	Y - Yellow	N - Novelty
	O - Orange	

11.02 Colors, in the following lists, indicated with an asterisk (*) are to be used in preference to those not marked.

11.03 Color schemes are provided for specific leads appearing on the more common circuits. The colors assigned to battery, ground, and other leads for power sources should not be used for other purposes.

11.04 A general color scheme which should be used whenever possible is as follows:

- (a) Signal circuits shall be wired with red or some combination of the same color.
- (b) When two or more wires are connected to the same terminal they shall be the same color.
- (c) A single or solid color is used on tip, ground, or positive side of circuit; and multiple colors are used on ring, battery or negative side of circuit.

11.05 Color Schemes: The selection of colors, assigned to particular leads that are common to any number of similar circuits, constitute a color scheme. Where these colors are assigned they should be used explicitly. Color schemes for several gauges of wire are shown.

16 Gauge Wire Color Scheme

General

Singles or Pairs

BK	ground	Y	ground extended
BK-R	battery	Y-G	battery extended

20 Gauge Wire Color Scheme

General

Singles or Pairs

BK	ground	Y	ground extended
BK-R	battery	Y-G	battery extended

Cord Circuit

Singles

BK-R	P.U. bus bar to res. lamp, common bat. lead
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Singles (Cont'd.)

Y-G (PU) rel. to res. lamp
 BR Loop wire for + lead to CC ckt.
 BR-R Loop wire for - lead to CC ckt.
 S Loop wire for message reg.

Pairs

Y & Y-G Loop wires at key for ringing (see ring. ckt. for corresponding leads)

Triples

Y, Y-G, & R-G Loop wires at key for ringing (See ring. ckt. for corresponding leads)
 Y, R, & R-G (See ring. ckt. for corresponding leads)

Quadruple

Y, Y-G, R, & R-G Loop wires at key for ringing (see ring. ckt. for corresponding leads)

Cord Circuit Howler

Pairs

BK & BK-R Rep. coil to bus bars
 BR & BR-R Key to howler app.

Coin Control Circuit

Singles

BK 110V + bus bar to (+) res. lamp
 BK-R 110V - bus bar to (-) res. lamp
 Y (+) res. lamp to (C) rel., T.R.T. bus bar to (C) cond.
 Y-G (-) res. lamp to (R) rel., T.T. bus bar to (R) cond.
 BR (+) lead to cord or trk. ckt. (C) cond. to tone rel.
 BR-R (-) lead to cord or trk. ckt. (R) cond. to tone rel.
 S "C" lead to cord or trk. ckt.
 S-R "R" lead to cord or trk. ckt.
 R-G Loop wire to (C) rel. to (R) rel. to tone rel. to lamp.

Operator's Telephone Circuit

Singles

Y-G (RBT) pchg. to (RBT) term. on FBD

Pairs

R & R-G Ind. coil to varistor
 Varistor to opr. jk.
 BR & BR-R Opr. jk. (A) & (B) to jks. (C) & (D) Cond. (P) thru ind. coil to jacks for trans.
 BK & BK-R Cond. (P) thru ret. coil to bus bars

Quadruple

Y, Y-G, R, & R-G Supv. opr. jacks

Ringling Circuit

Singles

Y G grd.
 R R1 ring one
 R-G R2 ring two
 S-R Rel. lead } 4 party semiselective

Pairs

Y 1-G grd. } alt. ring single
 Y-G 2-± alt. } and 2 party

Triples

Y 1-G grd. } Superimposed
 R 3-± alt. & pos. } ring 4 party
 R-G 4-± alt. & neg. } selective
 Y 1-G grd. } Superimposed
 Y-G 2-± alt. } ring straight &
 R-G 4-± alt. & neg. } 4 party selective

Quadruples

Y 1-G grd. } Superimposed
 Y-G 2-± alt. } ring straight &
 R 3-± alt. & pos. } 4 party selective
 R-G 4-± alt. & neg. }
 Y 1-G grd. }
 Y-G 2-± alt. } Straight & 4 party
 R 3-± pos. } pulsating ring
 R-G 4-± neg. }

5 Wire Twist

BK G-GRD)
 Y-G 16
 Y 33 } Harmonic Ringing
 BR-R 50
 BR 66 }

22 Gauge Wire Color SchemeGeneral

Singles

BK ground
 BK-W battery
 R-O battery

Pairs

BK ground
 BK-W battery
 R ground extended
 R-W battery extended

Cord Circuit

Singles

R Sleeve of ans. cord, loop wire for grd. and "C" lead to CC ckt.
 R-W Sleeve of call cord, loop wire for aux. lead and "rel." lead from ring ckt.
 R-BL Supv. rel. to res., loop wire for R. B. T. lead
 R-O Individual battery
 R-G Ans. lamp, loop wire for "R" lead to CC ckt.
 R-BR Loop wire for "MC" lead to tel. ckt.
 R-S Call lamp

Pairs

BK & BK-W Loop wires for "T" & "R" or "TL" & "RL" leads to tel. ckt. at key. Key to rep. coil for bat. on rear cord and cond.
 BL & BL-W Rear cord extended aud. ring cond. to key, rep. coil, or conn. rk.
 BR & BR-W Key to rep. coil for bat. on front cord and cond.
 G & G-W Front cord ext. ring rel. to ring back cond. T & R cord to aud. ring cond.
 O & O-W Ans. cord, cond. assoc. with ans. cord when outside of sect.

Pairs (Cont'd.)

R & R-W Ringdown rel. across line, splitting key for talking on rear cord to (TC) & (RC) res.
 S & S-W Call cord, cond. assoc. with call cord when outside of sect., ring. rel. to ring back cond.
 R-G & R-S Ring key to ring rel., splitting key for talking on rear cord to (TC) & (RC) res.
 BK-BL-W & BK-O-W Loop wires for "F" & "H", "TM" & "RM" leads to tel. ckt.
 R-BL-W & R-O-W Splitting key for talking on front cord
 R-G-W & R-BR-W To (TA) & (RA) res.

Triples

G, G-W, & W Loop wires at key for rep. coil monitoring

Cord Circuit Plugging-up

Singles

R-W S (sleeve) of cord
 R-S Supv. lamp
 R-O Individual bat.

Pairs

S & S-W "T" & "R" of cord

Cord Circuit Howler

Singles

R Sleeve of cord "A" lead to opr. tel. ckt.
 R-W Lamp to rel. for grd.
 R-BL Lamp to rel. for bat.

Pairs

S & S-W Cord fast. to key and rep. coil

Operator's Telephone Circuit

Singles

R "TR" lead to test rel. or trans. key
 "B" lead to cord ckt. or 177E rel. or trans. key, 190D or B6 rel. to conn. rk. and cond. (T)
 R-G 177E rel. (T) to 177E rel. (R) "TK" lead to key
 R-W "A" lead to cord ckt. and to 149F rel. "Rel." lead to call ckt. "TK" lead to 20A rep. coil, B6 or 190D rel. and 21E cond. (T)
 R-BL B6 or 190D rel. to 46B or 47B ret. coil, 177E rel. to "RBT" pchg.
 R-BR-W "T" pchg. to 177E rel. (T)
 R-BR 21E cond. (RBT) to 177E rel. (R)
 R-BL-W "MC" lead to cord ckt., trans. key or 125K rel.
 R-S "A" lead to trans. key

Pairs

R & R-W Ind. coil to 20A rep. coil
 BL & BL-W Leads "1" & "2" to (RD) key, to ind. coil and 20A rep. coil to mon. rel. and conn. rk., leads from tel. ckt. side to trans. key and from (SW) rel. to conn. rk.

Pairs (Cont'd.)

S & S-W "TM" & "RM" leads to cord ckt. and trans. key and thru 21K cond. to term. "1" & "6" of rep. coil and mon. rel. to mon. taps
 Trans. Bat. from F. Bd. spliced at coil rack
 BR & BR-W "T" & "R" or "TL" & "RL" leads to cord ckt. leads to (RD) key and call ckt., leads from cord ckt. side to trans. key and from mon. rel. to term. "7" & "8" of rep. coil.
 BK & BK-W "TB" & "TG" pchgs. thru 149F rel. and 12A ret. coil to cond. (P)
 S & S-W Trans. bat. from F. BD spliced at coil rk.

Triple

G, G-W, & W Ind. coil and 20A rep. coil to mon. rel.

Trunk Circuit

Singles

R-W Sleeve of cord
 R-BL Disc. lamp
 R-O Individual bat.
 R-S G & R lamp
 R-G Disc. lamp

Pairs

G & G-W T & R of cord extended
 T & R to aud. ring. cond.
 R & R-W (RD) rel. across the line
 S & S-W T & R of cord
 BL & BL-W Aud. ring. cond. to key or conn. rack

Auxiliary Signal Circuit

Singles

R-BL Pchg. (LL) to aux. ckt., aux. rel. to cord or trk. ckt.
 R-W Pchg. (LL) to line lamps 0-19
 R-G Pchg. (LL1) to line lamps 20-39
 R Pchg. (LL1) to line lamps 40-59
 R-S Pchg. (LL2) to line lamps 60-79
 R-BL-W Pchg. (LL2) to line lamps 80-99
 R-BR Pchg. (LL3) to line lamps 100-119
 R-BR-W Pchg. (LL3) to line lamps 120-139
 R-O-W Pchg. (LL4) to line lamps 140-159
 R-G-W Pchg. (LL4) to line lamps 160-179

11.06 List of colors and respective piece part numbers

14 ESCE

Singles

BK
 BK-R
 Y
 Y-G
 R
 R-G
 BR
 BR-R
 S
 S-R
 BL

Piece Part No.

P-360913
 P-360914
 P-364917
 P-360907
 P-360911
 P-360908
 P-364918
 P-360910
 P-360912
 P-360909
 P-364919

14 ESCB (Cont'd.)Singles

R-BL
O-S
S-W
R-W

Piece Part No.

P-365029
P-365026
P-365028
P-365027

Pairs

Y & Y-G
R & R-G
S & S-R
BR & BR-R

P-364931
P-364930
P-364932
P-364933

16 ESCBSingles

*BK
*BK-R
*Y
*Y-G
R
R-G
BR
BR-R
S
S-R

P-308686
P-308690
P-308688
P-308691
P-308687
P-308694
P-308689
P-308692
P-308685
P-308693

Pairs

*BK & BK-R
*Y & Y-G
R & R-G
BR & BR-R
S & S-R

P-308695
P-308696
P-308698
P-308699
P-308697

Triples

*Y, Y-G, & R-G
BR, BR-R, & S-R

P-308700
P-308701

Quadruple

*Y, Y-G, R, & R-G

P-308702

16 ESDCSingles

BK-BL
BK-O
BK-G
BK-BR

P-321312
P-321313
P-321314
P-321315

16 DCLSingles

BK-BL
BK-O
BK-G
BK-BR

P-324227
P-324228
P-324229
P-324230

19 ESCBSingles

BK
BK-W
R-G
R-W
R-BL
R-O
BR-R
S-R

P-316554
P-316547
P-316548
P-316553
P-316551
P-316552
P-316549
P-316550

19 ESCB (Cont'd.)Pairs

BK & BK-W
BL & BL-W
S & S-W
BR & BR-W
G & G-W

Piece Part No.

P-316660
P-316661
P-316664
P-316663
P-316662

19 ESDCPairs

R-W & R
BK-W & W
O & O-W
BR & BR-W
S & S-W
BK & BK-W

P-321181
P-321183
P-361377
P-360813
P-361378
P-321185

19 DCLPairs

R-W & R
BK-W & BK
R & R-BL
BL & W
R & R-O

P-325043
P-325044
P-325019
P-324879
P-325020

20 ESCBSingles

*BK
*BK-R
*Y
*Y-G
*R
*R-G
BR
BR-R
S
S-R
BL
R-BL
O
R-O
G

P-300050
P-300055
P-300051
P-300056
P-300052
P-300059
P-300053
P-300057
P-300054
P-300058
P-310006
P-310007
P-310008
P-310009
P-323780

Pairs

*BK & BK-R
*Y & Y-G
*R & R-G
S & S-R
BR & BR-R
BL & R-BL
O & R-O

P-300060
P-300061
P-300063
P-300062
P-300064
P-310010
P-310011

Triples

*Y, Y-G, & R-G
BR, BR-R, & S-R
Y, R, & R-G

P-300066
P-300065
P-308017

Quadruple

*Y, Y-G, R, & R-G

P-300067

5 Wire Twist

BK, Y, BR, Y-G & BR-R

P-307746

22 ESCBSingles

BK	P-318543
BK-R	P-314080
R	P-314078
R-W	P-314077
R-BL	P-314079
R-O	P-314076
R-G	P-311976
Y	P-318544
BR	P-318541
G	P-318540
G-W	P-318546
S	P-318542
S-W	P-318547

Pairs

BL & BL-W	P-315013
R & R-O	P-315015
R & R-G	P-318553
G & G-W	P-318551
S & S-W	P-318552

22 DSCBSingles

R	P-319025
W	P-319026
BK	P-319027
BR	P-360151

22 ESCDSingles

*BK	P-321480
*R	P-321479
*R-G	P-321460
*R-W	P-321481
*R-BL	P-321458
*R-S	P-321462
*R-O	P-321459
*R-BR	P-321461
*R-BL-W	P-321463
R-O-W	P-321468
R-G-W	P-321472
R-BR-W	P-321475
*BK-W	P-321482

Pairs

*BK-W & BK	P-322508
*BL & BL-W	P-360796
*O & O-W	P-360821
*S & S-W	P-361040
*R-W & R	P-322504
BR & BR-W	P-360797
G & G-W	P-360822
R-G & R-S	P-360893
BK-BL-W & BK-O-W	P-361386
BK-G-W & BK-BR-W	P-361387
R-BL-W & R-O-W	P-361388
R-G-W & R-BR-W	P-361389

Triples

*G, G-W, & W	P-361390
R-BL-W, R-G-W, & R-BR-W	P-361391

Quadruple

*R-BL-W, R-O-W, R-G-W, & R-BR-W	P-361392
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22 DSCL & 22 EDSClSingles

	<u>22 DSCL</u>	<u>22 EDSCl</u>
*R	P-358410	P-357390
*R-W	P-358511	P-357392
*R-BL	P-358411	P-357309
*R-O	P-358412	P-357310
*R-G	P-358413	P-357311
*R-BR	P-358414	P-357312
*R-S	P-358415	P-357313
*R-BL-W	P-358417	P-357314
*R-O-W	P-358418	P-357319
*R-G-W	P-358419	P-357323
*R-BR-W	P-358420	P-357326
R-BK-S	P-365035	P-357353
R-BK-BL	P-358437	P-357349
R-BK-O	P-358427	P-357350
R-BK-G	P-358439	P-357351
R-BK-BR	P-358761	P-357352
BK-O	P-358422	P-357330
BK-BR	P-358746	P-357332
BK-S	P-365034	P-357333
O	P-358401	P-357290
O-W	P-358406	P-357299
O-S	P-358732	P-357302
O-G	P-358435	P-357300
O-BR	P-358731	P-357301
*BK	P-358421	P-357391
*BK-W	P-358473	P-357393
R-BK	P-358777	

Pairs

*BK & BK-W	P-358474	P-358376
*BL & BL-W	P-358513	P-358380
*O & O-W	P-358514	P-358381
*S & S-W	P-358517	P-358384
*R & R-W	P-358512	P-358372
G & G-W	P-358515	P-358382
BR & BR-W	P-358516	P-358383
R-G & R-S	P-358518	P-358385
BK-BL-W & BK-O-W	P-358522	P-358386
BK-G-W & BK-BR-W	P-358521	P-358387
R-BL-W & R-O-W	P-358519	P-358391
R-G-W & R-BR-W	P-358520	P-358392
R-W & W	P-358780	P-358371
BL & W	P-358479	P-358328
R & R-G	P-358481	P-358783
BL & R	P-358781	P-358348
R & W	P-358782	P-358368

Triples

*G, G-W, & W	P-365036	P-358393
R-BL-W, R-G-W, & R-BR-W	P-358779	P-358394

Quadruples

*BL, R-BL, NBK-BL, & NR-BL	P-325868
*O, R-O, NBK-O, & NR-O	P-325869
*G, R-G, NBK-G, & NR-G	P-325870
BR, R-BR, NBK-BR, & NR-BR	P-325871
S, R-S, NBK-S, & NR-S	P-325872
BL-W, R-BL-W, NBK-BL-W, & NR-BL-W	P-325873
BL-O, R-BL-O, NBK-BL-O, & NR-BL-O	P-325874
BL-G, R-BL-G, NBK-BL-G, & NR-BL-G	P-325875

22 DCL

Singles

*R
*R-G
*R-W
*R-BL
*R-S
*R-O
*R-BR
*R-BL-W
*R-O-W
*R-G-W
*R-BR-W
R-BK-S
R-BK-BL
R-BK-O
R-BK-G
R-BK-BR
BK-O
BK-BR
BK-S
O
O-W
O-S
O-G
O-BR
BK
BK-W
R-BK

Pairs

*BK-W & BK
*BL & BL-W
*O & O-W
*S & S-W
*R-W & R
G & G-W
BR & BR-W
R-G & R-S
R-G-W & R-BR-W
R-BL-W & R-O-W
BK-BL-W & BK-O-W
BK-G-W & BK-BR-W
R-W & W
W & BL
R & R-G
R & BL
W & R

Triples

*G, G-W, & W
R-BL-W, R-G-W, & R-BR-W

Quadruple

*R-BL-W, R-O-W, R-G-W, & R-BR-W

Piece Part No.

P-324442
P-324383
P-324444
P-324381
P-324385
P-324382
P-324384
P-324386
P-324391
P-324395
P-324398
P-324425
P-324421
P-324422
P-324423
P-324424
P-324402
P-324404
P-324405
P-324362
P-324371
P-324374
P-324372
P-324373
P-324443
P-324445
P-324446

P-325219
P-364401
P-364405
P-364403
P-325215
P-364404
P-364402
P-364410
P-364409
P-364408
P-364407
P-364406
P-325214
P-325051
P-325193
P-325071
P-325211

P-364412
P-364411

P-359576

22 DSSBL

Singles

*R
*BL
*G
*BR
*S
*BK
Y
O-S

P-474070
P-474071
P-474072
P-474073
P-474074
P-474075
P-474076
P-474077

22 DSSBL (Cont'd)

Singles

BL-R
O-R
R-G
BK-R
Y-G
BR-R
S-R
O

Pairs

*BK & BK-R
*Y & Y-G
*R & R-G
*S & S-R
BR & BR-R
BL & BL-R
O & O-R

Piece Part No.

P-474078
P-474079
P-474080
P-474081
P-474082
P-474083
P-474084
P-474085

P-474533
P-474534
P-474535
P-474536
P-474537
P-474538
P-474539

24 SCB

This wire is primarily designed for use in wiring SXS switches in selector circuits. The colors are to be used as follows:

RED-GRD.; WHITE-BAT.; GREEN-ALL OTHER LEADS

24 DCL

Singles

*R
*R-W
*R-BL
*R-O
*R-G
*R-BR
*R-S
*R-BL-W
*R-O-W
*R-G-W
*R-BR-W
R-BK-S
R-BK-BL
R-BK-O
R-BK-G
R-BK-BR
BK-O
BK-BR
BK-S
O
O-W
O-S
O-G
O-B
BK
BK
R-BK

P-324529
P-324531
P-324468
P-324469
P-324470
P-324471
P-324472
P-324473
P-324478
P-324482
P-324485
P-324512
P-324508
P-324509
P-324510
P-324511
P-324489
P-324491
P-324492
P-324449
P-324458
P-324461
P-324459
P-324460
P-324530
P-324532
P-324533

Pairs

*BK & BK-W
*BL & BL-W
*O & O-W
*S & S-W
*R & R-W
G & G-W
BR & BR-W
R-G & R-S

P-325391
P-359578
P-359581
P-359579
P-325387
P-359577
P-359580
P-359575

24 DCL (Cont'd.)

<u>Pairs</u>	<u>Piece Part No.</u>
R-BL-W & R-O-W	P-359751
R-G-W & R-BR-W	P-359752
BK-BL-W & BK-O-W	P-359750
BK-G-W & BK-BR-W	P-359749
R-W & W	P-325386
BL & W	P-325223
R & R-G	P-325365
BL & R	P-325243
R & W	P-325383

Triples

*G, G-W, & W	P-359761
R-BL-W, R-G-W, & R-BR-W	P-359762

Quadruple

R-BL-W, R-O-W, R-G-W, & R-BR-W	P-359763
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22 EDSCL Wire Shielded Per M-32463

<u>Singles</u>	<u>Shielded Only</u>	<u>Shielded and Braided</u>
R	P-357153	P-357158
BK	P-357154	P-357159
S	P-357155	P-357160
R-S	P-357156	P-357161
R-G	P-357157	P-357162

Pairs

S & S-R	P-357163	P-357170
R & R-G	P-357164	P-357171
BR & BR-R	P-357165	P-357172
BK & BK-R	P-357166	P-357173
Y & Y-G	P-357167	P-357174
O & O-R	P-357168	P-357175
BL & BL-R	P-357169	P-357176

Triples

BR, BR-R, & S-R	P-357177	P-357179
Y, Y-G, & R-G	P-357178	P-357180

Shielded Wire Per M-1906916 ESCBSingles

BK	P-364896
R	P-364897
R-G	P-361984

Pairs

BK & BK-R	P-360872
Y & Y-G	P-360919

20 ESCBSingles

BR	P-361900
S	P-360696
S-R	P-360698

20 ESCB (Cont'd)

<u>Pairs</u>	<u>Piece Part No.</u>
S & S-R	P-317201
R & R-G	P-317202
BR & BR-R	P-317203
BL & BL-R	P-317204
O & O-R	P-317205
Y & Y-G	P-317200

12. WIRING PRACTICESBattery and Ground and Tip and Ring Connections to Apparatus

12.01 Unless otherwise specified connect battery and ground leads to terminals of apparatus as shown in Table E on page 14.

Common Leads

12.02 The limit of leads shall be indicated on all wiring diagrams, for example:

- (a) 1 lead per 5 circuits.
- (b) 1 lead per side of frame.
- (c) 1 lead per position.

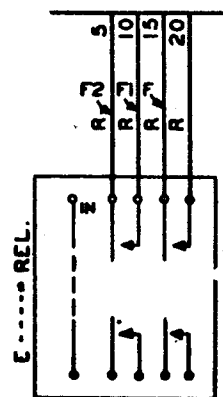
12.03 Limit on loop wires shall be shown when other than straight looping is shown, for example:

- (a) 1 lead per 5 odd circuits 1, 3, etc.
- (b) 1 lead per 5 even circuits 2, 4, etc.

"F" Stitching

12.04 When two or more wires of the same color are to be connected to different terminals of the same piece of apparatus, or when one wire of a pair is to be cut and the ends connected to different terminals of the same piece of apparatus, one of the wires shall be brought out at the regular stitch and each of the other wires at a separate stitch.

12.05 Where there are duplications of colors, coming out at the same stitch, one of each color shall be brought out at succeeding "F" stitches.



SKETCH D

EQUIPMENT	SEE NOTE	CONNECTIONS FROM WIRING SIDE
Buzzers, Bells		(d-c) battery to winding - ground to armature (a-c) winding in series with a-c supply
Condenser		Tip to top or left terminal, ring to bottom or right
Dry batteries		Negative terminal to ground
Keys: General	(a)	Tip to upper or left side, ring to lower or right + (Collect) and tip to unit nearest to operator
Coin control		- (Return) and ring away from operator
Lamps: Resistance	(c)	Ground to outer contact
Switchboard		Ground, battery, or auxiliary to left or bottom terminal
Strip mounted		Ground to bottom lamp terminal
Relays: B, G, and J	(b)	Ground to armature or master spring Battery to contact spring
E, F, H, and R	(b)	Tip or ground to contact spring
Lamp lighting		Battery auxiliary circuits - ground to non-inductive winding Lamp to armature Ground auxiliary circuits - battery to armature Lamp to non-inductive winding
Resistances	(d)	Ground to top or left terminal
Notes: (a) On MR keys or units, connect to stationary springs. Connect the high potential lead to the contact of the MR key to avoid ground leak. (b) Connect all apparatus wound for magnetic operation (such as relays, signals, etc.) so that the "IN" end of the winding is nearest to the ground potential. (c) Bring battery leads in from the top and connect to inner terminal. (d) Show 19 type resistances with the lowest resistance value at top or left. When resistance is located above equipment with a common cover, connect battery to top terminal.		

TABLE E

12.06 "F" stitches shall be connected to that side of the apparatus which is toward the tip of the form.

12.07 If more than one "F" stitch is used, the "F" leads shall be designated "F", "F1", "F2", etc., starting with the one nearest the regular stitch as shown in Sketch D.

12.08 The use of "F" stitches shall be limited as far as possible by the proper selection of colors.

Gauge and Insulation of Wire

12.09 To a large extent the requirements on a wire for a given type of equipment are the same for all systems. In a few instances

the type of equipment involved at the present time may be used in only two or three systems or possibly in only one system. However, the requirement covers the accepted standard for that type of equipment and would be followed in any other system in which the equipment might be used. The requirements on the gauge and insulation of wire are as outlined in AA610.003.

12.10 Abbreviations are used to indicate the kind of insulation or wire covering used on the various gauges of wire. These abbreviations are shown after the wire gauge and are as follows:

E - Enamel	L - Lacquered
S - Silk	T - Tinned
C - Cotton	D - Double Sewed
B - Braided	

Jumper Wires

12.11 The number of conductors in each set of jumpers shall be indicated by 1W, 2W, 3W, etc. An explanatory note shall be placed on the drawing as a manufacturing note. (See manufacturing note 32 on page 5.)

12.12 The gauge and type of jumper wires shall not be shown on wiring diagrams as they generally are furnished by the Telephone Company as covered by the standard installing specification and the A.T.&T.Co.'s field information.

Live Leads

12.13 Live leads shall be considered those upon which voltage is either directly or momentarily impressed such as talking battery, signal battery, coin control, audible ringing signal, a-c or d-c ringing, harmonic ringing, howler busy back, flashing recall, busy test, trouble test, interrupters, tone, grid, filament, etc., and unequipped ground leads terminating at shelves which are insulated from the frame.

12.14 By "momentarily impressed" is meant the impressing of voltage on leads by the operation of a relay, key, or similar apparatus in the same or connecting circuits.

12.15 All live leads terminating at unequipped apparatus positions should be sleeved or taped.

12.16 Designate live leads with the symbol $\textcircled{L}$ at the unequipped apparatus positions. When more than one like colored $\textcircled{L}$ leads appear at any one unequipped apparatus position the number of these leads shall precede the color in the table that is shown in the manufacturing note. See manufacturing note 11 and table therein on page 4.

Maximum Number of Wires Connected to Terminals

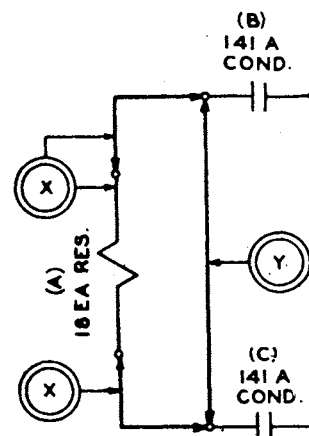
12.17 The maximum number of wires to be connected to terminals of apparatus on new wiring diagrams shall be as shown in Table F.

GAUGE OR DESCRIPTION	NUMBER OF WIRES	APPARATUS
19	2 Desirable 3 Permissible	General
20	2 Desirable 3 Permissible	
22	3	
Straps	3	
16	4	Same row of terms. on term. strip.

TABLE F

Optional Wiring

12.18 Wiring diagrams may be arranged to cover minor variations in the circuit conditions



SKETCH E

by means of an optional arrangement of the wiring and apparatus involved. Figures shall be shown in preference to optional wiring or apparatus where complicated conditions exist.

12.19 Optional wiring or apparatus shall be indicated by the letters "X" or "Y" enclosed in a double circle as illustrated in Sketch E.

12.20 The diameter of the outer circle shall be approximately 5/16" and the inner circle approximately 1/4".

12.21 Suitable notes similar to the following for optional wiring and apparatus shall be shown under the headings listed below.

"Manufacturing Notes"

Furnish "X" and "Y" wiring and "X" apparatus when specified.

"Engineering Notes"

Specify "X" wiring and apparatus when audible ringing is required, otherwise specify "Y" wiring.

Pairs, Triples, Quadruples, and Quintuples

12.22 Pairs, triples, quadruples or quintuples as referred to herein shall be considered as two, three, four or five individual wires twisted together to serve as conductors for a certain path of current. This systematic grouping of conductors in the cable form prevents the excessive transfer of energy between the talking, ringing, tone, and miscellaneous signaling leads run in the same or adjacent forms or cables. In general, the pairing, tripling, quadrupling, and quintupling of leads shall be taken from the schematic.

12.23 Pairing of leads can be made very distinct by designating the pairs as "P", "P1", "P2", etc., the numerals after the letters being used only where one side of the pair is broken up by going through a piece of apparatus. (See page 21 and manufacturing note 13 on page 4.)

12.24 Paired leads shall form a set of continuously paired conductors of the same length when they are connected at the terminating points. The same general principles apply to triples and quads.

13. TELETYPEWRITER HANDBOOK DRAWINGS

Drawing Form

13.01 These practices have been established to govern preparation of wiring drawings for teletypewriter station equipment. These drawings are intended for reduction to installation and maintenance handbooks.

13.02 The drawings shall be arranged for reduction to 5-1/2" x 3-1/2", from the master which is shown on page 20. The lettering sizes required are also shown on this page.

13.03 The vertical position of a page shall be considered normal. When it is necessary to view a plan in a horizontal position the page shall be turned counter-clockwise.

Lettering, Pages, Plans, and Titles

13.04 Page titles shall be as brief as possible, using standard abbreviations and dashes in place of conjunctions or prepositions. Regardless of the position of the plan the page title shall be at the top of the normal page, see page 20.

13.05 All lettering, except page titles, shall be shown so that it is read from the same position that the plan is viewed.

13.06 Plan numbers should be shown below and at the left side of the plan, followed by the plan title extending as far across the width of the page as required, provided the plans are not shown side by side. In such a case the title may occupy the width of the area allotted to the plan.

13.07 In plan titles, teletypewriter subscriber sets, and teletypewriter tables, when referred to by code number, should be listed as sets and tables only, such as, 120A1 set or 15A table.

13.08 Symbols, such as, TTY, TWX, TLT, or CLX are shown as capital letters and are not abbreviations, therefore no periods shall be used.

13.09 Explanation of conventions shall be a separate page and reference, by a note, made to it on each of the drawings showing plans.

13.10 Notes shall cover any other information required for the complete installation that is not apparent from the plans. Those notes shall not be shown on the handbook pages nor shall any reference be made to them.

Wiring Practices

13.11 Dotted wiring on apparatus shall be used to indicate wiring or apparatus shown on another drawing.

13.12 Terminals shall not be shown dotted, but if it is desirable to indicate that terminals on a piece of apparatus are shown on another drawing the convention of the apparatus shall be dotted around the terminals.

13.13 Plugs and jacks shall be arranged to indicate those that connect together and shall be aligned horizontally.

REMARKS

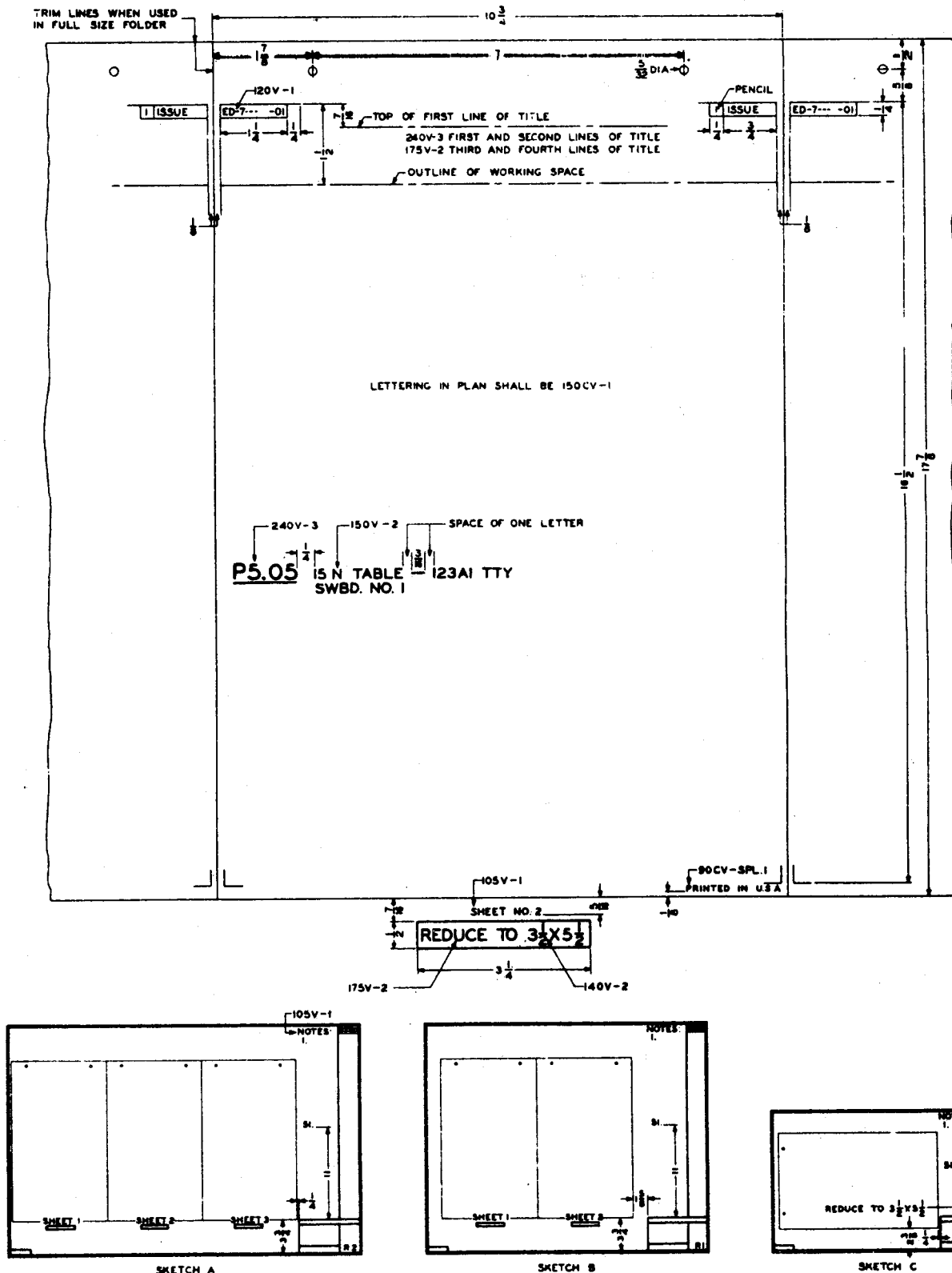
R E M A R K S

MANUFACTURING NOTES:		DWG. (E) (C) (S) DATE APPROVED	
1. STANDARD NOTES WHICH ARE TO APPEAR IN THIS COLUMN ARE SHOWN ON PAGE 13. THE FOLLOWING INFORMATION IS FOR DRAFTING PURPOSES ONLY.		13. ISSUE	14. ISSUED
2. WHEN DRAWINGS HAVE BEEN REDRAWN, THE OLD TRACING SHALL BE MARKED VOID IN 1/4" LETTERING AS SHOWN. 3. DRAWINGS SHALL BE SIGNED AS FOLLOWS: X ENGINEER Y ENGINEER'S SUPERVISOR Z MAJOR SUPERVISOR 4. 8.3K ABOVE TITLE SHALL BE AT LEAST 2 1/2" AND MAY BE INCREASED IF NECESSARY. 5. KEY TOPS SHALL BE SHOWN VERTICALLY OR HORIZONTALLY IN ACCORDANCE WITH THE EQUIPMENT ARRANGEMENT. SEE PAGE 28 FOR TYPICAL KEY TOPS.		GIVE COMPLETE HISTORY OF THE CHANGE MADE AS INDICATED BELOW: IN FIG. 1 (TR) RELAY & ASSOC. WIRING WAS NOT SHOWN (A) COND. WAS CODED 141Q DWG. WAS RATED STD.	
		15. A	16. B-34
		X	Z

ENGINEERING NOTES:		140-V
51. THIS DWG. ISS. AGREES WITH		
50- -01		
52. FOR EQUIPMENT LAYOUT SEE		
53. CONNECTING DRAWINGS ARE:		
SEE NOTE 5		
CODE FRONT	CODE FRONT FRONT	(TALK) (MON) = CODE FRONT
185 V-2 BELL TELEPHONE LABORATORIES, INC.		

SD-, ES- 2 SHEETS	PROVISIONAL STANDARD
SD-, ES- BELL TELEPHONE LABORATORIES, INC. PRINTED IN U.S.A.	R

STANDARD ARRANGEMENT OF TITLE BOX, NOTES AND APPROVAL COLUMN



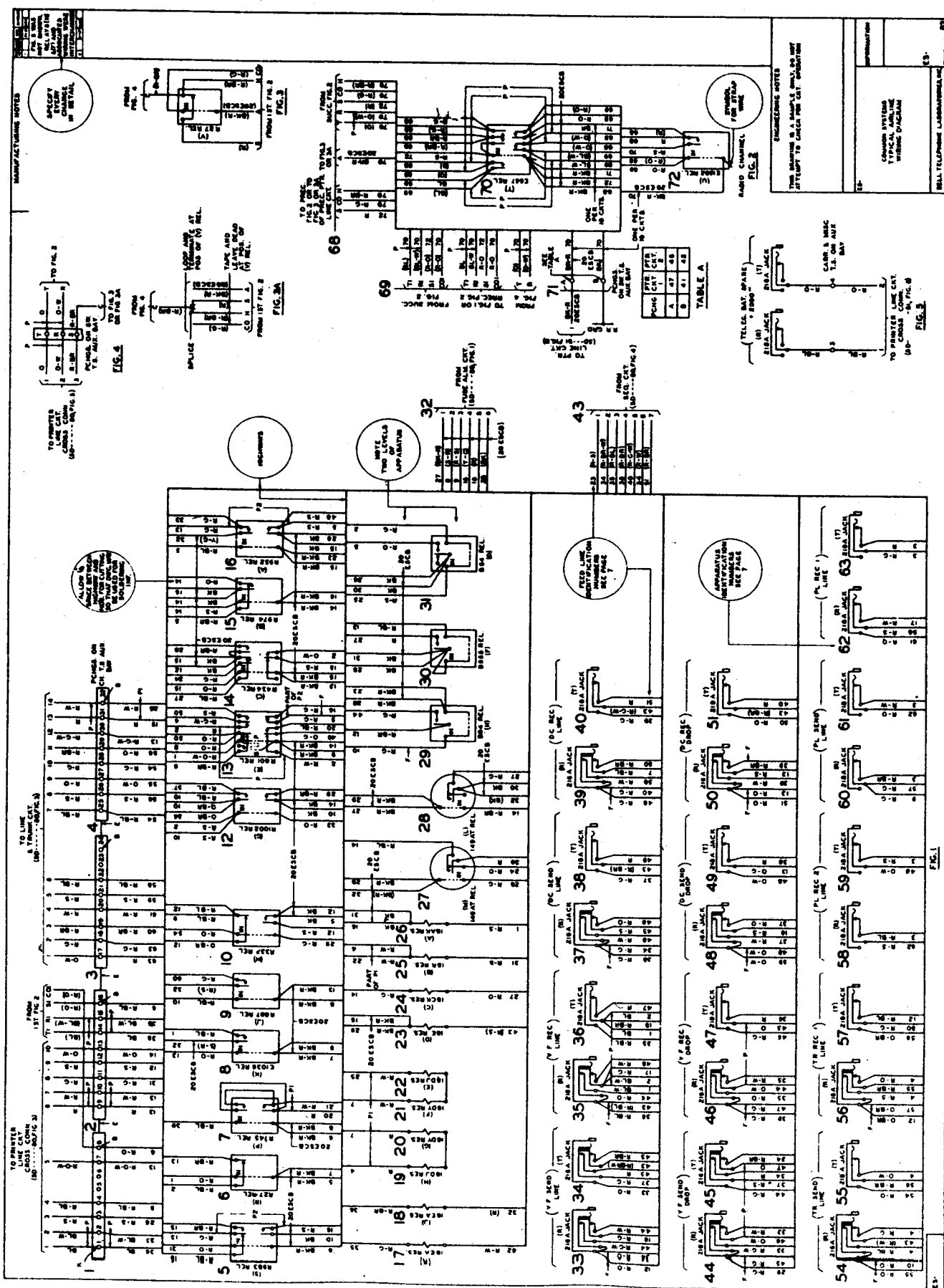
ARRANGEMENT OF TTY HANDBOOK SHEETS ON STANDARD FORMS

NOTE 1 SHALL READ "FOR EXPLANATION OF CONVENTIONS SEE ED-70053-01"

NOTE S1 SHALL READ "MADE FROM BT LABS SD-----"

IN SKETCHES, DIMENSIONS GIVEN ARE FOR 3:1 REDUCTION.

ARRANGEMENT OF FORMS FOR TELETYPEWRITER HANDBOOK



TYPICAL AIRLINE WIRING DIAGRAM

175V-2

P-000000

CIRCUIT REQUIREMENTS

CIRCUIT NOTES

(TO BE SHOWN HERE IF POSSIBLE)

FOR REFERENCE SEE:
(NUMBER & TITLE OF SCHEMATIC)

TABLE OF DIMENSIONS WHEN REDUCED				
DIM	2:1	3:1	4:1	
A	1	3	4	1
B	1	1 1/2	2	2
C	1	3/2	1	1
D	1	3	4	1

TABLE A

SIZE OF CONVENTIONS WHEN REDUCED			
2:1	3:1	4:1	
ACTUAL	1 1/2	2	1 1/2

METHOD OF OPERATION

GUIDES AND PENS TO BE USED WHEN REDUCED				
	2:1	3:1	4:1	
INSIDE CONVENTIONS	90 CV	120	140	2
PRINTED IN U.S.A.	120	140	175	2
COLORS, NOTES, ETC.	175	240	290	4
DWG NUMBER	140	2	240	3
P.P. NUMBER	140	2	240	3
FIGURE NUMBERS	140	2	240	3
LABEL TITLE	140	2	240	3
METHOD OF OPERATION	240	3	290	4
CIRCUIT REQUIREMENTS	240	3	290	4
WIRING OF CIRCUITS	240	3	290	4
APPARATUS NUMBERS	240	3	290	4

TABLE C

SIZE OF LINES WHEN REDUCED			
2:1	3:1	4:1	
PAIRING LINE	---	---	---
SIGNAL LEAD	---	---	---
TALKING LEAD	---	---	---

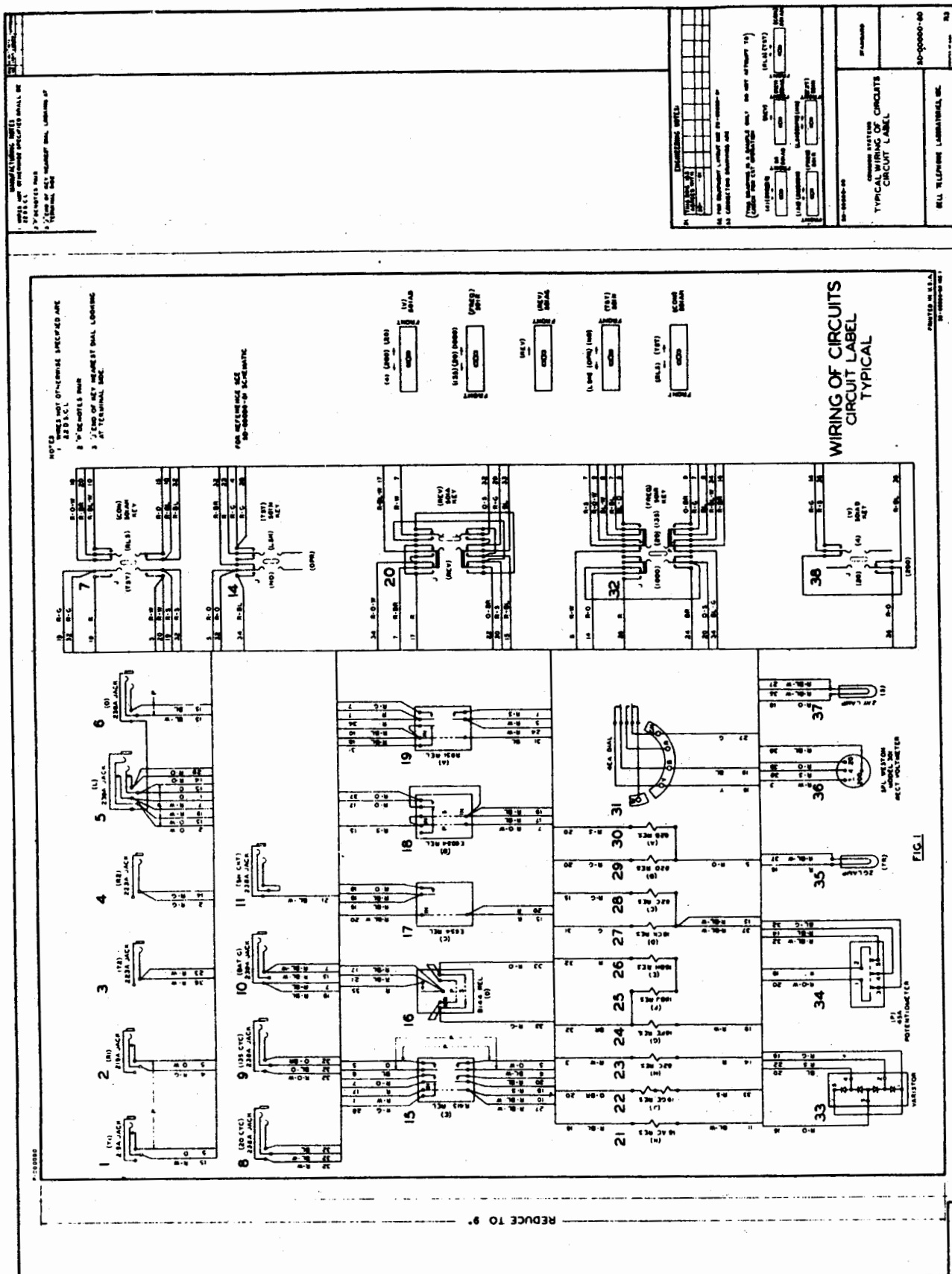
TABLE D

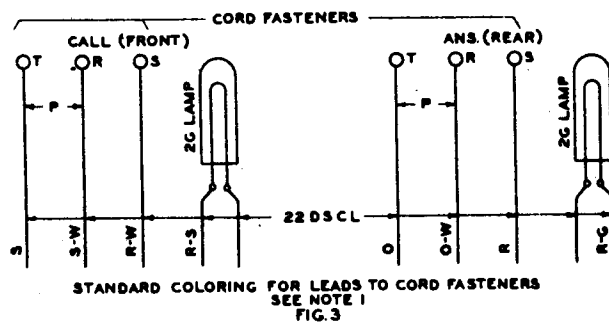
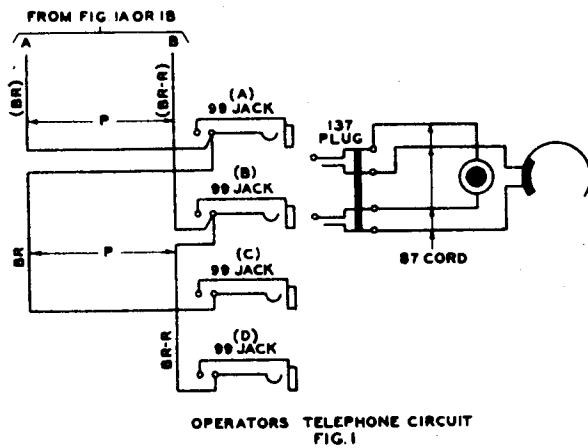
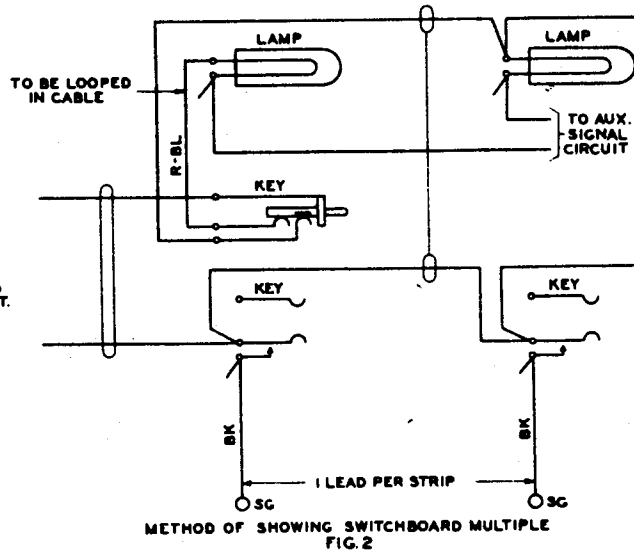
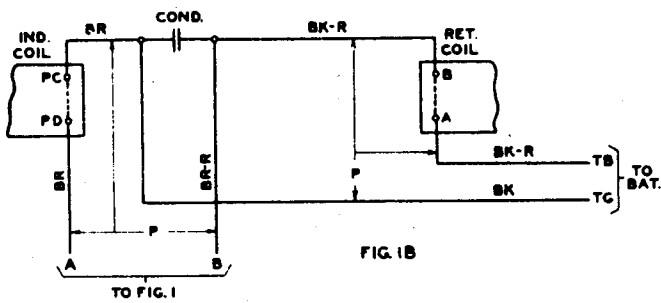
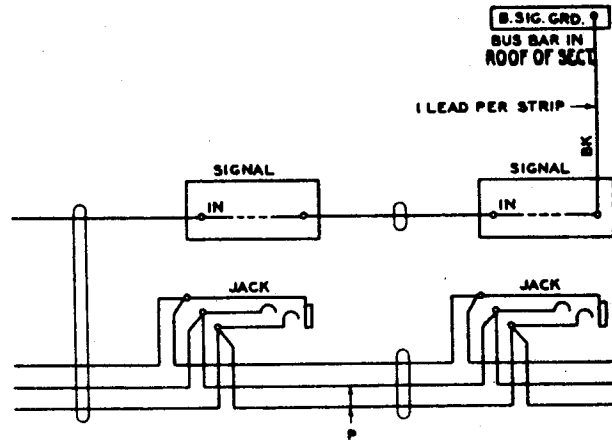
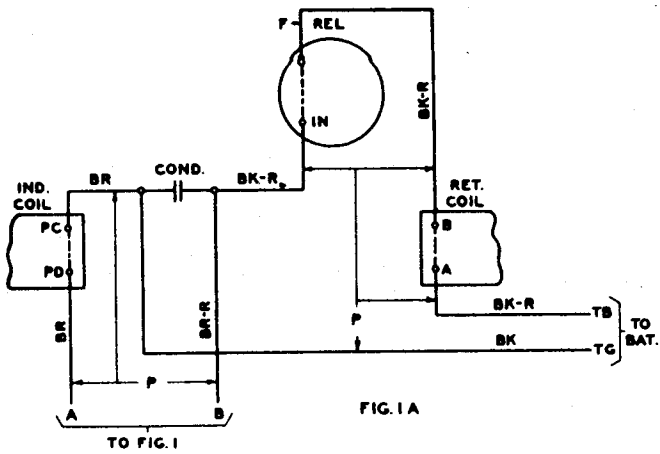
(CIRCUIT)

WIRING OF CIRCUITS
CIRCUIT LABEL
WIRING PLAN 107 AND 108

PRINTED IN U.S.A.
SD-81,ISS.3

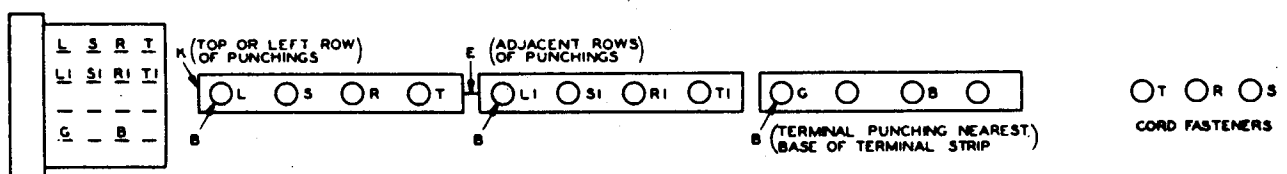
NOTES
1. ALL LETTERING ON CIRCUIT LABEL TO BE VERTICAL.



