

**LIST OF
RECTIFIERS, VOLTAGE REGULATORS, VIBRATOR—INVERTERS,
POWER UNITS, AND POWER SUPPLIES
EQUIPMENT DESIGN REQUIREMENTS
POWER SYSTEMS**

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1. GENERAL

1.01 This specification lists the rectifier units, regulators, vibrator-inverters, power units (coded apparatus), and power supplies recommended for use as power supply units in Bell System service. The units are identified by their respective design requirement specification numbers; their salient features and ratings are tabulated. Photographs of representative equipment designs for various types of mounting are included.

1.02 This specification is reissued to add new rectifiers and regulators and to remove those that are rated "Mfr. Disc." Lists of power units (coded apparatus) and power supplies have also been added. Since this reissue is a general revision, arrows ordinarily used to indicate changes have been omitted.

1.03 Most of the rectifier units, regulators, vibrator-inverters, power units, and power supplies listed were developed for specific applications, but many are suitable for general application within their ratings. However, new and special applications should be fully analyzed before any of these rectifier units and regulators are incorporated in a commercial design. Detailed study must be made as to the adaptability of the rectifier unit and regulator to the following requirements:

- (a) Battery charging or batteryless load.
- (b) Capability of rectifier to charge a dead battery.
- (c) Load voltage range and permissible variation.
- (d) Load current range.
- (e) Automatic or manual start.
- (f) Input voltage magnitude and variation.
- (g) Input frequency and variation.
- (h) Ambient temperature range.
- (i) Impedance versus frequency characteristics of output.
- (j) Type of mounting.

In addition to the above, load power factor must be considered in regular applications.

2. LIST OF RECTIFIERS

2.01 *Electron Tube-Type Rectifiers for Battery Charging — Automatic Regulation:*

CODES	AC INPUT		DC OUTPUT			ARRANGED FOR MOUNTING ON (DIMENSIONS SHOWN IN INCHES)			SEE NOTES
	VOLTS	HERTZ	AMPERES		FRAMEWORK	WIDTH	VERTICAL SPACE		
			INTER- MITTENT	CONTIN- UOUS					
J86207A L2	190-250	50-60	17-45	0.6	0.6	Power Board	24	10-1/4	—
						Relay Rack	23	10-1/4	—
J86207C L6	190-250	50-60	119-152	8	8	Power Board	24	26	—
						Relay Rack	23 or 24	22-3/4	—
J86207C L7			Filter Coil Used with Carrier Repeaters						—
J86207C L8			Filter Capacitors Used with 50-Hertz Power						—
J86207F L4	190-250	50-60	142	2	2	Relay Rack	19	28	—
J86207F L5	105-125	50-60	142	2	2	Relay Rack	19	28	—
J86207F L6	190-250	50-60	142	2	2	Relay Rack	19	28	—
J86207F L7	105-125	50-60	142	2	2	Relay Rack	19	28	—
J86207G L2	190-250	50-60	125-135	0.6	0.6	Power Board	24	10-1/4	A, D
						Relay Rack	23	10-1/4	
J86207H L2	190-250	50-60	48/75	0.6	0.6	Power Board	24	10-1/4	A
						Relay Rack	23	10-1/4	
J86207J L4	105-125	60	50	10	8	Power Board or Relay Rack	18 or 24	18	B
J86207J L5	190-250	60	50	10	8				
J86207J L6	105-125	60	50	10	8	Relay Rack	23	18	—
J86207L L1	110-120	50-60	24/34	10	8	Power Board	18 or 24	18	—
J86207L L2	190-250	50-60	24/34	10	8	Relay Rack	23	18	—
J86207U L1	110-120	50-60	130	4	3	Relay Rack	23	15-3/4	A
J86207U L2	210-250	50-60	130	4	3	Relay Rack	23	15-3/4	A
J86207U L3			Front Cover and Door Switch						A
J86207U L4			Filter Coil for Combined Plate and Telegraph						A
J86207U L5			24-Volt AC Supply						A

2.01 (Continued)

CODES	AC INPUT		DC OUTPUT			ARRANGED FOR MOUNTING ON (DIMENSIONS SHOWN IN INCHES)			SEE NOTES	
	VOLTS	HERTZ	VOLTS	AMPERES		FRAMEWORK	WIDTH	VERTICAL SPACE		
				INTER- MITTENT	CONTIN- UOUS					
J86240A L6	200-250	60	119-152	8	8	Power Board, ED-81779-01 Cab. Channel, or Duct-Type Relay Racks	24	23-3/4	—	
J86240B L1	200-250	60	119-152	8	8		Duct-Type Relay Rack	23	23-3/4	—
J86251A L1, L4	115/230	60	48	10	8		Shelf	29	12-1/2	—

Note A: Externally connected ballast lamps required for battery-charging applications.

Note B: These rectifiers units are available for 25-Hertz power supply on special order.

Note C: This rectifier is suitable for charging batteries 150 volts above ground.

Note D: Battery charging or plate supply.

