

SHEET INDEX & ISSUE TABLE												
SHEETS OF THIS DRAWING AGREE WITH DESIGN INFORMATION AS FOLLOWS:												
SD-31739-01	ISS 14	14	16 MOD	17 MOD	18	18	18	19	19	19	19	19
ED-31739-01	ISS 14	14	16	18 MOD	19	20	20	21	21	21	21	21
BSP 814-435-150 (J32311)	ISS 10	10	10	10	10							
A1	1	2	3	4	5	6	7	8	9	10	11	12
B1	1	1	3	3	5	5	5	5	9	10	10	10
C1	1	1	3	4	5	6	7	8	9	9	9	9

**SHEET INDEX NOTES**

- WHEN CHANGES ARE MADE IN THIS DRAWING, ONLY THOSE SHEETS AFFECTED WILL BE REISSUED.
- THIS SHEET INDEX WILL BE REISSUED AND BROUGHT UP TO DATE EACH TIME ANY SHEET OF THE DRAWING IS REISSUED, OR A NEW SHEET IS ADDED.
- THE ISSUE NUMBER ASSIGNED TO A CHANGED OR NEW SHEET WILL BE THE SAME ISSUE NUMBER AS THAT OF THE SHEET INDEX.
- SHEETS THAT ARE NOT CHANGED WILL RETAIN THEIR EXISTING ISSUE NUMBER.
- THE LAST ISSUE NUMBER OF THE SHEET INDEX IS RECOGNIZED AS THE LATEST ISSUE NUMBER OF THE DRAWING AS A WHOLE.

RECORD OF FIGURES, APPARATUS AND WIRING CHANGES									
CHANGED ON ISSUE	IF OFFICE RECORDS			ITEM NBR	RATING				
	SPECIFY	DO NOT SPECIFY	THIS OPTION WAS FURNISHED		STD	A & M	MD	SPL	
3	ZA WRG OR ZB WRG & APP		ZA WRG		ZB			ZA	
3	ZC OR ZD WRG		ZC WRG		ZD			ZC	
3	G OR ZE APP		G APP		ZE			G	
9	ZF OR ZG		W		WZ, ZG				
9	ZH OR ZI		ZH		ZH, ZI				
9	ZJ OR ZK		ZJ		ZJ, ZK				

**ISSUE NOTES**

NDD-32311-80 12-27-61

NOTES 53 & 54 ADDED IN TABLE A REF TO SAME ADDED.

TABLE A REVISED. NOTE 53 CHGD. NOTE 54 RMVD. IN TABLE A, GRP NO, REF TO 355A OFF ONLY RMVD.

IN TBL A GROUPS 9 TO 14 & WB RATED "MFR DISC". GROUPS 15 TO 20 ADDED & ASSOC CHANGES MADE IN FIG. 1 & SL. ON SH A1 NOTES 54 & 76 ADDED. ON SH C1 SECT A-A & SECT B-B RATED "MFR DISC" & SECT C-C & SECT D-D ADDED. DWG WAS RATED STANDARD.

IN SL LINES 134 & 136 ADDED. LINE 135 "11A, 13" READ "11A, 13, 11B" IN LINE 136 GRPS 9, 10, 11 & REF TO POS 11B ENV.

ON SH A1 TBL A GRPS 15-20, ZB APP ADDED & ZH WRG FAPP RMVD. "ARR FOR PREVENTION OF ROTARY OVERSTEP" COL ADDED IN NOTE 54 REF TO 63T RES I P-251741 RHM SCR. ADDED. NOTE 76 REVISED SH B1 FIG 1 LOC 27 ADDED AND LOC 26 RMV. SH C1 SL SECT. D-D CHG ACCORD.

ON SH C1 SECT C-C RATED "MFR DISC" & SECT E-E ADDED. IN SL LINE 139, COL Z-POS 15, 15 READ 13. NOTE 76 REMOVED & READ (A) MODIFICATION OF SD-31739-01 CONSISTS OF SHOWING 63T (D) RES ACROSS FROM SPRINGS (ZB OPT) & OMITTING ZH OPTION PER TWK R.J. JAEGER JR. TO J. DASHEN DATED 3-24-65. (B) MODIFICATION OF ED-31739-01 CONSISTS OF SHOWING 63T (D) RES INSTEAD OF MS-8512 LBA (A) RES IN POS 11C PER TWK A. BURGES TO J. DASHEN DATED 4-26-65.