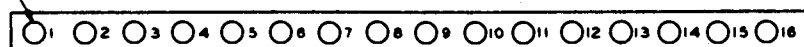


NOTES:
1. "FRONT" AND "REAR" DESIGNATIONS MAY BE REVERSED IN TOLL CORD CIRCUITS AS REQUIRED; ALSO ADD "TOLL & TRK" OR "TOLL & SUBS." DESIGNATION AS REQUIRED.
2. WIRES NOT OTHERWISE SPECIFIED SHALL BE 20 E.S.C.B.

COLORING, PAIRING AND WIRING OF STANDARD CIRCUITS



K1 (TOP OR LEFT TERMINAL ON STRIP)



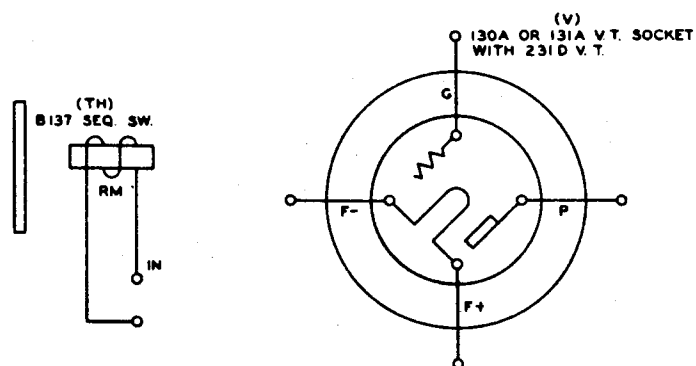
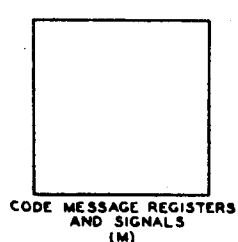
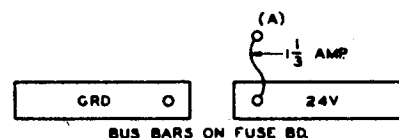
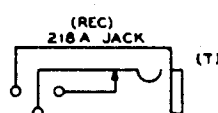
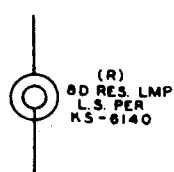
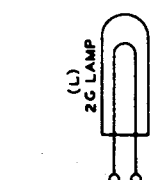
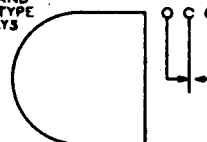
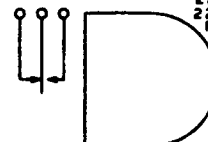
203A TERMINAL STRIP

METHOD OF SHOWING TERMINAL STRIP ROWS ON DRAWING

○ CONN. RACK PCHG. OR LOCAL SWBD. TERM. STRIP PCHG.

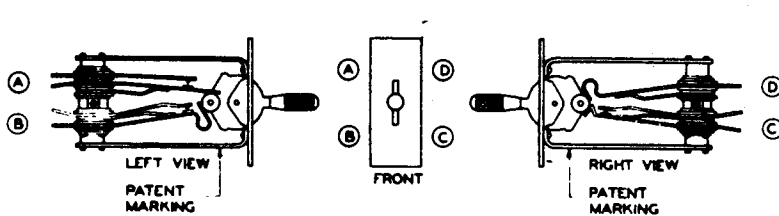
○ POWER PCHG. OR SWBD. TERM. STRIP POWER PCHG.

⊗ BINDING POST

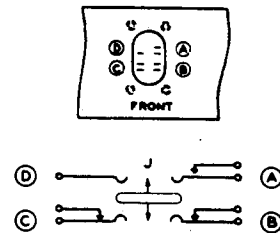
(A)
CODE A,B,C,E,F,H,K,L,M
N,R,S,T,U AND V TYPECODE B,G AND J TYPE
(A)(B)
CODE ROUND TYPE(A)
221 AND
223 TYPE
RELAYS(B)
222 AND
224 TYPE
RELAYS

METHOD OF DESIGNATING APPARATUS

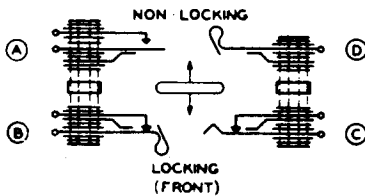
TERMINAL PUNCHINGS AND METHOD OF DESIGNATING APPARATUS



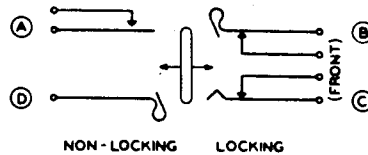
MECHANICAL VIEW OF CI & 479 TYPE KEYS
479 GF KEY ILLUSTRATED
SKETCH 1



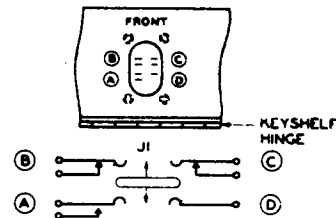
479 GF KEY MOUNTED IN PANEL
WIRING SIDE SHOWN
SKETCH 4



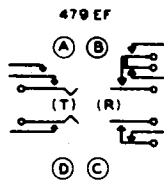
SCHEMATIZED MECHANICAL VIEW
LOOKING AT TOP OF 479 GF KEY
SKETCH 2



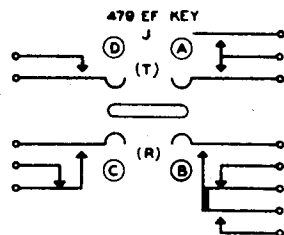
LOOKING AT TERMINAL END
OF KEY CONVENTION AS
SHOWN ON CARD CATALOG
SKETCH 3



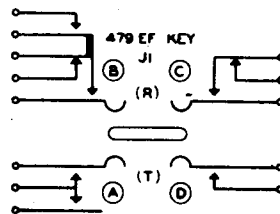
479 GF KEY MOUNTED IN KEYSHELF
KEYSHELF OPEN
SKETCH 5



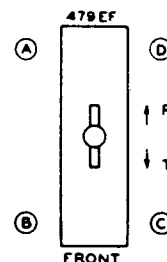
SCHEMATIC
CONVENTION



WIRING DIAGRAM CONVENTION
FOR KEY MOUNTED
ON PANEL

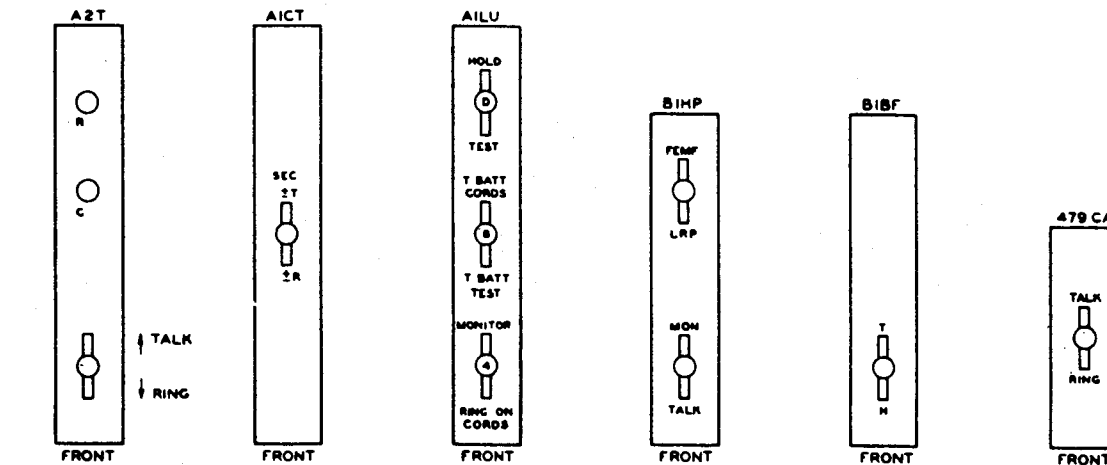


WIRING DIAGRAM CONVENTION
FOR KEY MOUNTED
ON KEYSHELF



KEY TOP CONVENTION
SCHEMATIC AND
WIRING DIAGRAM

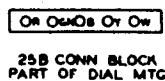
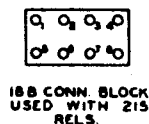
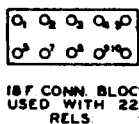
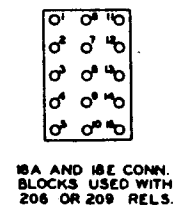
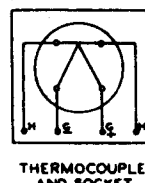
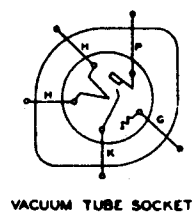
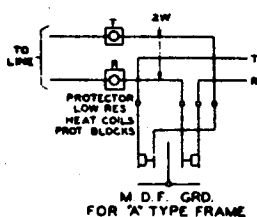
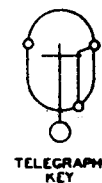
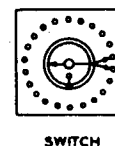
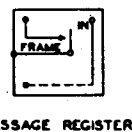
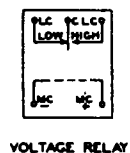
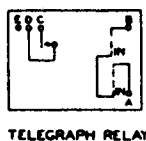
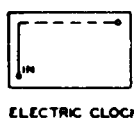
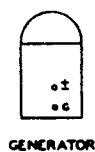
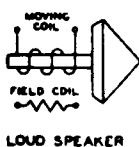
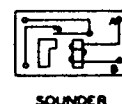
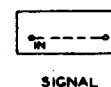
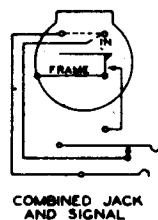
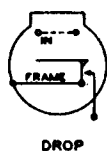
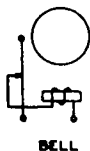
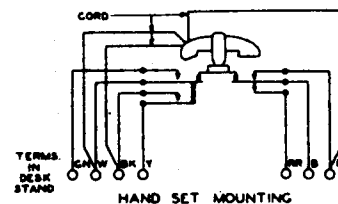
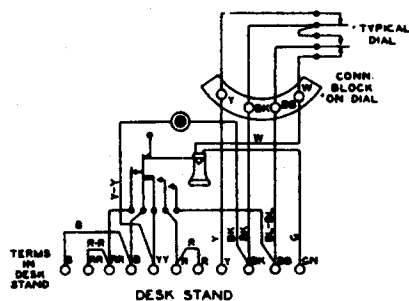
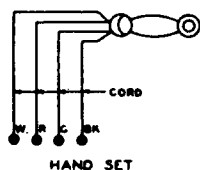
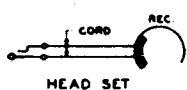
SKETCH 6



KEY TOP CONVENTIONS
SKETCH 7

- NOTES:
1. DESIGNATIONS IN CIRCLES INDICATE SPRING POSITIONS AND ARE FOR REFERENCE ONLY.
 2. FRONT IS CONSIDERED THAT SIDE OF FRAME HAVING CODE AND PATENT MARKINGS.
 3. ARROW—INDICATES DIRECTION OF MOVEMENT OF PLUNGER
 4. 'J' TOP OR LEFT END OF KEY.
 5. 'J1' TOP OR LEFT END OF KEY (KEYSHELF OPEN)

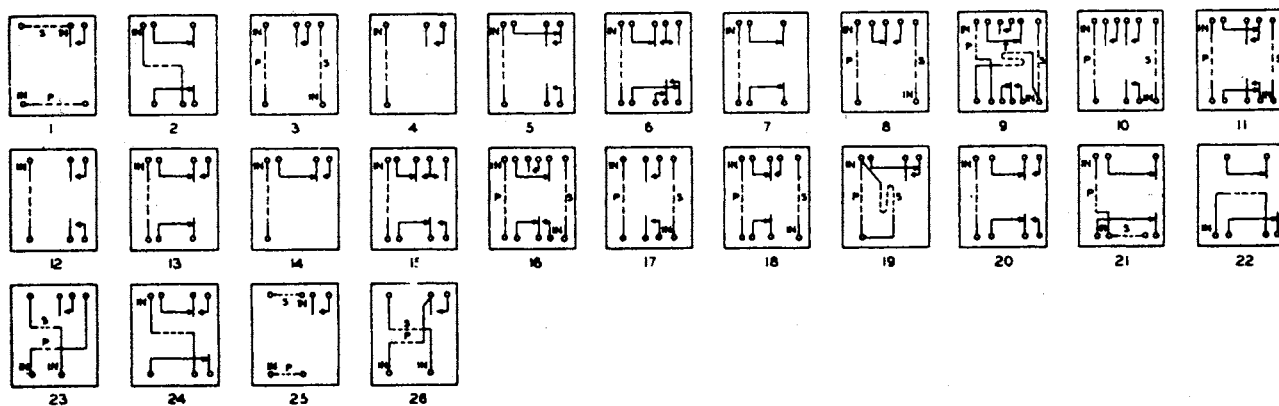
LEVER TYPE KEYS



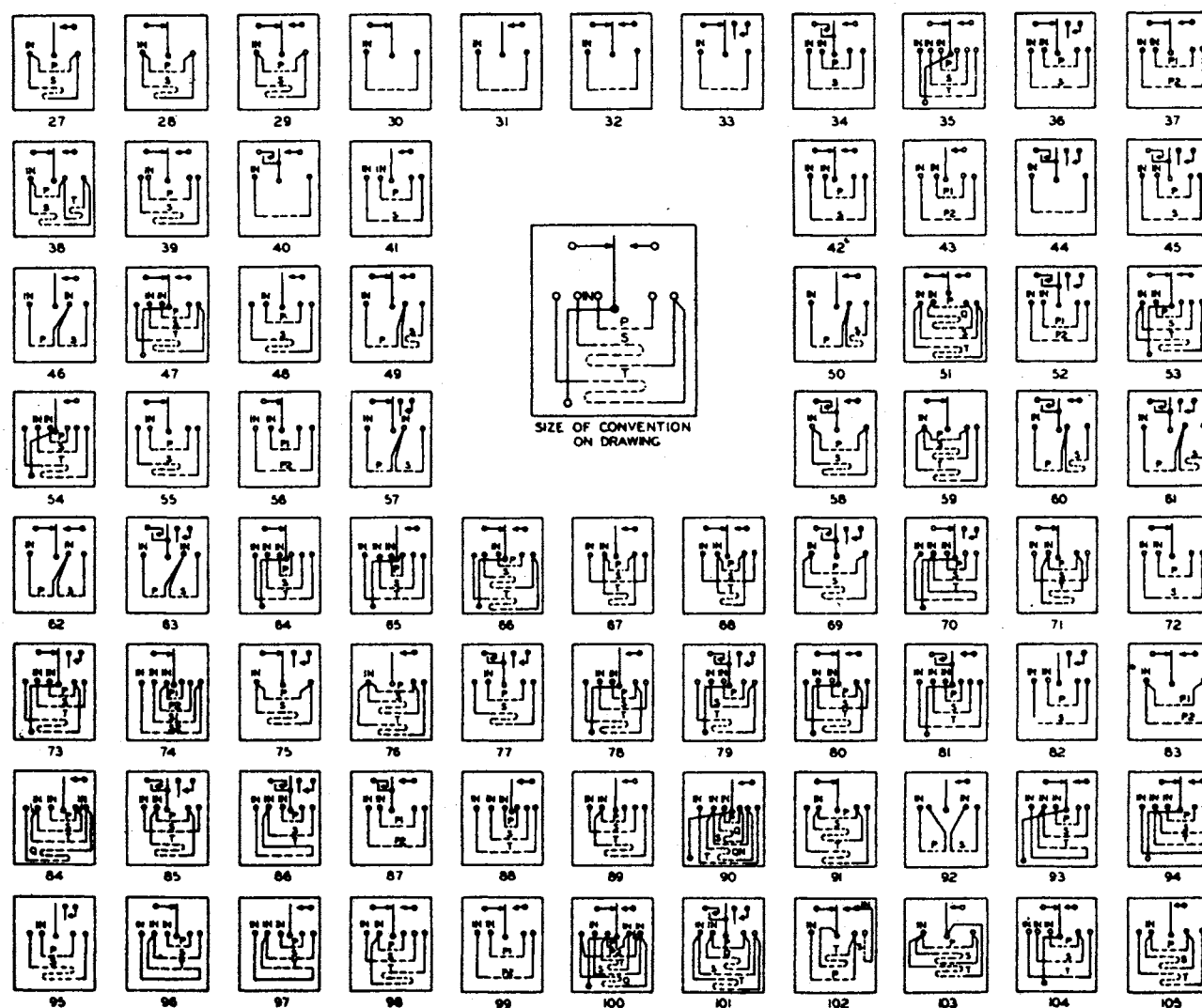
(CONVENTIONS - HALF SIZE)

MISCELLANEOUS APPARATUS

A. AB AND B TYPE RELAY CODES

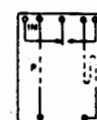
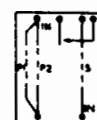
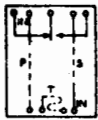
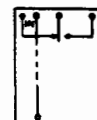
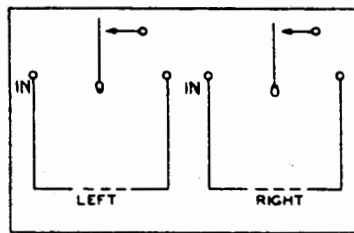
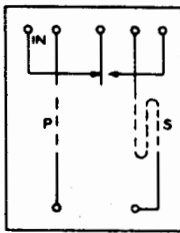
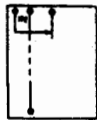
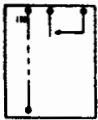


CONVENTIONS FOR A & AB TYPE RELAYS

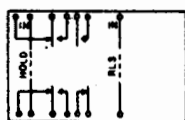
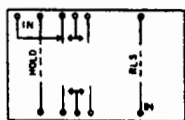
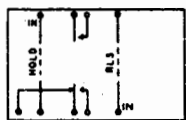
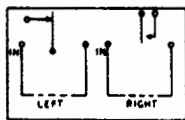
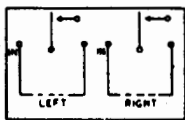
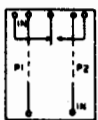
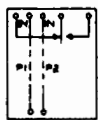
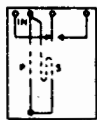
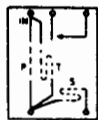
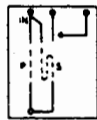
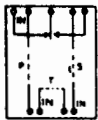


CONVENTIONS FOR B, G & J TYPE RELAYS

A, AB, B, G & J TYPE RELAYS



SIZE OF CONVENTIONS
ON DRAWING



RELAY CODE	CONV NO	WDG	OHMS RES	RELAY CODE	CONV NO	WDG	OHMS RES	RELAY CODE	CONV NO	WDG	OHMS RES	RELAY CODE	CONV NO	WDG	OHMS RES	RELAY CODE	CONV NO	WDG	OHMS RES
C1	17	LEFT	4500	M3	19	HOLD	72	S20	8	PRI	500	S54	14	P1	20				
		RIGHT	800			RLS	72			SEC	8000			P2	20				
C2	18	LEFT	4500	M4	22	HOLD	250	S21	1		190	S55	1		500				
		RIGHT	800			RLS	250	S22	6	PRI	230	S56	6	PRI	100				
C3	18	LEFT	4500					S23	4	SEC	875	S57	1		2600				
		RIGHT	800					S24	4	SEC	27	S58	10	COMB	0.83				
								S25	4	SEC	27	S59	8	PRI	10				
L1	6	PRI	230	N2	12	P & T	425	S26	4	SEC	27	S500	1		12000				
L2	1		295			COMB	500	S27	4	SEC	27	S501	1		12000				
L3	3		295	N3	13	P & S	548	S28	1		3000	S502	3		135				
L8	1		480			COMB		S29	3		700	S503	3		135				
L9	10	P & S	0.83	N4	16	P1	125	S30	1		1	S504	3		250				
		COMB				P2	125	S31	4	PRI	57	S505	4	PRI	65				
L11	9	PRI	10					S32	1	SEC	27	S506	4	PRI	40				
		SEC	700					S33	4	SEC	800	S507	3		8450				
L12	3		19					S34	3		18000	S508	6	PRI	1000				
L13	1		3	S1	4	PRI	40	S35	4	PRI	800	S509	1		10				
L14	1		480			SEC	40	S36	3		800	S510	3		205				
L15	6	PRI	430	S2	4	PRI	40	S37	1		75	S511	1		6000				
L16	3	SEC	3500			SEC	40	S38	3	PRI	250	S512	3		100				
L17	4	PRI	200	S3	4	PRI	40	S39	1	SEC	250	S513	14	P1	200				
		SEC	200			SEC	40	S40	6		19	S514	1	P2	200				
L18	1		500	S4	4	PRI	40	S41	4		30	S515	16	P1	25				
L19	1		500	S5	3		295	S42	1		12000	S516	3	P2	25				
L20	1		7500	S6	1		295	S43	4	PRI	90	S517	5	PRI	10				
L21	1		18000	S7	2		125	S44	4	SEC	5	S518	16	SEC	1000				
L22	11	COMB	0.3	S8	1		19	S45	3		250	S519	16	EACH	200				
L23	3		19	S9	1		250	S46	3		31	S520	16	EACH	25				
L24	6	PRI	230	S10	3		24	S47	3		1000	S521	6	PRI	430				
L500	1		125	S11	6	PRI	900	S48	1		10000				1500				
L501	1		18600	S12	1		65	S49	1		10000								
L502	1		2000	S13	1		12000	S50	1		125								
				S14	2		295	S51	3		3								
				S15	4	PRI	40	S52	1		40								
						SEC	40												
				S16	4	PRI	40												
						SEC	40												
				S17	7	P & P2	0.5												
						COMB	100												
				S18	3		295												
				S19	1		700												
M1	20	HOLD	85			RLS	85												
M2	21	HOLD	150			RLS	150												

C,L,M,N & S TYPE RELAYS

RELAY CODE	PAGE NO	CONV NO	WDG	OHMS RES	RELAY CODE	PAGE NO	CONV NO	WDG	OHMS RES	RELAY CODE	PAGE NO	CONV NO	WDG	OHMS RES	RELAY CODE	PAGE NO	CONV NO	WDG	OHMS RES	RELAY CODE	PAGE NO	CONV NO	WDG	OHMS RES	RELAY CODE	PAGE NO	CONV NO	WDG	OHMS RES	RELAY CODE	PAGE NO	CONV NO	WDG	OHMS RES
E3	52	26		500	E100	58	413	PRI	115	E150	55	502	PRI	175	E197	52	14		40	E250	52	14		500										
E4	52	101	PRI	250				SEC	1000				SEC	1000	E198	57	607	P&T		E251	52	51		34										
			SEC	700	E101	54	359		500	E151	56	563		34				COMB	83	E252	56	609	COMB	333										
E5	52	18		1000	E102	54	376		34	E152	52	253	COMB	110				SEC	130	E253	52	120	COMB	333										
E6	52	131		570	E103	53	220		485	E153	52	18		570	E199	52	18		34	E254	52	114		500										
E7	54	305		500	E104	53	206		500	E154	52	131		485	E200	53	144		500	E255	52	31	PRI	350										
E8	52	35		875	E105	52	25		1000	E155	52	22		5	E201	52	120	COMB	113				500											
E9	52	23		40	E106	52	29		500	E156	56	568	P&T		E202	52	18		60	E256	52	44		500										
E11	53	220		500	E107	52	25		34				COMB	113	E203	56	603	PRI	60	E257	55	413	PRI	80										
E12	52	18		20	E108	54	269		485				SEC	12				SEC	440				SEC	1000										
E23	52	24		500	E109	52	34		34	E157	52	111	PRI	350	E204	53	209		500	E258	52	39		10										
E24	52	22		500	E111	53	220		220				SEC	500	E205	52	89	PRI	1500	E259	53	141	COMB	800										
E28	52	18		350	E112	52	48		220	E158	52	13	PRI	200				SEC	1500	E260	52	48		60										
E30	56	611	COMB	113	E113	53	144		120				SEC	2000	E206	52	39		220	E261	53	201		500										
E31	52	39		500	E114	52	18		500	E159	52	111	PRI	32	E207	52	35		40	E262	52	18		120										
E34	52	48		500	E115	53	253	COMB	500				SEC	400	E208	53	221	PRI	87	E263	56	610	PRI	45										
E41	52	22		34	E116	54	381	PRI	32	E160	53	248	PRI	385				SEC	1000				SEC	45										
E43	53	220		84				SEC	400				SEC	600	E209	52	24		150				TER	40										
E45	52	18		250	E117	52	101	PRI	500	E161	56	595	COMB	301	E210	52	24		60				QUAT	1000										
360	52	48		34				SEC	500	E162	52	24		1000	E211	55	502	PRI	87	E264	53	209		2000										
E61	55	437	PRI	87	E118	52	31	PRI	72	E163	52	22		60				SEC	1000	E265	52	12		2000										
			SEC	1000				SEC	34	E164	52	7	PRI	500	E212	52	29		220	E266	52	23		1000										
E63	52	48		20	E119	54	339	PRI	160				SEC	500	E213	54	269		1000	E267	52	2		60										
E64	52	22		40				SEC	160	E165	52	48		230	E214	52	35		500	E268	53	176	PRI	500										
E65	52	48		1000	E120	52	31	PRI	9.5	E166	55	436	PRI	5	E215	52	31	PRI	100				SEC	500										
E66	52	25		350				SEC	45				SEC	1000				SEC	500	E269	52	24		34										
E67	52	25		40	E121	53	200	PRI	9.5	E167	56	598	PRI	15	E216	52	51		500	E270	56	613	COMB	83										
E68	52	29		40				SEC	105				SEC	60	E217	53	143	PRI	150	E271	53	211	PRI	500										
E69	52	36	PRI	70	E122	54	377	COMB	301	E168	53	195	PRI	7				SEC	400				SEC	60										
			SEC	425	E124	52	57	PRI	60				SEC	500	E218	52	99	COMB	113	E272	56	599		500										
E70	52	18		100				SEC	30	E169	56	599		15	E219	53	141	COMB	113	E273	52	35		5										
E71	52	25		250	E125	53	195	PRI	5	E170	52	48		40	E220	52	111	PRI	150	E274	56	612	PRI	500										
E72	52	25		380				SEC	1000	E171	54	381	PRI	10				SEC	500				SEC	400										
E73	53	183		500	E126	53	248	PRI	30				SEC	10	E221	52	22		500	E275	54	352	P&T											
E74	53	220		60				SEC	200	E172	52	22		350	E222	52	39		40				COMB	83										
E75	52	18		150	E127	52	25		500	E173	52	96		500	E223	52	23		34				SEC	40										
E76	53	201		100	E128	52	109	COMB	500	E174	52	24		50	E224	53	141	COMB	500	E276	56	614	COMB	83										
E77	52	65		1000	E129	52	111	PRI	500	E175	56	598	PRI	15	E225	56	604	COMB	500	E277	54	269		60										
E78	52	48		50				SEC	500				SEC	350	E226	52	38		500	E278	56	615		500										
E79	55	430		220	E130	52	95	PRI	87	E176	55	403	PRI	425	E227	52	24		34	E279	52	29		10										
E80	52	10		500				SEC	1000				SEC	500	E228	52	48		150	E280	52	39		55										
E81	56	602	PRI	67	E131	54	376		100	E177	54	380	COMB	800	E229	52	26		34	E281	52	12		500										
			SEC	1000	E133	53	223	PRI	500	E178	52	57	PRI	425	E230	53	201		60	E282	52	13	PRI	32										
E82	52	29		34				SEC	590				SEC	500	E231	52	13	PRI	500				SEC	400										
E83	54	359		85	E134	54	389	PRI	175	E179	53	220		150				SEC	504	E283	54	398	PRI	250										
E84	54	359		34				SEC	1000	E180	56	600	COMB	301	E232	52	24		350				SEC	700										
E85	55	436	PRI	500	E135	52	99	COMB	301	E181	54	280		34	E233	53	220		100	E284	52	114		350										
			SEC	1000	E136	52	88	P&T		E182	54	343	PRI	67	E234	52	24		100	E285	52	89	PRI	24										
E86	52	29		60				COMB	83				SEC	1000	E235	52	22		10				SEC	400										
E87	55	451	PRI	1000				SEC	40	E183	52	99	COMB	500	E236	52	18		40	E286	53	144		400										
			SEC	400	E137	52	35		34	E184	53	253	COMB	113	E237	52	109	COMB	83	E287	52	51		500										
E88	54	359		350	E138	52	89	PRI	34	E185	56	603	PRI	500	E238	53	220		500	E288	52	49	PRI	32										
E89	52	25		75				SEC	316				SEC	1500	E239	56	605	PRI	45				SEC	400										
E90	52	35		60	E139	52	23		10	E186	52	17		500				SEC	45	E289	53	200	PRI	170										
E91	54	376		500	E140	53	206		150	E187	54	368		875				TER	40				SEC	400										
E92	52	18		10	E141	52	33		250	E188	56	602	PRI	115				QUAT	1000	E290	52	99	COMB	200										
E93	52	25		110	E142	54	325		34				SEC	1000	E240	56	608	COMB	83	E291	53	180	PRI	40										
E94	54	376		250	E143	52	133	COMB	500	E189	52	39		1000	E241	54	280		500				SEC	45										
E95	54	376		50	E144	52	84	P&T		E190	53	221	PRI	90	E242	53	221																	

RELAY CODE	PAGE NO	CONV NO	WDC	OHMS RES	RELAY CODE	PAGE NO	CONV NO	WDC	OHMS RES	RELAY CODE	PAGE NO	CONV NO	WDC	OHMS RES	RELAY CODE	PAGE NO	CONV NO	WDC	OHMS RES	RELAY CODE	PAGE NO	CONV NO	WDC	OHMS RES
E298	56	618	PRI SEC TER	500 700 2000	E346	52	18		1000	E393	56	645	PRI SEC	1000 1000	E452	52	35		2000	E515	52	22		220
E299	52	22		40	E347	52	18		500	E394	53	183		2000	E453	52	114		750	E516	54	272		500
E300	52	39		400	E348	54	380	COMB	301	E395	52	131		1000	E455	52	57	PRI SEC	1000 800	E517	52	78		750
E301	56	619	P&T COMB SEC	347 290	E349	56	623	COMB	301	E396	54	300		1000	E456	52	27		750	E519	52	49	PRI SEC	100 500
E302	56	620	COMB	40	E351	52	22		7	E397	53	204		1000	E457	52	2		750	E522	52	89	PRI SEC	40 45
E303	52	48		500	E352	58	413	PRI SEC	93 1000	E398	56	628		500	E458	52	39		1000	E523	52	23		60
E304	53	253	COMB	200	E353	52	23		110	E399	53	144		1000	E459	52	49	PRI SEC	250 1000	E524	52	49	PRI SEC	500 1000
E305	54	300		350	E354	56	624	PRI SEC	500 500	E400	53	162		2000	E460	52	26		150	E525	52	39		220
E306	56	621	PRI SEC	32 400	E355	56	625	PRI SEC	500 500	E401	52	17		220	E461	52	35		1000	E526	52	111	PRI SEC	1000 1000
E307	52	112	PRI SEC	32 400	E356	52	51		350	E402	53	173	PRI SEC	250 120	E462	52	18		1000	E527	52	111	PRI SEC	1000 500
E308	52	25		85	E357	52	14		500	E403	52	31	PRI SEC	110 1000	E463	52	24		1000	E528	52	78		1000
E309	54	381	PRI SEC	500 500	E358	52	48		500	E404	56	629	PRI SEC	500 120	E464	52	21		500	E529	52	10		60
E310	52	31	PRI SEC	50 500	E359	52	18		2000	E406	52	5	PRI SEC	150 400	E465	52	62		1000	E530	52	38		2000
E311	52	18		50	E360	54	381	PRI SEC	50 400	E407	56	646	COMB	83	E466	52	18		220	E531	53	162		500
E313	54	291	PRI SEC	500 500	E361	52	22		100	E408	52	131		1500	E467	52	10		1000	E533	52	5	PRI SEC	1200 800
E314	56	599		60	E362	54	376		15	E409	56	600	COMB	750	E469	52	25		2000	E534	52	35		350
E315	52	109	COMB	113	E363	54	376		500	E410	56	630	COMB	750	E470	53	153	PRI SEC	500 1000	E535	52	22		2000
E316	52	48		220	E364	54	379		500	E411	52	22		570	E471	52	24		220	E536	52	98		20
E317	52	120	COMB	172	E365	52	23		60	E412	53	232		350	E472	54	291	PRI SEC	200 700	E538	53	179		500
E318	52	23		60	E366	56	626	PRI SEC	2.1 1000	E413	53	220		1000	E473	52	44		1000	E539	52	26		2000
E319	52	35		500	E367	52	103		2000	E414	52	48		500	E474	52	11	PRI SEC	100 1000	E540	53	210	PRI SEC	500 300
E320	52	120	COMB	500	E368	52	28	PRI SEC	1000 1000	E416	53	183		500	E475	53	264	PRI SEC	1000 1000	E541	52	101	PRI SEC	400 700
E321	54	277	P&T COMB SEC	301 500	E369	57	705	PRI SEC	300 1000	E417	53	210	PRI SEC	500 120	E476	52	10		2000	E542	52	28	PRI SEC	600 275
E322	52	39		120	E370	52	38		500	E418	52	100	PRI SEC	50 500	E478	52	11	PRI SEC	150 500	E543	52	39		2000
E323	52	23		500	E371	52	48		2000	E419	52	89	PRI SEC	500 500	E480	52	49	PRI SEC	85 500	E544	52	49	PRI SEC	1000 1000
E324	52	109	COMB	301	E372	52	44		2000	E420	52	101	PRI SEC	1000 700	E482	56	646	COMB	500	E545	52	14		2000
E326	53	177	COMB	500	E373	56	627	PRI S&T COMB	500 143	E422	52	26		2000	E484	52	39		500	E546	52	5	PRI SEC	100 800
E327	56	622	PRI SEC TER	700 500 2000	E374	53	231		1000	E423	56	631		1000	E485	54	368		220	E547	52	111	PRI SEC	900 400
E328	52	23		200	E375	55	403	PRI SEC	1200 800	E424	56	632	PRI SEC	500 475	E486	52	101	PRI SEC	8 335	E548	52	111	PRI SEC	1500 500
E329	53	141	COMB	600	E376	54	273	PRI SEC	1000 350	E425	56	633	PRI SEC	100 575	E487	52	24		220	E549	52	111	PRI SEC	160 160
E330	52	47		220	E377	53	257	PRI SEC	1000 350	E426	52	95	PRI SEC	475 45	E488	52	23		350	E550	54	307		300
E331	56	612	PRI SEC	700 100	E378	52	16	PRI SEC	500 1000	E427	53	156		2000	E490	53	193		1500	E551	52	23		100
E332	56	568	P&T COMB SEC	167 100	E379	53	200	PRI SEC	200 700	E428	52	51		2000	E491	52	16	PRI SEC	160 160	E552	52	101	PRI SEC	120 130
E333	55	413	PRI SEC	115 1000	E380	52	18		500	E429	52	48		2000	E494	52	11	PRI SEC	80 200	E553	53	193		500
E334	52	14		34	E381	53	197	PRI SEC	500 300	E430	52	91	COMB	500	E495	52	107	PRI SEC	100 400	E554	52	2		3000
E336	52	87		500	E382	52	49	PRI SEC	850 1000	E431	53	137		2000	E498	52	49	PRI SEC	150 500	E555	52	39		3000
E337	52	22		1000	E383	52	38		350	E432	55	474		1000	E499	52	79	PRI SEC	45 325	E556	53	253	COMB	750
E338	52	97	PRI SEC	500 500	E384	54	365		500	E433	52	35		220	E500	52	48		500	E557	52	10		2000
E339	52	23		5	E385	52	38		750	E434	52	37	PRI SEC	100 250	E502	52	38		1000	E558	52	29		60
E340	52	75		500	E386	54	301		1000	E435	52	39		85	E504	56	635	PRI SEC	100 400	E560	53	195	PRI SEC	130 1000
E341	52	12		500	E387	52	67	PRI SEC	32 400	E436	52	49	PRI SEC	100 250	E505	52	38		100	E561	52	10		350
E342	52	91	COMB	600	E388	52	101	PRI SEC	32 400	E440	52	24		2000	E506	53	207	PRI SEC	2.1 1000	E562	52	33		2000
E343	53	166	PRI SEC	160 160	E389	52	40		500	E441	52	18		240	E507	52	78		220	E563	52	35		2000
E344	52	133	COMB	500	E390	52	118	PRI SEC	700 250	E442	52	18		250	E508	56	636		750	E564	52	28	PRI SEC	600 700
E345	52	11	PRI SEC	500 1000	E391	52	89	PRI SEC	650 1000	E443	52	26		350	E509	52	31	PRI SEC	10 300	E565	52	48		2000
					E392	52	101	PRI SEC	1000 1000	E444	52	22		350	E512	52	17		220	E566	52	44		2000
										E445	52	34		570	E513	53	166	PRI SEC	30 1200	E567	52	17		2000
										E446	52	35		10										
										E447	52	39		60										

E TYPE RELAY CODES

RELAY CODE	PAGE NO	CONV NO	WDC	ORHS RES	RELAY CODE	PAGE NO	CONV NO	WDC	ORHS RES	RELAY CODE	PAGE NO	CONV NO	WDC	ORHS RES	RELAY CODE	PAGE NO	CONV NO	WDC	ORHS RES	RELAY CODE	PAGE NO	CONV NO	WDC	ORHS RES
E570	54	398	PRI SEC	1000 700	E628	54	280		2000	E685	52	36	PRI SEC	110 1000	E742	53	183		2000	E805	54	371	PRI SEC	750 300
E571	53	200	PRI SEC	600 700	E630	52	34		1000	E686	52	2		1000	E743	56	648	PRI SEC	1000 800	E806	52	26		350
E572	52	14		2000	E632	52	57	PRI	600	E689	52	48		750	E744	52	5	PRI	1500	E807	52	22		15
E573	52	18		2000				SEC	700	E690	52	12		1000	E745	52	23		2000	E809	52	109	COMB	113
E574	52	94		1000	E633	53	188	PRI	500	E691	52	16	PRI	500	E747	53	217		1280	E810	52	99	COMB	113
E576	52	2		1000				SEC	500				SEC	500	E748	52	4	PRI	1000	E813	52	18		500
E577	52	93		500	E634	52	78		2000	E692	52	109	COMB	200				SEC	650	E814	52	39		500
E578	53	244	PRI SEC	200 200	E636	52	106		2000	E693	55	430		2000	E749	55	464	PRI SEC	1000 700	E815	52	89	PRI SEC	500 500
E579	56	637	PRI S&T COMB	225 40	E637	52	5	PRI SEC	500 1000	E694	52	87		1000	E750	52	36	PRI SEC	1000 1000	E818	52	11	PRI SEC	110 1000
E580	52	17		500	E638	53	138		500	E696	52	62		2000	E751	52	131		2000	E819	53	220		2000
E582	52	26		1000	E639	52	25		750	E697	52	5	PRI	275	E752	56	625	PRI	1000	E820	52	89	PRI	250
E583	53	192	PRI SEC	600 275	E640	52	22		1000				SEC	165	E753	52	31	PRI SEC	1000 500	E821	52	36	PRI SEC	1200 800
E584	52	33		1000	E641	53	186	PRI	1000	E698	52	4	PRI	250	E755	53	154	PRI	1000	E822	53	207	PRI	1200
E585	52	49	PRI SEC	32 400	E642	52	10		220	E699	52	23		1000				SEC	1000	E823	52	42	PRI SEC	1200 800
E587	52	95	PRI SEC	1000 400	E643	52	35		1000	E700	52	17		100	E756	52	2		1000	E825	52	7	PRI SEC	5 1000
E588	52	5	PRI SEC	325 500	E644	52	11	PRI SEC	1000 1000	E701	52	7	PRI SEC	8 325	E757	53	232		34	E826	52	24		2000
E589	52	29		1000	E645	52	101	PRI SEC	100 575	E702	52	131		60	E758	53	197	PRI SEC	1000 1000	E827	52	31	PRI SEC	500 500
E590	52	111	PRI SEC	550 125	E647	53	176	PRI	50	E703	52	89	PRI SEC	1500 1500	E760	53	232		500	E828	52	39		500
E591	53	201		2000	E648	52	49	PRI	100	E704	52	49	PRI	2.1	E763	52	23		500	E829	52	40		350
E592	52	10		750	E649	55	436	PRI SEC	200 1000	E705	53	192	PRI SEC	100 250	E764	52	44		350	E830	52	7	PRI SEC	250 250
E593	52	18		2000	E650	52	18		50	E706	53	139	PRI SEC	100 250	E766	52	48		400	E831	52	17		500
E594	52	34		2000	E651	52	13	PRI SEC	8 335	E707	52	57	PRI SEC	100 250	E768	53	144		750	E832	52	5	PRI SEC	450 190
E595	52	96		570	E652	52	39		2000	E708	52	7	PRI	100	E771	53	183		1000	E833	52	107	PRI	1200
E596	52	17		1000	E653	52	109	COMB	200				SEC	250	E772	52	36	PRI SEC	250 1000	E834	52	102		2000
E597	52	12		1000	E654	52	18		34	E711	55	403	PRI SEC	1000 1000	E774	52	31	PRI SEC	1000 1000	E835	54	280		2000
E598	52	14		1000	E655	53	206		1000	E713	52	22		350	E775	52	23		2000	E836	56	652	PRI SEC	300 700
E600	52	14		1000	E657	52	38		1000	E714	52	5	PRI SEC	100 250	E776	53	238		1500			TER	500	
E602	52	20	PRI SEC	500 120	E658	53	176	PRI SEC	500 500	E715	52	29		100	E777	52	15		500	E838	52	22		500
E604	54	302	COMB	83	E659	52	18		750	E716	52	106		100	E778	53	165		750	E839	52	89	PRI	110
E605	56	638	PRI SEC	500 120	E660	56	643	PRI SEC	80 1000	E717	52	10		220	E779	52	14		220	E840	52	49	PRI	110
E606	53	107	PRI SEC	10 1000	E661	56	614	COMB	500	E718	52	78		220	E780	54	339	PRI SEC	1000 1000	E841	53	219		350
E607	52	11	PRI SEC	10 1000	E662	52	11	PRI SEC	50 150	E719	52	101	PRI SEC	1500 1500	E781	52	89	PRI SEC	1000 1000	E843	52	38		140
E608	52	48		40	E663	52	14		350	E721	52	101	PRI	1500	E782	53	149		2000	E844	52	14		400
E609	52	35		40	E665	52	2		500	E723	53	201		2000	E783	53	187	PRI	1000	E845	52	51		500
E610	52	38		500	E666	52	89	PRI	200	E725	52	12		2000	E784	54	376		1000	E847	56	653	PRI	200
E611	52	78		500	E667	56	644		500	E726	54	372		2000	E785	52	23		500			SEC	100	
E612	52	12		350	E669	52	2		2000	E727	52	18		1000	E786	52	14		220	E849	52	30	PRI	1000
E613	52	52		500	E671	52	22		200	E728	55	403	PRI	5	E787	52	14		100	E850	52	101	PRI	150
E614	55	413	PRI SEC	1000 600	E672	52	35		2000	E730	52	33		2000	E788	52	6	PRI SEC	100 1000	E851	52	10		220
E615	52	93		500	E674	53	223	PRI	1000	E731	52	89	PRI	1200	E789	52	5	PRI	500	E852	52	105	COMB	200
E616	55	437	PRI SEC	1000 800	E676	52	25		500	E733	52	11	PRI	1200	E792	52	30	PRI SEC	1000 2000	E853	52	107	PRI SEC	100 250
E617	56	640	PRI SEC	425 350	E677	52	25		500	E734	52	49	PRI	1200	E794	52	16	PRI SEC	500 1000	E856	52	23		3000
E618	52	18		750	E678	54	306	PRI	2.1	E735	52	5	PRI	1200	E796	52	49	PRI SEC	500 1000	E859	52	38		750
E619	53	137		2000				SEC	1000	E736	56	636		1500	E797	52	89	PRI SEC	500 1000	E860	52	96		2000
E620	52	17		2000	E680	52	11	PRI	500	E737	56	612	PRI	2000	E798	52	14		750	E862	52	106		500
E621	52	18		2700	E682	52	89	PRI	100				SEC	500	E799	52	35		750	E864	53	252	PRI	1000
E623	52	78		2000				SEC	1000	E738	52	67	PRI	1000	E799	52	35		750			SEC	800	
E624	53	179		2000	E683	52	16	PRI	100	E739	46	144		1000	E801	52	26		220					
E625	53	196		2000				SEC	1000	E740	52	31	PRI	2000	E802	52	36	PRI SEC	500 1000	E859	52	38		750
E626	53	179		1000	E684	52	5	PRI	500				SEC	1000	E804	52	105	COMB	333	E860	52	96		2000
E627	53	162		2000				SEC	1000				SEC	200						E862	52	106		500