2.02 *Electron Tube-Type Rectifiers for Battery Charging—
Manual Regulation:*

CODE	AC INPUT		DC OUTPUT		ARRANGED FOR MOUNTING ON	TYPICAL APPLICATION	SEE NOTE
	VOLTS	HERTZ	VOLTS	AMPS			
KS-5194 L1	105-125	50-60	75	6-12	Wall	PBX and Small Central Office	A
KS-5194 L2	105-125	25-40	75	6-12			A
KS-5194 L3	190-250	50-60	75	6-12			A
KS-5194 L4	190-250	25-40	75	6-12			A
KS-5197 L1	105-125	60	65/52-19	1-3	Wall	PBX Power	—
KS-5197 L2	105-125	25-50	65/52-19	1-3			—
KS-5197 L3	190-250	60	65/52-19	1-3			—
KS-5197 L4	190-250	25-50	65/52-19	1-3			—

2.02 (Continued)

CODE	AC INPUT		DC OUTPUT		ARRANGED FOR MOUNTING ON	TYPICAL APPLICATION	SEE NOTE
	VOLTS	HERTZ	VOLTS	AMPS			
KS-5364 L1	105-125	50-60	17-80	12			A
KS-5364 L2	105-125	25-40	17-80	12			A
KS-5364 L3	190-250	50-60	17-80	12	Power Board or 19-in.	PBX and Small Central Office	A
KS-5364 L4	190-250	25-40	17-80	12	Relay Rack		A
KS-5395 L1	105-125	50-60	19-52	3	Power Board or 19-in.	PBX and Small Central Office	—
KS-5395 L2	105-125	25-40	19-52	3	Relay Rack		—
KS-5395 L3	190-250	50-60	19-52	3			—
KS-5395 L4	190-250	25-40	19-52	3			—

Note A: An external filtering inductor per 1005A is not furnished and must be ordered separately. If 1005A inductor is to be used, the maximum voltage will be reduced to 65.

2.03 Electron Tube-Type Rectifiers for Plate Supply (Except as Noted)
Automatic Regulation:

CODE	DC OUTPUT		ARRANGED FOR MOUNTING ON (SEE ABBREVIATIONS)	COVER	COVER SWITCH	DC FUSE	AC METER	TYPICAL APPLICATION	SEE NOTES
	VOLTS	MA							
J86207B L4	125-135	100	19-in. CH-WF	Yes	Yes	Yes	Yes	Toll	A
J86207G L2	125-135	600	23-in. CH-WF	Yes	No	Yes	Yes	TWX	F
J86207T L1	150-180	100	19-in. CH-WF	Yes	Yes	Yes	Yes	Toll	—
J86207U L1	130	3000	23-in. CH-WF	Yes	Yes	Yes	Yes	TWX	—
J86207U L2	130	3000	23-in. CH-WF	Yes	Yes	Yes	Yes	TWX	B
J86207W L1	120-130	8000	23-in. CH-WF 24-in. Power Board	Yes	Yes	Yes	Yes	TWX	B
J86216A L1	180	100	19-in. CH-WF	Yes	Yes	Yes	Yes	L Carrier	—

2.03 (Continued)

CODE	DC OUTPUT		ARRANGED FOR MOUNTING ON (SEE ABBREVIATIONS)	COVER	COVER SWITCH	DC FUSE	AC METER	TYPICAL APPLICATION	SEE NOTES
	VOLTS	MA							
J86217A L1	130	200	19-in. CH-WF	Yes	Yes	Yes	No	L Carrier	—
J86218A L1	250	150	19-in. CH-WF	Yes	Yes	Yes	No	L Carrier	—
J86219A L2	300	200-450 0-200	19-in. Special-AF	No	No	No	Yes	L Carrier	C
J86219B L1	300	600	19-in. DU-AF	Yes	No	No	No	L Carrier	D
J86219B L2	300	600	19-in. Special-WF	No	Yes	No	No	TE Radio	D
J86219B L3	300	600	19-in. Special-AF	No	No	Yes	No	L Carrier	D
J86219B L4		Resistor							—
J86221A L1	+275 -115	250	19-in. CH-WF	Yes	Yes	No	No	L Carrier	—
J86225A L1	130-150 120-200	250	19-in. CH-WF	Yes	Yes	Yes	Yes	TE Radio TD2 Radio	—
J86225A L2		120	19-in. CH-WF	Yes	Yes	Yes	Yes		—
J86225B L1	130-150	250	19-in. DU-WF	Yes	Yes	Yes	No	TE Radio	—
J86225B L2	130-150	250	19-in. DU-WF	Yes	Yes	No	Yes	TD Terminal	—
J86225B L3	130-150	250	19-in. DU-WF	No	Yes	No	No	TE Radio	—
J86225B L4	130-150	250	19-in. DU-WF	No	No	Yes	No	46A T.M.	—
J86225B L5	130-150	250	19-in. DU-WF	Yes	Yes	Yes	Yes	V3 Repeater	—
J86225D L1	130-150	250	19-in. DU-AF	No	No	Yes	No	L Carrier	—
J86225D L2	130-150	250	19-in. DU-WF	No	No	Yes	No	TD Radio	—
J86225D L3	130-150	250	19-in. DU-WF	Yes	No	Yes	No	TE Radio	—
J86225E L1	145-150	250	19-in. DU-AF	No	No	Yes	No	L3 Carrier	—
J86225E L2	145-150	250	19-in. DU-WF	No	No	Yes	No	L3 Carrier	—
J86225E L3	145-150	250	19-in. DU-WF	Yes	No	Yes	No	L3 Carrier	—
J86225F L1	130-150	250	19-in CH-EXT	Yes	Yes	Yes	No	Sub Cable Test Set	—
J86226C L1	200	200	19-in. DU-AF	Yes	No	Yes	No	Video Terminal	—
J86226C L2	200	200	19-in. DU-AF	No	No	Yes	No	Video Terminal	—

2.03 (Continued)

