SECTION 800-613-154 Issue 8D, May 1966 AT&TCo Standard

# SPECIFIC REQUIREMENTS FOR APPARATUS AND EQUIPMENT — R (RELAYS TO RESISTORS) NUMBERING AND LETTERING GENERAL EQUIPMENT REQUIREMENTS

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### 1. GENERAL

Scope

1.01 This section covers the specific requirements for numbering and lettering apparatus and equipment classified alphabetically under the letter "R" (relays to resistors), exclusive of apparatus used only in the power plant in Section 800-613-160. It supplements the common requirements covered in Section 800-613-150.

**1.02** This section is reissued to make changes which are listed under reasons for reissue at the end of this section.

**1.03** All information pertaining to the frequency of stamping designations on the various apparatus components shown in this section will be found in Section 800-613-159.

#### 2. SPECIFIC REQUIREMENTS

#### A. Relays

2.01 The sizes and locations of designations of various types of relays shall be stamped in accordance with the respective figures listed in Table A. Any particular relay not illustrated should be designated in a manner similar to that shown for the relay it most closely resembles.

(a) The locations for designations, shown in Fig. 1 to 40, are approximate and need not be held to close tolerances.

(b) Where the designations on the spoolhead (cover guide) consist of four characters as shown in Fig. 5 and space on the individual cover guide will not permit stamping in one line, such as the U3 cover guide, stamp the characters in two lines.

(c) Where subgroup designations are required on the relay spoolheads, as in the case of bay numbers associated with permanent and release timing alarm relays in the No. 1 and 350A step-by-step equipment, they shall be stamped in the location normally used for numerical designations.

(d) Group designations, when required on individual relay cover caps, may be stamped on either metal or plastic caps.

2.02 Relays on detachable mounting plates of step-by-step switch units shall not be designated on the terminal side.

### TABLE A — FIGURE REFERENCE FOR VARIOUS RELAYS

•	Туре	Fig. No.	Туре	Fig. No.	Туре	Fig. No.	].
	85	6	263	27	В	2	
	114	7	264	27	E	1	
	124	7	266	26	F	1	
	149	8	267	28	G	2	
	162	8	268	29	Н	1	
	178	8	271	5	J	2	
	186	9	275	30	L	4	Ĺ
	196	10	276	30	N	4	
	198	7	280	28	R	1	
	208	11	282	5	S	4	
	209	12	286	34	Т	1	
	215	12	287	35	U	5	
	218	13	288	35	Y	5	Ĺ
	221	14	289	36	AB	1	ļ
	222	15	290	37	AF	31	
	223	16	291	30	AG	31	ļ
i	224	17	292	30	AJ	31	
	225	19	293	38	AK	32	ľ
	229	18	295	38	AL	31	l
	230	18	301	30	AM	33	
	235	20	303	30	EA	1	
	236	1	305	17	UA	5	
	247	21	307	16	UB	5	
	248	22	309	17			
	251	23	310	5			
	252	24	313	39			
	253	11	314	12			
	255	12	316	40			
	260	25	318	-38			
	261	25	Α	1			
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2.03 *Plug-In Relays:* The code number, as well as other designations as required, for relays which mount interchangeably in connecting blocks, sockets, etc, shall be stamped on the mounting plate so as to be visible when the relay is in place. See Fig. 12, 13, and 30. Code numbers shall not be stamped at the terminal side of connecting blocks, sockets, etc. (a) When space is insufficient to stamp designations on the mounting plate, stamp relay code number and other designations as required on the connecting block, socket, etc. In addition, stamp the functional designation and, when required, the numerical designation on the relay. See Fig. 40.

2.04 *Multicontact relays*, such as the 263, 264, 286, 287, 288, and similar types, shall be designated as shown in Fig. 27, 34, and 35. When the two halves of a 287- or similar-type relay are used separately, the functional and numerical designations, as required, are stamped as shown in Fig. 35.