E TYPE RELAY CODES

RELAY CODE	PAGE NO	CONV NO	WDG	OHMS RES	RELAY CODE	PAGE NO	CONV NO	WDG	OHMS RES	RELAY CODE	PAGE NO	CONV NO	WDG	OHMS RES	RELAY CODE	PAGE NO	CONV NO	WDG	OHMS RES	RELAY CODE	PAGE NO	CONV NO	WDG	OHMS RES	RELAY CODE	PAGE NO	CONV NO	WDG	OHMS RES	
E865	56	655		750	E924	54	371	PRI	500	E987	55	495	PRI	1000	E1045	52	30	PRI	500	E1107	53	232			2000					
E867	53	201		350				SEC	300				SEC	1000				SEC	1000	E1109	57	674	PRI		1000					
E868	53	217		1000	E925	52	105	COMB	181	E988	52	49	PRI	450	E1046	52	31	PRI	500				SEC	800						
E869	52	10		1000	E926	52	129	PRI	200				SEC	190				SEC	1000	E1111	52	27		1000						
E871	52	11	PRI	250				SEC	250	E989	52	26		350	E1048	52	51		750	E1112	52	55	PRI	1000						
			SEC	1000	E928	54	368		2000	E990	56	660	PRI	87	E1051	52	29		350				SEC	800						
E872	54	301		750	E929	52	49	PRI	1500				SEC	1000	E1052	53	195	PRI	1000	E1114	52	35		850						
E873	53	195	PRI	1000				SEC	1500	E991	52	47		1000				SEC	1300	E1115	53	138		2000						
			SEC	2000	E930	53	192	PRI	500	E992	56	661	PRI	40	E1053	56	669	PRI	2000	E1116	52	26		60						
E874	52	12		500				SEC	500				SEC	350				SEC	300	E1117	52	18		500						
E875	56	599		2000	E931	52	39		750	E993	56	662		350	E1054	53	232		2000	E1118	53	244	PRI	500						
E876	52	11	PRI	100	E932	53	153	PRI	80	E994	52	89	PRI	500	E1055	52	48		100				SEC	500						
			SEC	575				SEC	1000				SEC	1000	E1056	53	141	COMB	200	E1119	52	23		220						
E878	52	119		500	E933	52	39		500	E996	56	663	PRI	1000	E1057	52	26		1000	E1121	52	78		500						
E879	52	12		2000	E934	52	6	PRI	500				S&T		E1059	52	111	PRI	5				1000							
E880	54	354		34				SEC	500				COMB	350				SEC	1500	E1123	52	16		200						
E882	52	119		34	E935	52	18		850	E997	52	35		750	E1060	52	5	PRI	1000				SEC	2000						
E883	52	111	PRI	100	E936	52	7	PRI	150	E999	53	179		500				SEC	1000	E1125	53	211	PRI	40						
			SEC	575				SEC	500	E1000	52	20	PRI	500	E1061	56	670	PRI	300				SEC	1000						
E884	52	52		350	E938	52	36	PRI	800				SEC	300				SEC	700	E1126	52	37	PRI	1000						
E885	52	49	PRI	275				SEC	800	E1001	56	665	PRI	250				TER	500				SEC	1000						
			SEC	165	E940	52	31	PRI	500				SEC	120	E1063	53	264	PRI	250	E1127	53	162		1000						
E886	52	21		2000				SEC	1000	E1002	53	153	PRI	500				SEC	800	E1128	52	36	PRI	100						
E887	53	195	PRI	250	E943	52	6	PRI	500				SEC	300	E1064	56	599		34				SEC	2500						
			SEC	800				SEC	500	E1003	52	39		34	E1065	55	493		350	E1130	53	263		2000						
E888	53	179		1000	E944	52	22		100	E1004	52	69		500	E1066	54	365		1280	E1131	53	142	PRI	1800						
E889	52	38		2000	E945	52	10		350	E1005	53	144		34	E1067	53	156		34				SEC	1000						
E890	56	627	PRI	500	E946	52	87		500	E1006	54	346		40	E1068	57	672	PRI	2000	E1133	53	177	COMB	113						
			S&T		E947	53	256	PRI	1000	E1007	54	346		120				SEC	100	E1134	53	253	COMB	500						
			COMB	300				SEC	2000	E1008	52	35		2000				TER	100	E1135	52	48		120						
E892	53	139	PRI	1000	E948	52	78		34	E1009	52	46	PRI	500	E1069	52	62		250	E1136	52	78		2000						
			SEC	1000	E949	54	307		500				SEC	500	E1071	56	644		1000	E1138	52	35		1000						
E893	54	372		750	E950	52	51		350	E1010	52	2		34	E1072	53	227	PRI	1000	E1139	52	22		3000						
E895	52	128		1000	E952	52	39		220	E1011	52	106		850				SEC	800	E1140	53	183		1000						
E896	52	96		850	E953	53	166	PRI	500	E1012	53	359		1000	E1073	54	354		1000	E1141	52	26		850						
E897	52	93		1000				SEC	525	E1013	52	7	PRI	32	E1074	52	80		850	E1142	53	207	PRI	1000						
E898	52	91	COMB	113	E954	55	488		500				SEC	400	E1075	55	535		2000				SEC	1000						
E899	56	655		500	E956	52	35		220	E1014	56	640	PRI	40	E1077	54	372		1500	E1143	52	7	PRI	500						
E900	52	11	PRI	18.3	E957	52	39		220				SEC	350	E1078	52	38		1500				SEC	1000						
			SEC	285	E958	52	93		500	E1015	52	18		1000	E1079	52	57	PRI	500	E1144	53	153	PRI	250						
E901	52	35		1000	E959	53	159	PRI	250	E1016	53	248		PRI	40			SEC	1000	E1145	52	20	PRI	1000						
E902	52	62		500				SEC	250				SEC	1000	E1081	52	7	PRI	1500	E1146	53	183		34						
E903	52	48		20	E961	53	195	PRI	500	E1017	56	608	COMB	200				SEC	1500	E1147	52	114		500						
E904	52	15		1000				SEC	1000	E1019	52	23		500	E1082	52	28	PRI	650	E1148	53	154	PRI	1000						
E905	52	101	PRI	40	E962	52	35		500	E1020	52	47		750				SEC	1000	E1149	53	244	PRI	500						
			SEC	45	E963	53	210	PRI	67	E1022	52	96		1000	E1083	53	200	PRI	650				SEC	1000						
E906	52	35		34				SEC	1000	E1023	52	5	PRI	700				SEC	1000				SEC	1000						
E907	53	153	PRI	1000	E964	52	52		1000				SEC	550	E1084	52	80		1000	E1149	53	244	PRI	500						
			SEC	2000	E965	56	658	PRI	250	E1024	54	347		1000	E1085	52	2		2000				SEC	1500						
E908	53	188	PRI	1000				SEC	700	E1026	52	15		1000	E1086	55	488		1500	E1150	52	17		750						
			SEC	800	E966	53	220		1000	E1027	52	107	PRI	800	E1087	55	488		1500	E1151	52	40		1280						
E909	53	232		350	E968	52	18		2.5				SEC	800	E1088	52	20	PRI	1000	E1152	52	26		2000						
E910	52	7	PRI	700	E970	52	22		150	E1028	52	166	PRI	1000				SEC	800	E1153	52	101	PRI	34						
			SEC	250	E971	52	49	PRI	500				SEC	1000	E1089	52	6	PRI	1000				SEC	180						
E912	53	231		400				SEC	500	E1030	53	204		1000				SEC	1000	E1154	53	193		2000						
E914	53	144		120	E972	52	26		400	E1032	52	21		1000	E1090	53	156		500	E1155	56	665	PRI	500						
E915	53	188	PRI	1000	E974	53	196		500	E1033	52	101	PRI	600	E1091	54	346		500				SEC	300						
			SEC	800	E975	53	156		220				SEC	400	E1092	53	197	PRI	40	E1156	54	272		1500						
E917	52	57	PRI	32	E976	52	103		220	E1035	54	359		500				SEC	83	E1157	52	17		40						
			SEC	400	E981	52	95	PRI	85	E1036	52	18		1500	E1093	52	111	PRI	500	E1158	56	660	PRI	500						
E918	52	5	PRI	1000				SEC	300	E1037	52	22		250				SEC	500				SEC	300						
			SEC	1000	E982	52	20	PRI	85	E1038	52	14		250	E1094	52	29		1											

RELAY CODE	PAGE NO	CONV NO	WDG	OHMS RES	RELAY CODE	PAGE NO	CONV NO	WDG	OHMS RES	RELAY CODE	PAGE NO	CONV NO	WDG	OHMS RES	RELAY CODE	PAGE NO	CONV NO	WDG	OHMS RES	RELAY CODE	PAGE NO	CONV NO	WDG	OHMS RES
E1164	57	675	PRI SEC TER	700 700 700	E1214	57	681	PRI SEC TER	700 18 18	E1290	52	11	PRI SEC	250 250 1500	E1346	52	18		850	E1415	52	49	PRI SEC	250 1000
E1165	57	676		1500	E1215	52	128		2000	E1291	53	167			E1349	52	96		350	E1417	52	24		220
E1167	52	101	PRI SEC	700 700	E1216	52	23		2000	E1292	52	30	PRI SEC	1000 500	E1351	52	18		20	E1418	53	201		100
E1168	52	106		2000	E1217	52	103		1500	E1293	52	107	PRI SEC	500 1000	E1353	52	18		2000	E1419	52	38		220
E1169	53	196		1000	E1218	52	109	COMB	330	E1294	53	230		1280	E1354	52	55	PRI SEC	100 1000	E1420	52	12		350
E1170	52	31	PRI SEC	365 750	E1219	52	11	PRI SEC	21.7 330	E1295	56	636		1500	E1355	52	55	PRI SEC	140 475	E1421	52	101	PRI SEC	60 60
E1171	52	17		1500	E1220	52	38		285	E1296	52	96		1500	E1356	52	52		750	E1422	52	10		750
E1172	52	89	PRI SEC	1000 1000	E1221	52	93		1500	E1297	52	22		55	E1357	53	198		2000	E1423	52	111	PRI SEC	100 850
E1173	52	29		1500	E1224	52	36	PRI SEC	500 1000	E1298	52	49	PRI SEC	1000 1000	E1358	52	128		60	E1424	52	31	PRI SEC	175 210
E1174	52	21		500	E1225	52	106		220	E1299	52	35		2000	E1359	57	684		1500	E1425	52	18		500
E1176	57	677	COMB	500	E1228	52	14		500	E1300	57	687		1000	E1360	52	52		350	E1426	56	644		500
E1177	52	39		400	E1229	52	23		850	E1301	52	89	PRI SEC	300 1800	E1361	53	223	PRI SEC	1000 120	E1427	52	52		1000
E1178	53	186	PRI SEC	15 60	E1230	52	17		2000	E1302	52	89	PRI SEC	1000 1000	E1362	52	18		5000	E1429	52	111	PRI SEC	200 2000
E1181	52	18		34	E1232	52	31	PRI SEC	11 750	E1303	52	18		2.2	E1363	55	454		1000	E1430	52	89	PRI SEC	1000 1000
E1182	52	18		100	E1234	55	474		1000	E1304	52	5	PRI SEC	500 500	E1365	52	33		1500	E1431	52	5	PRI SEC	1000 1000
E1183	53	196		500	E1235	52	16	PRI SEC	250 250	E1305	52	13	PRI SEC	365 750	E1367	53	153	PRI SEC	500 1000	E1432	52	11	PRI SEC	1000 1000
E1184	53	153	PRI SEC	280 2000	E1236	54	372		1500	E1307	53	156		2000	E1370	52	21		1000	E1433	52	49	PRI SEC	1000 1000
E1185	52	6	PRI SEC	50 900	E1237	53	220		850	E1308	52	22		2000	E1371	52	95	PRI SEC	300 1000	E1434	52	107	PRI SEC	1000 1000
E1186	53	210	PRI SEC	1000 800	E1238	52	93		850	E1310	55	474		2000	E1378	52	21		150	E1435	52	62		350
E1187	53	166	PRI SEC	100 1000	E1242	52	95	PRI SEC	250 500	E1311	52	83	PRI SEC	1400 1000	E1379	55	454		750	E1436	52	49	PRI SEC	15 60
E1188	52	118	PRI SEC	1000 1000	E1243	52	49	PRI SEC	350 750	E1313	56	644		1500	E1380	52	28	PRI SEC	1800 700	E1437	52	101	PRI SEC	15 60
E1189	52	30	PRI SEC	80 1000	E1247	52	49	PRI SEC	150 750	E1314	52	78		1000	E1381	52	8	PRI SEC	500 1000	E1439	52	49	PRI SEC	34 466
E1190	52	4	PRI SEC	850 3400	E1248	52	79	PRI SEC	150 750	E1315	52	21		350	E1385	53	253	COMB	10.7	E1440	52	103		350
E1191	52	49	PRI SEC	1000 1000	E1250	55	485	PRI SEC	500 500	E1316	52	5	PRI SEC	1000 700	E1387	52	35		400	E1443	52	25		500
E1192	52	49	PRI SEC	500 500	E1252	52	18		350	E1317	52	35		850	E1388	55	450	PRI SEC	500 500	E1444	52	23		500
E1193	52	18		34	E1253	53	193		1000	E1318	52	101	PRI SEC	80 1000	E1389	52	95	PRI SEC	500 120	E1446	52	29		1000
E1194	52	111	PRI SEC	1000 800	E1254	52	26		750	E1321	53	234	PRI SEC	500 1000	E1390	56	659	PRI SEC	17 570	E1447	57	694	PRI SEC	500 500
E1195	53	197	PRI SEC	250 800	E1256	52	23		750	E1323	52	21		1000	E1392	53	145		500	E1450	52	29		500
E1196	52	111	PRI SEC	275 165	E1257	52	35		500	E1324	53	144		1050	E1393	52	22		1280	E1451	53	231		500
E1197	53	217		500	E1258	52	10		1500	E1325	52	22		500	E1394	52	78		150	E1452	52	14		350
E1198	54	327		500	E1259	52	10		1500	E1326	52	29		750	E1396	57	691	PRI SEC	250 120	E1455	53	137		1500
E1199	52	17		1000	E1260	57	682	PRI SEC	80 1000	E1327	53	183		220	E1397	52	23		100	E1457	52	4	PRI SEC	500 300
E1200	52	24		1000	E1261	57	683	PRI SEC	1000 1000	E1329	52	18		600	E1398	52	10		500	E1458	52	4	PRI SEC	500 1000
E1201	52	10		1000	E1262	52	38		1000	E1332	52	89	PRI SEC	1000 1000	E1399	52	62		1000	E1459	53	206		750
E1202	52	11	PRI SEC	500 500	E1263	52	14		850	E1333	52	89	PRI SEC	1000 1000	E1400	53	195	PRI SEC	7 1000	E1460	52	119		220
E1203	52	22		500	E1265	52	69		1000	E1334	52	116		1500	E1401	56	642	PRI SEC	500 1000	E1461	52	101	PRI SEC	40 45
E1205	53	256	PRI SEC	1000 1000	E1267	56	546	PRI SEC	1000 625	E1335	52	31	PRI SEC	280 800	E1402	53	195	PRI SEC	1000 500	E1463	53	144		500
E1206	52	18		90	E1268	53	200		1000	E1336	54	354		500	E1403	53	195	PRI SEC	2000 600	E1464	54	359		1500
E1207	52	27		100	E1269	52	87		2000	E1337	52	95	PRI SEC	2000 1000	E1404	53	195	PRI SEC	1000 500	E1465	53	200	PRI SEC	365 750
E1209	52	31	PRI SEC	1000 800	E1270	52	99	COMB	230	E1338	52	2		1500	E1405	53	239		200	E1466	52	22		10
E1210	57	680	PRI SEC	2.1 1000	E1273	52	16	PRI SEC	1000 1000	E1339	63	168	PRI SEC	500 300	E1406	52	39		10	E1467	52	111	PRI SEC	1000 1000
E1211	53	183		2000	E1274	52	33		500	E1341	52	111	PRI SEC	285 400	E1409	52	128		500	E1468	57	696	PRI SEC QUAT	45 45 1000
E1212	56	664	PRI SEC	700 18	E1275	57	685		220	E1342	52	51		2000	E1410	52	101	PRI SEC	1700 200	E1469	54	379		350
E1213	56	667		500	E1281	56	664	PRI SEC	1000 18	E1343	52	89	PRI SEC	1000 1000	E1411	56	430		100	E1470	52	36	PRI SEC	600 800
					E1282	56	686	PRI SEC	1000 18	E1344	52	89	PRI SEC	1000 1000	E1412	52	18		1000	E1472	52	18		3000
					E1284	52	48		1500	E1345	56	546	PRI SEC	340 300	E1413	52	116		500					
					E1286	52	35		20															
					E1288	52	35		2000															
					E1289	52	37	PRI SEC	300 500															

E TYPE RELAY CODES

RELAY CODE	PAGE NO	CONF NO	WDG	OHMS RES	RELAY CODE	PAGE NO	CONF NO	WDG	OHMS RES	RELAY CODE	PAGE NO	CONF NO	WDG	OHMS RES	RELAY CODE	PAGE NO	CONF NO	WDG	OHMS RES	RELAY CODE	PAGE NO	CONF NO	WDG	OHMS RES
E1474	52	18		500	E1533	53	159	PRI	500	E1595	52	79	PRI	5	E1658	52	31	PRI	10	E1705	52	29		1500
E1475	52	95	PRI	500				SEC	1000				SEC	1000	E1597	53	141	COMB	500	E1706	52	10		250
			SEC	500	E1534	53	153	PRI	250	E1598	52	22		500	E1659	52	11	PRI	1000	E1707	52	78		250
E1476	52	46	PRI	10				SEC	800	E1599	54	368		750	E1661	52	14		1000	E1708	52	106		1000
			SEC	1000	E1535	52	99	COMB	500	E1600	52	18		150	E1662	57	673	PRI	700	E1709	52	39		400
E1477	53	171		1000	E1536	56	660	PRI	1000	E1601	53	220		500				SEC	18	E1711	52	106		2000
E1479	52	89	PRI	150				SEC	800	E1603	53	251	PRI	500				TER	18	E1712	52	34		500
			SEC	400	E1537	52	51		34				SEC	300	E1663	52	52		750	E1715	52	17		850
E1480	52	35		200	E1539	52	23		220															
E1481	52	11	PRI	150	E1540	52	10		500	E1604	52	26		350	E1664	52	5	PRI	150	E1718	52	84	PRI	
			SEC	400	E1541	52	78		500	E1606	53	156		34				SEC	800					COMB
E1482	57	697		1500	E1542	52	10		200	E1607	52	78		1500	E1665	52	5	PRI	600					SEC
E1483	53	209		2000	E1543	52	27		220	E1609	52	4	PRI	200				SEC	800	E1720	52	6	PRI	500
E1485	52	39		850	E1544	52	14		200				SEC	1500	E1666	52	49	PRI	150					SEC
E1487	52	39		10	E1545	53	159	PRI	500	E1610	52	5	PRI	175				SEC	800	E1721	52	17		1000
E1488	57	698	COMB	88				SEC	250				SEC	100	E1667	53	153	PRI	375	E1722	52	22		1000
E1489	56	608	COMB	200	E1546	52	14		220	E1613	52	2		2000				SEC	1000	E1724	53	253	COMB	113
E1490	52	107	PRI	10	E1548	53	144		1500	E1614	53	162		1500	E1668	52	5	PRI	800	E1726	52	49	PRI	1500
			SEC	1000	E1549	53	137		2000	E1615	52	37	PRI	1000				SEC	800					SEC
E1491	53	211	PRI	500	E1550	52	19	PRI	500				SEC	1000	E1669	52	5	PRI	110	E1727	52	13	PRI	100
			SEC	1000				SEC	300	E1616	53	209		100				SEC	2000					SEC
E1492	55	433		1500	E1552	52	35		1000	E1617	52	4	PRI	500	E1670	55	457		2000	E1729	52	12		2000
E1493	53	220		100	E1553	52	18		1000				SEC	300	E1671	52	48		220	E1730	52	111	PRI	100
E1494	53	183		34	E1554	52	18		2000	E1618	52	10		220	E1673	52	27		1000					SEC
E1495	53	230		1000	E1555	52	22		1500	E1620	52	11	PRI	650	E1674	52	22		200	E1731	52	31	PRI	750
E1496	52	23		10	E1556	53	220		500				SEC	1000	E1675	52	5	PRI	500					SEC
E1497	52	19	PRI	500	E1557	53	201		34	E1623	52	22		5.3				SEC	1200	E1732	52	49	PRI	450
			SEC	1000	E1558	53	220		500	E1624	52	14		750	E1676	52	79	PRI	110					SEC
E1499	52	18		96	E1559	52	18		20	E1625	53	207	PRI	270				SEC	1000	E1733	52	22		500
E1500	52	36	PRI	1000	E1560	53	149		400				SEC	1000	E1677	52	16	PRI	100	E1735	53	220		34
			SEC	800	E1561	52	129	PRI	340	E1626	52	39		2000				SEC	1000	E1736	52	4	PRI	1000
E1501	53	137		40				SEC	300	E1627	52	26		7	E1678	52	36	PRI	110					SEC
E1502	57	692		500	E1562	52	24		100	E1629	55	403	PRI	1000				SEC	1000	E1737	53	193		350
E1503	52	35		200	E1563	52	39		34				SEC	1000	E1680	53	200	PRI	110	E1738	52	114		100
E1504	52	87		1000	E1564	53	201		220	E1630	52	57	PRI	1000				SEC	1200	E1742	52	131		34
E1506	52	18		2000	E1565	52	4	PRI	800				SEC	800	E1681	52	31	PRI	50	E1743	54	301		2000
E1507	52	78		1500				SEC	1000	E1631	53	200	PRI	200				SEC	400	E1744	52	39		450
E1508	53	137		1500	E1567	57	700	PRI	160				SEC	1000	E1682	53	192	PRI	500	E1745	52	27		250
E1509	52	26		1500				SEC	180	E1632	52	101	PRI	1000				SEC	500	E1747	53	141	COMB	600
E1510	52	29		1500	E1568	55	495	PRI	300				SEC	400	E1683	57	701	PRI	750	E1748	52	89	PRI	500
E1511	52	34		400				SEC	300	E1633	52	38		1280				SEC	300					SEC
E1512	53	231		2000	E1571	56	659	PRI	8.8	E1634	53	230		1000	E1684	52	39		1000	E1749	52	5	PRI	725
E1513	54	327		350				SEC	260	E1635	53	202		1000	E1685	52	107	PRI	1000					SEC
E1514	52	35		96				TER	1000	E1636	52	89	PRI	1000				SEC	400	E1750	53	195	PRI	500
E1515	53	158	PRI	600	E1572	53	193		2000				SEC	1000	E1687	56	666		1000					SEC
			SEC	700	E1573	52	5	PRI	660	E1639	52	18		500	E1688	53	141	COMB	113	E1753	57	703	PRI	1000
E1516	52	49	PRI	1000				SEC	250	E1640	53	149		2000	E1689	53	220		60					SEC
			SEC	1000	E1574	56	612		120	E1641	52	22		1500	E1690	56	669	PRI	1000	E1754	52	33		1000
E1520	52	111	PRI	500				SEC	100	E1642	52	55	PRI	500				SEC	500	E1755	52	69		1000
			SEC	500	E1575	54	280		100				SEC	1000	E1691	52	41	PRI	1000	E1756	52	38		1000
E1521	53	183		350	E1576	52	35		500	E1643	52	25		1000				SEC	500	E1757	53	260		1000
E1522	52	34		750	E1577	52	16	PRI	160	E1644	52	24		2000	E1692	52	101	PRI	250	E1758	54	302	COMB	200
E1523	53	154	PRI	300				SEC	160	E1645	52	101	PRI	1000				SEC	1000	E1759	52	89	PRI	1000
			SEC	1000	E1580	53	183		2000				SEC	1000	E1693	52	35		500					SEC
E1524	53	248	PRI	285	E1581	52	111	PRI	1500	E1647	52	35		200	E1694	56	615		500	E1760	52	26		1000
			SEC	400				SEC	1500	E1648	52	26		100	E1695	52	22		350	E1761	52	23		350
E1525	56	665	PRI	1000	E1583	52	119		1000	E1649	52	49	PRI	275	E1696	52	105	COMB	333	E1762	52	25		500
			SEC	800	E1584	52	35		1000				SEC	275	E1697	52	34		1000	E1763	52	34		34
E1526	52	57	PRI	34	E1585	52	31	PRI	10	E1650	53	154	PRI	1000	E1698	52	5	PRI	500	E1764	53	144		34
			SEC	500				SEC	1000				SEC	650				SEC	150	E1765	52	35		2000
E1527	52	95	PRI	67	E1586	53	165		400	E1651	52	99	COMB	333	E1700	53	176	PRI	34	E1766	57	707	PRI	32
			SEC	1000	E1587	52	26		450	E1652	52	8	PRI	1000				SEC	316					SEC
E1528	52	93		2000	E1589	52	57	PRI	275				SEC	1000	E1701	53	154	PRI	450					TER
E1529	52	26		220				SEC	275	E1653	54	314		1800				SEC	210	E1767	53	153	PRI	500
E1530	52	26		2000	E1591	52	23		2000	E1654	52	29		500	E1702	56	612	PRI	1000					SEC
E1531	52	35		2000	E1592	52	18		2000	E1656	53	248	PRI	700				SEC	210	E1769	53	144		350
E1532	52	78		350	E1593	53	162		1500				SEC	700	E1703	53	232		1000	E1773	52	74		500
										E1657	52	18		34	E1704	55	454		250	E1774	52	18		150

E TYPE RELAY CODES

RELAY CODE	PAGE NO	CONV NO	WDG	ORMS RES	RELAY CODE	PAGE NO	CONV NO	WDG	ORMS RES	RELAY CODE	PAGE NO	CONV NO	WDG	ORMS RES	RELAY CODE	PAGE NO	CONV NO	WDG	ORMS RES	RELAY CODE	PAGE NO	CONV NO	WDG	ORMS RES	RELAY CODE	PAGE NO	CONV NO	WDG	ORMS RES			
E1775	52	38		250	E1845	52	35		350	E1902	53	137		850	E1963	52	111	PRI	1000	E6011	57	721	PRI	1000								
E1777	52	22		100	E1846	52	49	PRI	295	E1903	57	714	PRI	1000																		
E1779	52	26		100				SEC	500					625	E1964	53	209		500	E6012	57	722										
E1780	52	26		150	E1848	52	48		220	E1907	54	269		850	E1965	52	22		1000	E6014	52	87										
E1781	52	51		100	E1850	52	16	PRI	295	E1908	53	144		2000	E1967	52	23		0.37	E6015	53	195	PRI	500								
E1782	52	95	PRI	85				SEC	500	E1909	57	715	P&T		E1968	52	12		1000													
			SEC	300	E1851	52	48		15											E6016	52	51										
E1783	52	39		500	E1852	52	49	PRI	295					10	E1969	52	10		500	E6017	52	18										
														450	E1970	53	230		1000													
E1784	52	89	PRI	1000				SEC	500	E1913	52	22		5	E1971	53	158	PRI	500	E6018	53	144										
			SEC	1000	E1853	52	89	PRI	295	E1915	52	116		500					500	E6019	52	5	PRI	325								
E1765	53	196		1000				SEC	500	E1916	57	712	PRI	500	E1972	53	264	PRI	200													
E1786	52	93		100	E1854	52	49	PRI	295					120					1500	E6021	52	35										
E1787	52	18		1000				SEC	500	E1917	53	144		2000	E1973	52	24		500	E6022	56	648	PRI	1000								
E1791	52	2		1000	E1855	54	300		500	E1918	52	105	COMB	670	E1974	52	11	PRI	175													
E1792	52	18		220	E1856	52	109	COMB	500	E1919	52	11	PRI	32					100	E6023	52	97	PRI	1000								
E1793	52	39		150	E1857	52	48		20					475	E1975	52	11	PRI	285													
E1794	52	26		1000	E1858	53	192	PRI	1000	E1920	52	48		1000					400	E6024	52	14										
								SEC	1000	E1922	52	18		20	E1976	52	120	COMB	500	E6025	52	17										
E1795	53	200	PRI	10	E1859	52	29		250	E1923	52	38		285	E1978	56	659	PRI	12	E6026	53	220										
			SEC	110															220	E6027	53	144										
E1796	52	31	PRI	9.5	E1860	52	29		300	E1924	52	51		1000					1000	E6028	53	207	PRI	32								
			SEC	105	E1861	52	12		750	E1925	52	25		500																		
E1797	54	280		350	E1863	52	89	PRI	250	E1926	52	39		120	E1979	53	207	PRI	232													
E1798	53	200	PRI	500				SEC	300	E1927	52	8	PRI	32					1000	E6029	52	14										
			SEC	500	E1864	53	186	PRI	500					400	E1980	52	31	PRI	11.8	E6030	54	284	PRI	0.14								
E1799	55	474		350				SEC	60	E1928	52	12		400					270													
E1800	53	186	PRI	500	E1866	52	78		220	E1929	52	38		400	E1981	52	101	PRI	120													
			SEC	500	E1867	52	107	PRI	100	E1930	52	25		400					2100	E6031	52	48										
E1801	52	35		350				SEC	250	E1931	54	301		1000	E1982	52	111	PRI	15	E6032	53	206										
E1803	52	25		500	E1868	52	107	PRI	500	E1932	52	39		1500					1000	E6033	52	23										
E1804	52	94		350				SEC	1000	E1933	53	144		500	E1983	52	89	PRI	1000	E6034	53	156										
E1805	52	87		350	E1869	52	36	PRI	500	E1934	52	12		750					950	E6035	53	193										
E1806	52	48		300				SEC	1000	E1935	52	39		2500	E1984	52	14		60	E6036	52	48										
E1811	52	39		500	E1870	52	14		100	E1936	57	701	PRI	2000	E1985	53	166	PRI	500	E6037	52	72										
E1812	53	220		350	E1871	52	38		140					500					500	E6038	55	485	PRI	800								
E1813	52	35		500	E1872	52	103		1000	E1937	56	613	COMB	83	E1986	53	186	PRI	500													
E1814	52	18		350	E1873	53	159	PRI	250	E1938	52	101	PRI	900					500	E6039	52	18										
E1815	53	183		350				SEC	250					700	E1987	52	75		350	E6040	52	21										
E1816	52	2		350	E1874	52	52		350	E1939	52	14		350	E1988	52	5	PRI	1000	E6041	52	22										
E1817	53	137		350	E1875	52	23		60	E1940	52	17		500					1500	E6042	54	291	PRI	1000								
E1818	57	706		350	E1876	57	709		1500	E1941	53	139	PRI	120	E1989	52	28	PRI	500													
E1819	52	35		1000	E1877	57	710		1500					500					500	E6043	57	723	PRI	1500								
E1820	56	628		1500	E1878	52	26		350	E1942	53	259		750	E1990	52	18		500													
E1821	52	14		220	E1879	52	12		34	E1943	52	18		600	E1991	52	17		20	E6045	52	2										
E1822	52	14		100	E1880	52	18		2700	E1944	52	48		250	E1992	52	31	PRI	250	E6046	52	14										
E1823	56	628		750	E1882	52	26		2500	E1945	57	716		400					20	E6047	52	17										
E1824	52	101	PRI	20	E1883	53	220		1000	E1946	56	646	COMB	200	E1993	57	720	PRI	20	E6048	52	18										
			SEC	20	E1884	53	186	PRI	385	E1947	52	12		1000					20	E6050	52	42	PRI	1000								
E1826	55	403	PRI	365				SEC	600	E1948	52	14		250					20													
			SEC	750	E1885	52	78		220	E1949	54	347		1500	E1994	52	23		1000	E6051	52	39										
E1827	52	38		500	E1888	53	183		500	E1950	52	40		1000	E1995	52	18		1000	E6052	54	384	PRI	700								
E1828	53	137		500	E1889	52	5	PRI	285	E1951	57	717	PRI	34	E1996	56	599		500													
E1830	53	256	PRI	1000				SEC	400					100	E1997	52	47		250	E6053	52	36	PRI	800								
			SEC	120	E1891	57	712	PRI	200					1000	E1999	52	5	PRI	700													
E1831	52	17		34				SEC	1500	E1952	54	398	PRI	500					550	E6054	52	31	PRI	60								
E1832	53	196		2000	E1892	52	11	PRI	175					150	E6000	52	44		750													
E1833	52	29		500				SEC	100	E1953	52	79	PRI	365	E6001	52	48		500	E6055	57	724	PRI	1000								
E1835	52	101	PRI	500	E1893	57	713	PRI	200					750	E6002	57	714	PRI	600													
			SEC	500				SEC	1500	E1954	53	210	PRI	500					700	E6058	52	106										
E1836	52	22		1280	E1894	52	5	PRI	175					120	E6003	53	179		1500	E6060	56	555										
E1837	52	18		350				SEC	100	E1955	5																					

RELAY CODE	PAGE NO	CONV NO	WDG	OHMS RES	RELAY CODE	PAGE NO	CONV NO	WDG	OHMS RES	RELAY CODE	PAGE NO	CONV NO	WDG	OHMS RES	RELAY CODE	PAGE NO	CONV NO	WDG	OHMS RES	RELAY CODE	PAGE NO	CONV NO	WDG	OHMS RES
E6070	52	16	PRI SEC	240 850	E6117	52	111	PRI SEC	1000 1000	E6170	52	10		655	E6223	52	48		300	E6279	52	95	PRI SEC	34 1000
E6071	52	89	PRI SEC	20 20	E6118	54	359		850	E6171	52	27		655	E6224	52	96		350	E6280	53	195	PRI SEC	7 1000
E6072	52	5	PRI SEC	32 400	E6119	53	220		1200	E6172	53	200	PRI SEC	345 400	E6225	57	739	PRI SEC	83 217	E6281	52	35		1500
E6073	52	39		150	E6120	52	28	PRI SEC	100 1000	E6173	57	733	PRI SEC	300 500	E6226	52	39		500	E6282	52	7	PRI SEC	750 900
E6074	57	725	PRI SEC TER	20 20 20	E6121	52	47		850	E6174	53	142	PRI SEC	122 1000	E6227	52	87		750	E6283	52	29		60
E6075	52	39		10	E6122	52	11	PRI SEC	500 500	E6175	52	16	PRI SEC	10 1000	E6228	53	256	PRI SEC	750 300	E6284	52	18		750
E6076	57	726		250	E6123	52	21		500	E6229	52	103		500	E6230	52	93		1000	E6285	52	18		1800
E6077	52	102		350	E6124	52	48		50	E6231	52	18		34	E6232	57	740	COMB	113	E6286	52	35		400
E6078	52	39		350	E6125	54	281	COMB	83	E6176	56	655		500	E6233	53	159	PRI SEC	500 300	E6287	57	742	COMB	83
E6079	52	39		350	E6126	52	12		1000	E6177	52	18		1000	E6234	56	599		350	E6288	53	176	PRI SEC	500 500
E6080	54	280		250	E6127	57	730		750	E6178	53	138		500	E6235	52	10		500	E6289	55	433		1500
E6081	53	220		180	E6128	53	220		500	E6179	52	13	PRI SEC	500 2150	E6236	52	119		750	E6290	53	167		1500
E6082	52	118	PRI SEC	34 500	E6129	52	18		140	E6180	54	347		1000	E6237	52	34		655	E6291	52	18		1500
E6083	52	102		180	E6130	52	12		1280	E6181	52	16	PRI SEC	34 1000	E6238	52	35		850	E6292	53	15		1000
E6084	53	175	PRI SEC	1000 1000	E6131	52	39		500	E6182	52	12		1500	E6239	52	107	PRI SEC	500 500	E6293	53	197	PRI SEC	1000 1000
E6085	52	6	PRI SEC	32 400	E6132	52	111	PRI SEC	24 400	E6183	57	703	PRI SEC	875 506	E6240	53	144		1000	E6294	52	101	PRI SEC	1000 400
E6086	52	9	PRI SEC	32 400	E6133	57	731	P&T COMB SEC	5.13 210	E6184	52	101	PRI SEC	700 700	E6241	54	269		1280	E6295	52	26		220
E6087	52	111	PRI SEC	295 500	E6134	52	731	P&T COMB SEC	5.13 845	E6185	57	733	PRI SEC	160 265	E6242	56	604	COMB	200	E6296	52	131		220
E6088	52	39		500	E6135	57	731	P&T COMB SEC	5.13 845	E6186	52	119		1000	E6243	52	18		220	E6297	52	10		750
E6089	52	116		340	E6136	52	18		2000	E6187	52	158	PRI SEC	150 900	E6244	52	48		22	E6298	53	139	PRI SEC	600 700
E6090	54	399	PRI SEC	1000 1000	E6137	52	732	COMB	222	E6188	53	158	PRI SEC	150 900	E6245	53	162		750	E6299	53	234	PRI SEC	1200 250
E6091	52	39		350	E6138	57	709		850	E6189	52	131		60	E6246	52	24		50	E6300	52	26		500
E6092	52	39		350	E6139	52	111	PRI SEC	700 700	E6190	52	29		1500	E6247	52	48		750	E6301	54	280		400
E6093	53	183		350	E6140	52	31	PRI SEC	700 1000	E6191	52	31	PRI SEC	34 1000	E6248	53	145		350	E6302	52	17		300
E6094	53	193		1500	E6141	52	130	PRI SEC	130 1000	E6192	52	3	COMB	670	E6249	57	741	PRI SEC	2000 800	E6303	52	131		1500
E6095	52	80		1000	E6142	52	153	PRI SEC	1000 1000	E6193	54	363	COMB	750	E6250	52	48		750	E6304	55	450	PRI SEC	1000 1000
E6096	52	39		500	E6143	52	13	PRI SEC	700 700	E6194	53	219		1280	E6251	52	36	PRI SEC	45 325	E6305	52	14		750
E6097	52	48		1000	E6144	52	89	PRI SEC	510 700	E6195	52	119		500	E6252	52	5	PRI SEC	45 325	E6306	55	444	COMB	83
E6098	54	382	PRI SEC TER	20 20 20	E6145	52	28	PRI SEC	500 350	E6196	57	735		1500	E6253	52	176	PRI SEC	34 1000	E6307	53	143	PRI SEC	750 300
E6099	52	111		20	E6146	52	25		250	E6197	53	183		250	E6254	53	11	PRI SEC	450 190	E6308	52	35		34
E6100	52	359		700	E6147	52	200	PRI SEC	1500 1500	E6198	52	104	PRI SEC	850 1000	E6255	52	22		34	E6309	52	51		20
E6101	52	23		120	E6148	52	25		250	E6199	53	156		250	E6256	52	38		1800	E6310	52	26		34
E6102	53	142	PRI SEC	80 1500	E6149	52	200	PRI SEC	1500 1500	E6200	53	193		250	E6257	52	39		1000	E6311	52	111	PRI SEC	100 25
E6103	57	727	PRI SEC TER	300 50 500	E6150	52	34		2500	E6201	54	346		250	E6258	52	220		1000	E6312	52	78		1500
E6104	53	195	PRI SEC	200 1500	E6151	52	23		2000	E6202	52	17		250	E6259	52	103		500	E6313	52	27		1000
E6105	55	403	PRI SEC	175 100	E6152	52	35		1000	E6203	53	186	PRI SEC	325 500	E6260	52	17		1800	E6314	54	306	PRI SEC	2.1 1000
E6106	54	300		100	E6153	52	106		34	E6204	52	12		250	E6261	52	93		1800	E6315	54	306	PRI SEC	2.1 1000
E6107	52	47		500	E6154	52	27		350	E6205	52	18		3000	E6262	52	39		2300	E6316	52	78		1500
E6108	52	18		34	E6155	53	210	PRI SEC	250 250	E6206	57	684		350	E6263	52	11	PRI SEC	450 190	E6317	52	31	PRI SEC	60 500
E6109	54	269		500	E6156	52	24		650	E6207	52	104	PRI SEC	850 1000	E6264	52	22		34	E6318	52	197	PRI SEC	3500 1000
E6110	54	391		500	E6157	52	24		650	E6208	53	230		250	E6265	52	22		34	E6319	52	31	PRI SEC	60 500
E6111	57	728	PRI SEC	50 500	E6158	52	18		285	E6209	52	18		3000	E6266	52	22		34	E6320	52	31	PRI SEC	60 500
E6112	53	207	PRI SEC	1.8 650	E6159	52	75		1200	E6210	52	104	PRI SEC	850 1000	E6267	52	11	PRI SEC	450 190	E6321	52	31	PRI SEC	60 500
E6113	53	144		500	E6160	54	325		875	E6211	57	736	COMB	301	E6268	54	269		2000	E6322	52	48		500
E6114	52	26		850	E6161	52	48		250	E6212	53	193		250	E6269	52	39		1000	E6323	55	433		1500
E6115	57	729		1000	E6162	52	20	PRI SEC	500 120	E6213	52	2		1000	E6270	52	24		34	E6324	52	131		350
E6116	52	145		150	E6163	52	17		2000	E6214	52	21		250	E6271	53	160	PRI SEC	650 1000	E6325	54	376		220
					E6164	53	231		220	E6215	57	738	PRI SEC	340 300	E6272	52	27		500	E6326	52	14		40
					E6165	52	18		300	E6216	52	51		250	E6273	52	10		500	E6327	52	18		350
					E6166	52	103		1000	E6217	52	31	PRI SEC	15 1000	E6274	53	201		1000	E6328	53	207	PRI SEC	4.5 200
					E6167	52	113	COMB	333	E6218	52	48		20	E6275	55	474		500	E6329	52	103		3000
					E6168	52	52		750	E6219	52	202		750	E6276	52	48		1000	E6330	52	26		3000
					E6169	53	145		150	E6220	52	48		20	E6277	52	48		250	E6331	52	78		3000
										E6221	52	48		20	E6278	52	48		250	E6332	52	35		1000
										E6222	52	202		750					280	E6333	52	35		1000
																				E6334	52	35		1000

E TYPE RELAY CODES

RELAY CODE	PAGE NO	CONV NO	WDC	OHMS RES	RELAY CODE	PAGE NO	CONV NO	WDC	OHMS RES	RELAY CODE	PAGE NO	CONV NO	WDC	OHMS RES	RELAY CODE	PAGE NO	CONV NO	WDC	OHMS RES	RELAY CODE	PAGE NO	CONV NO	WDC	OHMS RES
E6335	53	207	PRI SEC	645 2200	E6365	57	743	PRI SEC	1000 750	E6392	53	195	PRI SEC	750 50	E6425	52	29		850	E6460	54	346		250
E6336	52	107	PRI SEC	425 350	E6366	52	35		875	E6393	57	748		1000	E6426	54	301		1000	E6461	53	156		250
E6337	52	2		500	E6367	56	669	PRI SEC	750 300	E6394	52	5	PRI SEC	1500 500	E6428	57	751	PRI SEC	1000 800	E6462	53	193		250
E6338	52	34		500	E6369	52	27		100	E6395	52	11	PRI SEC	245 1200	E6429	53	171		1000	E6463	53	220		1500
E6339	53	223	PRI SEC	2000 250	E6370	53	217		2000	E6396	52	5	PRI SEC	245 1200	E6430	57	752		1000	E6464	52	52		220
E6340	54	376		100	E6371	52	38		500	E6397	57	750		1500	E6431	52	35		850	E6465	53	166	PRI	500
E6341	53	210	PRI SEC	500 300	E6372	52	99	COMB	113	E6398	54	291	PRI SEC	1000 1000	E6432	53	153	PRI SEC	1000 1000	E6466	52	89	PRI	164
E6342	52	18		250	E6373	52	5	PRI SEC	500 900	E6399	53	396	PRI SEC	650 1000	E6433	53	268		1500	E6467	52	22		1000
E6343	53	176	PRI SEC	34 316	E6374	53	252	PRI SEC	1000 1000	E6400	52	106		500	E6434	53	217		1800	E6468	52	22		3000
E6344	52	5	PRI SEC	500 500	E6375	57	744	PRI SEC	1300 300	E6401	52	122		1500	E6435	53	268		1500	E6469	52	18		2500
E6345	52	7	PRI SEC	150 500	E6376	57	745	PRI SEC	750 1000	E6402	53	228	PRI SEC	500 300	E6436	52	18		2000	E6470	52	111	PRI	32
E6346	53	488		500	E6377	53	158	PRI SEC	100 1000	E6403	53	201		500	E6437	55	462		1000	E6471	53	220		1800
E6347	52	52		1000	E6378	56	660	PRI SEC	1000 800	E6404	52	5	PRI SEC	650 1800	E6438	52	48		350	E6472	52	26		1000
E6348	52	89	PRI SEC	500 500	E6379	53	137	PRI SEC	750 50	E6405	52	101	PRI SEC	150 1800	E6440	52	89	PRI SEC	1000 1800	E6473	52	102		22
E6349	53	159	PRI SEC	500 500	E6380	53	223	PRI SEC	1000 1000	E6406	53	207	PRI SEC	150 1800	E6441	53	180	PRI SEC	1000 1000	E6474	53	231		350
E6350	52	49	PRI SEC	54 170	E6381	53	197	PRI SEC	2000 1000	E6407	53	264	PRI SEC	375 1000	E6442	53	259		1500	E6475	53	222	PRI	12
E6351	54	376		100	E6382	52	46	PRI SEC	1000 1000	E6408	53	223	PRI SEC	500 1000	E6443	52	101	PRI SEC	500 8000	E6476	52	48		50
E6352	52	101	PRI SEC	4000 1000	E6383	57	704	PRI SEC	1800 70	E6409	52	72		1000	E6444	52	18		380	E6477	53	209		500
E6353	52	49	PRI SEC	100 1000	E6384	53	139	PRI SEC	1000 1000	E6410	52	18		850	E6445	52	14		1500	E6478	52	93		500
E6354	56	669	PRI SEC	2000 300	E6385	52	36	PRI SEC	1000 800	E6411	52	49	PRI SEC	500 2000	E6446	52	35		3000	E6479	52	28	PRI	600
E6355	52	49	PRI SEC	1000 1000	E6386	57	746	PRI SEC	1000 1000	E6412	54	398	PRI SEC	150 200	E6447	52	27		1500	E6480	53	220		2500
E6356	52	11	PRI SEC	100 1000	E6387	52	54	PRI SEC	975 1852	E6413	56	660	PRI SEC	67 1000	E6448	52	128		2500	E6481	53	220		3000
E6357	52	18		2000	E6388	53	213	PRI SEC	1000 1000	E6414	54	346		20	E6449	52	118	PRI SEC	1000 1200	E6482	52	22		2000
E6358	52	22		650	E6389	52	130	PRI SEC	800 800	E6415	52	5	PRI SEC	100 1000	E6450	52	8	PRI SEC	1000 1800	E6483	52	22		2000
E6359	53	197	PRI SEC	34 120	E6390	57	755	PRI SEC	600 600	E6416	52	66		1000	E6451	52	7	PRI SEC	1000 1500	E6484	52	89	PRI	150
E6360	52	11	PRI SEC	300 500						E6417	52	52		1000	E6452	52	11	PRI SEC	1000 1500	E6485	54	376		450
E6361	53	166	PRI SEC	500 2000						E6418	52	116		1500	E6453	53	201		1500	E6486	52	30	PRI	7
E6362	52	18		750						E6419	55	485	PRI SEC	650 2000	E6454	52	16	PRI SEC	1000 1500	E6487	54	376		350
E6363	52	22		650						E6420	53	165		2000	E6455	52	42	PRI SEC	1000 1500	E6488	52	39		1800
E6364	53	147	PRI SEC	250 700	E6391	52	62		1280	E6421	52	82		1280	E6456	52	49	PRI SEC	1000 1800	E6489	57	753	PRI	200
										E6422	52	106		1000	E6457	53	197	PRI SEC	500 300	E6490	53	232		500
										E6423	53	171		1000	E6458	52	36	PRI SEC	100 750	E6491	53	231		500
															E6459	52	11	PRI SEC	1000 1500	E6492	52	18		400
																				E6493	53	193		1000
																				E6494	57	754		1000
																				E6495	53	221	PRI	34
																				E6496	52	48		250
																				E6497	52	23		500