CODE	DC OUTPUT		ARRANGED FOR MOUNTING ON (SEE ABBREVIATIONS)	COVER	COVER SWITCH	DC FUSE	AC METER	TYPICAL APPLICATION	SEE NOTES
	VOLTS	MA							
J86226C L3	200	200	19-in. DU-AF	Yes	No	No	No	Video Terminal	—
J86226D L1	220-250	200	19-in. DU-WF	No	No	Yes	No	TD2 Radio	E
J86226D L2	220-250	200	19-in. DU-WF	Yes	No	Yes	No	L3 Visual Gain	E
J86226D L3	220-250	200	19-in. DU-AF	No	No	Yes	No	L3 Test Set	E
J86227A L2	200-300	100	19-in. DU-WF	Yes	Yes	Yes	No	TE Radio	—
J86227A L3	300	220	19-in. DU-WF	Yes	Yes	No	Yes	TD Terminal	—
J86227D L1	300	230	19-in. DU-AF	Yes	No	No	No	B2-C2 Television	—
J86227D L2	300	230	19-in. DU-AF	No	No	Yes	No	L Carrier	—
J86228A L1	400	100	19-in. DU-WF	Yes	Yes	Yes	No	TE Radio	—
J86232A L1	250	350	19-in. BT-WF	Yes	Yes	Yes	No	LD-R1 Radio	—
J86233A L1	+130 130	175	19-in. BT-WF	Yes	Yes	Yes	No	LD-R1 Radio	—
		30							
KS-15123 L2	130	1700	19-in. CH-WF	Yes	Yes	Yes	No	40 AC1 Telegraph	—
WA	130	1700	19-in. CH-WF	Yes	Yes	Yes	No	40 AC1 Telegraph	—
WB	150	1700	19-in. CH-WF	Yes	Yes	Yes	No	40 AC1 Telegraph	—

Abbreviations:

BT — Bathtub Chassis on 19-in. Channel Flush Front

CH — Channel Type — Rectifier Spaced in Channel

DU — Duct Type

WF — Wiring Front All meters and

AF — Apparatus Front controls on the front

Note A: May be connected for 230-volt input.**Note B:** For 230-volt input only.**Note C:** This output rating is with "T" wiring; without "T" wiring, regulation is obtained from 0 to 45 MA.**Note D:** When L4 is used with L1, L2, or L3, output rating is limited to 400 MA maximum.**Note E:** To obtain 200- to 220-volt input, order list WA.**Note F:** Battery charging or plate supply.

2.04 Semiconductor-Type Rectifiers (For Filament, Resistance, Relay, Plate, or Battery Loads With Appropriate Cross-Connections, Except as Noted) Automatic Regulation:

CODE	TYPE	AC INPUT		DC OUTPUT		MOUNTING (DIMENSIONS SHOWN IN INCHES)			SEE NOTES
		VOLTS	HERTZ	VOLTS	AMPERES	FRAMEWORK	WIDTH	VERTICAL SPACE	
KS-19481 L1	Si	5	60	22.5	0.001	Shelf	3	2-1/2	B
KS-19481 L2	Si	5	60	46.5	0.001	Shelf	3	2-1/2	B
J86231A L1, L2, and L5	Si	200/210/ 220/230/ 240/250	60	24	30	Special Rack	24-1/4	19-3/4	C, I
J86231A L3, L4, and L6	Si		60	48	30	Special Rack	24-1/4	19-3/4	C, I
J86239C L1	Se	210	60	53	130	Floor Mounted Self-Contained	36	84	C,D,E
J86239C L2	—	230/250	Autotransformer			Mounted in L1			—
J86241A L1	Se	111/117/123	60	23-26	1	Wall	12-5/32	7-7/8	C
J86241A L2	—	117	Line Voltage Regulator			Mounted in L1	3-5/16	7-1/8	—
J86242A L1	Se	115	60	24	3	Relay Rack	19	15-3/4	C
J86243A L1	Se	115	60	24	9	Relay Rack	23	15-1/2	C
J86243A L2	—	210/220/ 230/240/250	Autotransformer			Mounted in L1			—
J86244A L4, L6	Si	210/220/ 230/240/250	60	12	200	Floor Mounted Self-Contained	30	96	C
J86249A L1	Se	210	60	48	100	Floor Mounted Self-Contained	36	84	C,D
J86249A L2	—	200/230/250	Autotransformer			Mounted in L1	—	—	C,D
J86249A L3	—		Filter						—
J86249B L1	Se	210	60	24	100	Floor Mounted Self-Contained	36	84	C,D
J86249B L2	—	210/230/250	Autotransformer			Mounted in L1	—	—	C,D
J86249B L3	—		Filter						—

2.04 (Continued)