### **Functional Designations**

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2.05 Location on Apparatus: Stamp functional designations on relay spoolhead, terminal side, and on individual metal cover (when provided) in accordance with detailed Fig. 1 to 40 contained herein for the various types of relays. Functional designations shall not be stamped on individual relay cover caps made of plastic. Stamp the functional designation in the lower right-hand corner on individual metal cover caps.

### **Numerical Designations**

2.06 Location on Apparatus: Stamp numerical designations on relay spoolhead, terminal side, and on individual metal cover (when provided) in accordance with detailed Fig. 1 to 40 contained herein for the various types of relays. Numerical designations shall not be stamped on individual relay cover caps made of plastic. Stamp the numerical designation in the lower left-hand corner on individual metal cover caps.

### **B. Repeating Coils**

2.07 The various types of repeating coils shall be stamped in accordance with the respective figures listed in Table B.

CODE	FIG. NO.	CODE	FIG. NO.	CODE	FIG. NO.
45	48	107	41	175	43
49	48	108	43	176	44
58	41	109	41	177	47
60	48	111	41	178	44
62	42	113	41	179	43
66	47	119	44	180	44
67	41	120	43	181	43
<b>74</b>	41	123	44	182	43
75	45	124	43	185	43
76	45	129	43	189	47
77	46	134	44	191	43
78	45	142	47	192	43
83	41	146	43	197	44
84	41	150	43	201	43
85	45	151	43	202	47
91	42	154	43	203	43
93	42	159	43	204	41
94	43	160	43	205	43
96	41	162	44	207	44
97	48	165	43	208	43
98	49	166	44	212	41
100	44	167	44	213	43
102	44	168	43	214	43
103	47	173	43		
106	41	174	43		

### TABLE B — FIGURE REFERENCE FOR VARIOUS REPEATING COILS

(a) Repeating coils, such as the 94, 120, and similar types shall be designated on the terminal side only, except repeating coils isolated from other apparatus in the associated circuit, which shall be designated on both the apparatus and terminal sides. Group or numerical designations, where required to indicate the limits of the group, may be stamped on the apparatus side of the coils.

### C. Resistance Lamps and Ballast Lamps

- 2.08 The designations for resistance lamps and ballast lamps shall be stamped as follows.
  - (a) Resistance lamps, such as the 11, 13, and 15 types, which mount similar to relays, shall be stamped as shown in Fig. 50.
  - (b) Resistance lamps and ballast lamps which mount in surface-mounted lamp sockets having the terminals on the wiring side (No.

46A lamp socket) shall be stamped as shown in Fig. 51.

- (c) Resistance lamps or ballast lamps which mount in surface-mounted sockets having the terminals on the apparatus side shall be stamped as shown in Fig. 52.
- (d) Resistance lamps and ballast lamps which mount in electron tube sockets shall be stamped as shown in Fig. 53.

#### D. Resistors

2.09 The various types of resistors shall be stamped in accordance with the respective figures listed in Table C.

### TABLE C — FIGURE REFERENCE FOR VARIOUS RESISTORS

CODE	FIG. NO.	CODE	FIG. NO.	]
18	54, 55	125	58	
19	54, 55	126	59	
36	56	131	59	
40	57	135	58	
44	57	140	59	
59	57	141	59	
60	57	144	59	i i
63	56	145	59	
64	56	146	59	
65	56	147	59	
67	56	148	58	
71	57	151	59	
80	57	205	59	
82	56	216	59	-→
85	56	217	59	←
88	58	221	59	
89	58	222	59	
96	58	223	59	
98	58	224	59	
100	56	227	59	רי
105	57	228	59	
106	59	234	59	
107	59	236	59	
110	58	237	59	
111	56	238	59	
113	58	241	59	
114	58	242	59	L,
116	58			
119	56			

2.10 Resistors of the 18, 19, and similar types shall be designated on the terminal side only as shown in Fig. 54 and 55.