E TYPE RELAY CODES

RELAY CODE	PAGE NO	CONV NO	WDG	OHMS RES	RELAY CODE	PAGE NO	CONV NO	WDG	OHMS RES	RELAY CODE	PAGE NO	CONV NO	WDG	OHMS RES	RELAY CODE	PAGE NO	CONV NO	WDG	OHMS RES	RELAY CODE	PAGE NO	CONV NO	WDG	OHMS RES	RELAY CODE	PAGE NO	CONV NO	WDG	OHMS RES	RELAY CODE	PAGE NO	CONV NO	WDG	OHMS RES
R1	52	1	P&S COMB TER	69 1000	R51	52	38		2500	R101	52	49	PRI SEC	495 1000	R145	52	5	PRI SEC	900 550	R196	52	20	PRI SEC	300 425										
R2	52	2		2000	R52	52	39		6000	R102	52	49	PRI SEC	495 1000	R147	52	92	PRI SEC	1100 1100	R197	52	113	COMB	858										
R3	52	13	PRI SEC	500 2150	R53	52	40		1050	R103	52	67	PRI SEC	1500 1500	R148	52	5	PRI SEC	150 500	R198	52	62		1400										
R4	52	3	COMB	1000	R54	52	41	PRI	500	R104	52	68	PRI SEC	2000 500	R149	52	93		34	R200	52	115		2250										
R7	52	10		475	R55	52	42	PRI	34	R150		94		1200	R201	52	80		3000	R202	52	18		1850										
R8	52	14		40	R56	52	43	PRI SEC	32 280	R151	52	95	PRI SEC	500 500	R203	52	116		1500	R204	52	34		300										
R9	52	6	PRI SEC	32 400	R57	52	44		2400	R152	52	24		3000	R205	52	99	COMB	301	R206	52	117	COMB	301										
R10	52	5	PRI SEC	32 400	R60	52	46	PRI SEC	750 3000	R153	52	96		1650	R207	52	35		435	R208	52	18		500										
R11	52	7	PRI SEC	32 400	R61	52	47		1285	R154	52	41	PRI SEC	1485 800	R209	52	118	PRI	100	R210	52	38		250										
R12	52	8	PRI SEC	32 400	R62	52	48		450	R155	52	97	PRI SEC	1200 800	R211	52	14		575	R212	52	40		275										
R13	52	9	PRI SEC	32 400	R63	52	24		1000	R156	52	48		1285	R213	52	119		575	R214	52	120	COMB	301										
R14	52	11	PRI SEC	18 600	R64	52	38		2000	R157	52	4	PRI SEC	500 300	R215	52	121	PRI	83	R216	52	12		680										
R15	52	12		2000	R65	54	354		1050	R158	52	13	PRI SEC	1000 3000	R217	52	123	COMB	301	R218	52	18		120										
R16	52	15		1650	R66	52	47		183	R159	52	101	PRI	690	R219	52	27		703	R220	52	124	PRI	83										
R17	52	16	PRI SEC	105 1000	R67	52	49	PRI SEC	16.5 310	R160	52	99	COMB	113	R221	52	125	PRI	250	R222	52	103		800										
R18	52	2		3500	R68	52	36	PRI	34	R161	52	39		650	R223	52	126		350	R224	52	49	PRI	34										
R19	52	17		2000	R69	52	1	P&S COMB TER	69 1000	R162	52	15		2000	R225	52	72		1050	R226	52	127	PRI	250										
R20	52	18		435	R70	52	39		1400	R163	52	100	PRI	50	R227	52	128		850	R228	52	129	PRI	250										
R21	52	19	PRI SEC	300 425	R71	52	5	PRI SEC	145 110	R164	52	101	PRI	690	R229	52	130	PRI	1000	R230	52	40		1280										
R22	52	5	PRI SEC	500 250	R72	52	51		1500	R165	52	102	PRI	2500	R231	52	18		1000	R232	52	48		900										
R23	52	4	PRI SEC	500 500	R73	52	18		34	R166	52	103		34	R233	52	22		550	R234	52	84	P&T COMB SEC	40 575										
R24	52	20	PRI SEC	1000 800	R74	52	10		700	R167	52	104	PRI	3000	R235	52	131		3000	R236	52	132	PRI	400										
R25	52	21		435	R75	52	47		700	R168	52	105	COMB	113	R237	52	49	PRI	380	R238	52	22		560										
R26	52	22		1400	R76	52	52		390	R169	52	106		100	R239	52	133	COMB	1360	R240	52	21		3500										
R27	52	23		3500	R77	52	47		2500	R170	52	97	PRI	1000	R241	52	134	PRI	250	R242	52	135		500										
R28	52	2		1650	R78	52	53	PRI SEC	34 500	R171	52	107	PRI	11	R243	53	135		500	R244	52	136		500										
R29	52	24		440	R79	52	10		1050	R172	52	108		1650	R245	52	137		500	R246	52	138		500										
R30	52	25		650	R80	52	54	PRI	1240	R173	52	109	COMB	500	R247	52	139		500	R248	52	139		500										
R31	52	22		10	R81	52	14		2500	R174	52	96		435	R249	52	140		500	R250	52	140		500										
R32	52	26		60	R82	52	12		1050	R175	52	107	PRI	11	R251	52	141		500	R252	52	141		500										
R33	52	27		1050	R83	52	55	PRI SEC	120 350	R176	52	18		110	R253	52	142		500	R254	52	142		500										
R34	52	28	PRI SEC	750 3000	R84	52	56	PRI SEC	1000 1000	R177	52	15		1900	R255	52	143		500	R256	52	143		500										
R35	52	29		1050	R85	52	2		2500	R178	52	38		435	R257	52	144		500	R258	52	144		500										
R36	52	30	PRI SEC	2000 1000	R86	52	42	PRI SEC	500 2000	R179	52	39		2500	R259	52	145		500	R260	52	145		500										
R37	52	12		2000	R87	52	57		500	R180	52	5	PRI SEC	250 900	R261	52	146		500	R262	52	146		500										
R38	52	22		1000	R88	52	58		1240	R181	52	108		1650	R263	52	147		500	R264	52	147		500										
R39	52	18		1650	R89	52	59	PRI SEC	1600 70	R182	52	109	COMB	500	R265	52	148		500	R266	52	148		500										
R40	52	22		2500	R90	52	14		600	R183	52	38		800	R267	52	149		500	R268	52	149		500										
R41	52	31	PRI SEC	1400 500	R91	52	61		900	R184	52	12		450	R269	52	150		500	R270	52	150		500										
R42	52	32	PRI SEC	725 245	R92	52	62		700	R185	52	10		1050	R271	52	151		500	R272	52	151		500										
R43	52	33		1000	R93	52	63		1650	R186	52	109	COMB	500	R273	52	152		500	R274	52	152		500										
R44	52	34		1650	R94	52	10		1050	R187	52	110	PRI	800	R275	52	153		500	R276	52	153		500										
R45	52	27		575	R95	52	63		1650	R188	52	49	PRI SEC	345 280	R277	52	154		500	R278	52	154		500										
R46	52	27		575	R96	52	12		450	R189	52	106		300	R279	52	155		500	R280	52	155		500										
R47	52	35		87	R97	52	64	PRI SEC	500 2000	R190	52	25		650	R281	52	156		500	R282	52	156		500										
R48	52	24		275	R98	52	65		500	R191	52	101	PRI SEC	100 1000	R283	52	157		500	R284	52	157		500										
R49	52	36	PRI SEC	225 275	R99	52	17		1650	R192	52	111	PRI SEC	100 1000	R285	52	158		500	R286	52	158		500										
R50	52	37	PRI SEC	32 400	R100	52	66		2000	R193	52	4	PRI SEC	550 1000	R287	52	159		500	R288	52	159		500										
										R194	52	18		1050	R289	52	160		500	R290	52	160		500										
										R195	52	112	PRI SEC	600 500	R291	52	161		500	R292	52	161		500										

R TYPE RELAY CODES

RELAY CODE	PAGE NO	CONV NO	WDO	OHMS RES	RELAY CODE	PAGE NO	CONV NO	WDO	OHMS RES	RELAY CODE	PAGE NO	CONV NO	WDO	OHMS RES	RELAY CODE	PAGE NO	CONV NO	WDO	OHMS RES	RELAY CODE	PAGE NO	CONV NO	WDO	OHMS RES
R244	53	136	PRI SEC TER QUAT	2600 112 400 1000	R299	52	48		34	R346	52	27		275	R391	53	185	PRI	1725	R442	52	119		350
					R300	52	6	PRI SEC	495 1000	R347	52	5	PRI SEC	2 1350	R392	53	186	PRI SEC	530 600	R443	52	17		34
					R301	52	24		1650	R348	52	11	PRI SEC	34 1300	R393	52	22		390	R444	52	36	PRI SEC	25 875
R245	52	18		1050	R302	52	11	PRI SEC	2500 875	R349	52	27		900	R394	53	187	PRI SEC	275 1000	R445	52	18		54
R246	52	22		700						R350	52	14		1500	R395	52	15		500	R446	52	78		87
R247	52	107	PRI SEC	800 1350	R303	52	39		50	R351	52	38		3800	R396	52	15		500	R447	52	101	PRI SEC	85 1800
					R304	52	40		250	R352	52	35		2250	R397	53	188	PRI SEC	200 1700	R448	52	106		900
R248	52	49	PRI SEC	570 315	R305	53	155	PRI SEC	300 475	R353	52	5	PRI SEC	665 735	R398	53	189	PRI SEC	1000 1600	R449	53	199	PRI SEC	700 2250
R249	52	131		1400	R306	52	36	PRI SEC	350 350	R354	53	168	PRI SEC	860 1000						R450	52	29		2250
R250	53	137		2000					190	R355	52	78		500	R400	52	24		1000	R451	52	62		2400
R251	53	135		2500	R307	53	156			R356	52	18		800	R401	52	89	PRI SEC	300 475	R452	52	11	PRI SEC	700 550
R252	52	17		3000	R308	52	111	PRI SEC	425 425	R357	53	169	P&T COMB SEC	83 20	R402	52	31	PRI SEC	34 1300	R453	53	200	PRI SEC	2000 750
R253	52	48		1000																R454	52	18		550
R254	53	138		150	R309	52	49	PRI SEC	1400 500	R358	52	111	PRI SEC	34 870	R403	52	39		1050	R455	53	201		100
R255	52	18		280						R359	53	170	P&T COMB SEC	83 20	R404	52	99	COMB	1100	R456	52	11	PRI SEC	18 1200
R257	53	139	PRI SEC	500 1200	R310	52	7	PRI SEC	240 1000						R405	52	17		2500	R457	52	5	PRI SEC	72 950
					R311	53	144		54						R406	52	62		500					
R258	52	7	PRI SEC	500 2000	R312	53	157		500						R407	52	18		1500	R458	52	48		100
					R313	52	26		2.5											R459	52	22		170
R259	52	23		800	R314	53	158	PRI SEC	475 225	R360	52	38		275	R408	52	49	PRI SEC	1000 1000	R460	53	202		2500
R260	52	22		34						R361	52	31	PRI SEC	450 875	R409	52	14		87	R461	52	24		100
R262	52	5	PRI SEC	1100 1100	R315	52	49	PRI SEC	600 1400	R362	52	101	PRI SEC	0.33 325	R410	52	35		800	R462	52	22		100
R263	52	46	PRI SEC	34 1300	R316	52	10		700						R411	52	51		275	R463	53	202		550
R264	52	96		875	R317	52	29		440	R363	53	171		2000	R412	52	26		50	R464	53	148	PRI SEC	1250 1350
R265	52	35		100	R318	52	48		3500	R364	52	5	PRI SEC	500 1400	R413	53	137		34	R465	53	203	PRI SEC	1200 800
R267	53	141	COMB	113	R319	53	159	PRI SEC	675 250	R366	53	173	PRI SEC	1000 1600	R414	53	190		250					
R268	52	111	PRI SEC	1000 2000	R320	52	35		700	R367	53	174	PRI SEC	600 2770	R415	52	78		200	R466	53	204		650
R269	53	142	PRI SEC	67 1000	R321	52	36	PRI SEC	600 1400						R416	52	111	PRI SEC	250 250	R467	53	205		3000
									2250						R417	53	192	PRI SEC	250 535	R468	52	39		215
R270	52	42	PRI SEC	32 400	R322	52	10		3600	R369	53	191	PRI SEC	550 1000	R418	52	38		1000	R469	52	11	PRI SEC	1600 1600
R271	53	143	PRI SEC	1000 550	R323	52	48		600						R419	52	33		1000					
R272	53	144		575	R324	52	5	PRI SEC	1400	R370	53	176	PRI SEC	70 300	R420	53	193		1200	R470	52	49	PRI SEC	715 1200
R273	52	17		2500	R325	53	160	PRI SEC	600 1400	R371	53	177	COMB	113	R421	52	89	PRI SEC	350 350	R471	52	14		2000
R274	52	62		750	R326	52	95	PRI SEC	2000 2500	R372	52	31	PRI SEC	275 375	R422	53	162		275	R472	52	11	PRI SEC	800 245
R275	53	145		50						R373	52	58	PRI SEC	1000 1600	R423	52	11	PRI SEC	350 350	R473	52	18		500
R276	53	146	PRI SEC	1100 550	R327	52	55	PRI SEC	600 1400											R474	53	206		750
										R374	53	153	PRI SEC	1000 1600	R424	53	194	PRI SEC	250 535	R475	53	162		1130
R277	52	48		2000	R328	53	144		2000	R375	52	31	PRI SEC	75 82	R425	52	100	PRI SEC	34 1000	R476	52	39		180
R279	53	148	PRI SEC	1000 1400	R329	52	4	PRI SEC	2000 2500	R376	53	178		1050	R426	52	38		34	R477	52	18		2200
R281	52	23		700	R330	53	161	PRI SEC	2000 2000	R377	52	81		1050	R427	52	111	PRI SEC	1000 1000	R478	52	7	PRI SEC	485 425
R282	52	42	PRI SEC	550 545	R331	53	162		700	R378	53	179		750						R479	53	207	PRI SEC	85 1800
R284	52	18		1000	R332	52	26		375	R379	52	34		550	R428	52	49	PRI SEC	32 350	R480	53	208	PRI SEC	1485 800
R285	53	149		34	R333	52	18		10	R381	52	19	PRI SEC	500 300	R429	52	22		8500					
R286	52	48		275	R334	53	163		700	R382	52	78		575	R430	52	29		1000	R481	53	209		1200
R287	53	150	PRI SEC	700 550	R335	53	164	PRI SEC	2500 1200	R383	53	181	COMB	298	R431	52	80		200	R482	52	38		575
R288	53	151		1050	R336	52	20	PRI SEC	1300 2000	R384	52	22		3500	R432	53	195	PRI SEC	87 1000	R483	52	48		460
R289	53	147	PRI SEC	500 1800	R337	52	10		700	R385	52	93		1000						R484	53	210	PRI SEC	460 20
										R386	53	182	PRI SEC	1050 425	R433	53	177	COMB	200	R485	52	31	PRI SEC	1000 1000
R290	53	152	PRI SEC	650 2300	R338	52	106		3000						R434	53	196		350					
R291	52	39		5000	R339	53	165		3000	R387	52	48		87	R435	52	17		87					
R292	52	18		34	R340	52	99	COMB	645						R436	53	197	PRI SEC	935 320	R487	52	27		700
R293	52	12		4000	R341	52	39		425	R388	52	49	PRI SEC	52 800						R488	52	18		1050
R294	52	18		6000	R342	53	166	PRI SEC	1650 1150	R389	53	183		250	R437	52	38		750	R489	53	207	PRI SEC	150 1500
R295	52	18		320	R343	52	24		550						R438	53	198		350	R490	52	47		750
R296	53	153	PRI SEC	87 1000	R344	52	5	PRI SEC	700 2250	R390	53	184	PRI TER	1000 1600	R439	52	29		320					
															R440	52	23		5.3	R491	53	212		1000
R297	52	12		2900	R345	53	167		680						R441	53	144		500	R492	53	171		155

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R493	53	193		1130	R547	52	24		350	R594	52	19	PRI	290	R643	53	251	PRI	1150	R694	53	269		2000						
R494	54	401	P&Q		R548	52	96		350				SEC	217				SEC	2300	R695	53	201		1000						
			COMB	31	R549	53	255	PRI	945	R595	53	239		900	R644	52	102		1000	R696	52	118	PRI	650						
			SEC	250				SEC	2750	R596	52	106		435	R645	53	252	PRI	1850				SEC	2000						
			TER	130	R550	52	18		40	R597	52	39		1700				SEC	1000	R697	53	186	PRI	60						
R495	53	229		750	R551	53	225	PRI	500	R598	52	95	PRI	500	R647	53	254		34				SEC	440						
R497	53	213	FRI	550				SEC	250				SEC	1000	R648	52	131		1500	R698	52	35		170						
			SEC	1000	R552	52	119		1650	R599	53	240	PRI	600	R649	52	108		1650	R699	52	24		2000						
R498	52	26		3000	R553	53	226	P&Q					SEC	6000	R650	53	255	PRI	975	R700	52	72		435						
R499	53	214		1800				COMB	161	R600	52	5	PRI	500				SEC	500	R701	54	269		34						
R500	52	21		1000				SEC	250				SEC	250	R651	52	18		34	R702	52	48		4500						
R501	53	137		3000				TER	120	R601	53	234	PRI	1240	R652	52	18		2250	R703	52	93		1275						
R502	52	102		1050	R554	53	227	PRI	750				SEC	2000	R654	53	179		1000	R704	54	270	PRI	575						
R503	53	215	COMB	1200				SEC	230	R602	53	241	PRI	83	R655	52	22		500				SEC	800						
													SEC	350	R656	52	48		900	R705	52	102		1050						
R504	53	216	P&S		R555	52	39		350				TER	1000	R657	53	253	COMB	113	R706	52	34		350						
			COMB	1200	R556	52	41	PRI	2200	R603	52	18		1650	R658	53	256	PRI	1700	R707	52	41	PRI	600						
			TER	300				SEC	1000	R604	53	183		183				SEC	500				SEC	34						
R505	52	39		1000	R557	53	228	PRI	800	R605	52	27		250	R659	52	56		1000	R708	52	39		2000						
R506	52	51		700				SEC	70									SEC	1000	R709	52	26		700						
R507	53	217		2250	R558	53	230		440	R606	52	11	PRI	700				TER	750	R710	52	38		1000						
R508	52	14		1400	R559	53	231		210				SEC	2250	R660	53	257	PRI	1000	R711	54	271	PRI	300						
R509	52	16	PRI	34	R560	52	27		200	R608	52	14		1000				SEC	1000				SEC	300						
			SEC	1300	R561	54	376		250	R610	52	13	PRI	535	R661	53	258	PRI	34	R712	53	207	PRI	500						
R510	52	18		840	R562	52	22		250				SEC	1500				SEC	1350				SEC	1200						
R511	52	44		2250	R563	52	11	PRI	145	R611	53	162		170				TER	425	R713	54	272		1800						
R512	52	101	PRI	0.33				SEC	110	R612	52	48		700																
			SEC	325	R564	52	14		1500	R613	53	243	P&Q		R662	53	207	PRI	570	R714	52	24		22						
R513	52	89	PRI	275	R565	53	232		700				COMB	368				SEC	315	R715	52	39		60						
			SEC	300	R566	53	220		200				SEC	650	R663	53	259		1260	R716	54	275	PRI	120						
R514	52	17		340	R567	52	103		500				TER	120	R664	53	214		440				SEC	350						
R515	52	39		275	R568	53	179		1650	R614	52	131		1000	R665	52	105	COMB	301	R717	52	48		40						
R516	53	218	PRI	1180	R569	53	233		90	R615	53	244	PRI	200	R666	52	40		1280	R718	54	273	PRI	1000						
			SEC	1400				SEC	30				SEC	300	R667	53	200		700				SEC	1000						
R517	52	9	PRI	765				TER	1000	R616	52	20	PRI	550				SEC	2250	R719	52	4	PRI	34						
			SEC	1100	R570	52	17		1400				SEC	550	R668	53	260		2900				SEC	1000						
R518	53	219		700	R571	53	173	PRI	400	R618	52	106		2000	R669	53	261	COMB	301	R720	52	11	PRI	34						
R519	53	177	COMB	1125				SEC	120	R619	53	245	COMB	113	R670	52	49		200				SEC	800						
R520	53	215	COMB	1000	R572	52	13	PRI	350	R620	52	49	PRI	570				SEC	1300	R721	52	38		700						
R521	52	18		6800				SEC	350				SEC	315	R671	53	149		1400	R722	53	209		1200						
R522	53	220		2000	R573	52	21		700	R621	52	39		40	R672	52	39		34	R723	53	181	COMB	113						
R523	52	18		4.5	R574	52	72		200	R622	52	18		700	R673	52	18		200	R724	52	18		100						
R524	52	100	PRI	34	R575	52	21		700	R623	52	35		585	R674	52	27		2200	R725	54	276	PRI	1600						
			SEC	1000	R576	53	234	PRI	635	R625	53	217		1700	R675	52	12		3000				SEC	500						
R525	53	217		375				SEC	120	R626	53	219		34	R676	52	39		1000				TER	200						
R526	52	49	PRI	700	R577	52	17		34	R627	53	246	PRI	350	R679	52	28	PRI	100	R726	52	29		700						
			SEC	1100	R578	52	106		450				SEC	60				SEC	1000	R727	54	277	P&T							
R527	52	17		800	R579	53	209		800				TER	60	R680	53	263		275				COMB	83.3						
R528	52	35		2000	R580	53	178		800	R628	52	52		275	R681	53	148	PRI	500				SEC	130						
R529	53	201		2000	R581	53	220		3000	R629	52	18		1900				SEC	2700	R728	53	166	PRI	100						
R530	52	18		700	R582	52	11	PRI	450	R630	52	39		4000	R682	54	376		120				SEC	100						
R531	52	78		1285				SEC	225	R631	52	39		1900	R683	52	6	PRI	380	R729	52	111	PRI	555						
R532	52	38		700	R583	53	235	PRI	200	R632	52	38		1650				SEC	4200				SEC	1000						
R533	52	42	PRI	1000				SEC	1100	R633	52	38		2900	R684	53	200	PRI	150	R730	53	207	PRI	18						
			SEC	1000				TER	120	R634	53	195	PRI	1640				SEC	1800				SEC	600						
R534	52	93		1200	R584	53	236		83				SEC	300	R685	53	264		2000	R731	52	13	PRI	21						
R535	52	78		1450	I 15	53	237	PRI	500	R635	53	197	PRI	215				SEC	2000				SEC	185						
R536	52	94		1500				SEC	600				SEC	2800	R686	53	266		435	R732	52	89	PRI	275						
R537	52	39		2000	R586	52	52		1050	R636	53	247	PRI	275	R687	53	197	PRI	300				SEC	700						
R538	53	221	PRI	45	R587	52	20	PRI	550				SEC	300				SEC	300	R733	52	22		900						
			SEC	1000				SEC	217	R637	53	248	PRI	2000	R688	53	265		200	R734	52	7	PRI	350						
R539	52	78		390	R588	53	142	PRI	230				SEC	570	R689	52	39		60				SEC	350						
R540	52	21		550				SEC	550	R638	52	111	PRI	1000	R690	53	195	PRI	40	R735	54	278								

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R738	52	23		435	R795	54	288	PRI	550	R848	52	109	COMB	200	R893	52	106		500	R943	52	71	PRI	350										
R739	52	22		34				SEC	1000	R849	52	132	PRI	320	R894	52	109	COMB	82				SEC	525										
R740	53	239		650	R797	52	8	PRI	435				SEC	340	R895	54	319	COMB	203	R944	54	334		280										
R741	52	111	PRI	100				SEC	475				TER	410	R896	52	35		1000	R945	52	23		500										
R742	52	18		50	R798	53	247	PRI	1200	R850	54	291	PRI	15	R897	52	75		1200	R946	52	18		19										
R743	53	239		1000				SEC	390				SEC	15	R898	52	49	PRI	350	R947	53	207	PRI	250										
R744	54	280		1900	R799	54	289	PRI	250	R851	52	29		365				SEC	350				SEC	2000										
R745	52	39		1000				SEC	750	R852	52	94		1200	R899	52	16	PRI	350	R948	54	335		700										
R746	52	38		1000				TER	475	R853	52	79	PRI	350				SEC	350	R949	54	294	PRI	2000										
R747	52	48		60	R800	52	80		435				SEC	300	R900	52	89		700				SEC	40										
R748	52	78		60	R801	54	290	COMB	301	R854	52	89	PRI	300	R901	54	320	PRI	530	R950	54	336	COMB	113										
R749	52	23		900	R802	52	46	PRI	2000				SEC	475				SEC	800	R951	52	93		550										
R750	53	263		300				SEC	750	R855	52	7	PRI	7	R902	52	95	PRI	500	R952	52	39		550										
R751	52	18		500	R803	53	259		1050				SEC	165				SEC	300	R953	52	26		435										
R752	53	223	PRI	1000	R804	54	292	COMB	113	R856	52	29		300	R903	54	321	PRI	750	R954	52	24		550										
			SEC	1600						R857	54	322	PRI	175				SEC	2000	R955	52	103		550										
R753	54	281	COMB	301	R805	54	293	PRI	585				SEC	700				TER	250	R956	52	78		550										
					R806	52	22		34	R858	54	323		1050	R904	54	325		34	R957	52	93		60										
R754	54	281	COMB	475						R859	54	324		350	R905	53	213	PRI	34	R958	53	162		700										
R755	52	94		900	R807	54	294	PRI	500	R860	52	89	PRI	1000				SEC	890	R959	52	23		2400										
R756	52	10		440				SEC	1000				SEC	330	R906	52	107	PRI	700	R960	54	337	PRI	300										
R757	52	27		800	R808	53	210	PRI	750	R861	52	30	PRI	500				SEC	625				SEC	500										
R758	52	111	PRI	100				SEC	40	R809	54	291	PRI	2000	R907	53	176	PRI	800				TER	500										
			SEC	700					750				SEC	85				SEC	1500	R961	52	13	PRI	2300										
R759	52	23		250	R811	52	23		550	R862	54	325		1800	R908	52	35		500				SEC	1000										
R760	54	282	PRI	67	R812	52	21		2250	R863	52	11	PRI	1000	R909	52	15		585	R962	53	244	PRI	3.5										
			SEC	1000						R864	54	326		1900	R910	52	102		1050				SEC	220										
R761	52	49	PRI	200	R814	52	18		1500	R865	54	280		1800	R911	52	24		2200	R963	52	22		100										
			SEC	4.5	R815	52	12		50	R866	54	307		1050	R912	52	22		2100	R964	52	13	PRI	535										
R762	52	5	PRI	900	R816	54	288	PRI	700	R867	54	306	PRI	2.1	R913	52	89	PRI	550				SEC	1500										
			SEC	1300				SEC	250				SEC	1000				SEC	550	R965	53	220		550										
R764	52	55	PRI	275	R818	54	296	COMB	113	R868	54	308		500	R914	52	38		390	R966	53	151		155										
			SEC	300	R820	53	153	PRI	1000	R869	54	309	PRI	480	R915	52	49	PRI	810	R967	52	117	COMB	83.3										
R765	52	39		650				SEC	380				SEC	500				SEC	870	R968	54	339	PRI	500										
R767	53	260		500	R821	52	107	PRI	550				TER	250	R916	53	156		750				SEC	600										
R768	54	284	PRI	0.14	R822	52	31	PRI	550	R870	52	52		2300	R917	52	12		200	R969	52	25		375										
			SEC	1.97				SEC	545	R871	53	198		280	R918	54	327		34	R970	54	338	P&Q											
			TER	500	R823	53	206		1000	R872	52	12		450	R919	52	18		380				COMB	113										
R769	54	285		800	R824	52	22		2900	R873	54	318	COMB	301	R920	52	49	PRI	250				SEC	87										
R770	53	220		34	R825	53	141	COMB	200	R874	52	18		110				SEC	2200				TER	100										
R771	52	93		3500	R826	54	298	COMB	301	R875	52	18		150	R921	53	150	PRI	900	R971	52	18		34										
R772	53	201		700						R876	54	310	COMB	113				SEC	1300	R972	52	120	COMB	200										
R774	53	192	PRI	550	R827	52	25		1650	R877	54	311	PRI	70	R922	54	328		435	R973	52	111	PRI	700										
			SEC	3500	R828	54	299		34				SEC	300	R923	52	48		700				SEC	550										
R775	52	48		170	R829	53	224	PRI	300	R878	54	312		435	R924	54	318	COMB	113	R974	54	376		2750										
R776	52	18		1000				SEC	500	R879	52	73	PRI	1000	R925	54	324		700	R975	53	248	PRI	585										
R777	52	39		300				TER	350				SEC	665	R926	52	27		1090				SEC	375										
R779	53	175	PRI	500	R830	54	293	PRI	1200	R880	54	313	PRI	480	R927	52	109	COMB	113	R976	52	101	PRI	200										
			SEC	300				SEC	800				SEC	500	R928	54	319	COMB	113				SEC	30										
R780	54	286	PRI	260	R831	53	220		390				TER	250	R929	54	329	PRI	400	R977	53	148	PRI	34										
			SEC	220	R832	54	300		350									SEC	400				SEC	1945										
R781	52	39		179	R833	54	301		280	R881	54	314		1650				TER	390	R978	52	101	PRI	250										
R782	52	39		200	R834	52	72		2900	R882	52	93		850	R930	52	74		275				SEC	2000										
R783	52	26		550	R835	54	293	PRI	165	R883	54	315	PRI	1275	R931	54	330		320	R979	54	340		500										
R784	52	33		585				SEC	1450				SEC	1500	R932	54	319	COMB	301	R980	52	26		1650										
R785	52	26		500	R836	54	298	COMB	113				TER	50																				
R786	52	27		600	R837	52	38		230	R884	52	11	PRI	2.9	R933	54	331	COMB	113	R981	54	341	PRI	1850										
R787	52	49	PRI	300	R838	54	302	COMB	113				SEC	990	R934	52	48		1000				SEC	1000										
			SEC	250	R839	54	303		1300	R885	54	316	PRI	530	R935	53	200	PRI	700</															

RELAY CODE	PAGE NO	CONV NO	WDG	OHMS RES	RELAY CODE	PAGE NO	CONV NO	WDG	OHMS RES	RELAY CODE	PAGE NO	CONV NO	WDG	OHMS RES	RELAY CODE	PAGE NO	CONV NO	WDG	OHMS RES	RELAY CODE	PAGE NO	CONV NO	WDG	OHMS RES	
R990	52	18		1300	R1040	52	35		34	R1097	52	13	PRI	2300	R1151	54	374		250	R1204	54	385		1640	
R991	52	5	PRI	500	R1041	52	23		250				SEC	425	R1152	52	10		120	R1205	54	386		3600	
			SEC	500	R1042	52	38		1900	R1098	52	14		2400	R1153	54	375	PRI	1400	R1206	52	117	COMB	91	
R992	52	48		34	R1043	52	78		800	R1099	53	231		500				SEC	130	R1207	52	39		2500	
R993	52	38		99	R1044	52	12		1050	R1100	53	232		1450	R1154	52	52		275	R1208	52	36	PRI	700	
R994	53	268		650	R1045	52	15		435	R1101	52	5	PRI	34	R1155	52	52		275				SEC	2250	
R995	52	39		1400	R1046	52	93		2100				SEC	800	R1156	54	368		34	R1209	52	26		2500	
R996	54	344		500	R1047	53	230		435	R1102	52	26		2750	R1157	52	21		170	R1210	52	5	PRI	1800	
R997	53	268		1650	R1048	52	26		280	R1103	52	103		2750	R1158	53	156		600				SEC	800	
R998	52	11	PRI	200	R1049	54	383		350	R1104	52	101	PRI	500	R1159	52	22		500	R1211	54	399	PRI	700	
			SEC	4.5	R1050	52	18		7.2				SEC	1600	R1160	52	18		1000				SEC	2250	
R999	54	346		34	R1051	52	23		3500	R1105	54	366		PRI	1500	R1162	52	31	PRI	14	R1212	52	55	PRI	1800
R1000	53	202		450	R1052	52	39		500				SEC	1500				SEC	3330				SEC	800	
R1001	52	34		850	R1053	52	52		275				TER	800	R1163	52	55	PRI	500	R1213	54	387	PRI	1200	
R1002	52	39		95	R1054	54	301		1050	R1106	54	367		34				SEC	290				SEC	800	
R1003	54	347		700	R1055	54	356		700	R1107	52	18		2500	R1164	52	23		1650	R1214	54	388	PRI	1200	
R1004	52	131		435	R1056	52	38		180	R1108	54	368		800	R1165	52	39		34				SEC	800	
R1005	53	257	PRI	34	R1057	53	165		1050	R1109	52	130	PRI	1300	R1167	52	89	PRI	200	R1215	52	52		750	
			SEC	360	R1058	52	39		1000				SEC	1000				SEC	4300	R1216	52	109	COMB	85.8	
R1006	54	376		1000	R1059	52	106		170	R1110	53	143	PRI	2500	R1168	52	34		500	R1217	52	119		1920	
R1007	52	35		34	R1060	52	44		1050				SEC	100	R1169	53	259		700	R1218	52	71		1440	
R1008	52	39		83	R1061	52	38		1900	R1111	53	178		1900	R1170	53	231		60	R1219	52	15		1275	
R1009	53	162		270	R1062	52	23		1650	R1112	55	454		54	R1171	52	18		200	R1220	54	383		2100	
R1010	52	103		500	R1063	53	193		1650	R1113	55	454		340	R1172	52	49	PRI	34	R1221	52	14		2100	
R1011	52	11	PRI	250	R1064	52	49		65	R1114	52	57	PRI	650				SEC	500	R1223	52	7	PRI	960	
			SEC	1800				SEC	250				SEC	2300	R1173	52	22		2000				SEC	625	
R1012	52	5	PRI	275	R1065	52	36	PRI	550	R1115	54	369	PRI	800	R1174	52	78		1050	R1224	52	35		2500	
			SEC	1000				SEC	375				SEC	2000	R1175	52	37	PRI	2500	R1225	52	26		4000	
R1013	52	55	PRI	275	R1066	52	83	PRI	500	R1116	54	370	COMB	113				SEC	875	R1226	52	93		4500	
			SEC	300				SEC	600	R1117	52	109	COMB	485	R1176	52	35		700	R1227	54	398	PRI	1000	
R1014	52	37	PRI	1100	R1067	54	397	PRI	250	R1118	53	206		170	R1177	52	18		550				SEC	3000	
			SEC	300				SEC	250	R1119	53	265		60	R1178	54	378	PRI	1000	R1228	53	247	PRI	1250	
R1015	52	29		60	R1068	52	89	PRI	67	R1120	52	4	PRI	635				SEC	1100				SEC	1350	
R1016	52	10		87				SEC	1300				SEC	120	R1179	52	17		1000	R1229	53	201		2500	
R1017	52	49	PRI	1100	R1069	52	24		2400	R1121	52	26		2000	R1180	51	106		1000	R1230	54	391		90	
			SEC	300	R1070	52	101	PRI	1200	R1122	52	18		1200	R1181	52	38		375	R1231	52	38		100	
R1018	52	48		250				SEC	90	R1123	52	17		2000	R1182	54	379		1050	R1232	54	269		2600	
R1019	54	348	COMB	301	R1071	54	346		34	R1124	53	183		1000	R1183	52	49	PRI	100	R1233	53	220		3000	
R1020	52	31	PRI	250	R1072	54	360		600	R1125	52	33		450				SEC	2180	R1234	52	17		2250	
			SEC	2000	R1073	52	101	PRI	250	R1126	53	144		1000	R1184	52	17		155	R1235	54	388	PRI	800	
R1021	52	15		500				SEC	270	R1127	54	376		350	R1185	52	49	PRI	300				SEC	800	
R1022	54	349	PRI	2600	R1074	54	361	COMB	301	R1128	54	354		275				SEC	550	R1236	52	83	PRI	200	
			SEC	400	R1075	52	22		1500	R1129	54	287		1050	R1186	52	89	PRI	1800				SEC	4300	
			TER	1000	R1076	52	25		700	R1130	54	371	PRI	105				SEC	1600	R1238	53	153	PRI	370	
R1023	54	350	PRI	1000	R1077	53	195	PRI	1000				SEC	120	R1187	52	21		1800				SEC	750	
			SEC	1600				SEC	1600	R1131	54	280		1800	R1188	52	107	PRI	1200	R1238	54	395	PRI	765	
R1024	52	99	COMB	200	R1078	54	360		435	R1132	53	209		1050				SEC	800				SEC	1100	
R1025	52	14		200	R1079	52	26		60	R1133	52	39		29	R1189	52	89	PRI	1200	R1239	53	156		2500	
R1026	54	351	PRI	1275	R1080	52	21		275	R1134	53	268		2400				SEC	800	R1240	52	48		1000	
			SEC	2000	R1081	53	190		179	R1135	53	228	PRI	600	R1190	54	383		2100	R1241	52	27		2250	
			TER	50	R1082	52	62		800				SEC	2770	R1191	54	368		90	R1242	53	149		90	
R1027	52	38		95	R1083	54	362	PRI	300	R1136	52	72		1800	R1192	52	11	PRI	1200	R1243	52	18		4600	
R1029	52	35		250				SEC	500	R1137	52	107	PRI	700				SEC	800				PRI	34	
R1030	54	353	PRI	825				TER	500				SEC	550	R1193	52	36	PRI	1200	R1244	54	392		800	
			SEC	1100	R1084	52	78		300	R1138	52	10		1200				SEC	800	R1245	54	393		1850	
R1031	54	354		55	R1085	52	74		3800	R1139	53	231		3800	R1194	53	230		800	R1246	52	49	PRI	1000	
R1032	54	355		280	R1086	54	363	COMB	111	R1140	54	341	PRI	935	R1195	52	119		100				SEC	3000	
R1033	52	42	PRI	1100	R1087	52	24		600				SEC	320	R1196	54	396	PRI	1200	R1247	52	23		200	
			SEC	550	R1088	52	103		60	R1141	54	372		1050				SEC	800	R1248	54	394		3000	
R1034	52	40		440	R1089	52	51		435	R1142	52	21		1650	R1197	54	384	PRI	1200	R1249	54	392	PRI	875	
R1035	54	356	PRI	400	R1090	52	17		390	R1143	52	14		1450				SEC	800				SEC	500	
			SEC	400	R1091	53	162		440	R1145	53	190		1450	R1198	53	145		2100	R1250	52	51		2250	
			TER	390	R1092	54	364		800	R1146	52	35		300	R1199	52	119		3000	R1251	53	144		1285	
R1036	52	21		440	R1093	54	301		440	R1147	54	376		300	R1200	52	2		100	R1252	52	87		1050	
R1037	53	210	PRI	67	R1094	53	176	PRI	1500	R1148	54	373	PRI	1450	R1201	52	2		500	R1253	52	7	PRI	34	
			SEC	1000				SEC	1500				SEC	320	R1202	52	101	PRI	1200				SEC	950	
R1038	52	29		800	R1095	54	365		550	R1149	52	12		83				SEC	800	R1254	52	13	PRI	34	
R1039	53	204		1500	R1096	52	18		250	R1150	52	10		60	R1203	52	18		550				SEC	3100	

R TYPE RELAY CODES

RELAY CODE	PAGE NO	CONF NO	WDG	ORMS RES	RELAY CODE	PAGE NO	CONF NO	WDG	ORMS RES	RELAY CODE	PAGE NO	CONF NO	WDG	ORMS RES	RELAY CODE	PAGE NO	CONF NO	WDG	ORMS RES	RELAY CODE	PAGE NO	CONF NO	WDG	ORMS RES
R1255	52	29		1900	R1306	52	12		1050	R1355	52	69		1150	R1405	55	420		500	R1452	52	46	PRI	450
R1256	52	25		1300	R1307	52	106		900	R1356	52	24		1200	R1406	55	437	PRI	1200				SEC	875
R1257	53	156		440	R1308	54	325		700	R1357	54	368		2500				SEC	2400	R1453	52	78		1050
R1258	52	35		2000	R1309	55	412		200	R1358	55	487		2300	R1407	52	10		1200	R1454	55	414	COMB	113
R1259	53	219		700	R1310	52	49	PRI	190	R1360	52	39		2000	R1408	52	51		1200	R1455	52	16	PRI	580
R1260	53	256	PRI	3500				SEC	390	R1361	55	422	PRI	530	R1409	52	67	PRI	550				SEC	545
			SEC	100	R1311	52	5	PRI	190				SEC	1600			SEC	545	R1456	55	449	PRI	60	
R1261	52	17		2100				SEC	390	R1362	55	423	PRI	700	R1410	52	82		1260				SEC	500
R1262	52	5	PRI	1275	R1312	52	15		435				SEC	1350	R1411	52	12		350	R1457	52	101	PRI	30
			SEC	2000	R1313	53	193		200	R1363	52	48		1000	R1412	52	116		1650				SEC	2500
R1263	53	152	PRI	1275	R1314	52	39		2500	R1364	52	4	PRI	3000	R1413	52	12		550	R1458	52	101	PRI	10
			SEC	1500	R1315	55	414	COMB	113				SEC	100	R1414	54	354		500				SEC	1300
R1264	52	83	PRI	700	R1316	55	415	PRI	550	R1365	54	368		90	R1415	55	438	PRI	1000	R1459	55	422	PRI	475
			SEC	2250				SEC	550	R1366	55	424	P&S					SEC	380				SEC	25
R1265	53	202		2750				TER	2800				COMB	113	R1416	52	87		1275	R1460	52	18		1300
R1266	55	408		3000	R1317	52	103		2100				TER	187	R1417	55	439	PRI	90	R1463	53	209		1920
R1267	52	52		1200	R1318	55	416	PRI	570	R1367	55	425		1000			SEC	570	R1464	53	250		1070	
R1268	54	400		2500				SEC	450	R1368	55	426		3000	R1418	55	440	PRI	500	R1465	53	179		2400
R1269	54	343	PRI	3000	R1319	52	36	PRI	825	R1369	55	431	PRI	1000			SEC	300	R1466	55	453	PRI	750	
			SEC	2000				SEC	1500				SEC	665	R1419	55	441	COMB	301				SEC	1950
R1270	53	231		1920	R1320	52	57	PRI	1000	R1370	55	427	PRI	120	R1420	55	442	PRI	175	R1467	53	193		10
R1271	54	310	COMB	95				SEC	1650				SEC	350			SEC	195	R1468	52	89	PRI	390	
R1272	52	18		10	R1321	53	211	PRI	1000	R1371	53	137		1450	R1421	52	22		2500				SEC	390
R1273	52	49	PRI	800				SEC	3000	R1372	55	428		1700	R1422	52	24		2500	R1469	52	111	PRI	390
			SEC	5000	R1322	52	5	PRI	1000	R1373	55	419		2500	R1423	55	499		1650				SEC	390
R1274	52	12		1000				SEC	2000	R1374	52	49	PRI	60	R1424	53	267		1300	R1470	55	422	PRI	390
R1275	53	139	PRI	550	R1323	54	399	PRI	825				SEC	3500	R1425	53	220		22				SEC	390
			SEC	1000				SEC	1500	R1375	52	39		4500	R1426	55	443	PRI	18	R1471	52	36	PRI	390
R1276	52	93		180	R1324	52	61		700	R1376	52	49	PRI	500			SEC	1200					SEC	390
R1277	54	371	PRI	500	R1325	55	417	PRI	375				SEC	2200	R1427	55	444	COMB	1000	R1472	52	38		700
			SEC	250				SEC	400	R1377	52	78		390	R1428	52	58	PRI	2800	R1473	52	78		390
R1278	54	402	PRI	400	R1326	54	290	COMB	113	R1378	52	52		1800			SEC	470	R1474	52	65		2000	
			SEC	24	R1327	55	418	PRI	200	R1379	53	153	PRI	600	R1429	54	360		1650	R1475	55	452		155
R1279	52	18		1050				SEC	300				SEC	500	R1430	52	18		1050	R1476	52	29		700
R1280	55	403	PRI	665	R1328	55	419		1000	R1380	55	429		700	R1431	52	23		1000	R1477	53	140	PRI	700
			SEC	735	R1329	53	200	PRI	50	R1381	52	16	PRI	450	R1432	53	193		1000				SEC	525
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R1291	55	408		2100				TER	1180				SEC	1050	R1442	53	194	PRI	550	R1487	55	503		440
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R1298																								

R TYPE RELAY CODES

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R1503	52	14		515	R1552	55	430		550	R1609	52	106		1700	R1655	56	566	PRI	275				SEC	1000
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R1505	52	48		550	R1554	54	397	PRI	390	R1611	55	508		2250	R1656	55	529	PRI	300				SEC	600
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R1507	52	35		435	R1555	55	481		550	R1613	55	510		1775	R1657	55	530		170	R1704	54	272		350
R1508	53	199	PRI	500	R1556	54	285		2000	R1614	55	511	PRI	240	R1658	55	531	PRI	175	R1705	52	36	PRI	11
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R1511	54	354		800	R1560	55	484		1070	R1617	52	52		1050	R1661	55	532		275				SEC	1000
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R TYPE RELAY CODES

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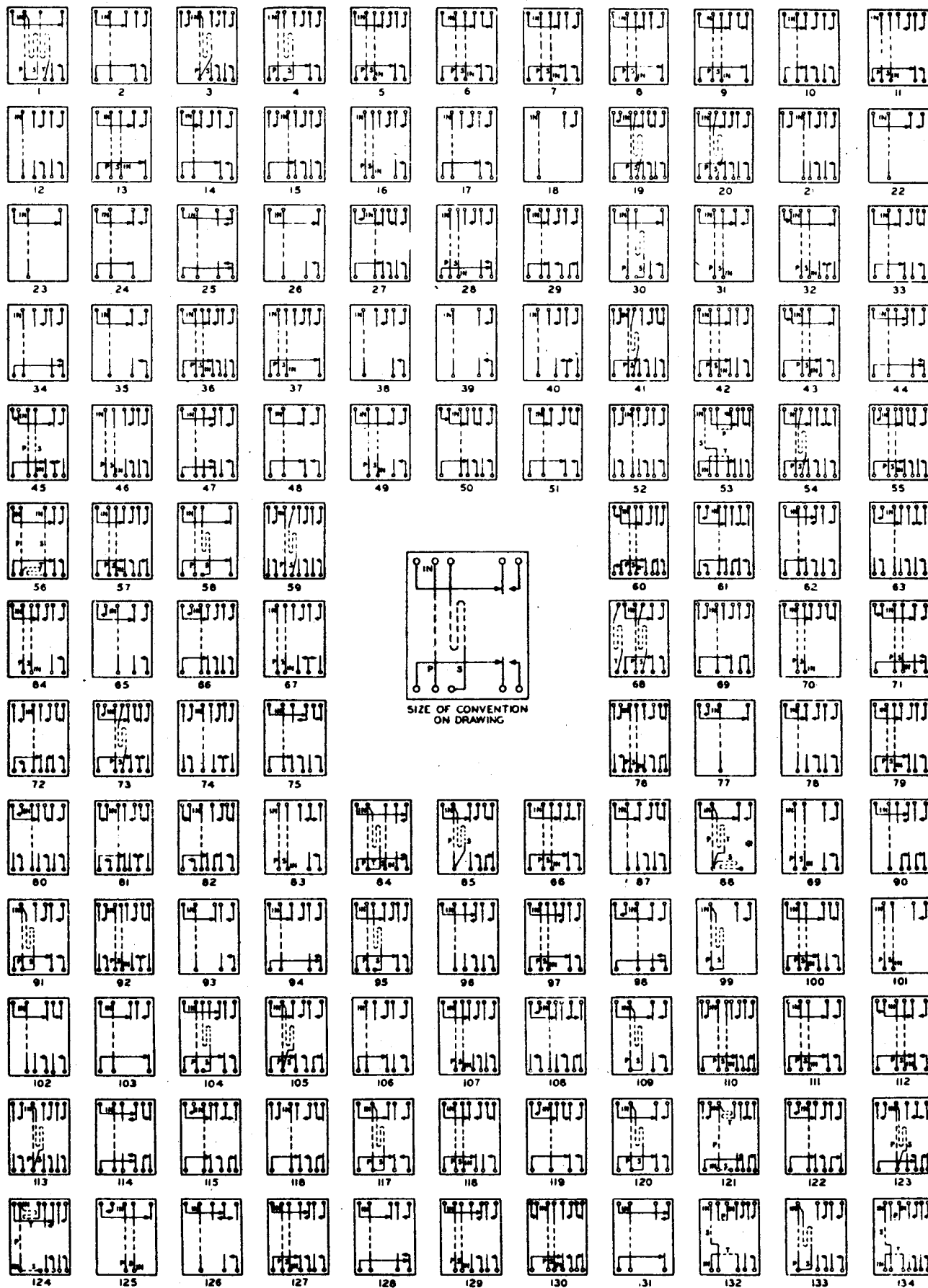
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R1977	53	268		2500	R2023	57	690	PRI	550											R6003	52	16	PRI SEC	18.3 285
R1978	57	713	PRI SEC	1000 800	R2024	54	347		700											R6004	52	26		1650
R1979	52	12		1050	R2025	57	771		350											R6005	52	18		34
R1980	53	230		1000	R2026	52	15		60											R6006	52	5	PRI SEC	1200 750
R1981	52	62		855	R2028	52	10		60											R6007	52	13	PRI SEC	475 475
R1982	52	60	PRI SEC	1000 890	R2029	57	695		1000											R6008	53	239		50
R1983	52	39		800	R2030	54	399	PRI SEC	435 475											R6009	52	7	PRI SEC	21 185
R1984	57	687		750	R2031	57	767	PRI	300															
R1985	52	126		350				SEC	300											R6010	55	496	PRI SEC	1000 1000
R1986	57	678	PRI SEC	1100 1100	R2032	53	193		1050															750
R1987	54	390		250	R2033	52	118	PRI SEC	34 440											R6011	52	56	PRI SEC	1000 1000
R1988	53	244	PRI SEC	580 700	R2034	52	93		60															750
R1989	54	345		350	R2035	57	689	PRI SEC	105 590											R6012	52	94		325
R1990	56	656		1000	R2036	52	79	PRI	60											R6013	52	12		250
R1991	53	242	PRI SEC	30 755				SEC	500											R6014	52	49	PRI SEC	11 450
R1992	52	85	COMB	300																R6015	55	407	PRI SEC	600 500
R1993	54	357	PRI SEC	270 450																R6016	53	232		4.7
R1994	55	520	PRI SEC	175 195																R6017	52	26		1650
R1995	52	12		700																R6018	52	10		2600
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R2000	52	101	PRI SEC	60 3000																R6023	56	592		1050
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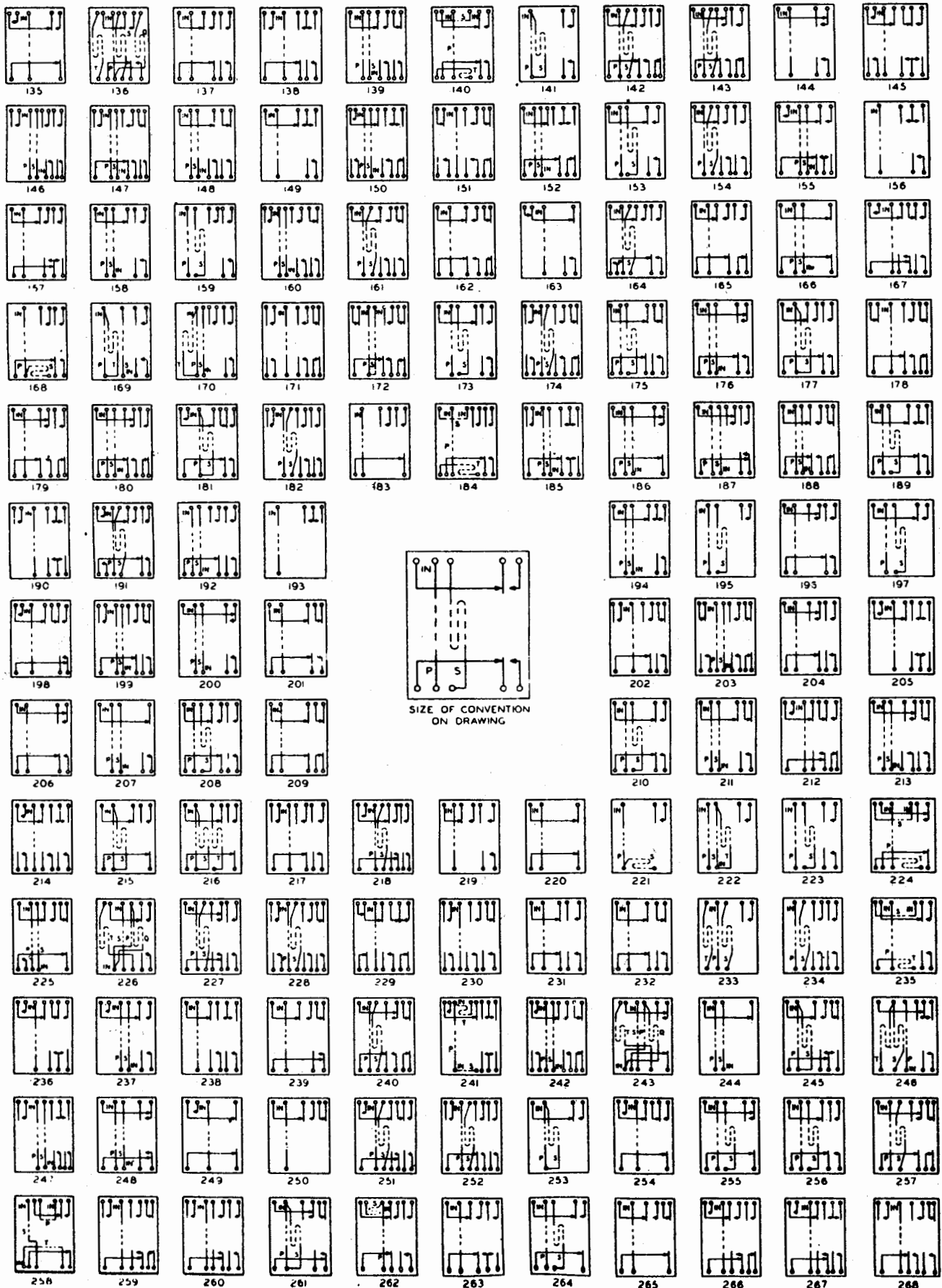
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H26	52	39		195	H52	52	18		165	H77	52	101	PRI SEC	250 260	H104	52	40		165					
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										H83	52	14		500										