CODE	TYPE	AC INPUT		DC OUTPUT		MOUNTING (DIMENSIONS SHOWN IN INCHES)			SEE NOTES	
		VOLTS	HERTZ	VOLTS	AMPERES	FRAMEWORK	WIDTH	VERTICAL SPACE		
J86249C L1	Se	210	60	24	200	Floor Mounted Self-Contained	36	84	C,D	
J86249C L2	—	210/230/250	Autotransformer Filter			Mounted in L1	—	—	C,D	
J86249C L3	—					—	—	—		
J86249E L1	—		Electronic Control			Mounts in J86249A,B,or C	—	—	C,D	
J86249E L2	—		Relay Control			Mounts in J86249A,B,or C	—	—	C,D	
J86249E L3	—		Electronic Control for 302A Power Plant Only			Mounts in J86249A,B,or C	—	—	C,D	
J86250A L1	Se	208	60	45	10	Shelf	20	14-1/16	G	
J86250A L2	Se	208	60	22.5	20	Shelf	20	14-1/16	G	
J86250A L3	—	230/240	Autotransformer			Mounted in L1 or L2	—	—	—	
J86263A L2	Si	210/230/250	60	48	30	Relay Rack Power Board	23 24	23-7/8 23-7/8	C,F	
J86263B L2	Si	210/230/250	60	24	30	Relay Rack Power Board	23 24	23-7/8 23-7/8	C,F	
J86266A L1	Se	200/210/220/ 230/240/250	60	130	24	Floor Mounted Self-Contained	18	84	C	
J86266A L2	—	Charge Control Unit for 410B Power Plant					Mounted in L1	—	—	C
J86266A L5	—	Charge Control Unit for 410A Power Plant					Mounted in L1	—	—	C
J86272 L1	Ge	111/117/123	60	22	0.16	Pole-Mounted	—	—	J	
J86281A L1	Si	115	60	48	7.5	Relay Rack	23	14	E	
J86283C L2	Si	230	60	2800	0.03	Mounts in J86474A	—	—	R	
J86285A L1	Si	105-125	60	135	0.2/2	Relay Rack	30-1/2	10	K	
J86295A L1, L2	Si	192-254	60	48	200	Floor Mounted Self-Contained	27	84	C,D	

2.04 (Continued)

CODE	TYPE	AC INPUT		DC OUTPUT		MOUNTING (DIMENSIONS SHOWN IN INCHES)			SEE NOTES
		VOLTS	HERTZ	VOLTS	AMPERES	FRAMEWORK	WIDTH	VERTICAL SPACE	
J86295B L1	—	Voltage Regulator				Mounts in J86295A	—	—	—
J86295C L1	—	Current Voltage				Mounts in J86295A	—	—	—
J86295D L1	—	Voltage Regulator				Mounts in J86295A	—	—	—
J86295E L1	—	Meter and Control Unit				Mounts in J86295A	—	—	—
J86296A L1, L2	Si	181-264	60	48	400	Floor Mounted Self-Contained	42	84	—
J86296B L1	—	Voltage Regulator				Mounts in J86296A	—	—	—
J86296C L1	—	Current Voltage				Mounts in J86296A	—	—	—
J86296D L1	—	Voltage Regulator				Mounts in J86296A	—	—	—
J86296E L1	—	Metering and Control Unit				Mounts in J86296A	—	—	—
J86298A L1	Si	190-250	60	4	3	Cabinet or Relay Rack	23	6	—
J87202A L4	Ge	110	60	+12 +30	0.075 0.045	Wall	3-3/4	2-3/4	—
J87205A L1	Si	105-129	60	-48	8	Relay Rack	19	8-3/4	O
J87205A L2	Si	210-250	60	-48	8	Relay Rack	19	8-3/4	O
J87205A L3	—	Filter				Mounts in L1 or L2	—	—	P
J87207B L1	Si	105-129	60	±24	1.5	Relay Rack	19	5-1/4	R
J87208A L3	Si	105-129	60	±18	0.275	Cabinet	—	—	S
J87208A L4	Si	105-129	50 or 60	±18	0.275	Cabinet	—	—	S
J87211A L5	—	95-135	60	48	11	Cabinet or Relay Rack	23	7	—
J87211A L6	—	190-275	60	48	11	Cabinet or Relay Rack	23	7	—
J87211B L5	—	95-135	60	24	11	Cabinet or Relay Rack	23	7	—
J87211B L6	—	190-275	60	24	11	Cabinet or Relay Rack	23	7	—
J87212A L1	—	117	60	+12 -12 24	0.570 0.250 0.060	Bench	5-11/16	5-1/8	—
J87215A L2	—	117	60	±20	0.500	Shelf	4-5/16	5	—

2.04 (Continued)

CODE	TYPE	AC INPUT		DC OUTPUT		MOUNTING (DIMENSIONS SHOWN IN INCHES)			SEE NOTES
		VOLTS	HERTZ	VOLTS	AMPERES	FRAMEWORK	WIDTH	VERTICAL SPACE	
J87216C L1	—	-44 to -52 DC	—	-21	2.0	Plug-in	6-1/2	5	—
J87221A L1	Si	105-129	60	-3 +60 +145	3.5 0.15 0.03	Relay Panel	23	7	—
J87222C L1	—	190-260	60	24	100	Coal Shute Design	23	30.9	—
J87222D L1	—	380-500	60	24	100	Coal Shute Design	23	30.9	—
J87223C L1	—	190-260	60	48	100	Coal Shute Design	23	30.9	—
J87223D L1	—	380-500	60	48	100	Coal Shute Design	23	30.9	—
J87224A L2	—	190-250	60	130	100	Cabinet	23	41.5	—
J87224B L1	—	380-500	60	130	100	Cabinet	23	41.5	—
J87226A L1	—	117	60	+48/±10 ±10	0.5/13.6 13.6	Relay Rack	23	8	—
J87228	—	208-230	60	130	10	Relay Rack	23	23.74	—
J87229	—	208-230	60	130	30	Relay Rack	23	23.74	—
J87232	—	208-230	60	24	30	Relay Rack	23	8	—
J87233	—	208-230	60	48	30	Relay Rack	23	8	—
J87234A	Si	117	60	-24	25	Relay Rack	19	10-1/2	—
J87239B L1	Si	105-129	60	±20	0.25	Shelf	4.80	3.75	—
J87240B L2	Si	105-129	60	±20	0.50	Shelf	4.34	6.24	—
J87241A L1	Si	105-129	60	-48	0.700	Shelf	4-5/16	4-3/4	—
J87241B L1	Si	105-129	60	-48	0.700	Portable	4-5/16	4-3/4	—
J87242A L1	Si	117	60	12	21	Plug-in	13-1/4	8	—
J87243A L1	Si	117	60	24	11	Plug-in	10	8	—
J87244A L1	Si	117	60	-48	8	Plug-in	13-5/8	8	—
J87247A L1	Si	105-129	60	17-26	1.5-2.0	Shelf	8-1/2	9	—
J87247B L1, L2	Si	105-129	60	17-26	1.5-2.0	Relay Rack	19	5-1/2	—