2.11 Resistors, such as the 40, and similar types, shall be designated on the terminal side only as shown in Fig. 57.

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2.12 Resistors, such as the 106, and similar types, when located on fiber mounting details, shall be designated on one side of the mounting adjacent to the terminals, as shown in Fig. 59. Designations shall be placed on which-

ever side can be more easily seen for maintenance purposes.

 (a) When these resistors are attached to the terminals of other apparatus, their close association with such apparatus serves to identify them and they are not generally designated. The functional designations are shown on the associated equipment drawing for wiring information only.

2.13 Resistors — KS-14175 and similar types (stack mounted) shall be stamped as shown in Fig. 60.







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TERMINAL SIDE

Fig. 18 – Relays — 229 and 230 Types





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Fig. 27 - Relays — 263 and 264 Types



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FIG. NO. 8 TYPE	INDIVIDUAL COVER ALL DESIGNATIONS 3/16	SPOOLHEAD ALL DESIGNATIONS 1/8 UNLESS OTHERWISE SPECIFIED	TERMINAL SIDE FUNCTIONAL 8 NUMERICAL DESIG. 1/8
<b>31</b> AF,AG AJ,AL	NOTE: DESIGNATIONS SHALL BE LOCATED WITHIN CONFINES BETWEEN WINDING TERMINAL HOLES EXCEPT WHEN 214 TYPE TERMINAL IS REQUIRED.	BUFFER SPRING A B B 29 FUNCTIONAL AND NUMERICAL DESIGNATIONS	SEE NOTE
			SEE NOTE SEE NOTE SEE NOTE A M B C C C C C C C C C C C C C
			DESIGNATION WHEN 214 TYPE TERMINAL IS REQUIRED
		GROUP DESIGNATIONS	GROUP DESIGNATION
		FUNCTIONAL AND GROUP DESIGNATIONS WHEN NUMERICAL DESIGNATION IS NOT REQUIRED	

FIG. NO. a type	INDIVIDUAL COVER ALL DESIGNATIONS 3/16	SPOOLHEAD ALL DESIGNATIONS 1/8 UNLESS OTHERWISE SPECIFIED	TERMINAL SIDE FUNCTIONAL & NUMERICAL DESIG. 1/8
32 AK	NOTES: 1. DESIGNATIONS SHALL BE LOCATED WITHIN THE CONFINES BETWEEN WINDING TERMINAL HOLES. 2. DESIGNATIONS ON LEFT INDICATE TOP PART OF RELAY. 3. BASIC FUNCTIONAL DESIGNATION CHARACTERS SHALL BE EQUALLY SPACED.	FUNCTIONAL DESIGNATIONS WITH THREE OR LESS CHARACTERS PER COIL AND NO NUMERICAL DESIGNATIONS REQUIRED.	SEE NOTES I & 2
		FUNCTIONAL DESIGNATIONS WITH FOUR OR MORE CHARACTERS PER COIL.	SR SR SEE NOTES 182
		SIX CHARACTER EXPANDED FUNCTIONAL DESIGNATION	IT TI IC C IT TI NOTES   82