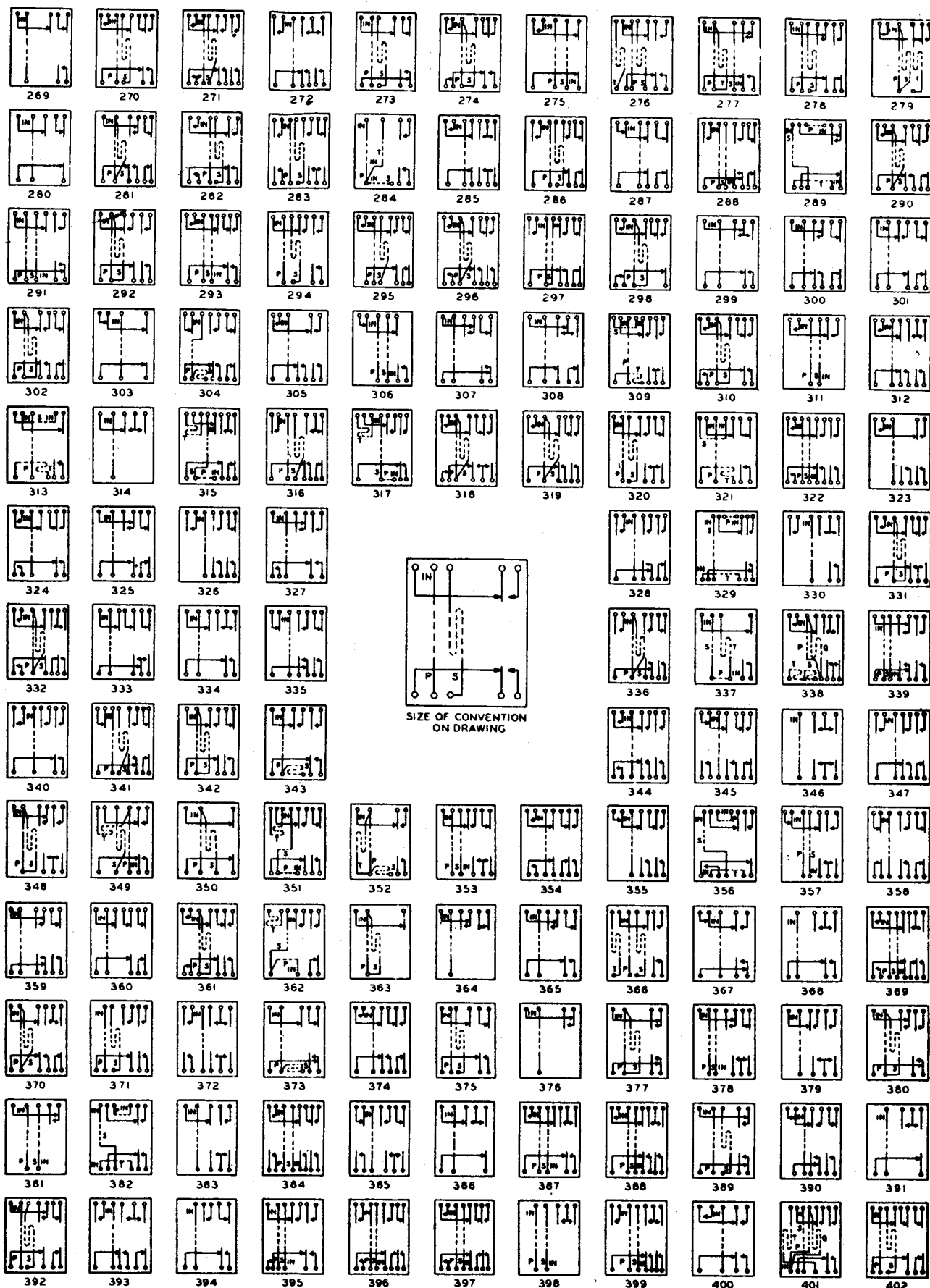
RELAY CODE	PAGE NO	CONV NO	WDG	OHMS RES	RELAY CODE	PAGE NO	CONV NO	WDG	OHMS RES	RELAY CODE	PAGE NO	CONV NO	WDG	OHMS RES										
T1	52	79	PRI SEC	150 475	T3	52	17		1250	T7	52	17		800										
T2	52	57	PRI SEC	150 475	T4	52	10		350	T8	52	22		2000										
					T5	52	27		183	T9	52	35		1250										
					T6	55	484		700	T10	52	2		25										



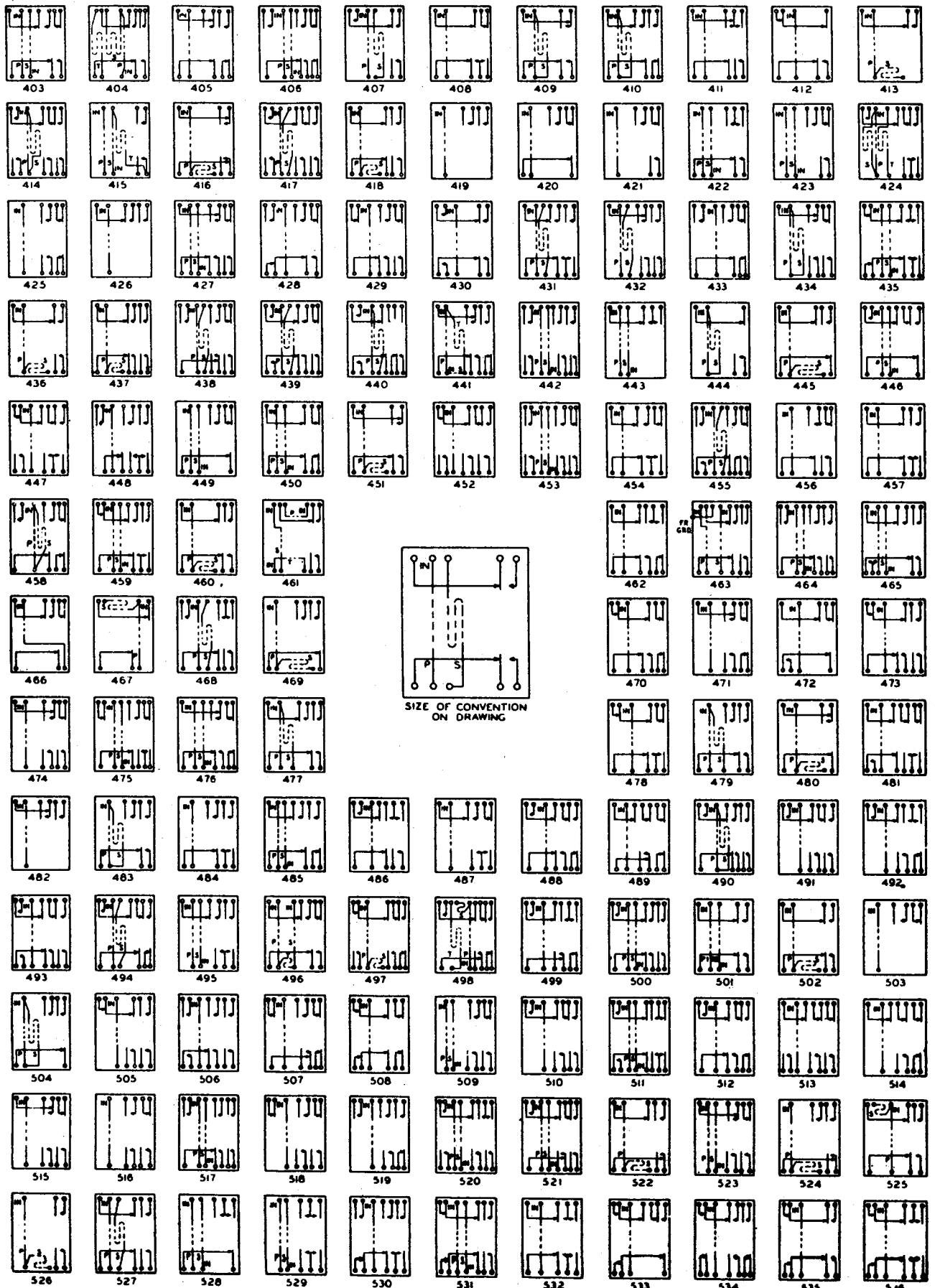
E,F,H,R&T TYPE RELAYS



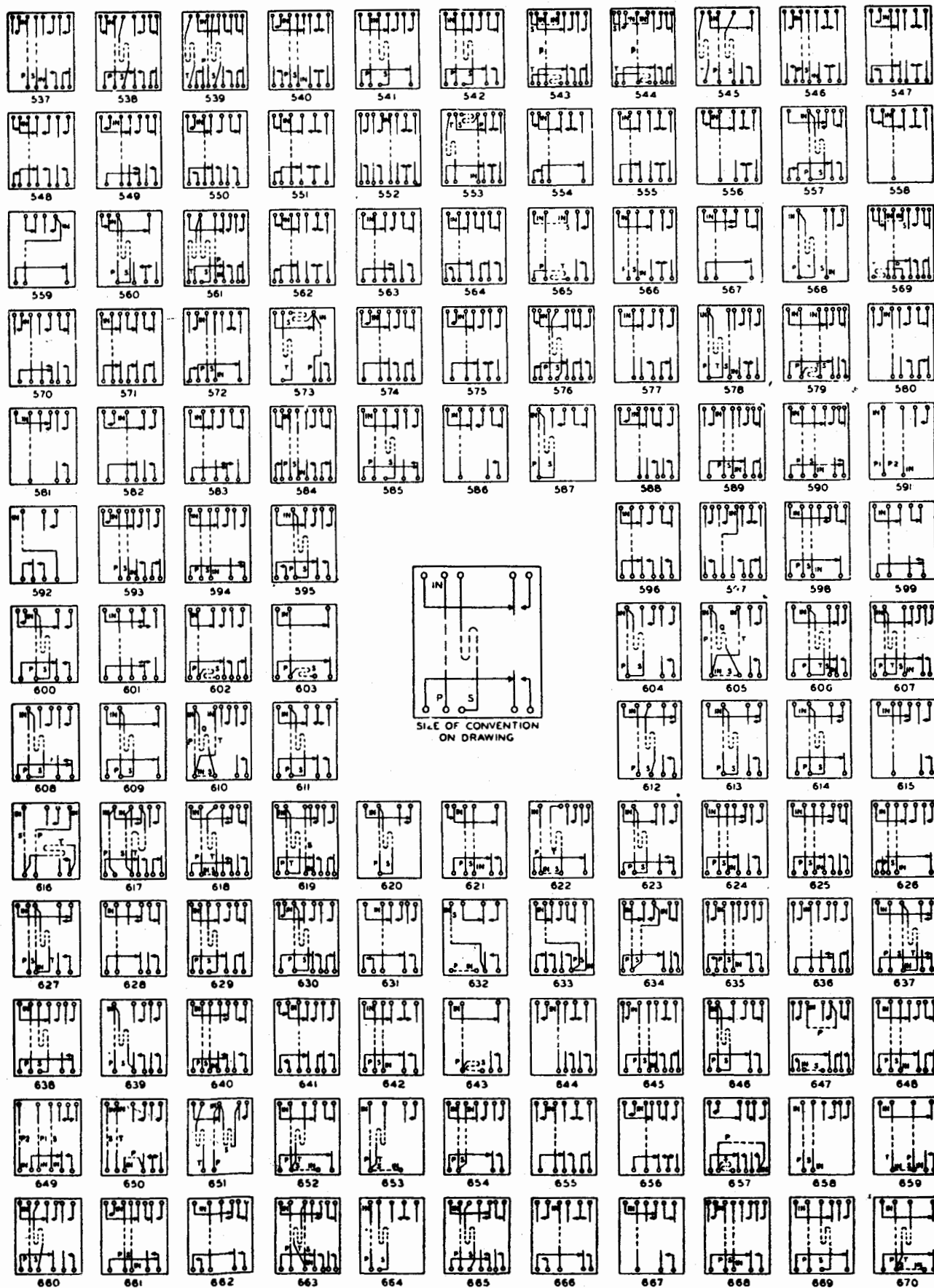
E, F, H, R & T TYPE RELAYS



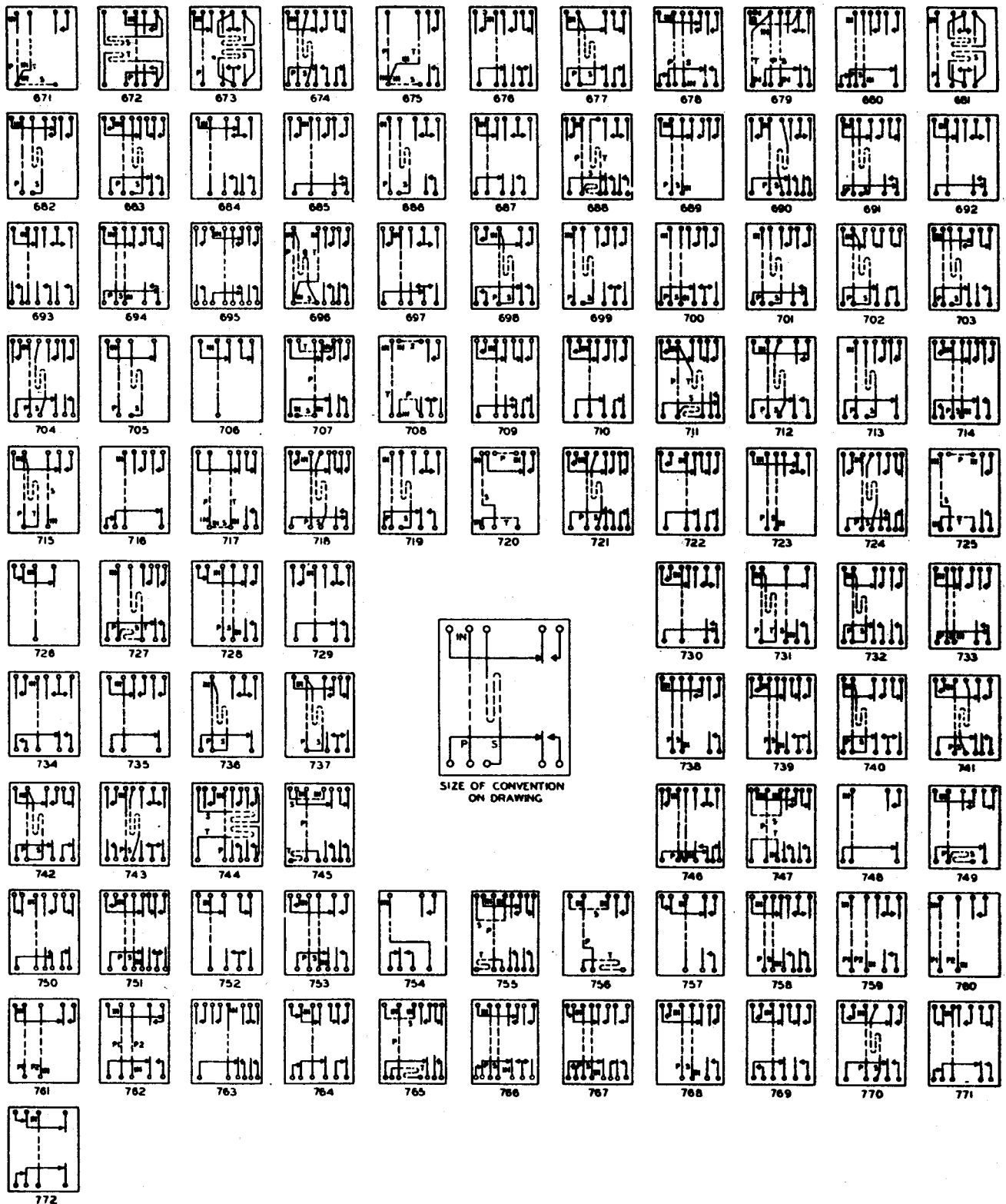
E, F, H, R & T TYPE RELAYS

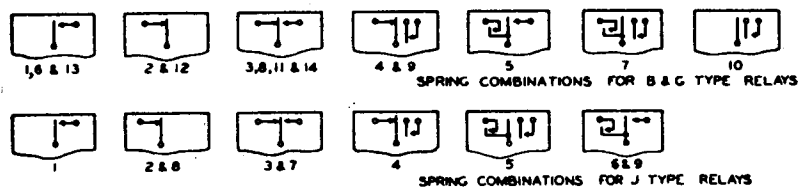
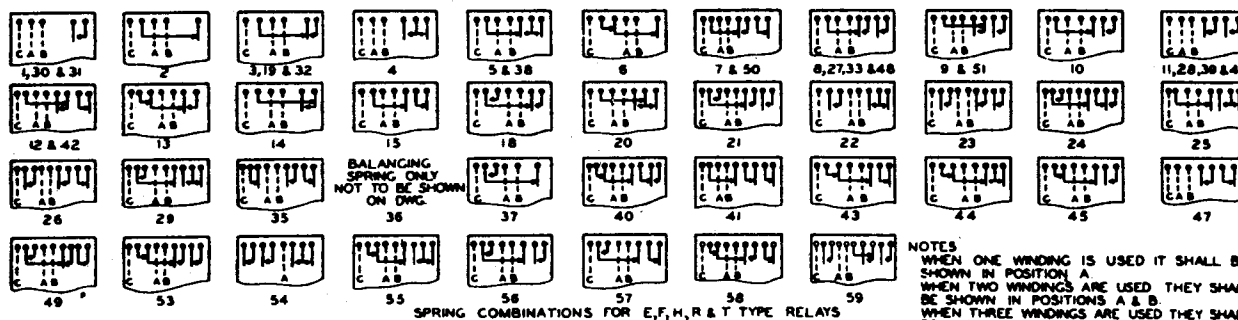
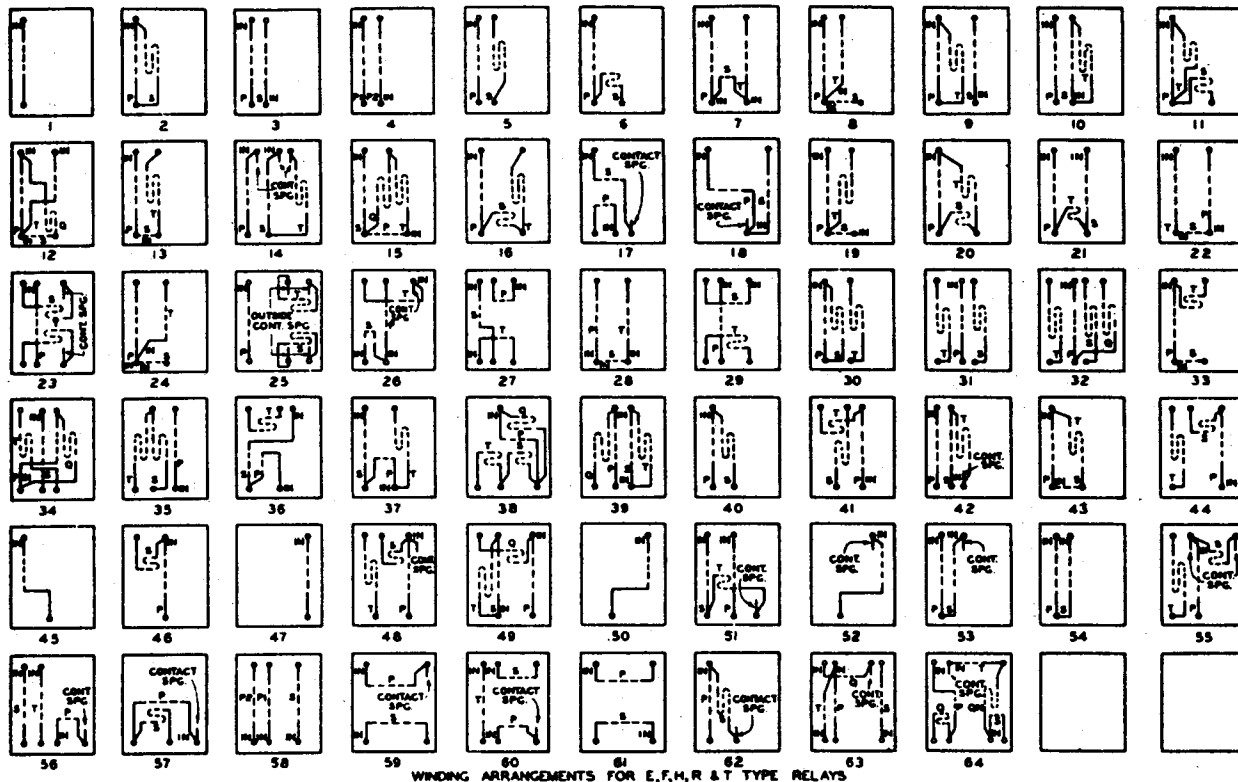
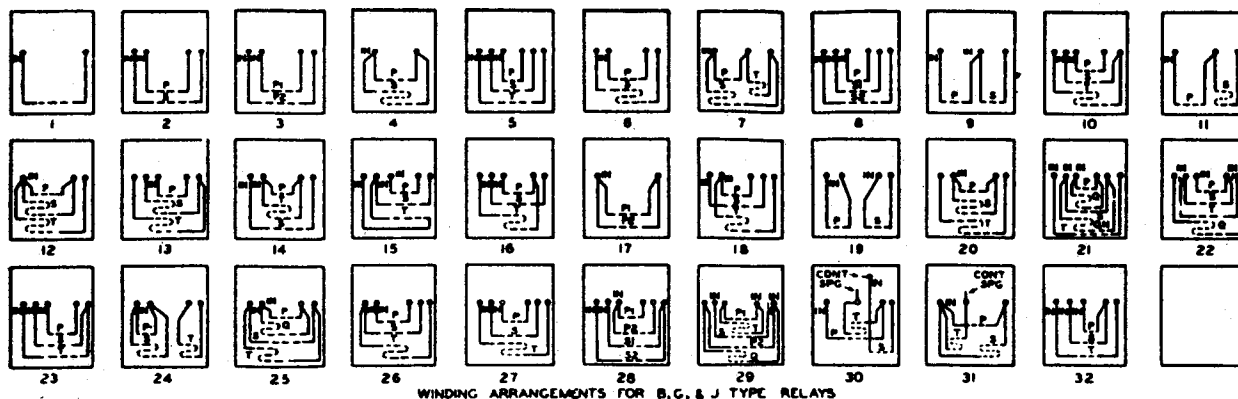


E, F, H, R & T TYPE RELAYS



E, F, H, R & T TYPE RELAYS





WINDING ARRANGEMENTS AND SPRING COMBINATIONS FOR B, E, F, G, H, J, R & T TYPE RELAYS

PAGE 50

RELAY CODE	PAGE NO	CONV NO	WDG	OHMS RES	RELAY CODE	PAGE NO	CONV NO	WDG	OHMS RES	RELAY CODE	PAGE NO	CONV NO	WDG	OHMS RES	RELAY CODE	PAGE NO	CONV NO	WDG	OHMS RES									
206C		39		500	206BJ		37		1020	206FU		43	PRI	7	213A	62	66		125									
206E		45	COMB	35	206BK		39		100				SEC	7														
206G		52	PAT CODE SEC	6400	206BL		39		100	206FW		39		12000														
206H		39		50	206BN		37		500	206FY		43	PRI	200	215A	ASSOCIATED WITH 18B CONN BLOCK (SEE PAGE 27)												
206J		39		1000		41	PRI	190				SEC	16500	215D	231FF						38		80					
206L		39		500	206BP		40	PRI	54	206GB		39		13.6	215FA						231FG		39		6300			
206M		44	EACH	825			SEC	3000				43	PRI	25	215FB				231FH		43	PRI	1535					
206N		45	COMB	9.5	206BR		39		1000	206CC			SEC	25	216FA	62	61A	PRI	9.25		SEC	845						
206P		39		50	206BS		37		1000			48	P1	365				SEC	1	231FJ		43	PRI	200				
206R		39		1520	206BT		37		1000				P2	365	216FB	62	61A	PRI	.16		SEC	2600						
206S		43	PRI	54	206BU		45	COMB	9.5	206CD		44	PRI	140				SEC	-	231FL		39		500				
			SEC	6400	206BW		39		1000				SEC	140						231FM		37		42				
206T		45	COMB	35	206BY		37		500	206GE										231FN		39		500				
206U		53	PRI	80	206CA		37		1000			59	P1	365	218B	ASSOC WITH 26B CONN BLOCK (SEE PAGE 27)				231FP		37		250				
			SEC	1000	206CB		37		500				P2	365										231FR		43	PRI	500
			TER	125	206CC		50	PAT		206GG			SEC	2800											SEC	250		
206W		43	PRI	75			COMB	2.82				50	PAT	2.82						231FS		48	P1	30				
			SEC	80			SAQ						COMB		221	SEE PAGE 63						P2	30					
206Y		39		275			COMB	2.9					SAQ	2.9										SEC	3000			
												COMB																
206AA		54	PRI	135	206CD		38		12000	206GH		43	PRI	525	222	SEE PAGE 64						SEC	1000					
			SEC	15000	206CE		43	PRI	940				SEC	230										TER	60			
			TER	15500			SEC	40	206GJ		39		1100															
206AC		39		595	206CF		44	EACH	85	206GK		59	P1	365	223	SEE PAGE 65						SEC	15400					
206AD		39		250	206CH		40	PRI	365				P2	365														
206AE		39		100			SEC	16550					SEC	1500														
206AF		39		1020	206CJ		45	COMB	185	207A		66		125	224	SEE PAGE 66						SEC	1145					
206AG		43	PRI	54	206CK		49	PRI	170	207B		66		125														
			SEC	3000			SEC	160																				
206AH		39		5			TER	3000							225	SEE PAGE 66						TER	3000					
206AJ		43	PRI	75	206CL		60	PRI	170	208B		68		500														
			SEC	80			SEC	160	208C		68		1000															
206AK		56	PRI	350			TER	3000	208E		68		110	227A	62	37		595	232B			SPL CONV						
			SEC	1500	206FA		43	PRI	500	208F		68		245	227B	62	37		1800									
			TER	1000			SEC	12000	208G		68		245	227C	62	47	PRI	185										
206AL		55	PRI	45	206FB		37		42	208H		68		214			SEC	195	236A		66	A	100					
			SEC	1000	206FC		38		2100	208J		68		214			TER	1770			B	2000						
			TER	1200	206FD		43	PRI	30	208K		68		214	227D	62	47	PRI	185									
206AM		39		500			SEC	16500	208L		68		214				SEC	195										
206AN		39		250	206FE		38		3500	208N		68		1000			TER	1130	239FG		51	PRI	1210					
206AP		43	PRI	54	206FF		39		250	208P		68		2.4							SEC	1210						
			SEC	6400	206FG		39		250	208R		69	PRI	900						TER	250							
206AR		39		50	206FH		39		250				SEC	10	228A	ASSOC WITH 18F CONN BLOCK (SEE PAGE 27)				239FS		43	PRI	56				
206AS		39		12000	206FJ		39		500	208S		68		165									SEC	30000				
206AT		57	PRI	170	206FK		47	PRI	254	208T		68		165											39		30500	
			SEC	160			SEC	643	208U		68		53							239FT		43	PRI	100				
			TER	3000			TER	828	208W		68		110	229C	62	SPL CONV	156				SEC	200						
206AU		56	PRI	350	206FL		37		2100	208Y		68		53						239GA		43	PRI	135				
			SEC	1500	206FM		40	PRI	56	208AA		68		110							SEC	15000						
			TER	1000			SEC	30000	208AB		68		245	230B	62	SPL CONV			239GD		43	PRI	860					
206AW		43	PRI	3.5	206FN		40	PRI	79	208AE		68	PRI	100	231FA	62	46	PRI	285			SEC	475					
			SEC	80			SEC	1860					SEC	1100			SEC	285	239GE		44	EACH	9.5					
206AY		38		500	206FP		37		2	208AF		68		160			TER	3230	239GF		39		40					
206BA		37		500	206FR		43	PRI	135						231FB	62	42	PRI	250	239GG		43	PRI	200				
206BD		37		42			SEC	15000									SEC	2000				SEC	1000					
206BE		37		42	206FS		43	PRI	6.5	209FA		ASSOCIATED WITH 18A CONN BLOCK (SEE PAGE 27)				231FC	62	44	P1	40								
206BF		39		50			SEC	2	209FB								P2	40										
206BG		39		50	206FT		43	PRI	6.5	209FC																		
206BR		39		250			SEC	2	209FD																			

NUMBER TYPE RELAY CODES

CODE NO	PAGE NO	CONV NO	WDG	OHMS RES
6A	72	111		.0601
6B		111		.0426
6C		111		.0240
6D		111		.0192
6E		111		.0120
6F		111		.0062
6G		111		.0060
7A		113		.014
8A		81		.0090
9A		81		.0035
10A		81		.0017
11A		113		.0011
12A		113		.00087
13A		113		.00058
14A		113		.00044
15A		81		.00035

CHOKE COILS

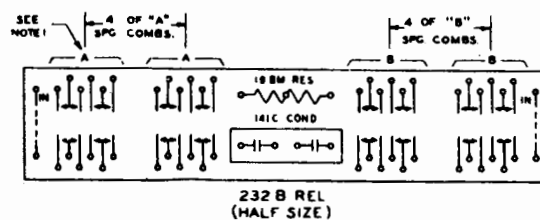
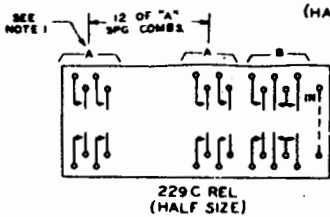
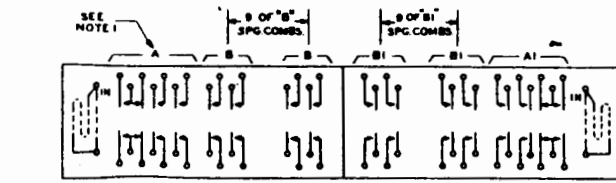
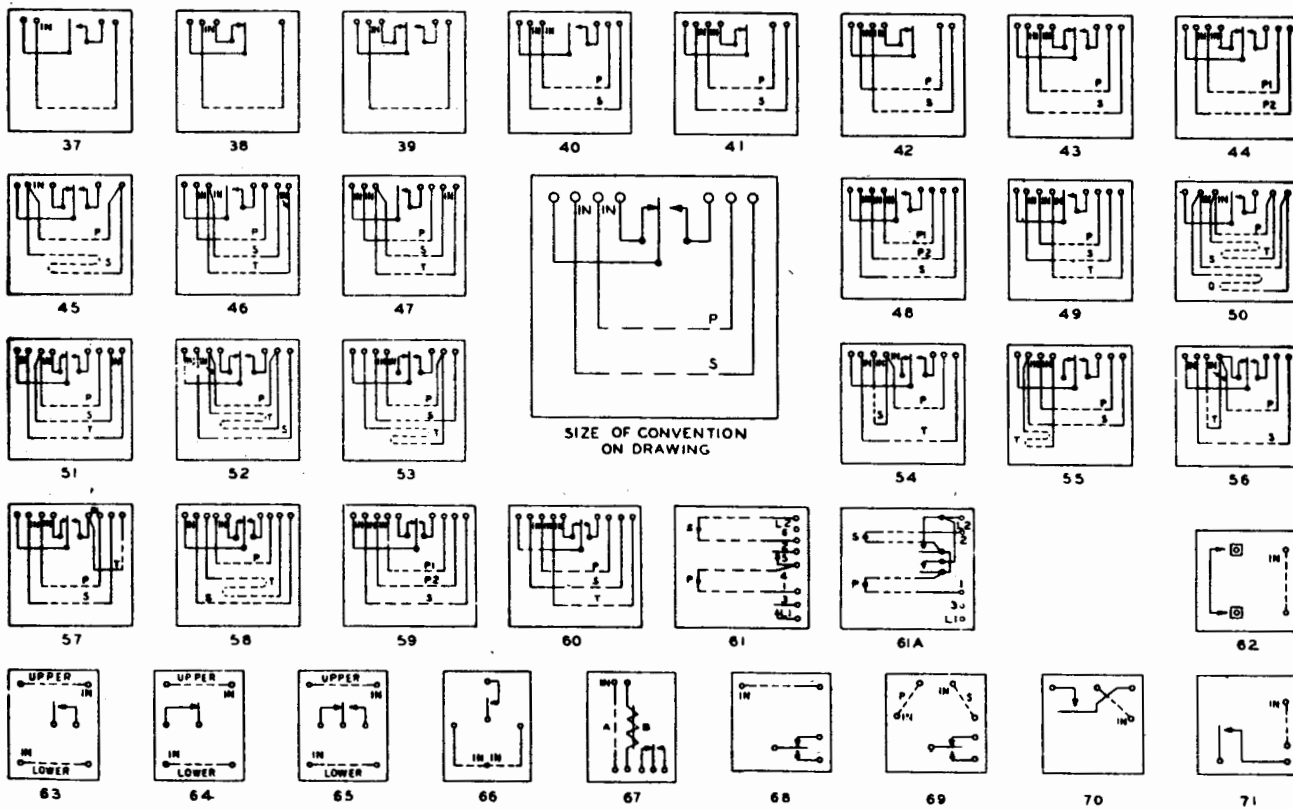
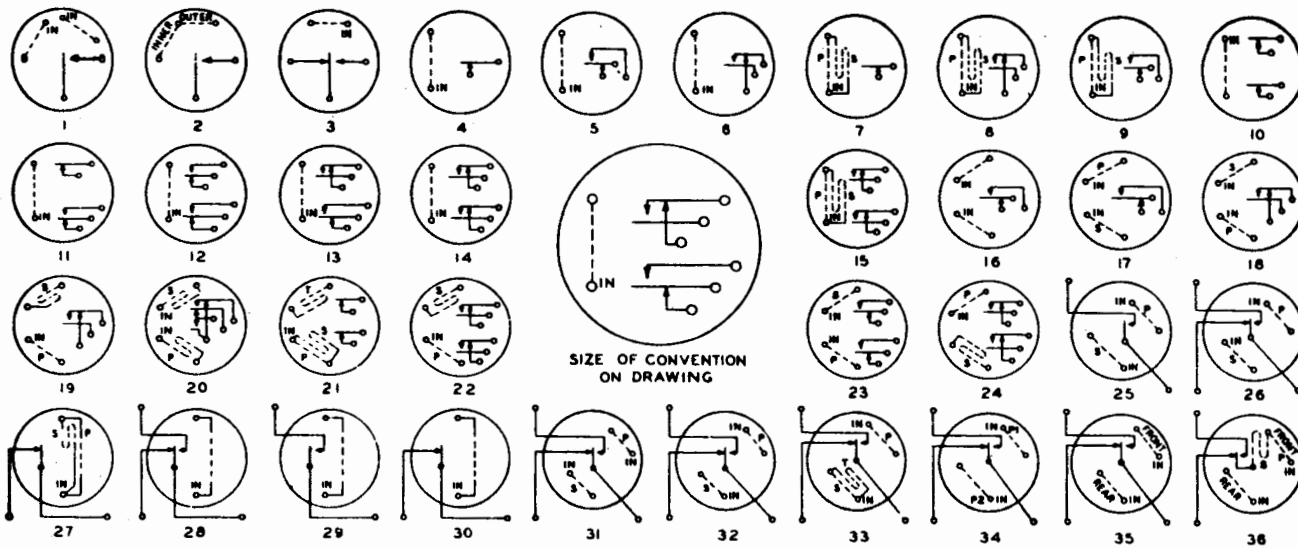
CODE NO	PAGE NO	CONV NO	WDG	OHMS RES	CODE NO	PAGE NO	CONV NO	WDG	OHMS RES	CODE NO	PAGE NO	CONV NO	WDG	OHMS RES	CODE NO	PAGE NO	CONV NO	WDG	OHMS RES	
10	72	136	A	0.41	43	72	123	A	0.6	63	72	125	A	2.3	101A	72	90	A	22	
13			B	85.5				B	900				B	450			B	75		
		131	A	1.4	44				C	18.1				C	25			C	19	
			B	17			119	A	5.5	65			125	A	1.32	102A	71	14	A	1.9
23								B	26				B	500			B	10.3		
		130	P	10	46			A	14.7				C	9.9			C	485		
			S	57.3			116	B	9.5	66			148	A	5.7	103A	72	126	A	14.7
			T	230	46E			A	14.7				B	80			B	53.5		
29			131	A	0.38				B	9.5		68		119	A	5.15			A	9.5
			B	37										B	30	120	72	122	A	16.4
																			B	31.2
31			131	A	1.4		55B	72	121	A		14.7			125	A	5.9	146B	72	126
		B	17				B	9.5	72A	72		B	500			B	53.5			
32		131	A	0.38									C	10			C	9.5		
		B	37	61		137	A	16.4			119	A	1	146C	72	127	A	14.7		
35							B	16.4	73A			B	35			B	53.5			
		132	A	5.4			C	125				A	1			C	9.5			
		B	1.4				D	475	75A		151	A	9			A	14.7			
42		128	A	0.41				1.32				B	12	155B	72	126	A	14.7		
		B	31		62		A	325				C	14.8			B	53.5			
		C	7.5				B	8.8								C	9.5			
		D	290																	

INDUCTION COILS

CODE NO	PAGE NO	CONV NO	WDG	OHMS RES	CODE NO	PAGE NO	CONV NO	WDG	OHMS RES	CODE NO	PAGE NO	CONV NO	WDG	OHMS RES	CODE NO	PAGE NO	CONV NO	WDG	OHMS RES	CODE NO	PAGE NO	CONV NO	WDG	OHMS RES
20A	72	135	A	277	62B	71	16	A	21	75B	71	1	A	14	93G	71	16	A	19	108A	71	44	A	3.2
			B	40				B	14				B	21			B	64		B			B	4.1
			C	360	62C	71	16	A	13	75F	71	1	A	44	93H	71	16	A	22.5	108B	71	44	A	2.7
20E	72	138	A	29				B	22				B	21			B	39.5		B			B	7.8
			B	215	62E	71	16	A	9	75G	71	1	A	64	93J	71	16	A	17	108C	71	44	A	8.65
			C	365				B	23				B	19			B	55		B			B	7.5
20G	72	117	A	277	62F	71	16	A	22	76A	71	1	A	21	94E	71	44	EACH	20	108D	71	44	A	8.65
			B	40				B	20				B	20	94F	71	44	A	30			B	4.15	
20H	72	124	A	29	62G	71	16	A	20.5	77A	71	7	A	21			B	20		109A	71	19	A	1650
			B	29				B	9				B	20	94G	72	83	A	9			B	1.78	
			C	215	64B	72	161	A	29	78A	71	5	EACH	21			B	400		109B	71	19	A	0.435
20J	72	134	A	277				B	65	80A	71	19	A	7	94H	71	47	A	10			B	5.75	
			B	40	64C	72	161	EACH	29				B	21.5			B	13.5		109C	71	52	A	81
			C	300	64D	72	162	EACH	9	80B	71	19	A	9	94J	71	58	A	1.4			B	30	
			D	400	64J	72	161	A	29				B	11.5			B	370.4		110A	72	119	A	11.6
25A	71	1	EACH	21				B	65	80C	71	20	EACH	28	94K	72	83	A	2.1			B	92	
26A	71	7	EACH	21	64K	72	161	A	26	81A	71	19	EACH	33			B	3		111A	71	20	A	0.85
30A	72	106	A	.018				B	90	82C	71	19	A	27	96A	71	20	A	2.65			B	12.75	
			B	385	64M	72	162	A	36				B	16			B	43		111C	71	21	EACH	17.5
44A	71	11	A	21				B	6	83B	71	19	A	22	96B	72	61	A	0.2			A	5	
			B	21	65A	71	4	A	11				B	23			B	123		112A	71	46	A	12
			C	42				B	60	84A	71	19	A	9			C	.151		113A	72	95	A	.05
45B	72	93	A	.035				C	11				B	10	97A	72	118	A	23			B	0.76	
			B	1000				D	60	85A	71	1	A	23			B	13		114A	72	78	A	.02
49A	71	60	A	1.65	66A	72	74	A	25				B	22	98A	72	115	A	0.55			B	.019	
			B	31				B	500	85B	71	1	A	14			B	42		115A	72	64	A	.01
54A	71	2	A	0.25	67C	71	19	A	20				B	21	98B	72	115	A	23			B	.02	
			B	0.75				B	21	85C	71	1	A	22			B	13		115B	72	64	A	.01
54B	71	1	EACH	6	68B	71	17	A	5				B	13	100A	71	28	A	22			B	0.14	
56A	71	6	A	0.85				B	25	85E	71	1	A	23			B	23		115C	72	64	A	.01
			B	22.5	68C	71	17	A	3				B	9			C	40				B	1.34	
56B	71	6	A	2.35				B	4.5	86G	71	27	A	23	100B	71	28	A	21			A	.012	
			B	27.8	69F	71	33	A	11.5				B	25.5			B	28.5		115D	72	64	A	.005
56C	71	13	A	6				B	13.2				C	36			C	40		116A	72	83	EACH	20
			B	17	69G	72	86	A	8	88A	71	56	A	105	101A	71	19	EACH	6	117A	72	166	EACH	160
58C	71	19	A	130				B	20.5				B	3100			A	22		119A	71	48	A	0.85
			B	18	72A	72	159	A	0.15	89A	71	36	A	21	102A	71	44	A	23			B	12.75	
58D	71	26	A	1.4				B	0.92				B	14.8			B	22.5		119B	71	49	A	1
			B	15.3				C	17.5				C	8.7	102B	72	44	A	13			B	16	
			C	357.5	73B	71	7	A	23.5	91A	71	16	A	20	103E	72	73	A	25	123A	71	48	A	5.7
59A	71	19	A	28.75				B	22				B	21			B	500				B	6.4	
			B	22.75	74A	71	19	A	22	92A	72	94	A	85	105A	71	19	A	5	125A	71	15	EACH	20
59B	71	19	EACH	21				B	23.5				B	2000			B	6		126A	71	44	EACH	20
60A	72	120	A	70	74B	71	19	A	23	93A	71	16	A	22	106A	71	19	A	98	134A	71	49	A	3.4
			B	0.2				B	54.5				B	23			B	0.6				B	2125	
60B	72	120	A	255	74C	71	19	EACH	2	93B	71	16	A	21	107A	71	20	A	5.7					
			B	1.5	74D	71	19	EACH	15				B	14			B	6.4						
62A	71	16	A	22	75A	71	1	A	23	93F	71	16	A	21										
			B	23				B	22				B	44										

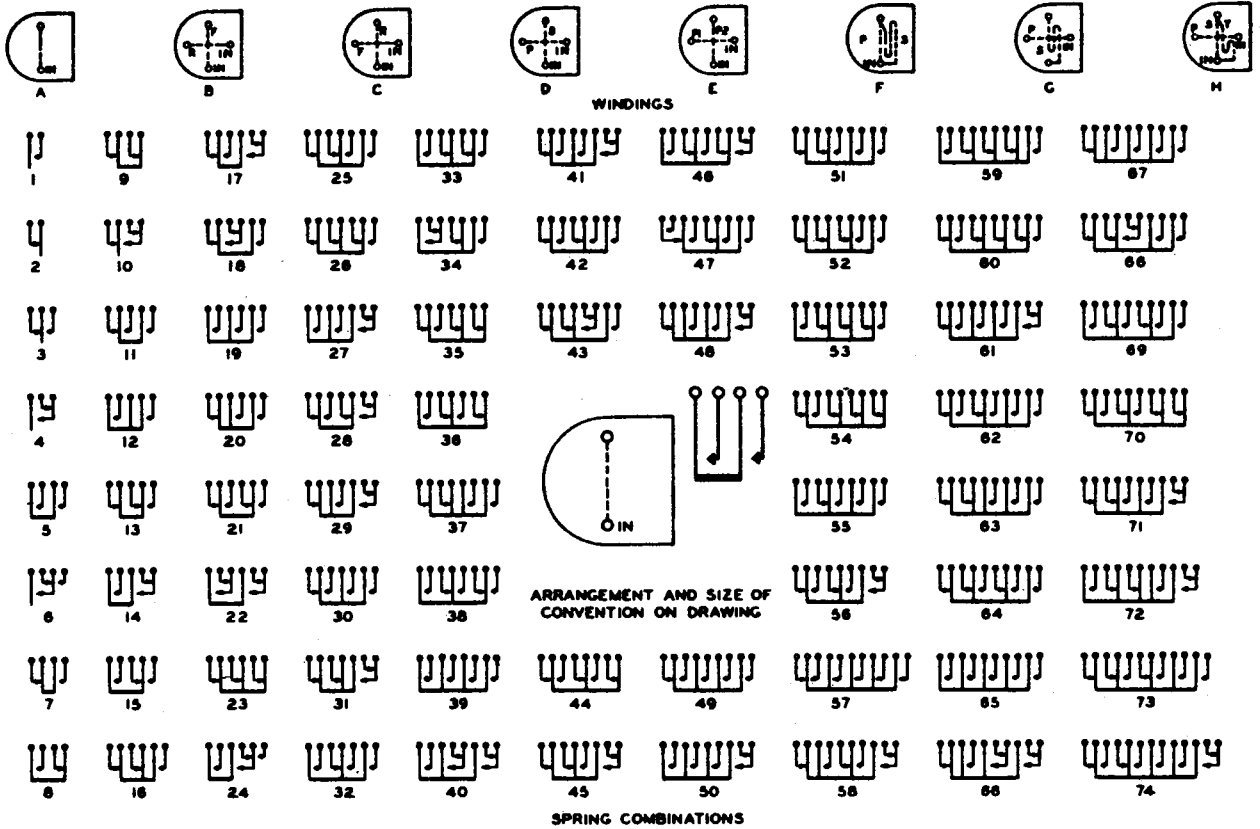
REPEATING COILS

CHOKE COIL, INDUCTION COIL AND REPEATING COIL CODES



NOTES
1. SPRING COMBINATION DESIGNATIONS ARE FOR INFORMATION ONLY AND SHALL NOT BE SHOWN ON WIRING DIAGRAM DRAWINGS.