2.04 (Continued)

CODE	TYPE	AC INPUT		DC OUTPUT		MOUNTING (DIMENSIONS SHOWN IN INCHES)			SEE NOTES
		VOLTS	HERTZ	VOLTS	AMPERES	FRAMEWORK	WIDTH	VERTICAL SPACE	
J87249B L1	Si	208-240	60	24-30	4	Shelf	7.5	6.5	—
J87258A L1	Si	105-129	60	±18	0.65	Shelf	4.38	6.44	—
J87264A L1, L2	Si	-24		+130	1	Relay Rack	23	3-1/2	—
J87270A L1	—	117	60	+18	1.5	Shelf	10	5.10	—
				-18	0.5				
J87272A L1, L2	Si	105-129	60	+155	0.004	For 911A Test Set	—	—	—
				+26	0.250				
				+12	0.600				
				-12	0.125				
J87272B L1, L2	Si	105-129	60	+200	0.040	For 911A Test Set	—	—	—
				+155	0.004				
				+26	0.250				
				+12	0.600				
				-12	0.125				
J87267A L1	—	105-129	60	+17.5	3.2	Cabinet Mounting	23	7	—
				-17.5	1.6				
J87267A L2	—	105-129	60	+17.5	3.2	Rack Mounting	27	7	—
				-17.5	1.6				
J87275A L1	Si	190-260	60	9	100	Relay Rack	23	13.9	—
J87275A L2	Si	380-500	60	9	100	Relay Rack	23	13.9	—
KS-5651	—	210/230/250	60	24	100/200	Cabinet	36	84	—
				48	100				
KS-5669	Se	105/125	60	6.6	15	Cabinet	—	—	—
KS-5769 L3	Ge	105/125	60	120	0.8	Shelf	10	8-1/2	A
KS-5928 L2	Se	105/115/125	60	120	0.8	Shelf	20	9	A
KS-5928 L8	Si	105-129	60	120/130	0.8	Shelf	8-3/4	6	A
KS-15523 L4	Ge	105-125	60	120-130	3.5	Relay Rack	19	18 Plates	A
		210-250							
KS-15620 L13	Se	105-129	60	48	6	Relay Rack	19	6-15/16	A

2.04 (Continued)

CODE	TYPE	AC INPUT		DC OUTPUT		MOUNTING (DIMENSIONS SHOWN IN INCHES)			SEE NOTES	
		VOLTS	HERTZ	VOLTS	AMPERES	FRAMEWORK	WIDTH	VERTICAL SPACE		
KS-15620 L14	Ge	105-129	60	48	2	Relay Rack	19	3-15/32	A	
KS-15620 L15	Ge	105-129	60	48	6	Relay Rack	19	6-15/16	A	
KS-15620 L16	Ge	105-129	60	48	2	Relay Rack	19	3-15/32	A	
KS-15655 L1	Se	105-129	60	48	15	Relay Rack	30-1/2	16	A	
KS-15661 L1	Se	115	60	26	1	Relay Rack or Wall	19	6-15/16	C,H	
KS-15661 L2	Se	115	60	26	3	Relay Rack or Wall	19	15-5/8	C,H	
KS-15661 L3	Se	115	60	26	6	Relay Rack or Wall	19	24-3/8	C,H	
KS-15661 L4	Se	115	60	24	6	Relay Rack or Wall	19	24-3/8	C,H	
KS-15661 L5	Se	115	60	26	12	Relay Rack or Wall	19	27-7/8	C,H	
KS-15661 L6	Se	115	60	24	12	Relay Rack or Wall	19	27-7/8	C,H	
KS-15661 L7	Se	115	60	26	24	Relay Rack	23	46-7/16	C,H	
KS-15661 L8	Se	230	60	26	24	Relay Rack	23	46-7/16	C,H	
KS-15661 L9	Se	115	60	24	24	Relay Rack	23	46-7/16	C,H	
KS-15661 L10	Se	115	60	37	3	Relay Rack or Wall	19	15-5/8	E,H	
KS-15661 L12	Se	115	60	52	1.5	Relay Rack or Wall	19	15-5/8	C,H	
KS-15661 L13	Se	115	60	52	3	Relay Rack or Wall	19	24-3/8	C,H	
KS-15661 L14	Se	115	60	52	6	Relay Rack or Wall	19	27-7/8	C,H	
KS-15661 L15	Se	115	60	52	12	Relay Rack	23	46-7/16	C,H	
KS-15661 L16	Se	230	60	52	12	Relay Rack	23	46-7/16	C,H	
KS-15661 L17	Se	230	60	52	24	Relay Rack	23	46-7/16	C,H	
KS-15661 L18	—	No-Charge Alarm Relay for L1 Through L9, and L26					—	—	—	—
KS-15661 L19	—	No-Charge Alarm Relay for L10, L22, and L24					—	—	—	—
KS-15661 L20	—	No-Charge Alarm Relay for L12 Through L17					—	—	—	—
KS-15661 L21	—	Relay Rack for L7, L8, L9, L15, L16, L17, and L28					—	24-3/8	52-1/8	—
KS-15661 L22	Se	115	60	39	3	Relay Rack or Wall	19	15-5/8	E,H	
KS-15661 L24	Se	230	60	35	3	Relay Rack or Wall	19	15-5/8	C,H	