SH A1 NOTE 55 ADDED. SH C1 IN SL LINE 149 COLS Y & Z "11A" & "COVER E/W SK B" LINED OUT. "49A" BRACKET E/W SK C ADDED. SK C ADDED.

SH C1 IN SL LINE 15C LINED OUT & LINE 153 ADDED. SK B, END VIEW, P-429699 SCR LINED OUT AND P-13980T SCR ADDED. MFG NOTE 4 P-429699 LINED OUT & P-13980T ADDED.

INTITLE BOX WITH OR WITHOUT REVERSE BATTERY SUPERVISION ADDED. GRP A1 WC ADDED. IN GRP 16 TO 20 "ZH, ZJ WRG & ZJ APP" ADDED. SH B1 FIG 1 "ZF, ZG, ZI WRG & MFG DESIG W. ZH WRG & APP DESIG Z, J, ZK WRG ADDED. SH C1 SK C RATED "MFR DISC". SL LINES 157 TO 164 & NOTE 4 ADDED.

TABLE A-DESCRIPTION OF GRP									
COL	A	B	C	D	E	F	G	H	
	EQUIPMENT	RATING OR AFTER DATE	GRP	NO.	CIRCUITS AND FIGURES EQUIPPED				
	355A FULL SELECTIVE OFFICE EMPLOYING 50V SUPERIMPOSING BATTERY & CONN HDR SERVES SOME 4 PARTY LINES. (SEE NOTE 53)	48V		11	1	J, M, R, S, W	D, J, M, W		
	ALL OTHER SUBSCRIBER 1 RING SERVICE.	60V		13	1	K, M, R, S, W	D, M, W		
	355A FULL SELECTIVE OFF EMPLOYING 50V SUPERIMPOSING BATTERY & CONN HDR SERVES SOME 4 PARTY LINES. (SEE NOTE 53)	48V		17	1	J, M, R, S, ZB	D, J, M, W, ZB, ZH, ZI		
	ALL OTHER SUBSCRIBER 1 RING SERVICE.	60V		18	1	K, M, R, S, ZB	D, J, M, W, ZB, ZH, ZI		
	WIRING & EQUIPMENT REQUIRED IN ADDITION TO GROUP 15, 16, 18 OR 19 ON ALL JOBS USING ISSUE 9 OR LATER					(1)	ZI, ZG, ZI	ZF, ZG, ZI	
	WRG REQD IN ADD. TO GR 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19 OR 20 FOR USE IN 355A OFFICES FOR SHELVES PRIOR TO J32311E-	A & M ONLY				(1)	J		
	WRG REQD IN ADD. TO GR 9, 10, 11, 12, 13 OR 14 FOR BUSY FLASH TO OPERATOR OVER LOCAL TRAIN IN OFF WITHOUT TOLL TRAIN	MFR DISC				(1)	5		
	WRG REQD IN ADD. TO GR 15, 16, 17, 18, 19 OR 20 WHEN REVERSE BATTERY SUPERVISION IS NOT REQUIRED.	WC				(1)	ZI		

SHEET LOCATION OF FIG. AND OPT.					
FIG.	APPEARS ON SHEET	OPT.	APPEARS ON SHEET	OPT.	APPEARS ON SHEET
1	B1	D	B1	ZE	B1
		E	B1	W	
		J	B1	ZE	
		K	B1	ZF	
		M	B1	ZG	
		N	B1	ZH	
		Q	B1	ZI	
		R	B1	ZJ	
		S	B1	ZK	
		U	B1		
		ZA	B1		
		ZB	B1		
		ZC	B1		
		ZD	B1		