NUMBER TYPE RELAYS

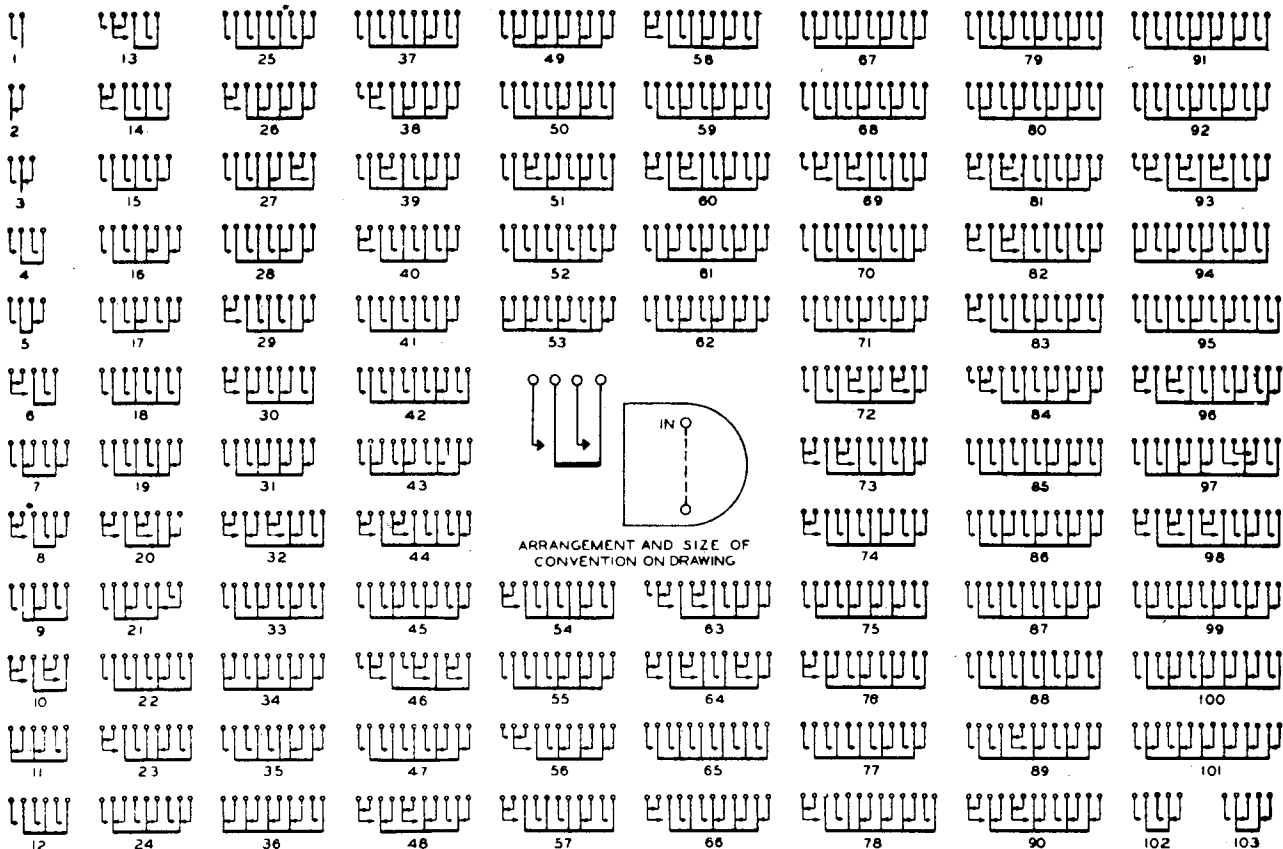


RELAY CODE	SPRING COMB	WINDING	OHMS RES	RELAY CODE	SPRING COMB	WINDING	OHMS RES	RELAY CODE	SPRING COMB	WINDING	OHMS RES	RELAY CODE	SPRING COMB	WINDING	OHMS RES	RELAY CODE	SPRING COMB	WINDING	OHMS RES
221 A	3	B FRONT REAR	200	221 BM	1	F COMB	235	221 BS	31	F COMB	375	221 GC	2	B FRONT REAR	200	221 JJ	1	D PRI SEC	1000
B	4	A	437	BN	51	D	1000	DU	18	F COMB	375	GD	1	A	650	JK	51	A	800
C	5	F COMB	181	BR	19	D	150	DW	4	F COMB	375	GE	11	B	200	JL	15	D	485
D	11	A	437	BS	5	D	150	DY	30	A	1300	GF	63	A	1300	JM	14	D	600
E	3	A	437	BT	19	A	10	EA	5	A	335	GH	64	A	1300	JN	55	D	100
F	25	A	437	BU	5	A	15	EB	21	B FRONT REAR	200	GJ	29	A	2500	JO	5	A	900
G	26	A	437	BY	3	A	1300	EC	2	A	215	GK	65	B FRONT REAR	200	JP	7	A	300
H	7	A	437	CA	3	A	1300	ED	18	A	6	GL	7	A	1300	JR	5	A	750
I	8	A	437	CB	21	A	1200	EE	62	A	1300	GM	19	A	150	JS	24	A	150
M	5	B FRONT REAR	200	CC	11	A	800	EF	21	A	8	GN	11	A	200	JT	1	D	335
P	11	B FRONT REAR	200	CD	4	A	8	EJ	42	A	1300	GP	66	A	2300	JT	1	D	50
R	11	B FRONT REAR	200	CE	8	A	8	EK	11	F COMB	375	GR	67	A	2300	JU	35	A	780
T	25	A	1200	CF	7	A	8	EL	88	F COMB	375	GS	50	A	2300	JV	39	A	2300
U	17	A	1300	CG	6	A	8	EM	61	A	1300	GT	7	A	2300	JW	39	A	500
V	1	A	1300	CH	26	A	8	EN	38	A	100	GU	68	A	2300	JY	68	A	800
W	5	A	1300	CJ	25	A	8	EO	49	A	800	HV	7	A	305	KA	70	A	335
AA	27	A	1300	CK	1	A	8	ES	5	A	150	CW	2	A	700	KB	30	A	650
AB	18	A	1300	CL	3	A	8	ET	1	D PRI SEC	80	CY	19	A	800	KD	30	A	2500
AC	48	A	1300	CM	48	D PRI SEC	1475	EU	11	B PRI SEC	1900	HA	30	A	700	KE	44	A	150
AD	1	A	15	CN	1	A	200	EW	16	A	900	HB	22	A	1300	KF	48	A	1300
AE	47	A	800	CP	1	D PRI SEC	100	EY	9	A	150	HC	5	A	800	KG	44	A	8
AF	2	A	200	CR	58	D PRI SEC	380	FA	20	A	200	HD	19	B FRONT REAR	20	KH	7	D PRI SEC	350
AG	1	A	200	CS	30	A	1180	FB	32	D PRI SEC	1000	HE	29	A	335	KI	56	F COMB	181
AH	1	A	200	CT	19	A	800	FC	72	A	2000	HF	63	A	1300	KL	49	A	650
AJ	1	A	200	CW	1	A	2	FD	29	A	800	HG	43	F COMB	375	KN	62	A	800
AK	1	A	300	CX	48	A	800	FE	1	D PRI SEC	85	HH	34	A	2000	KO	49	A	800
AL	12	A	700	CY	48	A	2500	FF	1	D PRI SEC	85	HJ	21	A	335	KP	5	A	2300
AM	1	D PRI SEC	60	DA	4	A	800	FG	33	D PRI SEC	400	HK	50	A	1300	KR	45	F COMB	375
AN	11	A	1900	DB	59	D PRI SEC	125	FH	5	D PRI SEC	110	HL	10	A	8	KS	30	A	2500
AP	18	A	335	DC	1	A	1100	FI	2	A	1300	HM	7	A	650	KT	71	A	650
AR	38	A	335	DD	3	A	800	FG	20	A	1300	HN	37	A	800	KU	36	D PRI SEC	800
AS	28	A	335	DE	31	A	400	FJ	2	A	2000	HR	52	D PRI SEC	700	KV	73	A	2700
AT	13	A	335	DF	2	A	150	FL	42	A	1500	HS	5	A	700	KW	42	A	335
AU	1	B FRONT REAR	750	DG	14	D PRI SEC	60	FM	25	C FRONT REAR	700	HT	5	F COMB	15	LA	42	G	200
AW	3	A	250	DH	40	A	1900	FN	62	A	200	HU	53	D PRI SEC	110	LB	74	D PRI SEC	7400
AY	5	A	400	DJ	19	H PRI S&T COMB	1300	FO	60	A	800	HW	1	D PRI SEC	865	LC	30	A	400
BA	11	B FRONT REAR	450	DK	39	H PRI S&T COMB	24	FR	41	A	800	HY	61	D PRI SEC	287	LD	3	A	75
BB	11	B FRONT REAR	450	DL	14	A	658	FS	18	B FRONT REAR	200	JA	15	D PRI SEC	865	LE	30	A	800
BC	1	A	107	DM	16	F COMB	24	FT	21	A	1300	JB	11	A	500	LF	11	A	220
BD	2	A	1300	DN	60	D PRI SEC	658	FU	5	A	800	JC	39	H PRI S&T	1400	LJ	37	A	800
BE	14	F COMB	180	DP	61	D PRI SEC	800	FV	3	A	800	JD	30	A	335	LK	68	A	1300
BH	1	A	1300	DR	13	F COMB	375	FY	9	A	200	JE	23	A	585	FAA	3	E P1	200
BJ	29	A	500					GA	5	D PRI SEC	800	JF	27	A	210			P2	200
BK	37	B FRONT REAR	500								1450	JG	54	A	700				
221 BL	5	A	250					221 GB	1	D PRI SEC	1000				150				
											500	221 JH	21	B FRONT REAR	450				

221 TYPE RELAYS



WINDINGS



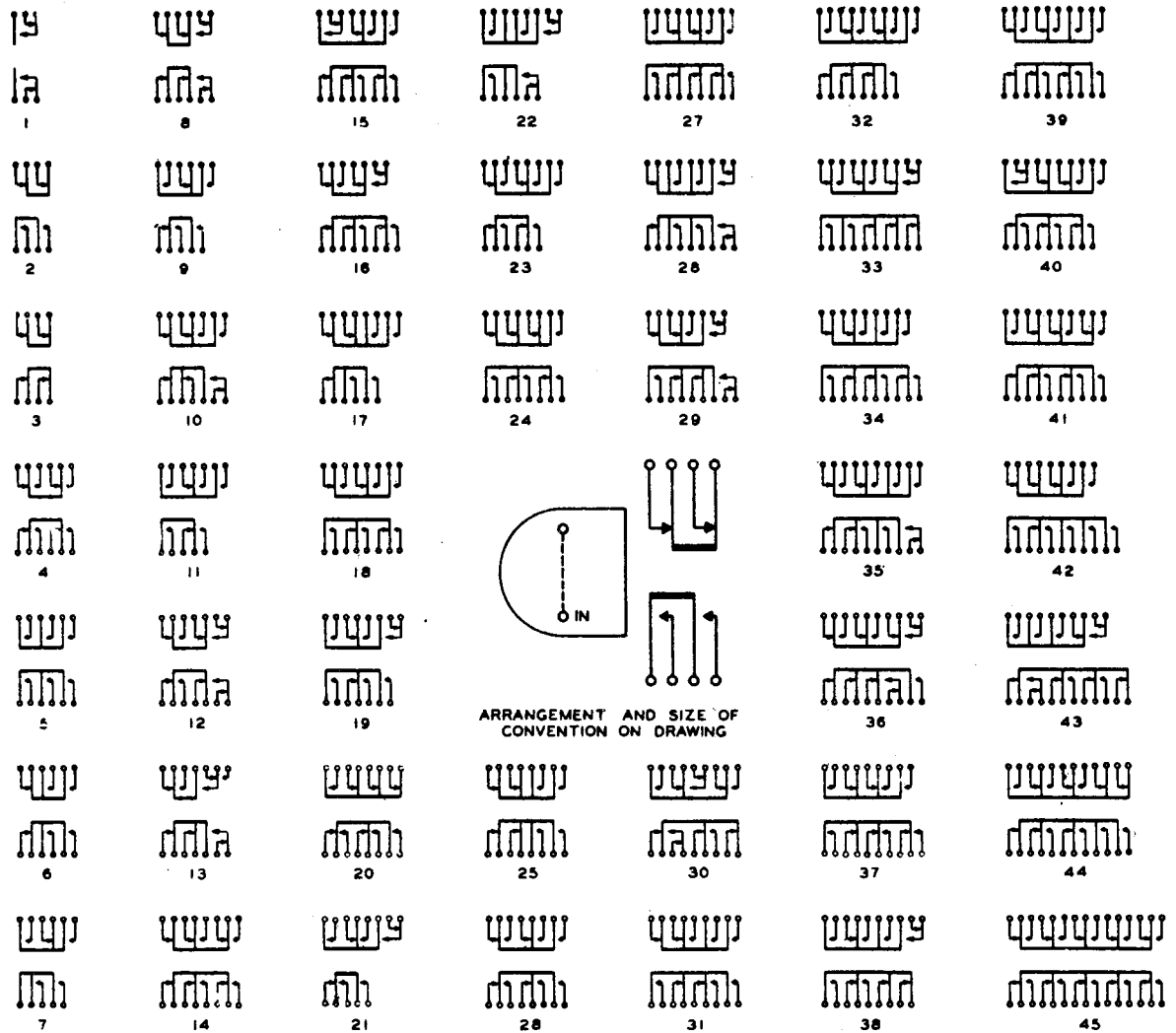
SPRING COMBINATIONS

RELAY CODE	SPRING COMB	WINDING	OHMS RES	RELAY CODE	SPRING COMB	WINDING	OHMS RES	RELAY CODE	SPRING COMB	WINDING	OHMS RES	RELAY CODE	SPRING COMB	WINDING	OHMS RES	RELAY CODE	SPRING COMB	WINDING	OHMS RES
222 A	102	A	800	222 BC	1	A	200	222 DB	69	A	1300	222 FB	87	A	900	222 GS	7	A	800
B	42	A	1300	BD	1	A	200	DC	13	A	335	FC	88	B	1300	GT	42	D	333
C	16	A	1300	BE	4	B	60	DD	2	A	2500	FD	28	A	1300	GU	31	A	2000
D	3	A	437	BF	1	B	1900	DE	5	A	1300	FE	51	B	200	GW	96	C	2300
E	79	B	200	BH	67	A	60	DF	6	A	500	FG	7	A	1300	GY	97	G	200
F	79	B	1300	BI	67	A	2500	DG	68	B	1300	FH	52	A	800	HA	67	F	185
G	79	B	200	BK	4	A	2300	DH	85	B	125	FI	53	B	600	HB	15	C	1240
H	80	B	1300	BL	10	A	14	DJ	68	B	1100	FJ	73	A	1300	HC	87	A	650
J	33	B	200	BM	1	A	800	DK	14	A	700	FK	1	B	1000	HD	98	B	384
K	33	B	1300	BN	1	A	107	DL	2	A	700	FL	59	A	2000	HE	1	B	1600
L	33	B	200	BP	17	B	1300	DM	49	A	1300	FM	45	A	800	HF	57	B	800
R	23	B	1300	BR	19	A	500	DN	38	A	1300	FN	39	B	1300	HG	99	A	3300
S	103	B	200	BS	35	A	800	DP	18	A	200	FR	89	B	500	HH	67	A	1300
T	59	B	1300	BT	6	B	1300	DR	18	A	1300	FS	52	A	800	HJ	100	A	1300
W	44	C	200	BU	4	A	2	DS	32	B	200	FT	88	D	1300	HK	1	A	1300
Y	60	C	1300	BW	1	A	11300	DT	30	B	1300	FU	37	B	1300	HL	61	A	1300
AA	64	C	200	BY	82	A	646	DW	81	C	200	FW	43	B	1300	HM	41	B	790
AC	8	A	1300	CA	7	C	1300	ED	48	E	1300	FY	54	A	500	HN	8	A	1000
AD	44	A	1300	CB	10	A	1300	EE	47	A	3300	GA	74	A	1300	HP	31	A	3600
AF	34	A	1300	CC	43	A	1300	EF	27	A	1300	GB	4	A	750	HR	62	A	335
AG	17	A	1300	CD	11	B	800	EG	15	A	700	GC	22	B	1300	HS	23	A	2300
AH	14	A	1300	CE	12	A	1300	EH	12	A	800	GD	75	A	1300	HT	2	A	985
AJ	45	A	1300	CF	102	A	1300	EJ	20	A	1300	GE	55	A	800	HU	102	A	2300
AK	7	A	1300	CG	108	B	100	EL	12	A	800	GF	90	A	1300	HW	9	B	2000
AL	46	A	1300	CH	1	A	1500	EM	56	B	1300	GG	40	A	1300	JA	58	A	125
AM	47	A	1300	CJ	43	A	333	EN	86	A	200	GH	91	A	1300	JB	85	B	1100
AN	24	A	1300	CL	103	C	2000	EP	79	B	1300	GI	92	B	1300	JC	101	A	3300
AP	1	A	15	CM	83	D	1500	ER	79	B	1300	GJ	93	B	1300	JD	63	A	1300
AR	102	A	800	CN	84	B	2000	ES	50	B	1300	GK	3	A	1300	JE	78	B	600
AS	15	A	800	CP	68	D	333	ET	70	A	1300	GL	76	B	1300	PA	5	C	2700
AT	15	A	800	CT	21	A	2000	EU	71	A	1300	GM	93	C	200	PB	4	C	2000
AU	25	A	800	CY	48	A	1300	EW	95	B	150	GN	102	A	215	PR	1	A	400
AW	65	A	800	CW	3	A	800	EY	72	E	1300	GP	94	B	200	PS	1	A	2000
AY	18	A	800	CY	26	A	800	FA	86	A	300	GR	5	A	300	PT	1	A	400
BA	66	A	800	DA	35	A	1300	FB	87	A	1300								
222 BB	1	A	800																

222 TYPE RELAYS



WINDINGS



ARRANGEMENT AND SIZE OF CONVENTION ON DRAWING

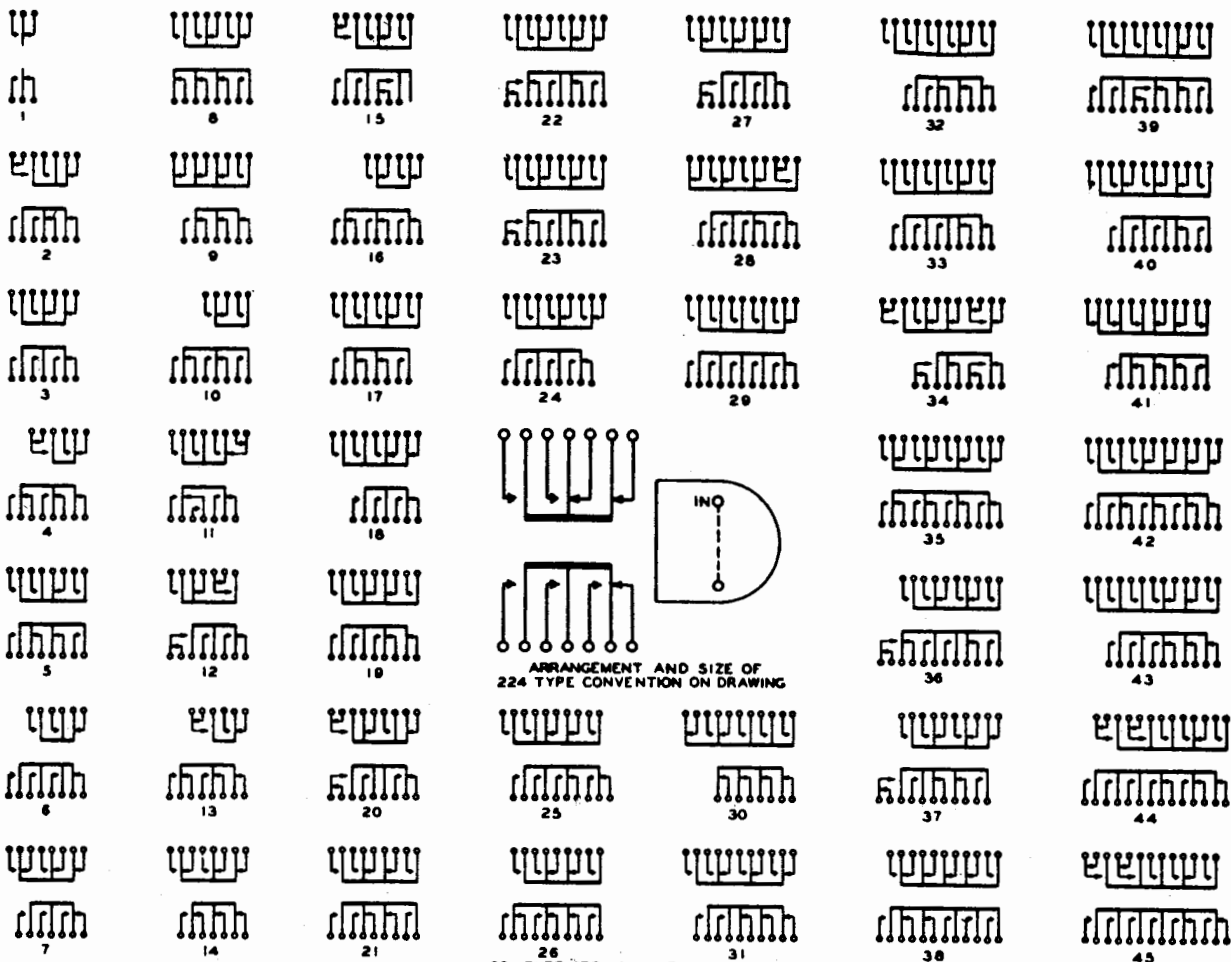
SPRING COMBINATIONS

RELAY CODE	SPRING COMB	WINDING	OHMS RES	RELAY CODE	SPRING COMB	WINDING	OHMS RES	RELAY CODE	SPRING COMB	WINDING	OHMS RES
223 A	12	A	1300	223 U	20	A	2500	223 AT	2	C	125
B	15	A	2000	W	8	A	2500	AU	1	A	83
C	16	A	1300	Y	21	A	400	AW	3	A	900
D	28	B	200	AA	37	A	800	AY	3	A	1300
E	17	B	200	AB	24	C	1000	BA	4	A	720
F	45	A	650	AC	23	C	1100	BB	14	A	440
G	19	C	150	AD	38	C	400	BC	25	C	285
H	34	A	1300	AE	39	A	1800	BD	5	C	90
J	4	A	1300	AF	40	A	150	BE	32	C	56
K	5	A	1200	AG	30	A	870	BD	5	C	450
L	13	C	400	AH	22	C	1300	BE	32	C	450
M	35	A	1300	AJ	7	C	1000	BG	10	A	1000
N	18	A	2500	AK	25	A	1300	BH	9	A	1100
P	36	A	2500	AL	31	A	2700	BJ	43	A	1300
R	11	A	800	AM	42	A	3300	BK	33	A	2000
S	8	B	200	AP	41	A	1300	BL	27	C	1300
223 T	29	A	1300	AR	44	A	2500	BM	46	A	1250
				AS	26	A	1300	BN	45	A	335
							700				1300

223 TYPE RELAYS



224 TYPE WINDINGS



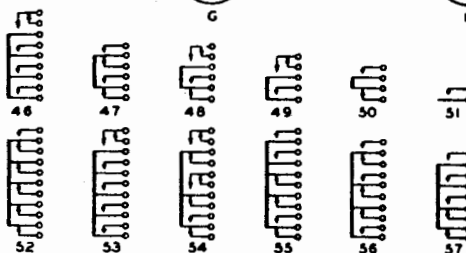
ARRANGEMENT AND SIZE OF 224 TYPE CONVENTION ON DRAWING

RELAY CODE	SPRING COMB	WINDING	OHMS RES	RELAY CODE	SPRING COMB	WINDING	OHMS RES	RELAY CODE	SPRING COMB	WINDING	OHMS RES	RELAY CODE	SPRING COMB	WINDING	OHMS RES	RELAY CODE	SPRING COMB	WINDING	OHMS RES			
224 A	2	A	1300	224 K	7	A	1300	224 AA	37	B	PRI SEC	125 1100	224 AL	44	F	COMB	500 1300	224 BA	41	B	PRI SEC	125 640
B	3	A	1300	L	18	A	1300	AB	43	B	PRI SEC	125 900	AM	13	A	1300	BB	8	B	PRI SEC	125 900	
C	4	A	1300	M	24	A	1300	AD	31	D	FRONT REAR	1300 1300	AN	33	B	PRI SEC	125 900	BC	28	A	2000	
D	5	B	PRI SEC	P	9	B	PRI SEC	AE	11	A	900	AP	14	A	1300	BD	34	A	1300			
E	17	B	PRI SEC	R	32	B	PRI SEC	AF	25	B	PRI SEC	125 900	AR	21	B	PRI SEC	1300	BE	42	A	1300	
F	22	B	PRI SEC	T	19	B	PRI SEC	AG	45	F	COMB	500 1300	AS	1	A	1300	BF	29	B	PRI SEC	1000 980	
G	36	B	PRI SEC	U	10	D	FRONT REAR	AH	26	E	SEC P&T COMB	273 1300	AT	39	A	900	BG	30	B	PRI SEC	950 270	
H	23	B	PRI SEC	W	16	A	2000	AJ	38	A	900	AU	40	B	PRI SEC	770 625	224 BH	35	A	900		
224 J	6	C	FRONT REAR	224 Y	20	B	PRI SEC	224 AK	12	A	1300	224 AY	27	B	PRI SEC	125 640						

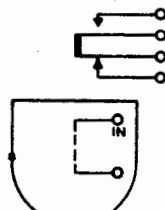
224 TYPE SPRING COMBINATIONS



225 TYPE WINDINGS



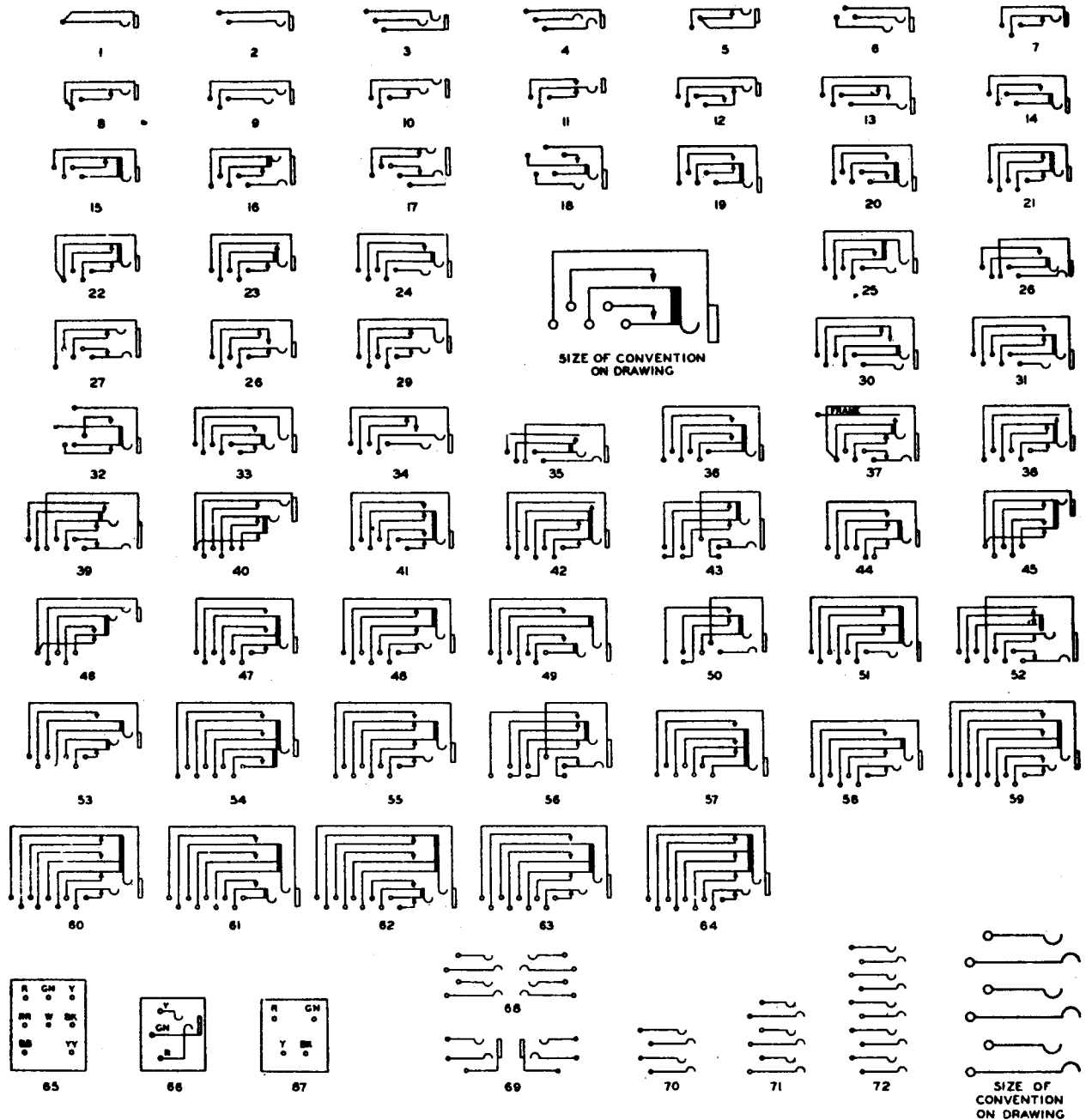
225 TYPE SPRING COMBINATIONS



ARRANGEMENT AND SIZE OF 225 TYPE CONVENTION ON DRAWING

RELAY CODE	SPRING COMB	WINDING	OHMS RES	RELAY CODE	SPRING COMB	WINDING	OHMS RES
225 A	48	G	1300	225 H	49	G	1300
B	50	G	1300	J	49	K	PRI SEC
C	47	G	1300	K	55	G	1300
D	52	G	1300	L	54	G	1300
E	51	G	1100	M	46	G	1300
F	49	J	PRI SEC	N	47	G	195
225 G	56	H	PRI SEC	P	53	G	1300
			865	225 R	57	G	1500

224 & 225 TYPE RELAYS



JACK CODE	CONV. NO.	JACK CODE	CONV. NO.	JACK CODE	CONV. NO.	JACK CODE	CONV. NO.	JACK CODE	CONV. NO.	JACK CODE	CONV. NO.	JACK CODE	CONV. NO.	JACK CODE	CONV. NO.	JACK CODE	CONV. NO.	JACK CODE	CONV. NO.	JACK CODE	CONV. NO.
49	3	218A	7	225D	23	233A	6	238E	9	242CK	48	280A	55	303A	12	357A	68	384A	71		
50	17	218B	7	225E	23	233B	6					280B	55	303AK	12	358A	69	387B	30		
70	56	218C	7	228A	19	233C	6			243A	53	280C	55	308	39	358B	69	387D	30		
77	18	218E	7	226C	19	233D	6			243B	53			309BK	42	359	50				
78	6							239A	29			281A	45	309CK	42			388A-6	66		
92	4	219A	7	227A	46	234A	23	239B	29	245A	60	284A	62			360A	33	388A-14	66		
138	16	219B	7	227C	46	234C	23	239C	29	245B	60	284B	62	323C	49	361C	36	389A-3	66		
141	27	219C	7	229	43	234D	23	239D	29	245C	60			324C	49	362	52	389A-6	66		
		219D	7	230A	6			239E	29			285A	49	326A	31						
				230C	6	235A	22			246A	9	285B	49	327C	41	363A	33	391A-6	65		
215A	14	220A	22			235C	22	240A	58	246B	9	285C	49	328	70	363C	33	391A-14	65		
215B	14	220C	22	231A	7	235D	22	240B	58	246E	9					363D	33	392A-3	65		
215C	14	220D	22	231B	7			240C	58			289B	64	348	70			392A-6	65		
218A	21			231C	7	238A	38			248A	29	290B	63	349A	70	364	2	394C	47		
218B	21			231D	7	236B	38	241A	24	248B	29	291B	61	350A	70	365	35	395A	71		
218C	21	221C	2			236C	38	241B	24	248D	29					366	70	396	32		
		223A	2	232A	5	236D	38	241C	24	248E	29	292	4	353AK	13	371	1	401A	70		
217A	22	223B	2	232B	5	237A	15	241D	24			293B	51	353BK	13	372B	59	403A-6	67		
217C	22	224	44	232C	5	237C	15			249A	25	295	26					403A-14	67		
217E	22	225A	23	232D	5			242A	48	249B	25			354	72	375AK	28	404A-3	67		
		225B	23	232E	5	238A	9	242B	48	267A	40	297A	20	355C	54	378	11	404A-6	67		
		225C	23			238B	9	242C	48	275	37	300A	10	356A	68	382CK	34	411C	57		

JACKS

CODE NO	PAGE NO	CONV NO	WDG	ORHS RES	CODE NO	PAGE NO	CONV NO	WDG	ORHS RES	CODE NO	PAGE NO	CONV NO	WDG	ORHS RES	CODE NO	PAGE NO	CONV NO	WDG	ORHS RES	CODE NO	PAGE NO	CONV NO	WDG	ORHS RES	CODE NO	PAGE NO	CONV NO	WDG	ORHS RES	
5A		97	EACH	20.5	47A		141		600	57A	71	12	EACH	113	82A		107	EACH	15	94H			105	EACH	2.5					
5C		97	EACH	250	47B		141		150	57B	71	6	EACH	175	82C		107	EACH	17	94L			107	EACH	2.5					
5W		114		146	47C		141		200						82D		107	EACH	1	94M			107	EACH	1.5					
5AA		98	EACH	74	47D		141		250						82E		107	EACH	3.25											
5AB		97	EACH	50	47E		141		300						82G		66	EACH	3.5											
					47F		141		500	58A	72	99	EACH	0.83																
					47G		141		750											98A			113		165					
					47H		141		350																					
8B		149	EACH	85	47K		141		1000						83A		105	EACH	350											
8C		149	EACH	85	47L		141		400	59A	72	97	EACH	3.25																
8F		150	1-2	1200	47M		147	EACH	125	59C	72	97	EACH	3						100A			113		435					
			3-4	35	47N		147	EACH	100																					
			5-6	35	47P	72	147	EACH	500						84A		113		165											
8K		149	EACH	35	47R		141		1500																					
8L		149	EACH	175	47S		141		40	60A	72	108	1-2	0.21						102A			91		0.4					
8M		97	EACH	165	47T		147	EACH	1000				2-3	0.14																
8N		149	EACH	85	47AB		141		750	60B	72	108	1-2	5.3	85A		71		390											
8R	72	133		100	47AC		141		2000				2-3	4	85B		71		165											
8T		97	EACH	21	47AD		147	EACH	875						85C		71		300	103A			167	A	2.7					
8U		149	EACH	85											85D		71		70				B	1.5						
8W		149	EACH	175											85E		74	EACH	125				C	2.5						
										61B	72	139	EACH	43.5	85F		75	PRI	57				D	26.5						
					51A		142		530	61C	72	139	EACH	43.5			71	SEC	400				E	43.5						
					51B		142		530						85G		71		200											
12A		111		165	51C		146	EACH	57																					
12E		111		230	51E		101		114																					
12F		111		140	51J		142		270	64A	72	83	EACH	214						105D			91		29.2					
12G		101		2.3						64C	72	83	EACH	1	86T		83	EACH	9.5	105E			91		19.1					
12H		102													86F		83	EACH	4.5											
12L		111		400																										
12M		101		2.3	53A	71	9	EACH	220																					
12S		111		100						67A	72	141		6.9						109A			91		120					
12AB		113		165						67G	72	141		47	87A		110		47											
12AC		113		24																										
12AD		113		140	54A		152	1-2	85																					
12AE		113		400				3-4	1300											110A	72	86	EACH	83						
								5-6	85	68A	71	12	EACH	6.8	91A		86	EACH	31											
					54B		145	1-2	400	68B	71	12	EACH	4.4	91C		86	EACH	210											
								3-4	40	68C	71	8	EACH	117	91D		86	EACH	35											
44D	71	8	EACH	83	54C		144		200						91E		86	EACH	130	111A			71		400					
44F	71	10	L1-L2	330	54D		145	EACH	85						91F		86	EACH	175	111D			71		350					
44K	71	8	EACH	145	54E		152	1-2	210						91G		86	EACH	175	111E			71		1000					
44L	71	8	EACH	22				3-4	1300	71A	72	86	EACH	186	91AG		65		1.2	111F			71		230					
								5-6	210	71B	72	86	EACH	0.9	91AH		86	EACH	101	111G			72	PRI	436					
					54F		145	EACH	500	71C	72	86	EACH	19	91AK		157		35				SEC	5000						
					54G		144		500	71D	72	86	EACH	8.3	91AW		86	EACH	125											
46A		141		600	54H		145	EACH	60	71E	72	86	EACH	13.5	91AY		86	EACH	180											
46B		141		150	54J		145	EACH	250	71F	72	91	EACH	11																
46C		141		200	54K	72	145	1-2	5	71K	72	86	EACH	1						112A			139	1-2	565					
46D		141		250				3-4	155	71L	71	22	EACH	1.4																
46E		141		300	54L		145	EACH	200	71M	72	86	EACH	26	92A		86	EACH	240											
46F		141		500	54N		152	1-2	250	71R	72	91	EACH	14.8																
46G		141		750				3-4	350	71S	72	86	EACH	1.5																
46H		141		350				5-6	250	71AA	72	86	EACH	3						113A			113		739					
46J	72	141		900	54P		144		935						93A		105	EACH	11											
46L		141		400	54R		144		165						93B		105	EACH	7											
46K		147	EACH	125	54S		144		30						93D		105	EACH	5											
46N		147	EACH	100	54T		145	EACH	80	77A	72	86	EACH	74						114A			76		900					
46P		147	EACH	500	54U		144		150											114B			76		1980					
46R		141		1500	54W		145	EACH	100											114C			76		1440					
46S		141		40	54Y		144		350						94A		105	EACH	160	114D			77		180					
46W		147	EACH	200						80A	72	98	EACH	214	94E		108		322											
46Y		147	EACH	1000											94F		108		70											
46AA		147	EACH	20											94G		105	EACH	7.5											

RETARDATION COIL CODES

CODE NO	PAGE NO	CONV NO	WDG	OHMS RES	CODE NO	PAGE NO	CONV NO	WDG	OHMS RES	CODE NO	PAGE NO	CONV NO	WDG	OHMS RES	CODE NO	PAGE NO	CONV NO	WDG	OHMS RES	CODE NO	PAGE NO	CONV NO	WDG	OHMS RES
116A		141		2.6	131A		83	EACH	47	139A	71	18	EACH	2.6	155A	72	94	EACH	27.5	176A	72	93	EACH	350
										139B	72	95	EACH	2.6										
																				177A	72	81		1220
117A		113		6260	132A		153		200					156A	71	23	EACH	0.47						
					132B		153		750	143A		142		835	156B	71	23	EACH	50					
					132C		154	EACH	200						156C	71	23	EACH	1.03	181A	72	85	EACH	37
					132D		154	F	750						156D	71	23	EACH	2.2					
119CF		81		42.02				R	250						156E	71	23	EACH	0.75					
119CJ		81		42.41						144A		97	1-2	.058	156F	71	23	EACH	1.6					
119CK		81		16.25									3-4	2700						182A	71	42		4
119CL		81		0.28																182B	71	42		30
119CM		81		21.5	133A		156	PRI	32						157A	72	86	EACH	3					
119CN		81		24.82				SEC	500															
					133B		155		200	146A		142		0.2										
					133C		155		200											183A	72	112		16.5
122A	72	96	EACH	2.25		72				148A	72	92	EACH	3700	158A	72	85	EACH	73					
					134A		91		480	148B		92	EACH	2313						184A	72	83	EACH	1
123A		86	EACH	500											159A	72	93	EACH	1550					
123B		86	EACH	350																				
123C		86	EACH	550																				
123D		82		1420	135A		86	EACH	174	149A		93	EACH	44						199A	72	93	EACH	3.15
										149B		93	EACH	101										
										149C		93	EACH	1960	160A	72	10C	EACH	85					
124A		97	EACH	26	136A		142		114											AB97	72	93	EACH	21
										153A		143		4.1	161A	72	87	EACH	1.75					
															163A	72	112		.07					
126A		81		73	137A		112		250						167D	72	83	EACH	19.5	CB1	72	81		24.5
										154A					167F	72	83		16.5					
										154B		143		4.1										
												143		4.1						CC1	72	81		150
129A		142		390	138A		83	EACH	83						173A	72	82		245	CC2	72	81		380

RETARDATION COIL CODES

CODE NO	PAGE NO	CONV NO	WDG	OHMS RES	CODE NO	PAGE NO	CONV NO	WDG	OHMS RES
307A	72	69	P	1.4	338A	71	50	A	53
			S	320				B	.041
307B	72	70	P	1.4	338B	71	51	A	.172
			S	.035				B	.113
			S	.035				C	.226
320B	72	168	A	11	340A	72	160	A	6.6
			B	8.7				B	.087
								C	.064
								D	.193

TRANSFORMERS

CODE NO	PAGE NO	CONV NO	WDG	OHMS RES	CODE NO	PAGE NO	CONV NO	WDG	OHMS RES
3A	71	3	A	10	7A	71	43		10
			B	52					
			C	100	8A	71	40		1620
4A	71	19	A	53	9A	72	158		10
			B	10					
5B	71	37		60	10A	71	19	A	4.4
								B	.17
6A	72	103		69	11A	71	49		6.8
									222.5

AUTO TRANSFORMERS

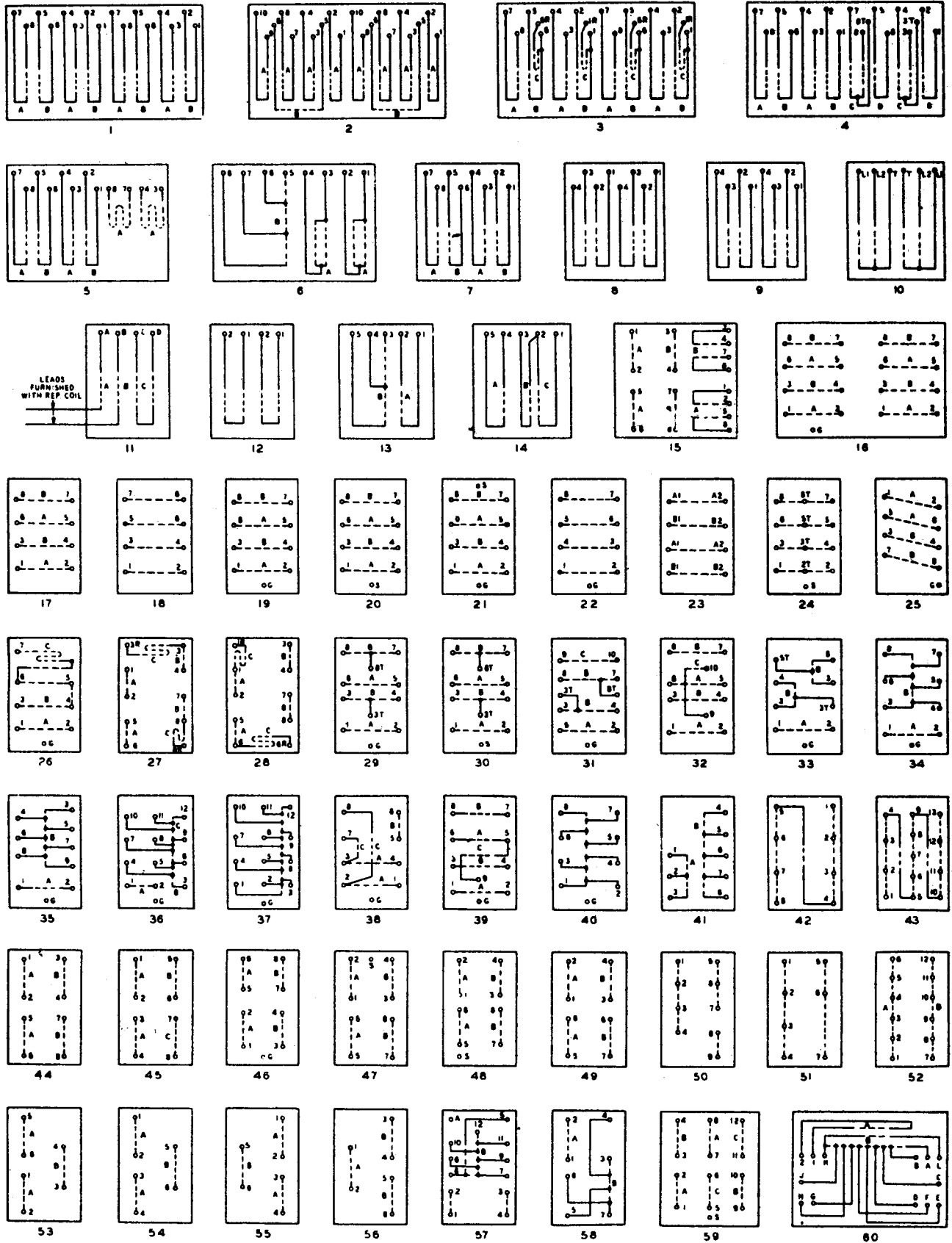
CODE NO	PAGE NO	CONV NO	WDG	OHMS RES	CODE NO	PAGE NO	CONV NO	WDG	OHMS RES	CODE NO	PAGE NO	CONV NO	WDG	OHMS RES	CODE NO	PAGE NO	CONV NO	WDG	OHMS RES	CODE NO	PAGE NO	CONV NO	WDG	OHMS RES	
201M	72	105	A	200	208A	71	20	A	1.35	223D	72	62	A	13	237A	71	25	A	4.4	246B	72	94	A	300	
			B	9000				B	125				B	13			B	55				B	3200		
201R	72	140	A	7.5									C	11300											
			B	150	209B	72	105	A	2.2						238A	72	95	A	29	248A	72	94	A	1.73	
								B	5.5	226B	72	104		10000			B	840				B	3.5		
205E	71	19	A	69						2260	71	54	A	1250											
			B	189	210A	72	105	EACH	0.8				B	6500											
					210B	72	105	EACH	1.6	226H	71	41	A	66.7	240A	71	57	A	77.5	250A	71	30	A	1830	
208A	72	94	A	52	210C	72	105	A	5.6				B	7211			B	5420				B	75		
			B	5720				B	6						240B	71	20	A	9	250B	71	35	A	946	
208B	71	20	A	1220						227A	71	54	A	1100	240C	71	20	A	6			B	6430		
			B	1525									B	5600			B	560							
208H	71	19	A	550	211B	72	88	A	13						240D	71	20	A	6.5	251A	72	105	A	0.24	
			B	3550				B	18.5								B	3250				B	130		
208J	71	19	A	150						230B	71	34	A	1380	240E	72	94	A	35	251B	72	105	A	0.24	
			B	3050	212A	72	68	A	150				B	4250			B	270				B	72		
208K	71	20	A	2.9				B	150						240F	71	20	A	58	251C	72	105	A	0.33	
			B	167	212B	72	68	A	12000	231B	72	61	A	33	240G	71	20	A	1640			B	85		
208M	72	165	A	96				B	200				B	33			B	40			251D	72	105	A	0.39
			B	96	212B	72	68	A	200				C	8695			B	1083				B	180		
208N	71	20	A	5.7				B	200						240H	71	19	A	750						
			B	718	212C	72	67	A	12000								B	5000							
208P	71	20	A	6.1				B	4800	232A	72	105	A	0.8							255A	71	56	A	17.9
			B	3650				B	4350				B	23.5	241B	72	61	A	17.9	255B	71	48	A	80	
208R	71	19	A	450				B	4350	232B	72	105	A	6.5			B	2307.5				B	2307.5		
			B	2520	213A	72	105	A	470				B	57.5	241C	71	19	A	80	255C	72	93	A	330	
208W	71	19	A	155				B	6100								B	846.5				B	3045		
			B	540	213C	71	17	A	0.25	233B	72	63	A	19			B			255D	71	49	A	110	
208Y	72	61	A	91				B	51				B	19								B	2250		
			B	91	213D	72	105	A	29.6				B	2500	244A	71	39	A	14						
208AB	72	94	A	33				B	7826	233D	71	19	A	3480			B	17500			259A	72	83	A	29
			B	1300	214A	72	105	A	10.4	233E	71	19	A	5450			C	695				B	7650		
208AD	72	164	A	54				B	7800				B	60											
			B	3400						233F	72	164	A	136	245A	72	105	A	12.5	266A	72	89	A	170	
208AM	72	61	A	870									B	3720			B	148				B	13300		
			B	870	217A	71	17	A	19						245B	72	105	A	23						
208AN	71	20	A	2.5				B	220	236A	72	163	A	52.5			B	143							
			B	295									B	325											