2.04 (Continued)

CODE	TYPE	AC INPUT		DC OUTPUT		MOUNTING (DIMENSIONS SHOWN IN INCHES)			SEE NOTES
		VOLTS	HERTZ	VOLTS	AMPERES	FRAMEWORK	WIDTH	VERTICAL SPACE	
KS-15661 L25	Se	115	60	20	0.75	Wall	8-5/8	12-1/4	C
KS-15661 L26	Se	230	60	13	3	Relay Rack or Wall	19	15-5/8	C,H
KS-15661 L27	Se	230	60	9	3	Relay Rack or Wall	19	6-15/16	C
KS-15661 L28	Se	230	60	52	25	Relay Rack	23	46-7/16	C,D
KS-15661 L29	—	Floor-mounted Stand for L3, L4, L11, L13, and L23				—	19	32-3/16	—
KS-15668 L2	Se	111/117/123	60	34	1.5	Wall	8-5/8	17-5/8	A
KS-15668 L3	Si	111/117/123	60	34	1.5	Wall	8-5/8	17-5/8	A
KS-15678 L3	Se	115	60	26	3	Relay Rack or Wall	19	24-3/8	C
KS-15678 L4	Se	115	60	26	3	Relay Rack or Wall	19	24-3/8	C,H
KS-15678 L5	Se	115	60	26	6	Relay Rack or Wall	19	24-3/8	C
KS-15678 L6	Se	115	60	26	6	Relay Rack or Wall	19	24-3/8	C,H
KS-15678 L7	Se	115	60	26	12	Relay Rack or Wall	19	27-7/8	C
KS-15678 L8	Se	115	60	26	12	Relay Rack or Wall	19	27-7/8	C,H
KS-15678 L9	Se	115	60	39	3	Relay Rack or Wall	19	24-3/8	E
KS-15678 L10	Se	115	60	39	3	Relay Rack or Wall	19	24-3/8	E,H
KS-15678 L11	Se	115	60	39	6	Relay Rack or Wall	19	24-3/8	C
KS-15678 L12	Se	115	60	39	6	Relay Rack or Wall	19	24-3/8	C,H
KS-15678 L15	Se	120	60	52	3	Relay Rack or Wall	19	24-3/8	E
KS-15678 L16	—	No-Charge Alarm Relay for Lists 15 and 17							
KS-15678 L17	Se	120	60	52	3	Relay Rack or Wall	19	24-3/8	C
KS-15678 L18	Se	230	60	4	10	Relay Rack	23	8-15/16	C
KS-15678 L19	Se	115	60	52	6	Relay Rack or Wall	19	24-3/8	C
KS-15678 L20	Se	115	60	52	6	Relay Rack or Wall	19	24-3/8	E
KS-15678 L21	Se	115	60	52	9	Relay Rack or Wall	19	24-3/8	E

2.04 (Continued)

CODE	TYPE	AC INPUT		DC OUTPUT		MOUNTING (DIMENSIONS SHOWN IN INCHES)			SEE NOTES
		VOLTS	HERTZ	VOLTS	AMPERES	FRAMEWORK	WIDTH	VERTICAL SPACE	
KS-15678 L22		Floor-Mounted stand for L3, L4, L5, L6, L9, L10, L11, L12, L15, L17, L19, L20, and L21					19	32-3/16	—
KS-15737 L1	Se	115	60	130	0.5	Relay Rack or Wall	19	15-5/8	N
KS-15885 L1	Si	208/230/240	60	125-175	100	Floor Mounted	24	84	C,D
KS-15885 L2	Si	With Line Voltage Regulator							
KS-15885 L3	Si	With Line Voltage Regulator and Polarity Reversal Circuit							
KS-15894 L1	Ge	115/230	60	22/24	6	Relay Rack	19	7	L
KS-15894 L2	Si	115/208/230	50-60	22/24	6	Relay Rack	19	5-1/4	L
KS-15894 L3	Si	117	60	24	8	Relay Rack	19	6	L
				10V AC	0.3				
				15V AC	1.0				
KS-15898 L2	Si	117/230	60	120/130	1	Relay Rack	19	3-1/2	L,M
KS-15898 L3	Si	117/230	60	120/130	1	Relay Rack	19	3-1/2	L,M
KS-15907 L1	Ge	117/230	60	120/130	1	Portable	21	8	Q
KS-15907 L2	Ge	117/230	60	120/130	1	Relay Rack	19	5-7/32	—
KS-15911 L2, L3	Si	190-250	60	130	5	Relay Rack	19 or 23	14	E
KS-15915 L1	Si	117	60	6.4	1.5	Relay Rack	15-1/4	5-7/32	—
				6.4V AC	15				
KS-15999 L1	Si	117/230	50-60	120/130/150	3	Relay Rack	19	6-31/32	—
				6.3V AC	15				
KS-15999 L2	Si	117/230	50-60	120/130/150	3	Relay Rack	19	8-25/32	—
KS-19210 L1, L3	—	205-231	60	24	400	Floor Mounted Self-Contained	18	84	—
KS-19210 L2, L4	—	400-500	60	24	400	Floor Mounted Self-Contained	18	84	—
KS-19210 L7, L9	—	190-250	60	24	400	Floor Mounted Self-Contained	18	84	—