SD-ED DWG CROSS REFERENCE TABLE						
LINE	FIG	OPTION	FIG	WRE	APP	REMARKS
1	(1)	V, W, Y	(1)			
5						
10						
15						

**ENGINEERING NOTES (CONT)**

54. FOR FIELD MODIFICATION TO ARRANGE SWITCHES TO ELIMINATE THE POSSIBILITY OF ROTARY OVERSTEP ON THE LAST DIGIT DIALED, MODIFY GR 11, 13, 9, 14, 10 OR 12 TO AGREE WITH GR 17, 20, 15, 18, 16 OR 19 RESP. CONVERT THE 197GP SW ("G" APP) TO 197HR SW ("ZE" APP) BY ORDERING THE FOLLOWING MATERIAL:

1-PARTS KIT OF D-179971  
 1-63T RES  
 1-P-251741 RHM SCR .138-32 X 2 1/8"  
 1-P-160958 RHM SCR .138-32 X 1 3/8"

55. 49A BRACKET INTRODUCED IN MFR APPROX 6-2-69

**ENGINEERING NOTES**

51. FOR APPLICATION OF FIGURES & OPTIONS SEE TABLE A.

52. ASSOCIATED WIRING DIAGRAMS  
 JACK WIRING T-532511  
 BANK WIRING T-32128-14

53. (A) NO LINES HAVING DC PATH AT STATION END (SUCH AS PREPAY COIN OR 2 PTY MR LINES) CAN BE SERVED BY THIS CONNECTOR HDS GRP.  
 (B) WHEN INCPCT CKTS ARE USED AND "M" WRG & APP IS FURNISHED, INCPCT CKTS MUST TRIP RINGING BY COLD CATHODE TUBES OR MOMENTARY BATTERY ON ONE SIDE OF THE CKT. STANDARD INCPCT CKTS SINCE 1953 ARE SO ARRANGED.

(CONT FROM RIGHT)

IN SH A1 TBL A, GR 9 TO 20 REF TO "W" WRG & APP ADDED. IN SD-ED TBL "W" OPT LINED OUT FOR SD. IN SH B1: LOC 00, 04, 08 & 35 "W" OPT; LOC 00, 01, 08 & 35 "ZG" OPT; LOC 02 "ZH" OPT; LOC 02 & 04 "ZI" OPT; LOC 04 "ZF" OPT ADDED. LOC 02 TERM 5 & 8 PT BK & PT Y TO LOC 16 RESP RMV. LOC 10, TERM 1 & 2, PT Y & 8 PT BK TO LOC 16 RESP ADDED AS "ZI" OPT.

IN SH A1 RECORD OF FIGURES, APPARATUS AND WIRING CHANGES TBL, THIS OPT WAS FURNISHED COL, ZH READ Z.I.

IN SD-ED TBL Y OPT READ T FOR SD.

LINE	NAME	SCHEMATIC	DWG NUMBER	FIG	OPT WIRING	WIRED	NOTES	REMARKS
25								
26								
27								
28								
29								
30								
31	COMB CONN 1R	SD-31739-01	ED-31739-32				AS COVERED IN TABLE "A"	

**NOTICE**

NOT FOR USE OR DISCLOSURE OUTSIDE THE BELL SYSTEM EXCEPT UNDER WRITTEN AGREEMENT

4099

STANDARD NO. 1, 355A STD FOR A&M ONLY NO. 350A

**ED-31739-32**

3 SHEETS

**AI**

WESTERN ELECTRIC COMPANY, INC.