INPUT TRANSFORMERS

CODE NO	PAGE NO	CONV NO	WDG	OHMS RES	CODE NO	PAGE NO	CONV NO	WDG	OHMS RES	CODE NO	PAGE NO	CONV NO	WDG	OHMS RES	CODE NO	PAGE NO	CONV NO	WDG	OHMS RES	CODE NO	PAGE NO	CONV NO	WDG	OHMS RES
102C	72	80	A B	5.2 24	104AB	71	32	A B C	115 2.17 6.25	113A	71	20	A B B	10 159 13 113	122C	71	20	A B	16 780	129C	71	29	A B	4.2 40.5
										113C	71	20	A B							129D	71	20	A B	4.2 16.6
104C	71	17	A B	91 25	106B	71	7	A B	16 103						123C	71	31	A B C	280 42 16.5	129E	71	20	A B	10.75 93.5
104D	71	17	A B	122 43	106D	71	7	A B	0.91 111	116A	72	105	A B	2870 43.5	123E	71	20	A B	2.5 180					
104F	71	19	A B	23 145											123F	71	20	A B	1.85 120	133A	71	44	A B	132.5 283.5
104Y	71	32	A B C	98 15 17.4	108A	71	53	A B	57.5 3300	120A	71	55	A B	52 695										
104AB	71	17	A B	111 62.5						121A	71	59	A B C	50 70 7.5	125A	71	20	A B	6.5 22.5	134A	71	45	A B C	21 490 2
104AC	71	19	A B	31.3 190.43	109B	71	19	A B	18.2 330															
104AD	71	29	A B	55.22 78.27	109C	71	19	A B	6.7 1010	121B	71	24	A B	0.16 16.7	127C	71	20	A B	4.3 78.75	135B	71	38	A B C	20 240 2
104AE	71	19	A B	13 100																				
104AG	71	32	A B C	117.5 0.1375 6.25	110B	71	19	A B	0.46 9.3	122A	71	20	A B	0.95 110	129A	71	20	A R	15 190	146A	72	83	A B	2900 44
										122B	71	20	A R	41 152	129B	71	29	A R	8 15					

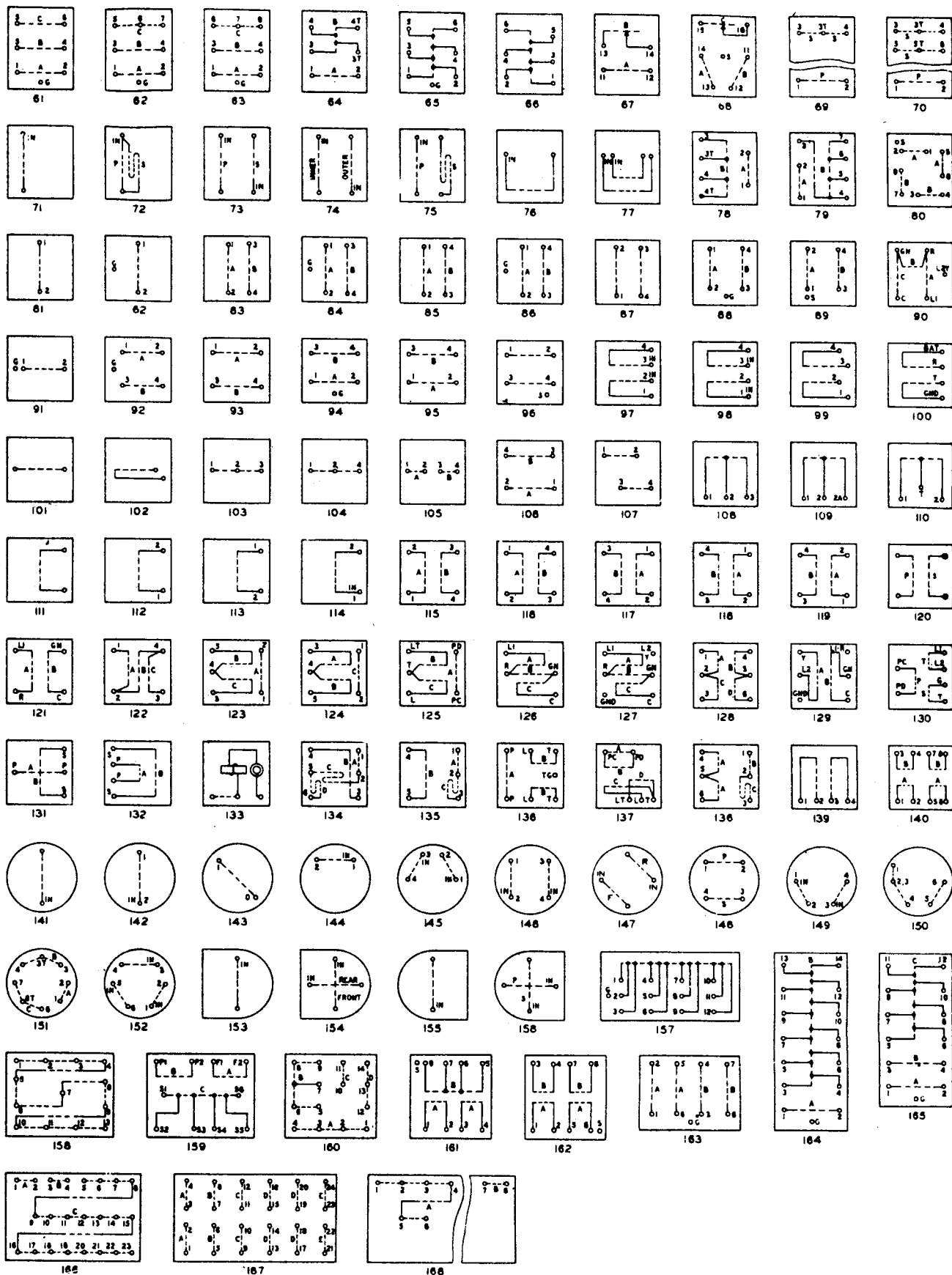
OUTPUT TRANSFORMERS

TRANSFORMER CODES



(CONVENTIONS-HALF SIZE)

COILS AND TRANSFORMERS



(CONVENTIONS-HALF SIZE)

COILS AND TRANSFORMERS

CODE NO	CON DUC	INS OF CONDUCT	PAIRS			SINGLES			SPARE PAIRS			SPARE SINGLES		
			NO	GA	COLOR	NO	GA	COLOR	NO	GA	COLOR	NO	GA	COLOR
16C	63	DSC	20	22	1-20	20	22	1-20	1	22	1	1	22	1
16L	63	DCL	20	22	1-20	20	22	1-20	1	22	1	1	22	1
24L	43	DCL	20	22	1-20				1	22	1	1	22	1
35L	53	DCL	20	22	1-20				1	22	1	1	22	1
			5	22	121-125									
50L	33	DCL	10	22	1-10	10	22	1-10	1	22	1	1	22	1
60L	75	DCL	18	22	1-18				1	22	1	1	22	1
			18	22	21-38									
62L	63	DCL	15	22	1-15				1	22	1	1	22	1
			15	22	21-35									
70C	83	DSC	20	22	1-20				1	22	1	1	22	1
			20	22	141-160									
70L	83	DCL	20	22	1-20				1	22	1	1	22	1
			20	22	141-160									
74L	21	DCL	10	22	1-10	20	22	1-20				1	22	1
79L	23	DCL	10	22	1-10				1	22	1	1	22	1
84C	63	DSC	20	22	1-20	20	22	1-20	1	22	1	1	22	1
106L	103	DCL	20	22	1-20	20	22	21-40	1	22	1	1	22	1
			20	22	141-160									
115L	64	DCL	20	19	1-20	20	22	1-20	1	19	1	2	22	1 & 2
117L	83	DCL	20	22	1-20				1	19	1	1	19	1
			20	22	141-160									
121L	53	DCL	10	19	1-10	10	22	1-10	1	19	1	1	22	1
			10	22	21-30									
125L	23	DCL	10	19	1-10				1	19	1	1	19	1
126L	43	DCL	10	19	1-10				1	19	1	1	19	1
			10	22	11-20									
127L	33	DCL	10	19	1-10	10	22	1-10	1	19	1	1	1	1
182L	13	DCL	5	22	206-211							4	22	1
183L	53	DCL	10	22	1-10	10	22	21-30	1	22	1	1	22	1
			10	22	141-150									
185L	4	DSC				4	22	1-4						
190C	30	DSC	10	22	1-10	10	22	1-10						
201C	63	DSC	20	22	1-20	20	22	1-20	1	22	1	1	22	1
202C	78	DSC	25	22	1-25	25	22	1-25	1	22	1	1	22	1
230C	136	DSC	60	22	1-60				2	22	1 & 2			
			6	22	200-205									
232C	83	DSC	20	22	1-20				1	22	1	1	22	1
			20	22	141-160									
232L	83	DCL	20	22	1-20				1	22	1	1	22	1
			20	22	141-160									
235C	63	DSC	20	22	1-20	20	24	1-20	1	24	1	1	24	1
238-C	103	DSC	20	24	1-20	20	24	41-60	1	24	1	1	24	1
			10	24	121-130									
			10	24	151-160									
239-C	103	DSC	20	22	1-20	20	22	1-20	1	22	1	1	22	1
			20	22	161-180									
1016	63	EDSC	20	22	1-20	20	22	1-20	1	22	1	1	22	1
1024	43	EDSC	20	22	1-20				1	22	1	1	22	1
1035	53	EDSC	20	22	1-20				1	22	1	1	22	1
			5	22	121-125									
1050	33	EDSC	10	22	1-10	10	22	1-10	1	22	1	1	22	1
1060	75	EDSC	18	22	1-18				1	22	1	1	22	1
			18	22	21-38									
1062	63	EDSC	15	22	1-15				1	22	1	1	22	1
			15	22	21-35									
1066	103	EDSC	40	22	1-40				1	22	1	1	22	1
			5	22	121-125									
			5	22	141-145									
1069	205	EDSC	100	22	1-100				2	22	1 & 4	1	22	1
1070	83	EDSC	20	22	1-20				1	22	1	1	22	1
			20	22	141-160									
1074	21	EDSC				20	22	1-20				1	22	1
1079	23	EDSC	10	22	1-10				1	22	1	1	22	1
1084	63	EDSC	20	22	1-20	20	22	1-20	1	22	1	1	22	1
1087	35	EDSC	16	22	1-16				1	22	1	1	22	1
1097	132	EDSC	64	22	1-64				2	22	1 & 2			
1100	83	EDSC	20	24	1-20				1	24	1	1	24	1
			20	24	141-160									
1102	103	EDSC	20	24	1-20	20	24	21-40	1	24	1	1	24	1
			20	24	141-160									
1103	42	EDSC	20	22	1-20				1	24	1	1	22	1
1106	103	EDSC	20	22	1-20	20	22	21-40	1	22	1	1	22	1
			20	22	141-160									
1107	104	EDSC	20	22	1-20	19	22	21-39	1	22	1	1	22	1
			19	22	141-159	4	16	21-24						
1115	64	EDSC	20	19	1-20	20	22	1-20	1	19	1	2	22	1 & 2
1116	43	EDSC	20	19	1-20				1	19	1	1	19	1
1117	83	EDSC	20	19	1-20				1	19	1	1	19	1
			20	22	141-160									
1119	103	EDSC	20	19	1-20				1	19	1	1	19	1
			20	19	21-40									
			5	19	121-125									
			5	19	141-145									
1121	53	EDSC	10	19	1-10	10	22	1-10	1	19	1	1	22	1
			10	22	21-30									
1125	23	EDSC	10	19	1-10				1	19	1	1	19	1
1126	43	EDSC	10	19	1-10				1	19	1	1	19	1
			10	22	11-20									
1127	33	EDSC	10	19	1-10	10	22	1-10	1	19	1	1	22	1
1182	13	EDSC	5	22	206-211									
1183	53	EDSC	10	22	1-10	10	22	21-30	1	22	1	1	22	1
			10	22	141-150									
1186	6	EDSC	3	16	1-3									
1187	12	EDSC	6	16	1-6									
1188	8	EDSC	8	16	1-8									
1189	105	EDSC	20	19	1-20	20	22	1-20	1	19	1	1	22	1
			20	22	21-40				1	22	1			
1200	12	EDSC	6	19	1-6									

CODE NO	CON DUC	INS OF CONDUCT	PAIRS			SINGLES			SPARE PAIRS			SPARE SINGLES		
			NO	GA	COLOR	NO	GA	COLOR	NO	GA	COLOR	NO	GA	COLOR
1216	20	EDSC	10	16	1-10									
1231	51	EDSC				50	16	1-50				1	16	1
1232	83	EDSC	20	22	1-20				1	22	1	1	22	1
			20	22	141-160									
1236	63	EDSC	20	24	1-20	20	24	1-20	1	24	1	1	24	1
1237	312	EDSC	20	22	1-20				4	22	1-4	4	22	1-4
			20	22	B									
			20	22	B									
			20	22	B									
			20	22	B									
			20	22	B									
1450	6	EDSC	3	20	212-214									
1451	12	EDSC	6	20	212-217									
1452	16	EDSC	8	20	212-219									
1453	22	EDSC	11	20	212-222									
1454	20	EDSC	10	16	1-10									
1455	3	EDSC	20	TRIPLE										
6016	63	EDC	20	22	1-20	20	22	1-20	1	22	1	1	22	1
6024	43	EDC	20	22	1-20				1	22	1	1	22	1
6035	53	EDC	20	22	1-20				1	22	1	1	22	1
			5	22	121-125									
6050	33	EDC	10	22	1-10	10	22	1-10	1	22	1	1	22	1
6060	75	EDC	18	22	1-18				1	22	1	1	22	1
			18	22	21-38									
6062	63	EDC	15	22	1-15				1	22	1	1	22	1
			15	22	21-35									
6066	103	EDC	40	22	1-40				1	22	1	1	22	1
			5	22	121-125									
			5	22	141-145									
6069	205	EDC	100	22	1-100				2	22	1 & 4	1	22	1
6070	83	EDC	20	22	1-20									
			20	22	141-160				1	22	1	1	22	1
6074	21	EDC				20	22	1-20						
6079	23	EDC	10	22	1-10				1	22	1	1	22	1
6084	63	EDC	20	22	1-20	20	22	1-20	1	22	1	1	22	1
6087	35	EDC	16	22	1-16				1	22	1	1	22	1
6097	132	EDC	64	22	1-64				2	22	1 & 2			
6100	83	EDC	20	24	1-20				1	24	1	1	24	1
			20	24	141-160									
6102	103	EDC	20	24	1-20	20	24	21-40	1	24	1	1	24	1
			20	24	141-160									
6103	42	EDC	20	22	1-20				1	24	1	1	22	1
6106	103	EDC	20	22	1-20	20	22	21-40	1	22	1	1	22	1
			20	22	141-160									
6107	104	EDC	20	22	1-20	19	22	21-39	1	22	1	1	22	1
			19	22	141-159	4	16	21-24						
6115	64	EDC	20	19	1-20	20	22	1-20	1	19	1	2	22	1 & 2
6116	43	EDC	20	19	1-20				1	19	1	1	19	1
6117	83	EDC	20	19	1-20				1	19	1	1	19	1
			20	22	141-160									
6119	103	EDC	40	19	1-40				1	19	1	1	19	1
			5	19	121-125									
			5	19	141-145									
6121	53	EDC	10	19	1-10	10	22	1-10	1	19	1	1	22	1
			10	22	21-30									
6125	23	EDC	10	19	1-10				1	19	1	1	19	1
6126	43	EDC	10	19	1-10				1	19	1	1	19	1
			10	22	11-20									
6127	33	EDC	10	22	1-10	10	22	1-10	1	19	1	1	22	1
6182	13	EDC	6	22	206-211									
6183	53	EDC	10	22	1-10	10	22	21-30	1	22	1	1	22	1
			10	22	141-150									
6184	63	EDC	16	19	1-16				1	19	1	1	19	1
			10	22	51-60									
			10	22	141-150									
6189	105	EDC	20	19	1-20	20	22	1-20	1	19	1	1	22	1
			20	22	21-40				1	22	1			
6191	93	EDC	20	22	1-20	30	22	21-50	1	22	6	1	22	1
			10	22	121-130									
6193	48	EDC	15	22	1-15	15	22	21-35	1	22	6	1	22	1
6196	43	EDC	20	22	D				1	22	1	1	22	1
6198	42	EDC	13	22	F									
			8	19	G									
6199	50	EDC	17	22	H									
			3	19	G									
6201	63	EDC	20	22	G	20	22	1-20	1	22	1	1	22	1
6205	39	EDC	12	22	1-12	12	22	21-32	1	22	5	1	22	1
6215	32	EDC	4	19	1-4	20	16	1-20	1	19	1	2	16	1 & 2
6217	46	EDC	5	19	1-5	17	22	1-17			1	2	16	1
						17	22	21-37					16	1
6218	39	EDC	5	19	1-5	14	22	1-14			1	22	1	1
						13	22	21-33			1	19	1	1
6221	62	EDC	15	19	1-15				1	19	1	1	19	1
			15	19	21-35									
6222	103	EDC	10	24	41-50	20	24	41-60	1	24	1	1	24	1
			10	24	71-80									
			10	24	121-130									
			10	24	151-160									
6227	83	EDC	20	24	1-20				1	24	1	1	24	1
			20	24	141-160									
6233	123	EDC	40	22	1-40	40	22	1-40	1	22	1	1	22	1
6234	164	EDC	40	22	1-40				2	22	1 & 2			
			40	22	121-160									
6235	205	EDC	40	22	1-40	40	22	1-40	2	22	1 & 2	1	22	1
			40	22	121-160									
6236	63	EDC	20	24	1-20	20	24	1-20	1	24	1	1	24	1
6237	312	EDC	20	22	1-20	20	22	1-20	4	22	1-4	4	22	1-4
			20	22	B									
			20	22	B									
			20	22	B									
			20	22	B									
			20	22	B									

COMB NO	COLORS OF INSULATION	COMB NO	COLORS OF INSULATION
1	BL PAIRED WITH W	103	G PAIRED WITH R-BK
2	O	104	BR
3	G	105	S
4	BR	106	BL-W
5	S	107	BL-O
6	BL-W	108	BL-G
7	BL-O	109	BL-BR
8	BL-G	110	BL-S
9	BL-BR	111	O-W
10	BL-S	112	O-G
11	O-W	113	O-BR
12	O-G	114	O-S
13	O-BR	115	G-W
14	O-S	116	G-BR
15	G-W	117	G-S
16	G-BR	118	BR-W
17	G-S	119	BR-S
18	BR-W	120	S-W
19	BR-S	121	R-BL
20	S-W	122	R-O
21	BL	122	R-G
22	O	124	R-BR
23	G	125	R-S
24	BR	126	R-BL-W
25	S	127	R-BL-O
26	BL-W	128	R-BL-G
27	BL-O	129	R-BL-BR
28	BL-G	130	R-BL-S
29	BL-BR	131	R-O-W
30	BL-S	132	R-O-G
31	O-W	133	R-O-BR
32	O-G	134	R-O-S
33	O-BR	135	R-G-W
34	O-S	136	R-G-BR
35	G-W	137	R-G-S
36	G-BR	138	R-BR-W
37	G-S	139	R-BR-S
38	BR-W	140	R-S-W
39	BR-S	141	R-BL
40	S-W	142	R-O
41	BL	143	R-G
42	O	144	R-BR
43	G	145	R-S
44	BR	146	R-BL-W
45	S	147	R-BL-O
46	BL-W	148	R-BL-G
47	BL-O	149	R-BL-BR
48	BL-G	150	R-BL-S
49	BL-BR	151	R-O-W
50	BL-S	152	R-O-G
51	O-W	153	R-O-BR
52	O-G	154	R-O-S
53	O-BR	155	R-G-W
54	O-S	156	R-G-BR
55	G-W	157	R-G-S
56	G-BR	158	R-BR-W
57	G-S	159	R-BR-S
58	BR-W	160	R-S-W
59	BR-S	161	R-BL
60	S-W	162	R-O
61	BL	163	R-G
62	O	164	R-BR
63	G	165	R-S
64	BR	166	R-BL-W
65	S	167	R-BL-O
66	BL-W	168	R-BL-G
67	BL-O	169	R-BL-BR
68	BL-G	170	R-BL-S
69	BL-BR	171	R-O-W
70	BL-S	172	R-O-G
71	O-W	173	R-O-BR
72	O-G	174	R-O-S
73	O-BR	175	R-G-W
74	O-S	176	R-G-BR
75	G-W	177	R-G-S
76	G-BR	178	R-BR-W
77	G-S	179	R-BR-S
78	BR-W	180	R-S-W
79	BR-S		
80	S-W	200	BK-W PAIRED WITH W
81	BL	201	BK-W
82	O	202	BK-W
83	BR	203	BK-O
84	BR	204	BK-O
85	S	205	BK-O
86	BL-W	206	R-BK-BL
87	BL-O	207	R-BK-O
88	BL-G	208	R-BK-G
89	BL-BR	209	R-BK-BR
90	BL-S	210	R-BK-S
91	O-W	211	R-BK-BL-W
92	O-G	212	BK-R
93	O-BR	213	R-G
94	O-S	214	Y-G
95	G-W	215	BR-R
96	G-BR	216	S-R
97	G-S	217	BK
98	BR-W	218	Y
99	BR-S	219	BR
100	S-W	220	S
101	BL	221	BK-R
102	O	222	Y-G

PAIRS

COMB NO	COLORS OF INSULATION
1	R-BL
2	R-O
3	R-G
4	R-BR
5	R-S
6	R-BL-W
7	R-BL-O
8	R-BL-G
9	R-BL-BR
10	R-BL-S
11	R-O-W
12	R-O-G
13	R-O-BR
14	R-O-S
15	R-G-W
16	R-G-BR
17	R-G-S
18	R-BR-W
19	R-BR-S
20	R-S-W
21	BK-BL
22	BK-O
23	BK-G
24	BK-BR
25	BK-S
26	BK-BL-W
27	BK-BL-O
28	BK-BL-G
29	BK-BL-BR
30	BK-BL-S
31	BK-O-W
32	BK-O-G
33	BK-O-BR
34	BK-O-S
35	BK-G-W
36	BK-G-BR
37	BK-G-S
38	BK-BR-W
39	BK-BR-S
40	BK-S-W
41	R-BK-BL
42	R-BK-O
43	R-BK-G
44	R-BK-BR
45	R-BK-S
46	R-BK-BL-W
47	R-BK-BL-O
48	R-BK-BL-G
49	R-BK-BL-BR
50	R-BK-BL-S
51	R-BK-O-W
52	R-BK-O-G
53	R-BK-O-BR
54	R-BK-O-S
55	R-BK-G-W
56	R-BK-G-BR
57	R-BK-G-S
58	R-BK-BR-W
59	R-BK-BR-S
60	R-BK-S-W

SINGLES

CODE NO	CON DUC	INSULATION OF CON DUC	QUADS NO	GA	*COLOR	SPARE QUADS NO	GA	*COLOR
500CL	8	DSC	2	22	1 & 2			
501CL	16		4	22	1-4			
502CL	32		8	22	1-8			
503CL	40		10	22	1-10			
504CL	52		12	22	1-12	1	22	21
505CL	68		16	22	1-16	1	22	21
506CL	84		20	22	1-20	1	22	21

*The numbers listed refer to the color combination as given in table below.

500 TYPE CABLES

COMB NO	COLORS OF INSULATION			
	FIRST PAIR		SECOND PAIR	
	WIRE 1 (RING)	WIRE 2 (TIP)	WIRE 1 (RING)	WIRE 2 (TIP)
1	BL	R-BL	BK-BL	R-BL
2	O	R-O	BK-O	R-O
3	G	R-G	BK-G	R-G
4	BR	R-BR	BK-BR	R-BR
5	S	R-S	BK-S	R-S
6	BL-W	R-BL-W	BK-BL-W	R-BL-W
7	BL-O	R-BL-O	BK-BL-O	R-BL-O
8	BL-G	R-BL-G	BK-BL-G	R-BL-G
9	BL-BR	R-BL-BR	BK-BL-BR	R-BL-BR
10	BL-S	R-BL-S	BK-BL-S	R-BL-S
11	O-W	R-O-W	BK-O-W	R-O-W
12	O-G	R-O-G	BK-O-G	R-O-G
13	O-BR	R-O-BR	BK-O-BR	R-O-BR
14	O-S	R-O-S	BK-O-S	R-O-S
15	G-W	R-G-W	BK-G-W	R-G-W
16	G-BR	R-G-BR	BK-G-BR	R-G-BR
17	G-S	R-G-S	BK-G-S	R-G-S
18	BR-W	R-BR-W	BK-BR-W	R-BR-W
19	BR-S	R-BR-S	BK-BR-S	R-BR-S
20	S-W	R-S-W	BK-S-W	R-S-W
SPARE	W	R	BK	R-BK

QUADS

COMB	PAIR COMB NOS
A	1, 3, 5, 7, 9, 22, 24, 26, 28, 30
B	1, 3, 5, 7, 9, 11, 15, 17, 19, 22, 24, 26, 28, 30, 32, 34, 36, 38, 40
C	121, 123, 125, 127, 129
D	1, 3, 5, 7, 9, 11, 15, 17, 19, 141, 143, 145, 147, 149, 151, 153, 155, 157, 159
E	41 TO 45 SINGLES TWISTED WITH 21 TO 55 SINGLES RESP.
F	1 TO 30 SINGLES TWISTED WITH 21 TO 33 SINGLES RESP.
G	41 TO 48 SINGLES TWISTED WITH 51 TO 58 SINGLES RESP.
H	1 TO 19 SINGLES TWISTED WITH 21 TO 37 SINGLES RESP.

COLOR SCHEMES

COMB NO	COLORS OF INSULATION
1	W PAIRED WITH R
2	W
3	R
4	R-W
5	R-W
6	R-W
7	BK-W
8	BK-W
9	BK-W
10	R-BK
11	R-BK
12	R-BK

SPARE PAIRS

COMB NO	COLORS OF INSULATION
1	R-W
2	BK-W
3	R-BK
4	R-BK-W

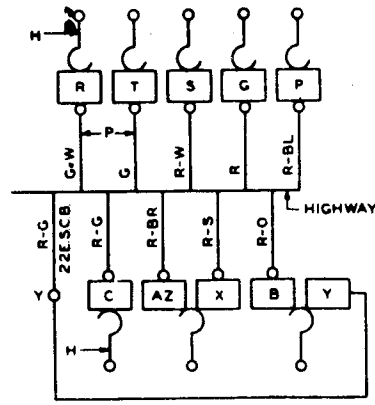
SPARE SINGLES

COMB	COLOR OF INSULATION
TRIPLE	Y, Y-G, & R-G

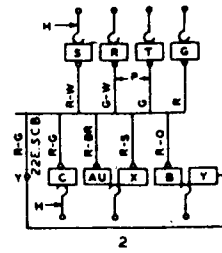
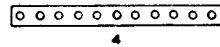
TRIPLES

500 TYPE CABLES AND CABLE COLOR COMBINATIONS

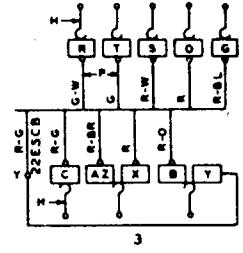
COMMUTATORS		
CODE NO.	CONV. NO.	
3A	1	
3J	1	
3N	1	
3R	5	
3S	5	
3T	2	
3U	6	
3W	1	
3Y	3	
3AB	3	
3AD	7	
3AE	1	
4C	8	
5A	9	
5B	9	
6A	10	
7A	10	
9A	2	
10A	9	
10B	9	



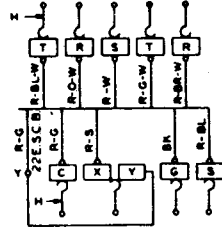
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SIZE OF CONVENTION
ON DRAWING



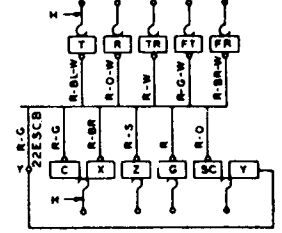
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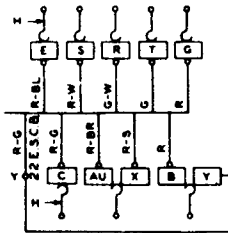
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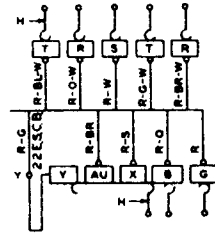
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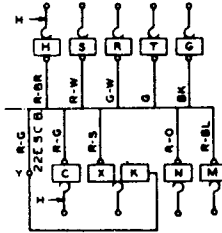
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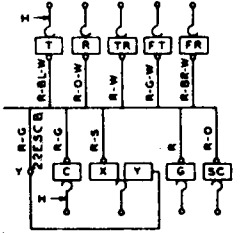
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8



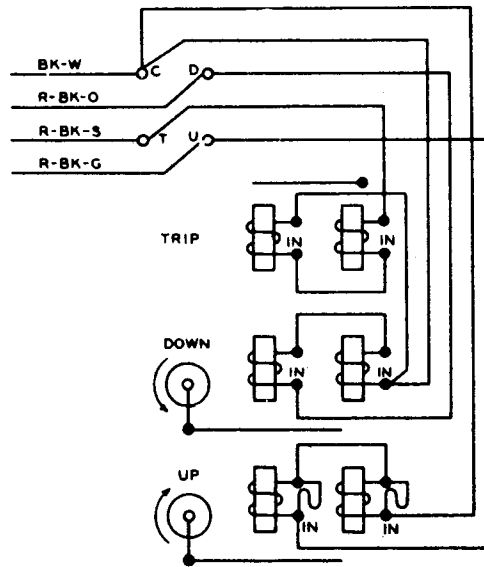
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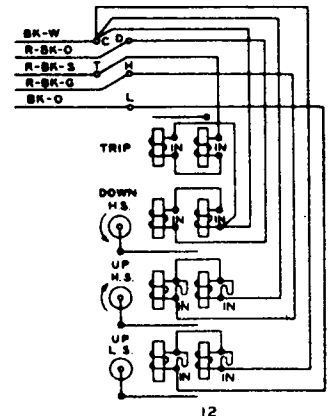
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COMMUTATORS

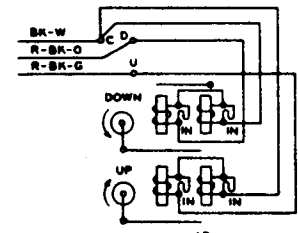
CLUTCHES		
CODE NO.	CONV. NO.	
8A	11	
9A	12	
10A	13	
10B	13	
11A	13	
11B	13	



11
SIZE OF CONVENTION
ON DRAWING



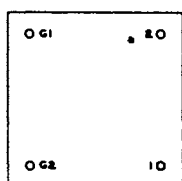
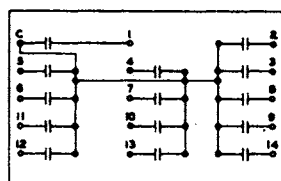
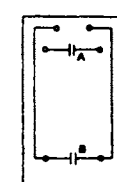
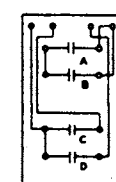
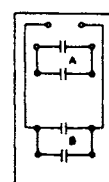
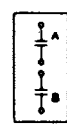
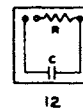
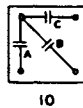
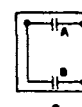
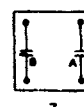
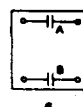
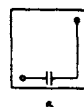
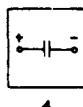
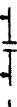
12



13

CLUTCHES

COMMUTATORS AND CLUTCHES

LEADS
FURNISHED
WITH APP

17

18

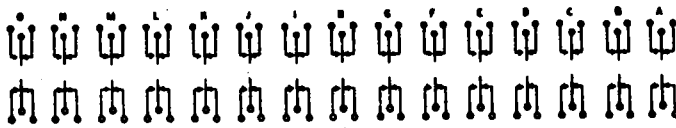
(CONVENTIONS - HALF SIZE)

COND NO.	CONV NO.	UNIT	CAP MF	COND NO.	CONV NO.	UNIT	CAP MF	COND NO.	CONV NO.	UNIT	CAP MF	COND NO.	CONV NO.	UNIT	CAP MF	COND NO.	CONV NO.	UNIT	CAP MF
33 A	16	EACH	2.0	76 HD	2		0.00297	123 A	2		0.05	141 QJ	2		0.548	168 A	17		0.0015
33 H	14	EACH	4.0	76 HR	2		0.0136					141 QK	2		0.54				0.0003
33 S	14	EACH	2.16	76 HS	2		0.024					141 QL	2		0.525				0.0008
33 T	15	EACH	1.0	76 HU	2		0.016	133 A	2		0.072	141 QM	2		0.555				0.012
				76 HW	2		0.0316					141 QN	2		0.27				0.025
												141 OP	2		0.27				0.05
36 A	2		1.0	76 JP	2		0.00624	137 A	5		4.0	141 OR	2		0.26				0.1
				76 JS	2		0.0002	137 B	7	A	4.0	141 QS	2		0.28				
				76 JW	2		0.0002			B	0.02	141 QT	2		0.11				
53 T	14	ALL	2.16	76 JY	2		0.0004					141 QU	2		0.105	194 A	6	A	1.0
												141 QW	2		0.115			B	2.0
64 M	2		0.2	77 A	18	EACH	0.001	137 QA	5		4.32					194 B	6	A	0.5
				77 B	18	EACH	0.01											B	2.0
65 B	2		0.1	78 A	18	EACH	0.1	138 A	5		1.0	142 B	2		0.25				
												142 D	2		0.05				
																200 A	1		0.000215
76 A	2		0.0005					138 QA	5		1.08	147 A	2		2.0	200 B	1		0.000610
76 C	2		0.0015	88 D	10	A	0.012	138 QB	5		1.08	147 B	6	EACH	1.0	200 C	1		0.003
76 D	2		0.002			B	0.024					147 C	8	A	1.0	AA 1	1		0.4
76 F	2		0.003			C	0.012							B	1.0	AA 3	1		0.291
76 G	2		0.0035	88 E	10	A	0.0078	139 A	5		2.0	147 D	8	A	1.0				
76 H	2		0.004			B	0.0156	139 B	7	A	2.0			B	0.5	AC			
76 J	2		0.006			C	0.0078	139 C	7	EACH	1.0					TYPE	1		
76 M	2		0.008	88 F	10	A	0.0073					149 A	2		1.0				
76 S	2		0.008			B	0.012					149 B	2		0.5	AE			
76 Y	2		0.01			C	0.0073					149 C	2		0.1	TYPE	1		
								139 QA	5		2.16	149 D	2		0.65				
76 AA	2		0.02					139 QB	5		2.13	149 E	1		1.0				
76 AD	2		0.03	88 AL	11	A	0.00104	139 QC	5		2.19	151 A	1		0.01				
76 AE	2		0.025			B	0.00343	139 QD	5		2.16					AJ 1	11	A	0.00104
76 AL	2		0.00025			C	0.001875	139 QE	5		2.1							B	0.00343
76 AM	2		0.044			D	0.000575	139 QF	5		2.22	153 A	7	EACH	1.08			C	0.001775
76 AR	2		0.00035	88 AM	11	A	0.00042									AJ 2	11	D	0.000575
						B	0.00135	140 B	5		0.56	155 A	13	EACH	2.16			A	0.000425
						C	0.000752	140 C	5		0.56							B	0.00135
76 BG	2		0.0324			D	0.00025					156 A	13	EACH	2.16			C	0.000752
76 BH	2		0.0562	88 AN	11	A	0.00025	141 A	2		1.0					AJ 3	11	D	0.00025
						B	0.00075	141 B	2		0.5							A	0.00075
						C	0.00042	141 C	13	EACH	0.5	175 A	2		0.303			B	0.00042
76 CF	2		0.01081			D	0.00015	141 D	2		0.25	175 B	2		0.097			C	0.00015
76 CM	2		0.02578					141 E	13	EACH	0.25	175 C	2		0.750	AJ 4	6	A	0.0668
76 CU	2		0.04505	95 D	2		1.0	141 F	13	A	0.5	175 D	2		0.654			B	0.0668
76 CY	2		0.00232					141 G	13	B	0.25	175 E	2		0.21	AJ 5	9	A	0.020
								141 H	13	A	0.125	175 F	2		0.0649			B	0.01
76 DK	2		0.01459	100 A	4		800 TO 1350	141 I	13	B	0.075	175 G	2					C	0.005
76 DU	2		0.0297					141 J	13	EACH	0.02	175 H	2		0.130				
76 DW	2		0.0479	100 B	4		570 TO 685	141 K	2		0.125	175 AF	2		0.040	CA 5	1		1.0
								141 L	2		0.1	175 AG	2		0.060				
76 EB	2		0.0516	100 C	4		2100 TO 2300	141 M	2		0.075	175 AH	2		0.070				
76 EN	2		0.0472					141 N	2		0.05	175 AJ	2		0.40				
76 ER	2		0.0232	100 D	4		305 TO 350	141 O	2		0.02	175 AK	2		0.440	CE 22	1		0.250
76 ET	2		0.01062					141 P	2		0.005	175 AL	2		0.178				
				101 B	4		VAR					175 AM	2		0.355				
								141 QA	2		1.08	175 AP	2						
76 FE	2		0.02598					141 QB	2		1.065					ZERO TO 346			
76 FM	2		0.0316	121 C	2		0.04	141 QC	2		1.095	187 A	3						
76 FS	2		0.0065	121 D	2		0.04	141 QD	2		1.08	187 B	3						
								141 QE	2		1.05	187 C	3						
								141 QF	2		1.11					ZERO TO 0.00584			
								141 QG	2		0.54								
76 GY	2		0.00202	122 B	12	C	0.1	141 QH	2		0.532								
					R		100"												

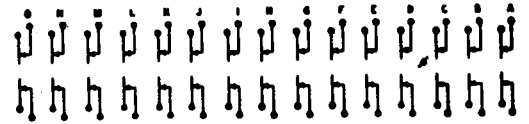
NOTE

1. ARRANGEMENT OF CONVENTIONS ON DRAWING SHALL BE IN ACCORDANCE WITH EQUIPMENT LAYOUT.

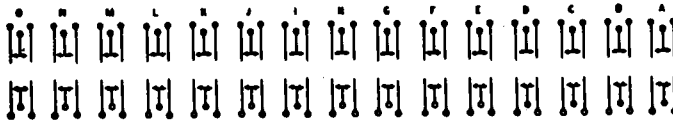
CONDENSERS



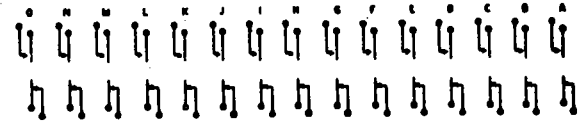
FOR CONVENTIONAL SIZE
SEE SKETCH E



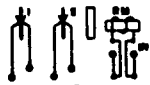
FOR CONVENTIONAL SIZE
SEE SKETCH D



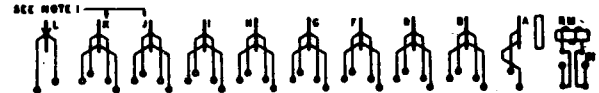
FOR CONVENTIONAL SIZE
SEE SKETCH C



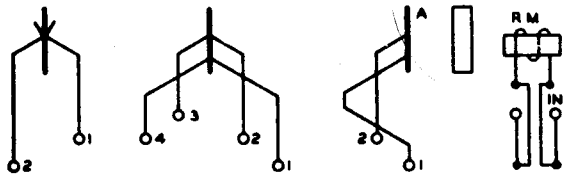
FOR CONVENTIONAL SIZE
SEE SKETCH B



FOR CONVENTIONAL SIZE
SEE SKETCH A



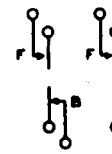
FOR CONVENTIONAL SIZE
SEE SKETCH A



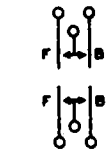
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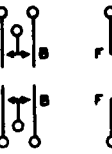
SKETCH B



SKETCH C



SKETCH D



SKETCH E

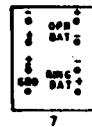
SIZE OF CONVENTION ON DRAWING

SIZE OF CONVENTION
ON DRAWING

SIZE OF CONVENTION
ON DRAWING

SIZE OF CONVENTION
ON DRAWING

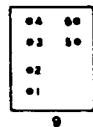
SIZE OF CONVENTION
ON DRAWING



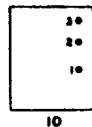
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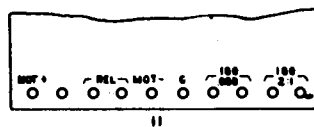
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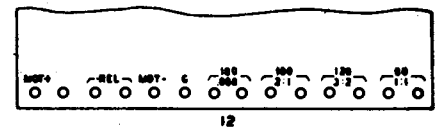
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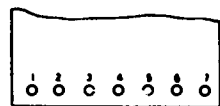
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11



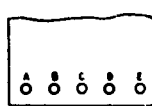
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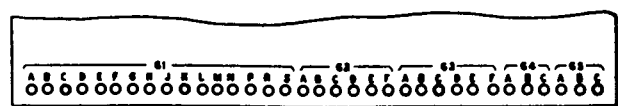
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14



15



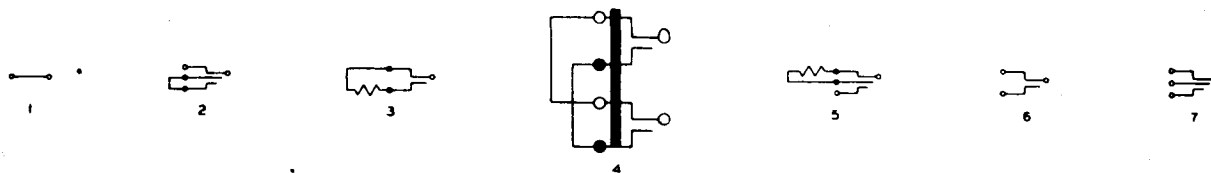
16

INT CODE	CONV	SPRINGS	INT CODE	CONV	SPRINGS	INT CODE	CONV	SPRINGS	INT CODE	CONV	SPRINGS
64 F	9		165 J	1	A	165 AT	1	A-O	166 S	1	A-G
64 G	9		165 K	1	A-O	165 AU	1	A-O	166 T	1	A-O
64 H	9		165 L	1	A-H	165 AW	2	A-O	166 U	1	A-O
64 J	7		165 M	2	A-O	165 AY	2	A-O	166 W	1	A-F
154 C	10		165 P	2	A-D	165 BA	1	A-O	166 Y	1	A-F
156 B	13		165 S	1	A-C	165 BB	2	A-O	166 AA	1	A-O
157 D	6		165 T	2	A-O	165 BJ	1	A-O	166 AB	2	A-O
157 E	6		165 U	2	A-J	165 BE	1	A-O	166 AC	1	A-G
157 F	5		165 W	2	A-C	165 BF	2	A-C	166 AD	2	A-O
163 C	11		165 AB	1	A-O	165 BG	1	A-O	166 AE	2	A-O
163 D	12		165 AC	1	A-O	166 B	2	A-C	167 A	2	A-C
165 A	2	A-O	165 AD	1	A-O	166 D	2	A-C	168 B	14	
165 B	1	A-C	165 AE	2	A-F	166 E	1	A-O	169 A	USE 268 CONN BLK	
165 C	2	A-C	165 AG	1	A-D	166 G	2	A-O	170 A	16	
165 D	2	A-C	165 AJ	2	A-O	166 H	1	A	171 A	15	
165 E	2	A-F	165 AN	1	A-O	166 K	2	A-C			
165 F	2	A-C	165 AP	1	A-J	166 N	1	A			
165 G	1	A-H	165 AR	1	A-O	166 P	1	A-O			
165 H	4	A-O	165 AS	3	A-O	166 R	1	A-G			

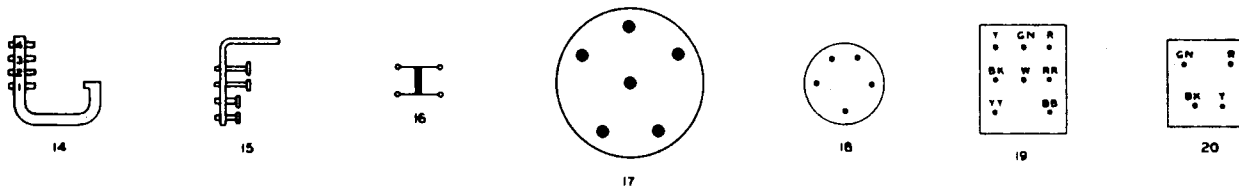
NOTES

1. CAM DESIGNATIONS PLACED ADJACENT TO EACH OTHER INDICATE THAT THE LEADS TO THESE CAMS ARE BROUGHT FROM THE CABLE FORM IN THE SAME SKETCH

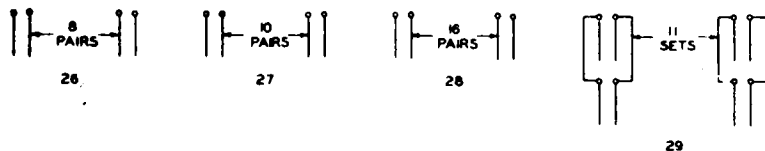
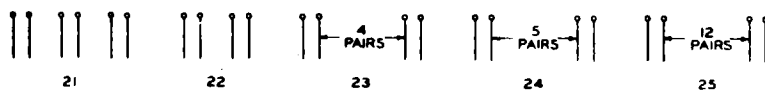
INTERRUPTERS



SIZE OF CONVENTION
ON DRAWING

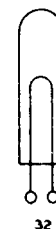
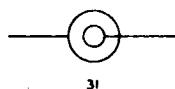
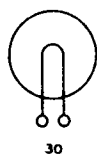


SIZE OF CONVENTION
ON DRAWING



PLUGS

PLUG CODE	CONV NO	PLUG CODE	CONV NO	PLUG CODE	CONV NO	PLUG CODE	CONV NO
1A	1	202	7	241B	11	266A	17
3A	6	211	13	241C	4	273A3	7
47A	6	213	13	242A	26	273A6	7
47B	6	216	29	242B	27	274A3	19
109	7	217A	10	242C	25	274A6	19
110	7	217B	10	242D	28	275A	2
116	1	217C	10	243	15	277A	5
136	6	217D	10	244	7	278A	1
137	8	217E	10	246A	8	283A3	20
144	1	221	6	247A	13	283A6	20
145	6	234	14	248A	13	288A	9
146	6	236B	1	253A	16	288B	12
152	8	240A	22	254A	18	309	7
153A	3	240B	21	257A	6	310	7
153B	3	240C	23	257B	6		
153C	3	240D	24	259A	17		
154	9	240F	22	262A	5		
166	7	240G	21	263A	1		
184	2	240H	22	264A	17		
186	16	241A	11	265A	17		



MAZDA LAMPS	
LAMP CODE	CONV NO
72	30

BALLAST LAMPS	
LAMP CODE	CONV NO
4B	31
5A	31
5B	31
7A	31
8A	31

RES LAMPS	
LAMP CODE	CONV NO
5A	31
8A	31
8B	31
8C	31
8D	31
8E	31
8F	31
8G	31
8H	31
8J	31
8K	31

SWITCHBOARD LAMPS					
LAMP CODE	CONV NO	VOLTS	RATED AMPS	LAMP CODE	CONV NO
2C	32	15	1	A1	32
2E	32	20	1	A2	32
2F	32	12	1	B1	32
2G	32	24	1	B2	32
2J	32	24	03	C1	32
2K	32	30	1	C2	32
2R	32	18	1	E1	32
2T	32	40	03	E2	32
2U	32	24	04	E3	32
2W	32	18	04	F1	32
2Y	32	48	03	F2	32
				G1	32
				H1	32
				J1	32