2.04 (Continued)

CODE	TYPE	AC INPUT		DC OUTPUT		MOUNTING (DIMENSIONS SHOWN IN INCHES)			
		VOLTS	HERTZ	VOLTS	AMPERES	FRAMEWORK	WIDTH	VERTICAL SPACE	SEE NOTES
KS-19211 L1, L3	—	190-250	60	24	800	Floor Mounted Self-Contained	24	84	—
KS-19211 L2, L4	—	400-500	60	24	800	Floor Mounted Self-Contained	24	84	—
KS-19211 L7, L9	—	190-250	60	24	800	Floor Mounted Self-Contained	24	84	—
KS-19211 L11	—	190-250	60	24	800	Floor Mounted Self-Contained	24	84	—
KS-19211 L12	—	400-500	60	24	800	Floor Mounted Self-Contained	24	84	—
KS-19212 L1, L3	Si	190-250	60	24	1600	Floor Mounted Self-Contained	60	84	—
KS-19212 L2, L4	Si	400-500	60	24	1600	Floor Mounted Self-Contained	60	84	—
KS-19212 L11	—	190-250	60	24	1600	Floor Mounted Self-Contained	60	84	—
KS-19212 L12	—	400-500	60	24	1600	Floor Mounted Self-Contained	60	84	—
KS-19213 L2, L3	—	190-250	60	48	800	Floor Mounted Self-Contained	42	84	—
KS-19213 L5, L6	—	400-520	60	48	800	Floor Mounted Self-Contained	42	84	—
KS-19213 L7, L9	—	190-250	60	48	800	Floor Mounted Self-Contained	42	84	—
KS-19214 L2, L3, L11	—	190-250	60	48	800	Floor Mounted Self-Contained	42	84	C
KS-19214 L5, L6, L12	—	400-500	60	48	800	Floor Mounted Self-Contained	42	84	C
KS-19215 L1, L3, L11	Si	190-250	60	48	1600	Floor Mounted Self-Contained	60	84	C
KS-19215 L2, L4, L12	Si	400-500	60	48	1600	Floor Mounted Self-Contained	60	84	C
KS-19216 L1	—	190-250	60	130	300	Floor Mounted Self-Contained	42	84	C

2.04 (Continued)

CODE	TYPE	AC INPUT		DC OUTPUT		MOUNTING (DIMENSIONS SHOWN IN INCHES)			SEE NOTES
		VOLTS	HERTZ	VOLTS	AMPERES	FRAMEWORK	WIDTH	VERTICAL SPACE	
KS-19216 L2	—	400-500	60	130	300	Floor Mounted Self-Contained	42	84	C
KS-19231 L1	—	117-230	50-60	20-26	7.5	Relay Rack	19	7	—
KS-19356 L1, L3, L11	—	190-250	60	24	1600	Floor Mounted Self-Contained	60	84	C
KS-19356 L2, L4, L12	—	400-500	60	24	1600	Floor Mounted Self-Contained	60	84	C
KS-19412 L1	Si	117	60	+200 +116 +100 +20 -116	0.25 0.75 0.25 0.75 0.75	Relay Rack	23	6	—
KS-19424 L1, L2	—	190-250	60	12	400	Floor Mounted Self-Contained	18	84	—
KS-19424 L3	—	380-500	60	12	400	Floor Mounted Self-Contained	18	84	—
KS-19642 L1, L2, L3	—	117	60	48	8	Relay Rack	23	8	—
KS-19790 L11	—	210-240	60	48	800	Floor Mounted Self-Contained	42	84	C
KS-19790 L12	—	480	60	48	800	Floor Mounted Self-Contained	42	84	C
KS-19791 L11	—	210-240	60	48	800	Floor Mounted Self-Contained	42	84	C
KS-19791 L12	—	480	60	48	800	Floor Mounted Self-Contained	42	84	C
KS-19792 L11	—	210-240	60	48	1600	Floor Mounted Self-Contained	60	84	C
KS-19792 L12	—	480	60	48	1600	Floor Mounted Self-Contained	60	84	C
KS-19793 L11	—	210-240	60	48	1600	Floor Mounted Self-Contained	60	84	C

2.04 (Continued)

CODE	TYPE	AC INPUT		DC OUTPUT		MOUNTING (DIMENSIONS SHOWN IN INCHES)			SEE NOTES
		VOLTS	HERTZ	VOLTS	AMPERES	FRAMEWORK	WIDTH	VERTICAL SPACE	
KS-19793 L12	—	480	60	48	1600	Floor Mounted Self-Contained	60	84	C
KS-19867 L1, L2	—	117	60	-48	8	Relay Rack	23	8	—
KS-19962 L1	—	117	60	48	0.5	Relay Rack	23	8	—
KS-20039 L11	—	210-240	60	24	800	Floor Mounted Self-Contained	24	84	C
KS-20039 L12	—	480	60	24	800	Floor Mounted Self-Contained	24	84	C
KS-20040 L11	—	210-240	60	24	1600	Floor Mounted Self-Contained	60	84	C
KS-20040 L12	—	480	60	24	1600	Floor Mounted Self-Contained	60	84	C

Abbreviations:

CuO — Copper Oxide

Si — Silicon

Se — Selenium

Ge — Germanium

Note A: Not suitable for battery charging.

Note B: Replacement for small dry cell.

Note C: For battery charging only.