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FIG. NO. & TYPE	INDIVIDUAL COVER All designations 3/16	SPOOLHEAD ALL DESIGNATIONS 1/8 UNLESS OTHERWISE SPECIFIED	TERMINAL SIDE FUNCTIONAL & NUMERICAL DESIG. 1/8
32 AK (CONTD)	NOTES: I. DESIGNATIONS SHALL BE LOCATED WITHIN THE CONFINES BETWEEN THE WINDING TERMINAL HOLES. 2. DESIGNATIONS ON LEFT INDICATE TOP PART OF RELAY. 3. WHEN THE WIDTH OF TWO CHARACTERS DOES NOT PERMIT HORIZONTAL STAMPING, THE CHARACTERS MAY BE STAMPED IN A VERTICAL ARRANGEMENT READING TOP DOWN. 4. STAMPING AREA FOR THREE OR LESS CHARACTERS. WHEN FOUR OR MORE CHARACTERS ARE REQUIRED, THE LAST THREE CHARACTERS.	NUMERICAL SUFFIX OF AN EXPANDED FUNCTIONAL DESIGNATION OF AN INTERMEDIATE RELAY IN A SET	SEE NOTES I & 2
	THE LAST THREE CHARACTERS OF THE DESIGNATION SHALL BE STAMPED BELOW THE CENTER OF THE RELAY AND THE PRECEDING CHARACTERS SHALL BE STAMPED IMMEDIATELY ABOVE THE CENTER OF THE RELAY.	FUNCTIONAL DESIGNATIONS WITH THREE OR LESS CHARACTERS PER COIL AND NUMERICAL DESIGNATION.	T T SEE VV NOTES I B 2
		NUMERICAL DESIGNATION PER COIL AND FUNCTIONAL DESIGNATION	SEE NOTES I & 2 K 2 1 2 1 1 2 1 K C PREFERRED ALTERNATIVE FOR EXISTING PRODUCT ONLY

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FIG. NO. & TYPE	INDIVIDUAL COVER ALL DESIGNATIONS 3/16	SPOOLHEAD ALL DESIGNATIONS 1/8 UNLESS OTHERWISE SPECIFIED	TERMINAL SIDE FUNCTIONAL & NUMERICAL DESIG. 178
32 AK (CONTD)	NOTES: I. DESIGNATIONS SHALL BE LOCATED WITHIN THE CONFINES BETWEEN THE WINDING TERMINAL HOLES. 2. DESIGNATIONS ON LEFT INDICATE TOP PART OF RELAY.	FOUR CHARACTER NUMERICAL DESIGNATION PER COIL AND FUNCTIONAL DESIGNATION	SEE NOTES I & 2

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FIG. NO. & TYPE	INDIVIDUAL COVER ALL DESIGNATIONS 3/16	SPOOLHEAD ALL DESIGNATIONS 1/8 UNLESS OTHERWISE SPECIFIED	TERMINAL SIDE FUNCTIONAL & NUMERICAL DESIGNATIONS 1/8
33 AM	NOTES: 1. DESIGNATIONS SHALL BE LOCATED WITHIN THE CONFINES BETWEEN WINDING TERMINAL HOLES. 2. DESIGNATION ON LEFT IN- DICATES TOP PART OF RELAY.	FUNCTIONAL DESIGNATION PER COIL AND NUMERICAL DESIGNATION	SEE NOTES 18 2
			A NOTES
		NUMERICAL DESIGNATION PER COIL AND FUNCTIONAL DESIGNATION	
		TWO OR THREE CHARACTER	DA SEE NOTES I & 2
		FUNCTIONAL DESIGNATION PER COIL	

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FIG. NO. a TYPE	INDIVIDUAL COVER ALL DESIGNATIONS 3/16	SPOOLHEAD ALL DESIGNATIONS 1/8 UNLESS OTHERWISE SPECIFIED	TERMINAL SIDE FUNCTIONAL & NUMERICAL DESIGNATIONS 1/8 UNLESS OTHERWISE SPECIFIED
33 AM (CONT'D)	NOTE: WHEN FUNCTIONAL DESIGNA- TIONS END IN A NUMERAL, THE COMPLETE DESIGNATION SHALL BE STAMPED ON THE YOKE.	FUNCTIONAL DESIGNATION SEE NOTE UNERICAL DESIGNATION FOUR OR FIVE CHARACTER FUNC- TIONAL DESIGNATION PER COIL - AND NUMERICAL DESIGNATION	UNLESS OTHERWISE SPECIFIED

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FRAME NUMBERS ON APPARATUS SIDE WHEN REGD