6S

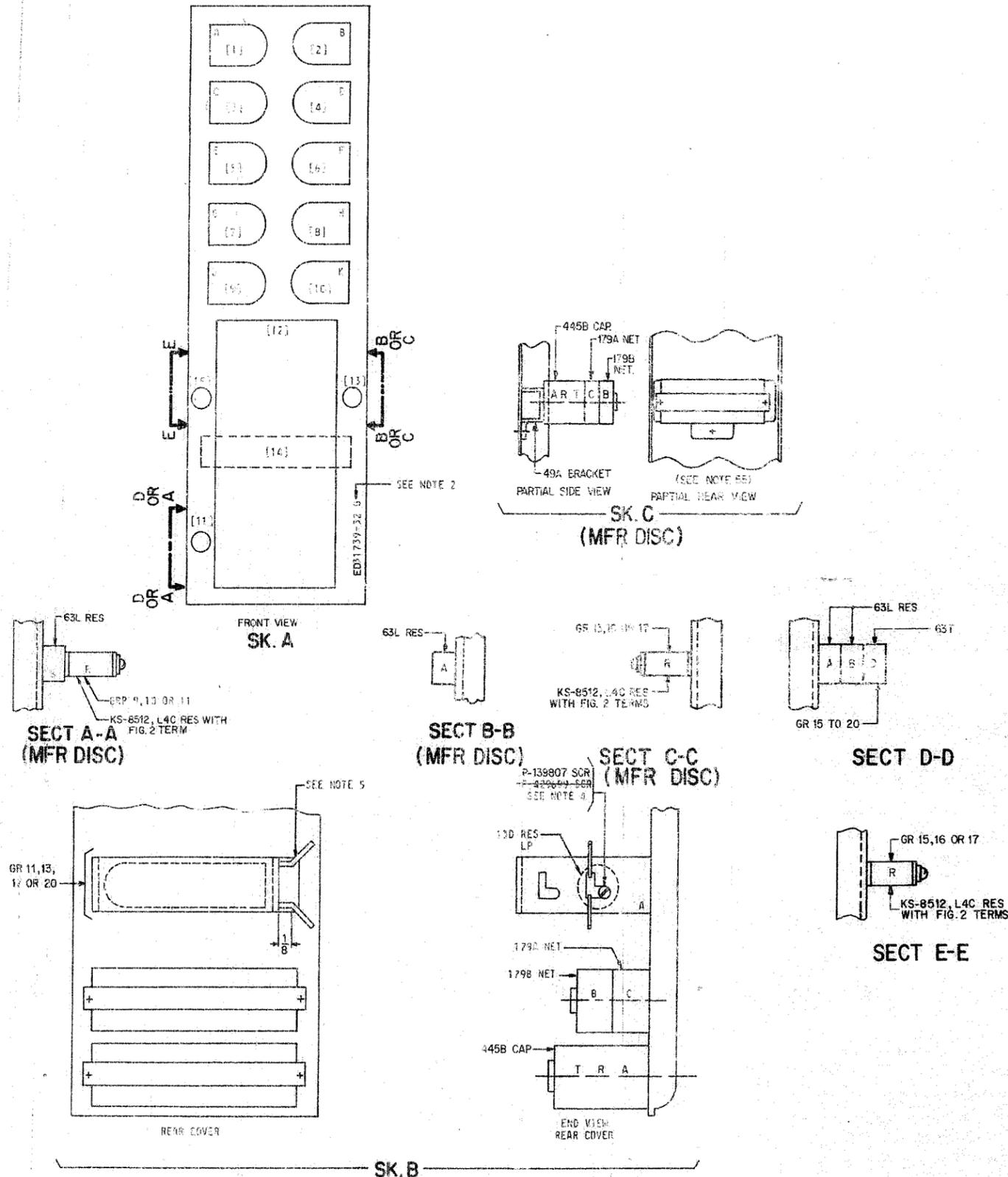
ED-31739-32

SHEET 12

ISSUE 12



STOCKLIST					
W	X	Y	Z	AA	AB
GRP	QUAN PER GRP	CODE	DESCRIPTION	NOTE	PRICE
9,10,11,12,13,14,15,16,17,18,19,20	1	987H	MTG PLT E/W SK A		
9,10,11,12,13,14,15,16,17,18,19,20	1	221ND	REL POS 1		
9,10,11,12,13,14,15,16,17,18,19,20	1	248E-248D	REL 2		
9,10,11,12,13,14,15,16,17,18,19,20	1	221CK	REL 3		
9,10,11,12,13,14,15,16,17,18,19,20	1	222KN	REL 4		
9,10,11,12,13,14,15,16,17,18,19,20	1	221DT	REL 5		
10,11,12,13,16,17,19,20	1	222T	REL 6		
9,14,15,18	1	222DP	REL 6		
9,10,11,12,13,14,15,16,17,18,19,20	1	221W	REL 7		
9,10,11,12,13,14,15,16,17,18,19,20	1	222JJ	REL 8		
9,10,11,12,13,14,15,16,17,18,19,20	1	223A	REL 9		
9,10,11,12,13,14,15,16,17,18,19,20	1	224E	REL 10		
15,16,17,18,19,20	1	197HR	SWITCH E/W 12		
9,10,11,12,13,14	1	197GP	SWITCH E/W 12		
9,10,11,12,13,14,15,16,17,18,19,20	1	M1R	CORD 4" LONG		
9,10,11,12,13,14,15,16,17,18,19,20	2	M1R	CORD 4 3/4" LONG		
9,10,11	1	KS-8512	L4C RES 352Ω WITH FIG. 2 TERM 11B		
9,10,11,12,13,14	2	63L	RES 11A, 13		
15,16,17,18,19,20	2	63L	RES 11A, 11B		
9,10,11,12,13,14	1	242C	PLUG 14R		
15,16,17	1	KS-8512	L4C RES 352Ω WITH FIG. 2 TERMS 13-15		
15,16,17,18,19,20	1	63T	RES 11C		
9,10,12,14,15,16,18,19	1	49A	COVER E/W BRACKET E/W SK B C		
11,13,17,20	1	111F	COVER E/W SK D		
9,10,11,12,13,14,15,16,17,18,19,20	1	179A	NET.		
9,10,11,12,13,14,15,16,17,18,19,20	1	179B	NET.		