LAMPS

PLUGS & LAMPS

RES CODE	PAGE NO	CONV NO	OHMS RES	RES CODE	PAGE NO	CONV NO	OHMS RES	RES CODE	PAGE NO	CONV NO	OHMS RES	RES CODE	PAGE NO	CONV NO	OHMS RES	RES CODE	PAGE NO	CONV NO	WDC	OHMS RES
1A		9	400	1CY		14	482	18AC		9	500	18DY		9	17.1	18HR		9		119.4
1B		9	2500	1DA		14	806	18AD		9	240	18EA		9	9000	18HS		9		121.2
1C		9	500	1DB		14	5000	18AE		9	600	18EB		9	84	18HT		9		155.8
1D		9	60	1DC		14	250	18AF		9	300	18EC		9	6000	18HU		9		245.5
1E		9	300	1DD		14	467	18AG		9	226	18ED		9	75	18HW		9		281.6
1F		9	1000	1DE		14	190	18AH		9	320	18EK		9	128	18HY		9		294
1G		9	3000	1DF		14	337	18AJ		9	400	18EF		9	2500	18JA		9		296
1H		9	200	1DG		14	1295	18AK		9	60	18EG		9	22	18JB		9		421.6
1J		9	20	1DH		14	182.6	18AL		9	4	18EH		9	2400	18JC		9		600
1K		9	30	1DJ		14	2141	18AN		9	250	18EJ		9	270	18JD		9		1194.6
1L		14	100	1DL		14	280.6	18AN		9	350	18EK		9	2898	18JE		9		3050
1N		9	700	1DN		14	69.7	18AP		9	500	18EL		9	112					
1P		9	5	1DP		14	5235	18AR		9	380	18EM		9	8600					
1R		9	250	1DR		14	4000	18AS		9	350	18EN		9	630					
1T		9	350	1DS		14	5	18AT		9	1600	18EP		9	120					
1U		9	45	1DT		9	10	18AU		9	380	18ER		9	133					
1W		14	2000	1DU		9	18	18AW		9	40	18ES		9	4800					
1Y		9	1200	1DW		14	45	18AY		9	2.4	18ET		9	70					
1AD		14	8.5	1DY		9	70	18BA		9	2000	18EU		9	500					
1AE		14	14	1EA		9	900	18BB		9	2	18EW		9	5000					
1AF		14	22	1EB		14	1850	18BC		9	470	18EY		9	1800					
1AG		14	1000	1EC		14	900	18BD		9	580	18FA		9	270					
1AH		14	1.4	1EM		9	78	18BE		9	20	18FB		9	900	19A		11	EACH	37
1AJ		14	1.6	1EN		9	100	18BF		9	284	18FC		9	4000	19B		11	EACH	40
1AK		14	2.4	1EP		9	128	18BG		9	400	18FD		9	210	19C		11	UPPER	40
1AL		14	1	1ER		9	350	18BH		9	1000	18FE		9	68				LOWER	83
1AM		14	1.7	1ES		9	91	18BJ		9	1200	18FF		9	43.2	19D		11	EACH	83
1AN		9	120	1ET		9	300	18BK		9	1300	18FG		9	8080	19E		11	EACH	30
1AP		14	660	1FA		9	375	18BL		9	750	18FH		9	56	19F		11	UPPER	40
1AR		14	398	1FB		9	50	18BM		9	1000	18FJ		9	5000				LOWER	6C
1AS		14	711	1FC		9	900	18BN		9	340	18FK		9	3150	19G		11	UPPER	40
1AT		14	606	1FL		9	1155	18BR		9	60	18FL		9	620				LOWER	100
1AU		14	371	1FM		9	427	18BS		9	90	18FN		9	1900	19H		11	UPPER	40
1AW	83	14	1317	1FN	83	9	1485	18BT	83	9	200	18FP	83	9	6350				LOWER	120
1AY		14	745	1FP		9	733	18BU		9	300	18FR		9	3200	19J		11	UPPER	10
1BD		14	1575	1FR		9	460	18BW		9	100	18FS		9	4250				LOWER	40
1BE		14	3418	1FS		9	300	18BY		9	605	18FW		9	8	19K		11	EACH	100
1BG		14	2144	1FT		9	230	18CB		9	955	18FY		9	510	19L		11	EACH	60
1BH		14	565	1FU		9	73.4	18CF		9	610	18GB		9	50	19M		11	EACH	20
1BJ		14	450	1FW		9	144.8	18CH		9	1.2	18GC		9	3.2	19N		11	UPPER	5
1BL		14	325	1FY		9	2755	18CJ		9	5	18GD		9	142				LOWER	8
1BN		14	1581	1GA		9	1342	18CK		9	440	18GE		9	1600	19P		11	UPPER	20
1BP		14	1595					18CN		9	800	18GF		9	800				LOWER	130
1BR		14	756					18CP		9	1260	18GH		9	600	19S		11	UPPER	60
1BS		14	772	18A		9	37	18CR		9	2000	18GJ		9	121				LOWER	90
1BT		14	4500	18B		9	40	18CS		9	0.6	18GK		9	422	19T		11	EACH	25*
1BU		14	663	18C		9	83	18CT		9	1481	18GL		9	5545	19W		11	EACH	10
1BW		14	1917	18D		9	120	18CU		9	0.8	18GM		9	2755	19Y		11	EACH	15
1BY		14	712	18E		9	140	18CW		9	1.6	18GN		9	1340	19Z		11	EACH	120
1CA		14	1647	18F		9	150	18CY		9	1585	18GP		9	208	19AB		11	UPPER	120
1CB		14	687	19G		9	200	18DA		9	1510	18GR		9	3.5				LOWER	210
1CC		14	1606	19H		9	210	18DB		9	3000	18GS		9	4.5	19AC		11	UPPER	60
1CD		14	398	19J		9	30	18DC		9	325	18GT		9	5243				LOWER	83
1CE		14	971	18K		9	80	18DD		9	12	18GU		9	8	19AD		11	EACH	150
1CF		14	656	18L		9	170	18DE		9	930	18GW		9	5.4	19AF		11	EACH	140
1CG		14	1373	18M		9	53	18DF		9	290	18GY		9	540	19AG		11	UPPER	120
1CH		14	631	18N		9	180	18DG		9	426	18HB		9	2200				LOWER	160
1CJ		14	1361	18P		9	130	18DH		9	700	18HD		9	300	19AH		11	EACH	240
1CK		14	2020	18Q		9	110	18DJ		9	15	18HE		9	7835	19AJ		11	EACH	200
1CL		14	1226	18R		9	10	18DK		9	25	18HF		9	580	19AK		11	EACH	70
1CM		14	200	18S		9	20	18DL		9	111	18HG		9	540	19AL		11	UPPER	40
1CN		14	800	18T		9	50	18DM		9	72.4	18HH		9	0.3				LOWER	68
1CP		14	2700	18U		9	100	18DN		9	3200	18HJ		9	0.5	19AM		11	EACH	50
1CR		14	100	18W		9	133	18DP		9	18.75	18HK		9	1.8	19AN		11	EACH	260
1CS		14	3200	18Y		9	90	18DR		9	750	18HL		9	2	19AP		11	EACH	180
1CT		14	1600	18Z		9	67	18DS		9	1700	18HM		9	2.9	19AR		11	UPPER	60
1CU		14	400	18AA		9	95	18DU		9	3100	18HN		9	12				LOWER	260
1CW		14	2000	18AB		9	45	18DW		9	112.5	18HP		9	38					

RESISTANCE CODES

RES CODE	PAGE NO	CONV NO	WDG	OHMS RES	RES CODE	PAGE NO	CONV NO	WDG	OHMS RES	RES CODE	PAGE NO	CONV NO	WDG	OHMS RES	RES CODE	PAGE NO	CONV NO	WDG	OHMS RES	RES CODE	PAGE NO	CONV NO	WDG	OHMS RES
19AS			EACH	170	19CR			UPPER	380	19EP			UPPER	66	19GM			UPPER	400	19JH			UPPER	160
19AU			UPPER	60				LOWER	450				LOWER	220.3				LOWER	1000				LOWER	850
			LOWER	170	19CS			UPPER	40	19ER			EACH	9.5	19GN			UPPER	300	19JJ			EACH	80
19AW			EACH	2.5				LOWER	125	19ES			UPPER	35				LOWER	600	19JK			UPPER	40
19AY			UPPER	50	19CT			UPPER	34				LOWER	38	19GP			UPPER	325				LOWER	170
			LOWER	2000				LOWER	400	19ET			UPPER	33				LOWER	475	19JL			UPPER	300
19BA			EACH	900	19CU			UPPER	120				LOWER	950	19GR			UPPER	98				LOWER	2460
19BB			UPPER	300				LOWER	1050	19EU			UPPER	380				LOWER	586	19JM			UPPER	2400
			LOWER	2300	19CW			UPPER	120				LOWER	580	19GS			UPPER	95				LOWER	4800
19BC			UPPER	50				LOWER	122	19EW			EACH	800				LOWER	190	19JN			UPPER	600
			LOWER	300	19CY			UPPER	373	19ET			EACH	60.5	19GT			UPPER	53				LOWER	1200
19BD			UPPER	100				LOWER	530	19FA			UPPER	36.5				LOWER	111	19JP			UPPER	800
			LOWER	380	19DA			UPPER	232				LOWER	41	19GU			UPPER	13				LOWER	1600
19BE			UPPER	30				LOWER	270	19FB			UPPER	13.5				LOWER	31	19JR			UPPER	60
			LOWER	90	19DB			EACH	0.225				LOWER	15	19GW			UPPER	15				LOWER	400
19BF			UPPER	600	19DC			UPPER	456	19FC			UPPER	28.5				LOWER	17	19JS			UPPER	1000
			LOWER	1600				LOWER	530				LOWER	32	19GY			UPPER	18				LOWER	2500
19BG			UPPER	200	19DD			UPPER	159	19FD			UPPER	17				LOWER	19	19JT			UPPER	118
			LOWER	400				LOWER	1500				LOWER	19.5	19HA			UPPER	42				LOWER	175
19BH			UPPER	100	19DE			UPPER	34	19FE			UPPER	22				LOWER	195	19JU			UPPER	48
			LOWER	500				LOWER	986				LOWER	25	19HB			UPPER	50				LOWER	300
19BJ			EACH	350	19DF			UPPER	122	19FF			UPPER	70				LOWER	194	19JW			UPPER	64
19BK			UPPER	40				LOWER	158				LOWER	100	19HC			UPPER	20				LOWER	252
			LOWER	500	19DG			UPPER	133	19FG			EACH	100				LOWER	93	19JY			UPPER	268
19BL			EACH	1				LOWER	770	19FH			UPPER	60	19HD			EACH	250				LOWER	488
19BM			EACH	1000	19DH			UPPER	280				LOWER	70	19HE			UPPER	300	19KA			UPPER	70
			UPPER	20				LOWER	1330	19FJ			UPPER	110				LOWER	1900				LOWER	685
19BN			LOWER	185	19DJ			UPPER	117				LOWER	130	19HF			UPPER	675	19KB			UPPER	104
			UPPER	270				LOWER	903	19FK			UPPER	90				LOWER	925				LOWER	141
19BP			LOWER	375	19DK			UPPER	97				LOWER	110	19HG			UPPER	1000	19KC			UPPER	47
			UPPER	205				LOWER	120	19FL			UPPER	370				LOWER	1600				LOWER	59
19BR			LOWER	225	19DL			UPPER	50				LOWER	460	19HH			UPPER	112	19KD			UPPER	14
19BS	83	11	UPPER	20		83	11	LOWER	70	19FM	83	11	UPPER	330		83	11	LOWER	1000		83	11	LOWER	54
			LOWER	400	19DM			UPPER	0.2				LOWER	350	19HJ			UPPER	112	19KE			UPPER	18
19BT			UPPER	10				LOWER	0.4	19FN			UPPER	260				LOWER	2600				LOWER	39
			LOWER	640	19DN			EACH	100				LOWER	290	19HK			EACH	300	19KF			UPPER	19
19BU			UPPER	132	19DP			UPPER	0.25	19FP			UPPER	190	19HL			EACH	545				LOWER	37
			LOWER	158				LOWER	0.5				LOWER	230	19HM			UPPER	110	19KG			UPPER	160
19BW			UPPER	380	19DR			UPPER	1	19FR			UPPER	360				LOWER	900				LOWER	2990
			LOWER	750				LOWER	2				LOWER	370	19HN			UPPER	110	19KH			UPPER	286
19BY			UPPER	220	19DS			EACH	350	19FS			UPPER	150				LOWER	540				LOWER	1325
			LOWER	1075	19DT			UPPER	150				LOWER	190	19HP			UPPER	10	19KJ			UPPER	467
19CA			UPPER	185				LOWER	300	19FT			UPPER	290				LOWER	40				LOWER	512
			LOWER	770	19DU			UPPER	100				LOWER	300	19HR			UPPER	30	19KK			UPPER	152
19CB			UPPER	125				LOWER	1000	19FU			UPPER	780				LOWER	200				LOWER	3150
			LOWER	345	19DW			EACH	307				LOWER	220	19RS			UPPER	30	19KL			UPPER	269
19CC			UPPER	380	19DT			EACH	500	19FW			UPPER	410				LOWER	170				LOWER	1490
			LOWER	900	19EA			EACH	115				LOWER	420	19RT			UPPER	140	19KM			UPPER	84
19CD			UPPER	125	19EB			UPPER	20	19FY			UPPER	130				LOWER	420				LOWER	6350
			LOWER	1095				LOWER	330				LOWER	150	19HU			UPPER	20	19KN			UPPER	146
19CE			UPPER	125	19EC			UPPER	650	19GA			UPPER	400				LOWER	280				LOWER	651
			LOWER	510				LOWER	1600				LOWER	600	19HW			UPPER	40	19KP			UPPER	500
19CF			EACH	284	19ED			UPPER	55	19GB			UPPER	80				LOWER	50				LOWER	3500
19CG			EACH	270				LOWER	218				LOWER	85	19HY			UPPER	20	19KR			UPPER	2000
19CH			UPPER	100	19EF			EACH	14	19GC			UPPER	75				LOWER	630				LOWER	4000
			LOWER	125	19EG			UPPER	600				LOWER	110	19JA			UPPER	90	19KS			EACH	67
19CJ			UPPER	250				LOWER	1800	19GD			UPPER	240				LOWER	130	19KT			UPPER	85
			LOWER	750	19EH			UPPER	38				LOWER	250	19JB			UPPER	20				LOWER	1800
19CK			UPPER	60				LOWER	950	19GE			UPPER	500				LOWER	150	19KU			UPPER	2
			LOWER	65	19EJ			UPPER	33				LOWER	1500	19JC			UPPER	250				LOWER	4
19CL			UPPER	125				LOWER	35	19GG			EACH	7.9				LOWER	350	19KV			UPPER	0.5
			LOWER	895	19EK			UPPER	15	19GH			EACH	425	19JD			UPPER	300				LOWER	1
19CM			UPPER	60				LOWER	30	19GJ			UPPER	300				LOWER	400	19KY			EACH	1500
			LOWER	1235	19EL			EACH	120				LOWER	500	19JE			EACH	1600	19LA			EACH	300
19CN			UPPER	100	19EM			UPPER	125	19GK			UPPER	300	19JF			UPPER	100	19LB			EACH	150
			LOWER	200				LOWER	170				LOWER	2500				LOWER	220	19LC			EACH	100
19CP			UPPER	750	19EN			UPPER	170	19GL			EACH	300	19JG			UPPER	240	19LD			EACH	67
			LOWER	1000				LOWER	175									LOWER	720	19LE			EACH	240

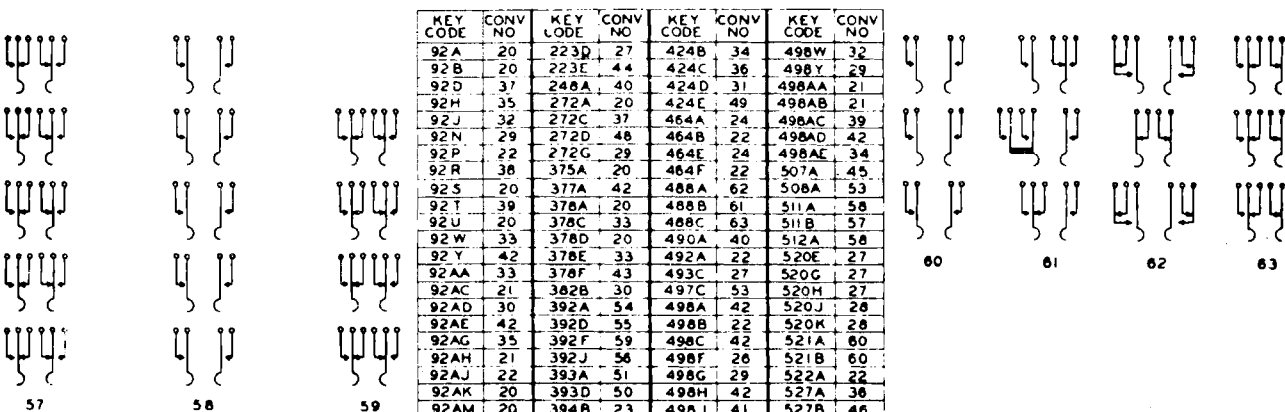
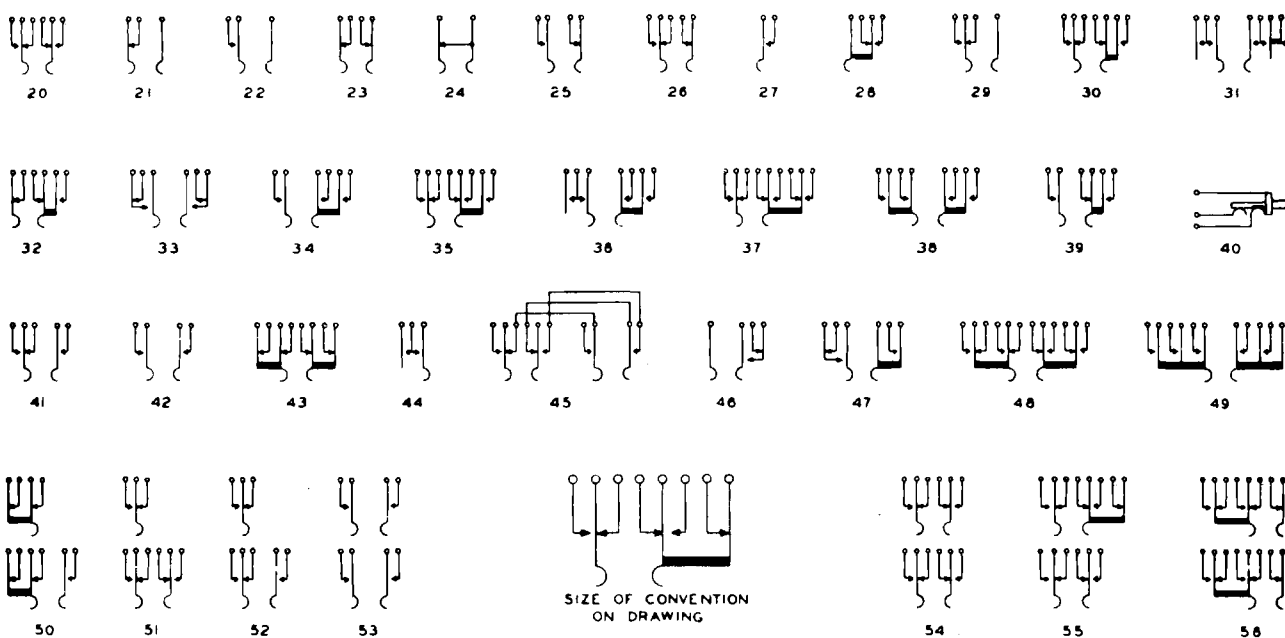
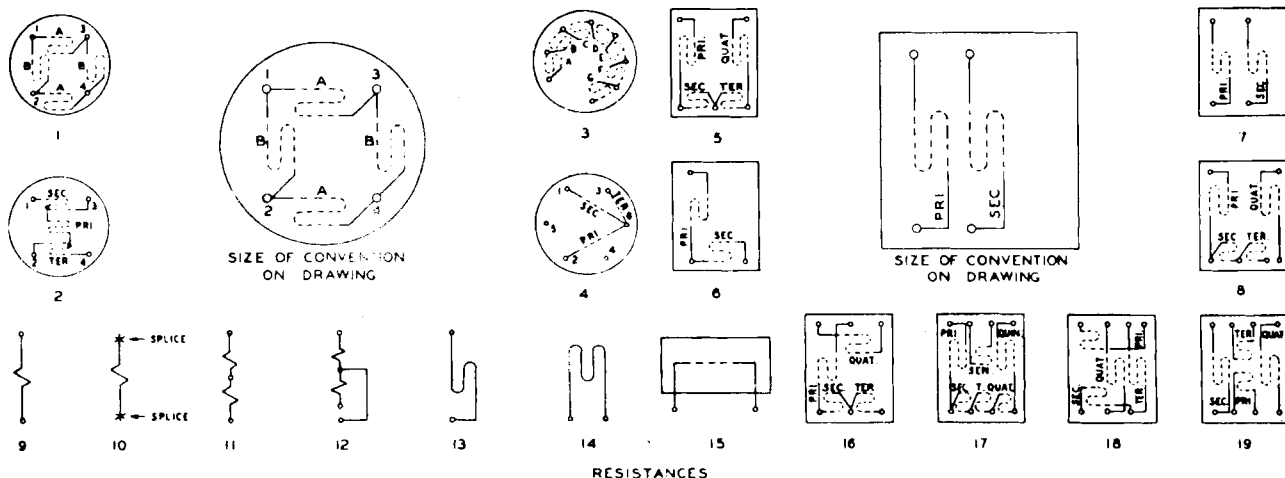
RESISTANCE CODES

[illegible]

RESISTANCE CODES

RES CODE	PAGE NO	CONV NO	WDG	OHMS RES	RES CODE	PAGE NO	CONV NO	WDG	OHMS RES	RES CODE	PAGE NO	CONV NO	WDG	OHMS RES	RES CODE	PAGE NO	CONV NO	WDG	OHMS RES	RES CODE	PAGE NO	CONV NO	WDG	OHMS RES			
40BY	83	19	PRI	1000	61A	83	10		1000	63CW	83	13		1500	69J	83	9		3 MEG	80AG	83	13		225			
				1000						63CT			13		2500		69K	9		1 MEG		80AH	13		232.9		
				20000						63DA			13		2100		69L	9		2 MEG		80AJ	13		567.7		
				20000	63A			13		15		63DB		13			1750	69M	9			0.5 MEG	80AK	13		600	
44A		9		52.5	63B			13		20		63DC		13			1275						80AL	13		3000	
44B		9		45	63C			13		50		63DE		13			875						80AM	13		3610	
44C		9		18.1	63D			13		100		63DF		13			1034	70A		11		UPPER	4	80AN	13		2.5
44D		9		200	63E			13		150		63DG		13			3700					LOWER	8	80AP	13		12
44E		9		58	63F			13		200		63DH		13			1000	70C		11		EACH	4	80AR	13		18.9
44G		9		150	63G			13		250		63DJ		13			3630							80AS	13		581
44J		9		115	63H			13		300		63DK		13			3500							80AT	13		15
44K		9		54.2	63J			13		350		63DL		13			3300	71A		9			40	80AU	13		76
44L		9		36.6	63K			13		400		63DM		13			4250	71B		9			60	80AV	13		296
44M		9		14	63L			13		500		63DN		13			5000							80AY	13		3000
44N		9		220	63M			13		750		63DP		13			10							80BA	13		3550
44P		9		167	63N			13		800		63DR		13			106.17	74A		13			0.25	80BB	13		213
44R		9		90	63P			13		1000		63DS		13			1670.7							80BC	13		550
44S		9		30	63R			13		1200		63DT		13			10000							80BD	13		225
44T		9		2500	63S			13		1400		63DU		13			68	78A		10			295	80BE	13		239
44U	9		1500	63T		13		2000	63DW		13		168						80BF	13		253					
44W	9		300	63U		13		2300	63DY		13		312						80BG	13		267					
44Y	9		450	63V		13		3000	63EA		13		1155	79A		13		4.5	80BH	13		283					
					63Y		13		5000	63EB		13		2140	79B		13		8.5	80BJ	13		300				
					63AA		13		1150	63EC		13		15700	79C		13		4	80BK	13		805				
52A		13		5000	63AB		13		10000	63EK		13		8000	79D		13		2.1	80BL	13		317				
					63AC		13		4000					79E		13		4.0	80BM	13		335					
					63AD		13		3000										80BN	13		354					
59C		9		200	63AE		13		1200	64		10		as					80BP	13		371					
59D		9		115	63AF		13		1230	type				spec	80A		13		2580	80BR	13		394				
59E		9		150	63AG		13		900	65		10		as	80B		13		37.99	80BS	13		419				
59F		9		240	63AH		13		8100	type				spec	80C		13		58.09	80BT	13		444				
59G		9		60	63AJ		13		2930						80D		13		84.04	80BU	13		471				
59H		9		190	63AK		13		600						80E		13		138.1	80BV	13		499				
59K		9		112	63AL		13		265	66A		9		3000	80F		13		155.8	80BY	13		529				
59L		9		600	63AM		13		950	67A		9		2000	80G		13		209.4	80CA	13		560				
59M		9		850	63AN		13		295	67B		9		120	80H		13		220.1	80CB	13		592				
59N		9		1000	63AP		13		2500	67C		9		600	80J		13		279.4	80CC	13		625				
59P		9		90	63BB		13		2950	67D		9		1100	80K		13		281.6	80CD	13		245.5				
					63BH		13		1420	67E		9		1500	80L		13		300	80CE	13		121.2				
					63BJ		13		2660	67F		9		300	80M		13		379.9	80CF	13		12.12				
60A		12	UPPER	117	63BK		13		1300	67G		9		1000	80N		13		421.6	80CG	13		294				
			LOWER	150	63BT		13		1080	67H		9		3000	80P		13		986.9								
60B		12	UPPER	115	63BU		13		3	68A		11	EACH	30	80R		13		1681								
			LOWER	220	63CH		13		4450	68B		11	EACH	300	80S		13		2204	81A			100				
60C		12	UPPER	115	63CJ		13		725						80T		13		3117	81B			200				
			LOWER	150	63CK		13		2600						80U		13		4188								
60D		12	UPPER	115	63CL		13		230	69A		9		1 MEG	80W		13		4216								
			LOWER	270	63CM		13		2000	69B		9		2 MEG	80Y		13		5632	82A		9	150				
					63CN		13		3250	69C		9		5 MEG	80AA		13		6000	82B		9	30				
					63CP		13		700	69D		9		3.9 MEG	80AB		13		7500	82C		9	500				
					63CR		13		190	69E		9		5.2 MEG	80AC		13		9869	82D		9	225				
					63CS		13		3575	69F		9		0.5 MEG	80AD		13		129.2								
					63CT		13		13500	69G		9		1.5 MEG	80AE		13		150								
					63CU		13		5250	69H		9		2.5 MEG	80AF		13		153.5	85B		9	57				

RESISTANCE CODES



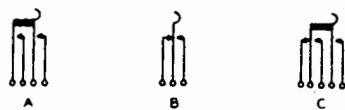
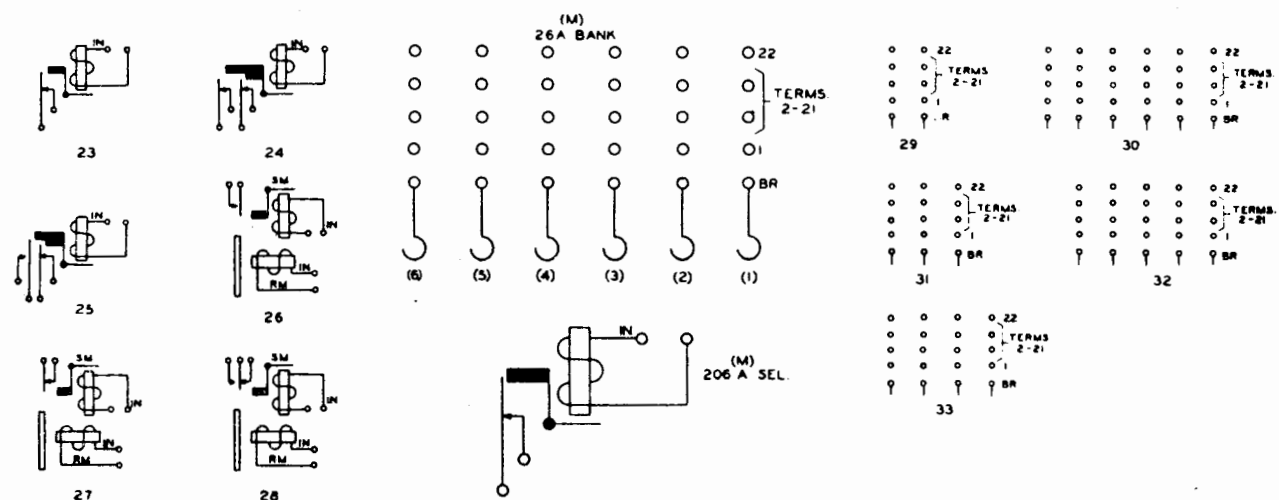
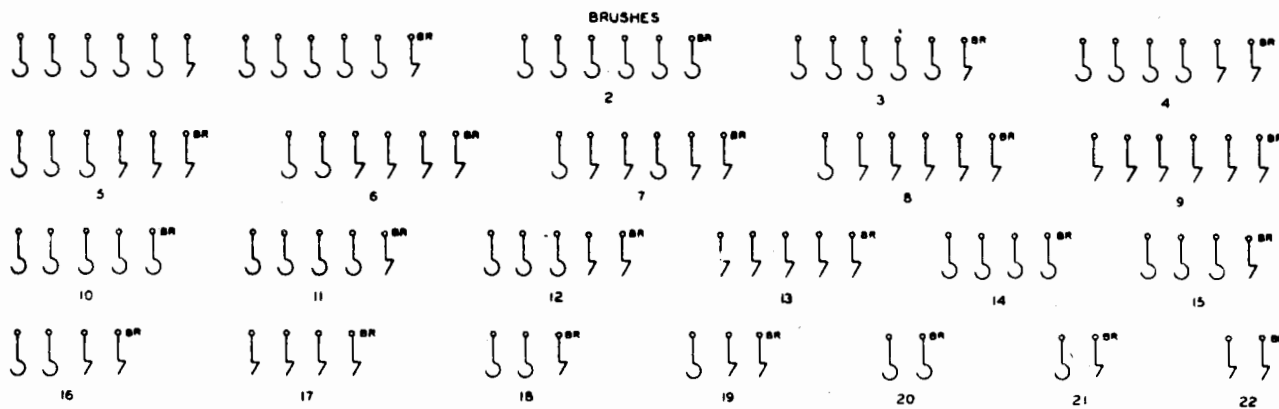
NOTES
1. ARRANGEMENT OF CONVENTIONS ON DRAWING SHALL BE IN ACCORDANCE WITH EQUIPMENT LAYOUT

KEY CODE	CONV NO	KEY CODE	CONV NO	KEY CODE	CONV NO	KEY CODE	CONV NO
92A	20	223D	27	424B	34	498W	32
92B	20	223E	44	424C	36	498Y	29
92D	37	248A	40	424D	31	498AA	21
92H	35	272A	20	424E	49	498AB	21
92J	32	272C	37	464A	24	498AC	39
92N	29	272D	48	464B	22	498AD	42
92P	22	272G	29	464E	24	498AE	34
92R	38	375A	20	464F	22	507A	45
92S	20	377A	42	488A	62	508A	53
92T	39	378A	20	488B	61	511A	58
92U	20	378C	33	488C	63	511B	57
92W	33	378D	20	490A	40	512A	58
92Y	42	378E	33	492A	22	520E	27
92AA	33	378F	43	493C	27	520G	27
92AC	21	382B	30	497C	53	520H	27
92AD	30	392A	54	498A	42	520J	28
92AE	42	392D	55	498B	22	520K	28
92AG	35	392F	59	498C	42	521A	60
92AH	21	392J	56	498F	26	521B	60
92AJ	22	393A	51	498G	29	522A	22
92AK	20	393D	50	498H	42	527A	36
92AM	20	394B	23	498J	41	527B	46
92AN	35	395A	52	498K	41	536A	47
92AP	30	406A	24	498M	20	539A	60
92AR	38	406C	42	498N	22	547A	22
188A	42	406H	38	498P	23	547B	20
188B	23	406K	42	498S	20		
188D	20	406P	25	498T	23		
188E	42	424A	34	498U	23		

PUSH BUTTON TYPE KEYS

RESISTANCES AND PUSH BUTTON TYPE KEYS

SEL CODE	OFF NORMAL SPG COMB
204A	A
204B	B
204C	C
204E	C

OFF NORMAL SPRING COMBINATIONS
HALF SIZE204 TYPE SELECTOR
HALF SIZE

MAGNETS

SIZE OF CONVENTION
ON DRAWING

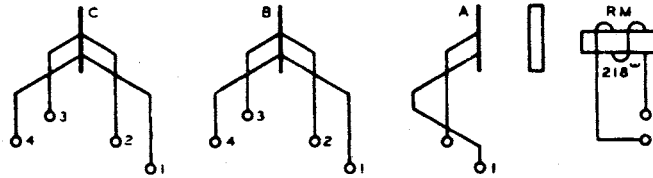
BANKS

SEL CODE	BRUSH CONV NO.	MAG CONV NO.	BANK CONV NO.	NO OF BANKS	SEL CODE	BRUSH CONV NO.	MAG CONV NO.	BANK CONV NO.	NO OF BANKS	SEL CODE	BRUSH CONV NO.	MAG CONV NO.	BANK CONV NO.	NO OF BANKS	SEL CODE	BRUSH CONV NO.	MAG CONV NO.	BANK CONV NO.	NO OF BANKS
206A	3	23	30	1	206U	3	23	30	1	206AR	17	23	33	1	206BM	4	23	30	1
206B	4	23	30	1	206W	3	23	30	1	206AS	4	23	30	1	206BN	10	23	32	1
206C	3	23	30	1	206Y	3	23	30	1	206AT	6	23	30	1	206BP	2	23	30	1
206D	20	23	29	1	206AA	3	23	30	1	206AU	2	23	30	1	206BR	2	23	30	1
206E	4	23	30	1	206AB	6	23	30	1	206AW	18	23	31	1	206BS	15	23	33	1
206F	4	25	30	1	206AC	3	23	30	1	206AY	3	23	30	1	206BT	18	23	31	1
206G	3	23	30	1	206AD	16	23	33	1	206BA	2	23	30	1	206BU	2	24	30	1
206H	4	23	30	1	206AE	14	23	33	1	206BB	2	23	30	1	206BW	19	23	31	1
206J	3	23	30	1	206AF	3	23	30	1	206BC	11	23	32	1	206BY	15	23	33	1
206K	5	23	30	1	206AG	15	23	33	1	206BD	18	23	31	1	206CA	13	23	32	1
206L	5	23	30	1	206AH	22	23	29	1	206BE	2	23	30	1	206CB	3	23	30	1
206M	7	23	30	1	206AJ	15	23	33	1	206BF	9	23	30	1	207A	1	27	30	2
206N	16	23	33	1	206AK	8	23	30	1	206BG	4	23	30	1	207B	1	27	30	2
206P	8	23	30	1	206AL	13	23	32	1	206BH	4	23	30	1	207C	1	28	30	2
206R	6	23	30	1	206AM	2	23	30	1	206BJ	21	23	29	1	208A	1	26	30	2
206S	2	23	30	1	206AN	18	23	31	1	206BK	22	23	29	1	208B	3	26	30	1
206T	3	23	30	1	206AP	20	23	29	1	206BL	12	23	32	1					

206, 207 & 208 TYPE SELECTORS

NOTES
1 ARRANGEMENT OF CONVENTIONS ON DRAWING SHALL BE
IN ACCORDANCE WITH EQUIPMENT LAYOUT.

SELECTORS



ACTUAL SIZE OF CONVENTION ON DRAWING

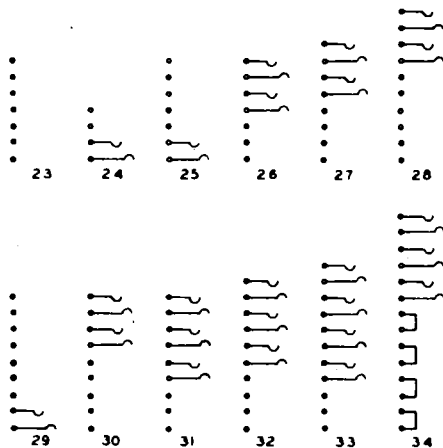
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A6	A-M	A185	A-S	B2	A-Y	B199	A-Y	B334	A-Y	B414	A-V	B480	A-Y	B558	A-U	B620	A-Y
A10	A-L	A188	A-U	B3	A-K	B209	A-W	B336	A-W	B415	A-Y	B481	A-U	B559	A-W	B621	A-U
A13	A-M	A190	A-B,C	B18	A-X	B210	A-W	B337	A-Y	B417	A-W	B482	A-S	B560	A-Y	B622	A-R
A14	A-Q		F-O,Q	B19	A-W	B212	A-Y	B338	A-Y	B418	A-Y	B483	A-Y	B561	A-Y		
A15	A-Q		S&T	B20	A-X	B215	A-Y	B341	A-X	B419	A-T	B484	A-W	B562	A-Y		
A17	A-L	A191	A-T	B21	B-Y	B216	A-Y	B344	A-Y	B420	A-T	B485	A-V	B563	A-Y	B625	A-Y
A32	A-O	A192	A-U	B45	A-S	B217	A-Y	B345	A-X	B424	A-U	B486	A-Y	B564	A-Y	B626	A-Y
A33	A-O	A193	A-S	B46	A-Q	B218	B-X	B347	A-N	B425	A-T	B487	A-W	B565	A-P	B627	A-Y
A34	A-Q	A194	A-T	B47	A-X	B230	A-X	B348	A-X	B426	A-Y	B488	A-Y	B566	A-U	B628	A-Y
A35	A-O	A195	A-U	B66	A-V	B231	B-Y	B350	B-V	B427	A-Y	B489	A-X	B567	A-Y	B629	A-U
A36	A-N	A197	A-T	B67	B-X	B239	B-Y	B353	A-T	B429	A-Y	B490	A-Y	B568	A-Y	B630	A-U
A61	A-O	A198	A-K	B68	A-Y	B243	A-Y	B354	A-Y	B430	A-S	B491	A-R	B569	A-X	B631	A-V
A62	A-T	A200	A-T	B69	A-X	B244	A-Q	B355	A-Y	B431	A-Y	B492	A-P	B570	A-V	B632	A-T
A67	A-J	A203	A-U	B74	A-X	B245	A-Y	B356	B-T	B432	A-Y	B493	A-Q	B571	A-Y	B633	A-Y
A68	A-G	A207	A-B,C	B75	A-U	B246	A-Y	B357	A-T	B433	A-Y	B494	A-Y	B572	A-S	B637	A-Y
A71	A-H		F-O	B78	A-Y	B251	A-Y	B359	A-V	B434	A-Y	B495	A-Y	B573	A-R	B638	A-Q
A72	A-I		Q,S,T	B81	A-V	B253	A-U	B360	A-Y	B435	A-Y	B496	A-Q	B574	A-Y	B639	A-Y
A73	A-M		& U	B87	A-Y	B254	A-Y	B361	A-Y	B436	A-Y	B497	B-W	B575	A-Y	B640	A-X
A74	A-K	A208	A-T	B97	A-U	B260	A-Y	B362	A-W	B437	A-Y	B520	A-O	B577	A-Y	B641	A-Y
A75	A-O	A210	A-U	B114	A-T	B261	A-Y	B364	A-Y	B438	A-Y	B521	A-O	B578	A-Y	B642	A-Y
A76	A-Q	A211	A-Q	B115	A-S	B271	A-Y	B365	A-X	B439	A-Y	B522	A-R	B579	B-Y	B643	A-Y
A77	A-N	A219	A-L	B116	A-T	B272	A-V	B367	A-Y	B440	A-Y	B523	A-S	B580	B-Y	B644	A-Y
A100	B-J	A222	A-J	B125	A-S	B274	A-T	B368	A-Y	B441	A-Y	B524	A-X			B645	A-X
A103	A-N	A224	A-U	B131	A-Y	B276	A-X	B369	A-V	B442	A-Y	B525	A-W	B582	A-Y	B646	A-Y
A105	A-Q	A225	A-S	B133	A-X	B277	B-Y	B370	A-T	B444	A-Y	B526	A-W	B583	A-T	B647	A-Y
A115	A-T	A226	A-R	B136	A-H	B278	A-Y	B371	A-U	B448	A-Y	B527	A-Y	B584	A-X	B648	A-U
A116	A-K	A227	A-T	B137	A-X	B286	A-Y	B373	A-W	B449	B-Y	B528	A-Y	B585	A-U	B649	A-X
A117	A-R	A228	A-S	B138	A-X	B287	A-Y	B375	A-W	B450	B-Y	B529	A-Y	B586	A-Y	B650	A-Y
A138	A-S	A230	A-U	B139	B-X	B288	A-Y	B376	A-Y	B451	A-T	B530	A-W	B587	A-T		
A143	A-J	A235	A-K	B140	A-W	B289	B-Y	B377	A-Y	B452	A-W	B531	A-X	B588	A-Y		
A148	A-J	A237	A-S	B141	A-Y	B297	A-S	B380	A-Y	B453	A-Y	B532	A-Y	B592	A-T		
A149	A-M	A238	A-T	B142	A-R	B299	A-Y	B381	A-Y	B454	A-V	B533	A-U	B593	A-X		
A150	A-R	A240	A-R	B143	B-U	B308	A-W	B382	A-Y	B455	A-X	B535	A-Y	B596	A-W		
A151	A-H	A241	A-N	B144	A-X	B309	A-Y	B383	A-B,C	B456	A-Y	B536	A-X	B597	A-W		
A152	A-M	A242	A-K	B145	A-Y	B313	A-X		F-O	B457	A-T	B537	A-U	B598	A-R		
A153	A-D	A243	A-O	B146	A-R	B314	A-X		Q,S,T	B458	A-U	B538	A-Y	B599	A-Y		
A154	A-J	A244	A-M	B147	A-Y	B315	A-Y		& U	B459	A-U	B539	A-U	B600	B-Y		
A155	A-R	A245	A-L	B150	B-V	B320	A-U	B384	A-U	B460	A-U	B540	A-T	B601	A-Y		
A157	A-T	A246	A-O	B155	A-X	B321	A-T	B385	A-Y	B461	A-Y	B541	A-T	B602	A-Y		
A158	A-G	A248	A-T	B156	A-X	B323	B-C	B386	A-Y	B462	A-Y	B542	A-U	B603	A-Y		
A159	A-L	A249	A-N	B157	B-T		F-O	B387	A-Y	B463	A-Y	B545	A-Y	B607	A-U		
A160	A-P	A250	A-U	B158	A-V		Q,S	B388	A-X	B464	A-Y	B546	A-Y	B608	A-Y		
A162	A-P			B159	A-X		& T	B389	A-V	B465	B-Y	B547	A-Y	B609	A-Y		
A163	A-I			B161	A-X	B324	A-U	B394	A-Y	B471	A-W	B549	A-X	B610	A-Y		
A174	A-K			B.63	A-Y	B325	B-Y	B401	A-X	B472	A-Y	B550	A-X	B611	A-Y		
A175	A-J			B164	A-Y	B326	B-W	B404	A-Y	B475	A-T	B551	A-Y	B612	A-W		
A180	A-S			B186	A-T	B330	A-Y	B406	A-U	B476	A-W	B552	A-T	B613	A-X		
A181	A-T			B196	A-X	B331	A-V	B407	A-Y	B477	A-U	B553	A-Y	B614	A-Y		
A182	A-I			B197	A-S	B332	A-X	B408	A-Y	B478	A-Y	B554	A-Y	B615	A-Y		
				B198	A-V	B333	A-V	B409	A-Y	B479	A-X	B557	B-W	B619	A-Y		

NOTES

1. CAM DESIGNATIONS PLACED ADJACENT TO EACH OTHER INDICATE THAT THE LEADS TO THESE CAMS ARE BROUGHT FROM THE CABLE FORM IN THE SAME STITCH

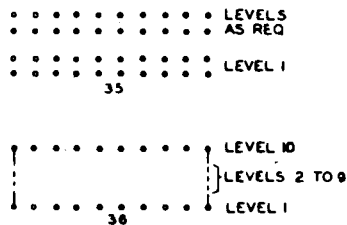
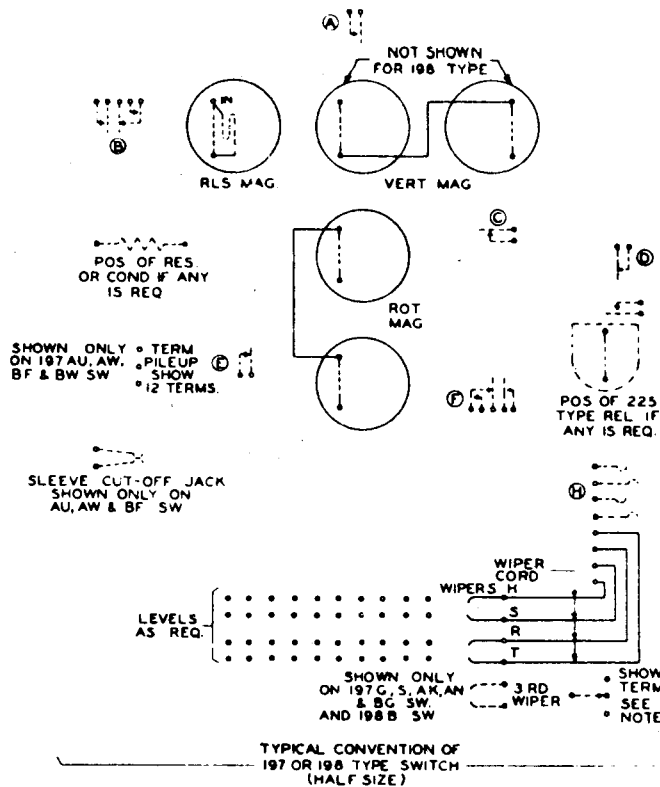
2. EACH SEQUENCE SWITCH CONSISTS OF A ROTARY MAGNET AND CAMS AS SPECIFIED

SEQUENCE SWITCHES



SPRING & JACK ARRANGEMENTS

BANK CODE	CONV NO
20A	35
21A	36
22A	35
22B	35
24A	35
25A	35
30A	35
31A	35

BANKS
SEE NOTE 1

- NOTES:
1. BANK WIRING IS TO BE SHOWN IN SEPARATE FIGURE.
 2. COMMUTATOR AND WIPER SHOWN ONLY ON S, AK, AN, AR, AU, AW, BA, BE, BG, BJ, BT & BU SWITCH.
 3. LETTERS IN CIRCLES ARE FOR REFERENCE ONLY TO INDICATE PROPER LOCATION OF SPRINGS.

SW CODE	VERTICAL OFF-NORMAL SPRINGS (B)	ROTARY OFF-NORMAL OR ROTARY STEP SPRINGS (F)	RELEASE CONTACT SPRINGS (D)	ROTARY INTERRUPTER SPRINGS (C)	TEST JACK (H)	NORM POST SPG (A)	VERTICAL INTERRUPTER SPRINGS (G)	SW CODE	VERTICAL OFF-NORMAL SPRINGS (B)	ROTARY OFF-NORMAL OR ROTARY STEP SPRINGS (F)	RELEASE CONTACT SPRINGS (D)	ROTARY INTERRUPTER SPRINGS (C)	TEST JACK (H)	NORM POST SPG (A)	VERTICAL INTERRUPTER SPRINGS (G)
CONV. NO.	CONV. NO.	CONV. NO.	CONV. NO.	CONV. NO.	CONV. NO.	CONV. NO.	CONV. NO.	CONV. NO.	CONV. NO.	CONV. NO.	CONV. NO.	CONV. NO.	CONV. NO.	CONV. NO.	CONV. NO.
197A	1	5		21	26			197AR	12	11		6	25		21
197D	1	15		21	32			197AU	9	6	12	2	27		21
197E	9			33				197AW	9	12	12	2	34		21
197F	16			31				197AY	13	11	15	21	26	1	
197G	10			26				197BA	12	11	15	21	25		21
197H	10			26				197BB	13		15	21	27	1	
197J	10			21	27			197BC	10				26		
197K	10			33				197BD	13	11	15	21	26	1	
197L	16			21	32			197BE	12	11	15	21	25		21
197M	3	15	21	21	32			197BF	10			21	32		
197N	10	17			26			197BG	9	16		21	23		21
197P	10			21	27	15		197BH	1	5	12	21	26		
197R	9			33	15			197BJ	12	11		6	25		21
197S	12	15		6	29		21	197BM	9				27		
197T	3	5		21	26			197BN	3	15	21	21	32	15	
197AB	22			31				197BP	13	11	15	21	27	1	
197AD	13	11		21	26	1		197BR	13	11	15	21	27	1	
197AE	13	11		21	27	1		197BS	1	19		21	27	15	
197AF	3	5		21	26	15		197BT	3	5	20	21	30		
197AC	9				26	15		197BU	3	5	5	21	27		
197AH	9			21	27	15		197BW	3	15	21	21	32		
197AJ	1	5		21	26	1									
197AK	4	11		21	29		21								
197AM	1	5		21	27										
197AN	3	12		6	23		21	198A		14			27		
197AP	9	15			24			198B		7			26		
								198C		7			28		

197 AND 198 TYPE SWITCHES

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