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WIRING SIDE

Fig. 36 - Relays - 289 Type



WIRING SIDE



APPARATUS SIDE

Fig. 37 - Relays - 290 Type



APPARATUS SIDE SIMILAR STAMPING ON REAR



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APPARATUS SIDE FIVE FUNCTIONAL DESIGNATIONS SIMILAR STAMPING ON REAR



APPARATUS SIDE ONE FUNCTIONAL DESIGNATION  $\frac{1}{8}$  CHARACTERS SIMILAR STAMPING ON REAR





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Fig. 40 - Relays - 316 Type

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Fig. 41 – Repeating Coils — 58 and Similar Types — See Table B



Fig. 42 – Repeating Coils — 62 and Similar Types — See Table B

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Fig. 43 – Repeating Coils – 94 and Similar Types – See Table B



Fig. 44 – Repeating Coils — 100 and Similar Types — See Table B



MOUNTED WITH TOP OF SHELLS NOT VISIBLE AS ON SHELVES ON RELAY RACK WITHOUT WOODEN INSULATING STRIPS

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WHEN MOUNTED WITH TOP OF SHELLS VISIBLE



MOUNTED ON SIDE WITH TOP OF SHELLS NOT VISIBLE

Fig. 45 - Repeating Coils - 75 and Similar Types - See Table B



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MOUNTED WITH TOP OF SHELLS VISIBLE

Fig. 46 – Repeating Coils — 77 and Similar Types — See Table B



Fig. 47 – Repeating Coils — 103 and Similar Types — See Table B



Fig. 48 – Repeating Coils — 45 and Similar Types — See Table B



Fig. 49 – Repeating Coils – 98 and Similar Types



Fig. 50 - Resistance Lamps - 11, 13, 15, and Similar Types

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Fig. 51 — Resistance Lamps — 12 and Similar-type Ballast Lamps — 4, 5, 7, 8, and Similar Types



Fig. 52 - Resistance or Ballast Lamps in Surface-Mounted Sockets









Fig. 55 – Resistors — 18 and 19 Types in 3A and Similar-Type Resistor Mountings



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Fig. 56 – Resistors — 36 and Similar Types — See Table C (Stamp on Side Where Designation Will Be Most Easily Observed)



Fig. 57 – Resistors — 40 and Similar Types — See Table C



Fig. 58 – Resistors — 88 and Similar Types (Socket of Resistor Shown) — See Table C



Fig. 59 – Resistors — 106 and Similar Types — See Table C



Fig. 60 – Resistors — KS-14175 and Similar Types — Stack Mounted

#### **REASONS FOR REISSUE**

- 1. 2.01(d) was added.
- Table A was revised to add the 282, 303, 305, 307, 309, 310, 313, 314, 316, 318, AL, and AM types of relays.
- 3. 2.03 was revised to add stamping information for plug-in relays when space is insufficient on mounting plate.
- 4. 2.05(a) was revised to remove the restriction which formerly applied to no numerical designation.
- 5. Table C was revised to add 216, 217, 227, 228, 234, 236, 237, 238, 241, and 242 type resistors.
- 6. Fig. 4 was revised to include stamping of plastic relay cover caps.
- 7. Fig. 28 was revised to add stamping location when three or more functional characters are required, and note was added.

- 8. Fig. 31 was revised to add illustration of group designation stamping and stamping when 214-type terminal is required.
- 9. Fig. 32 was revised to add:
- (a) Top and bottom illustrations on page 16.
- (b) Top illustration, "preferred" illustration, and notes 3 and 4 on page 17.
- (c) Illustration on page 18.
- 10. Fig. 33, 39, and 40 were added.
- 11. Fig. 38 was revised to illustrate stamping of functional designation on terminal side of 318A relay.
- 12. Fig. 54 was revised to add information for stamping individual 18- or 19-type resistors when mounted horizontally.
- 13. Fig. 57 was revised to add an alternative stamping location for the 40- and similar-type resistors when mounted with an insulator, and also to add stamping information for the 59- and similar-type resistors when numerical designations are required.