9,10,11,12,13,14,15,16,17,18,19,20	1	445B	CAP.		
11,13,17,20	1	13D	RES LP		
11,13,17,20	1	P-429699	BHM SCR .138-32 X 5/16"		
11,13,17,20	1	P-139807	BHM SCR .138-32 X 11/32"		
A	OMIT	49A	BRACKET E/W SK C		
A	OMIT	179A	NET.		
A	OMIT	179B	NET.		
A	OMIT	445B	CAP.		
A	1	840073423	NET POS 4R		
A	1	186A	NET 6R		
A	1	542U	CAP 6R		
A	1	840074702	CAP 4R		



- MANUFACTURING NOTES  
CONVENTIONS
- CONNECTION FURNISHED AS PART OF COMPONENT.
  - X 1. WIRES NOT OTHERWISE SPECIFIED TO BE 24BW WIRE RUN AS SURFACE WIRING & COLORED GREEN UNLESS OTHERWISE SPECIFIED.
  - X 2. THE GROUP NUMBER OF THE SWITCH ORDERED SHALL BE STAMPED ON THE APPARATUS MTG PLT.
  - X X 3. [ ] INDICATES MTG POSITION NUMBERS AND ARE NOT TO BE STAMPED.
  - X 4. THE MOUNTING SCREW FURNISHED WITH THE 13D RES LAMP SHALL BE DISCARDED & REPLACED BY B.H.M. SCREW P-429699 P-139807.
  - X 5. THE RES LAMP TERMINALS SHALL BE BENT AS INDICATED IN SK B WITH THE BEND APPROX 45 DEGREES; PREVIOUSLY THE TERMINALS WERE BENT 90 DEGREES.
  - X 6. THIS DRAWING SHOWS NO LEADS TO BE RUN BY THE INSTALLER.
  - X 7. WHEN SWITCH IS MODIFIED FROM GR 11, 13, 9, 14, 10 OR 12 TO GR 17, 20, 15, 18, 16 OR 19 RESP; INSTALLER SHALL RESTAMP CODE OF SWITCH FROM 197GP TO READ 197HR.
  - X 8. PT-LEADS FURNISHED WITH COMPONENT.

SHEET  
ISSUE  
1  
3  
6  
7  
8

ED-31739-32

STEP BY STEP SYSTEMS  
COMB CONN 1R

ED-31739-32  
PRINTED IN U.S.A.

WESTERN ELECTRIC COMPANY, INC.

ISSUE  
9

SHEET  
C1