Note D: Uses 3-phase power supply.

Note E: May be used either with or without a battery.

Note F: An externally mounted 233C inductor is necessary to limit battery noise. Power-stat Control — raise or lower motor drive signals received from associated power plant.

Note G: For regulating charging machines only.

Note H: Equipped with alarm relay with two transfer contacts.

2.04 (Continued)

Note I: An associated 1021A inductor is mounted externally.

Note J: Arranged for mounting inside P carrier pole-mounted enclosing cabinet.

Note K: Used primarily for the No. 5 crossbar remote line concentrator.

Note L: Used in TJ Radio.

Note M: Used in 83B1 and B2 TTY switching system.

Note N: Is equipped with vibrator-inverter to operate on 48-volt DC.

Note O: Used in 608A PBX.

Note P: Optional filter for miscellaneous use.

Note Q: Portable battery charger for the 425A Power Plant.

Note R: Used in the radio test set.

Note S: Used in multifrequency receiver and digital subset.

2.05 Semiconductor-Type Rectifiers**MANUAL REGULATION**

CODE	TYPE	AC INPUT		DC OUTPUT		ARRANGED FOR MOUNTING ON	TYPICAL APPLICATION	SEE NOTES
		VOLTS	HERTZ	VOLTS	AMPERES			
J86205B L3	Se	105-125	50-60	22	0.5	Wall or Shelf	PBX Battery Charging	—
J86205B L4	Se	190-250	50-60	22	0.5	Wall or Shelf	PBX Battery Charging	—
J86205C L1	CuO	105-125	50-60	3.5 24 AC	0.1 0.8	Wall or Shelf	Auxiliary Signals	—
J86205D L1	Se	105-125	50-60	10	6	Power Board	End Cell Trickle Charging in	—
J86205D L2	Se	190-250	50-60	10	6	Power Board	Power Plants	—
J86205D L3	—	2-Scale Ammeter and Key						
J86205F L1	Se	105-125	50-60	24	1.2	Wall or Shelf	Relay Supply and 101F	—
J86205F L2	Se	190-250	50-60	24	1.2	Wall or Shelf	Power Plant	—

2.05 (Continued)

CODE	TYPE	AC INPUT		DC OUTPUT		ARRANGED FOR MOUNTING ON	TYPICAL APPLICATION	SEE NOTES
		VOLTS	HERTZ	VOLTS	AMPERES			
J86205H L1	CuO	105-125	60	3 24 AC and Tel Trans- mitter Supply	0.1 0.25	Wall or Shelf	Wiring Plans	—
J86220B L2	Se	105-250	60	10	12	Power Board	Emergency Cell Trickle Charging	—
J86230B L2	Se	105-250	60	20	4	Power Board	Emergency Cell Trickle Charging	—
J86254B L2	Si	230	60	190	0.7	19-in. Duct Type	L3 Carrier	—
J86254C L2	Si	115	60	200	0.7	19-in. Duct Type	A2A Video	—
J86255B L2	Si	230	60	315	0.4	19-in. Duct Type	L3 Carrier	—
J86256A L1	Se	105-125	50-60	130	0.8	23-in. Relay Rack	Central 81D1 TWX	—
J86256B L1	Se	105-125	60	120	0.45	19-in. Relay Rack	O Carrier	—
J86257A L2	Si	117	60	12	22	19-in. Duct Type	TD-2 Secondary Route System	—
J86258A L1	Se	117	60	130	0.65	19-in. Duct Type	TD-2 Secondary Route System	—
J86259A L1	Se	117	60	250	0.35	19-in. Duct Type	TD-2 Secondary Route System	—
J86264A L1	Se	105-125	60	210	2.5	Portable	Single Cell Charging	—
J86265B L1	Se	115/230	60	130	0.2	19-in. Duct Type	L3 Carrier	—
J86265C L1	Se	115/230	60	130	0.2	19-in. Duct Type	L3 Carrier	—
J86277A L1	Si	230	60	11	2	Vertical Panel	TH Radio	A
J86277B L1	Si	230	60	11	6	Vertical Panel	TH Radio	A
J86278A L2	Si	230	60	135	0.125	Vertical Panel	TH Radio	A
J86278B L2	Si	230	60	135	0.375	Vertical Panel	TH Radio	A
J86280A L2	Si	230	60	250	0.22	Vertical Panel	TH Radio	A
J86286A L1	Si	230	60	24	2	Vertical Panel	TH Radio	A

2.05 (Continued)

CODE	TYPE	AC INPUT		DC OUTPUT		ARRANGED FOR MOUNTING ON	TYPICAL APPLICATION	SEE NOTES
		VOLTS	HERTZ	VOLTS	AMPERES			
J86288A L1	Si	230	60	7	1	Vertical Panel	TH Radio	A
J86731A L4	—	105-130	60	14-28 Talk 18-28 DC Sig	0.9	Wall	Key Equipment	B
J86731A L6	—	105-130	60		9-11 AC Sig 16-20 AC Sig	1.4 or 1.4	Wall	Key Equipment
J86731D L1	—	105-130	60	14-28 Talk 18-28 DC Sig 9-11 AC Sig 16-20 AC Sig	0.9 0.6 1.4 or 1.4	Relay Rack	Key Equipment	—
J87200A L1	Si	230	60	48	1.5	Vertical Panel	TH Radio	A
J87201A L1	Si	210/230/250	60	5	200	23-in. Relay Rack	303A Power Plant	—
UNREGULATED								
J86248 L1, L2, and L3	Se	111/117/123	60	20 Talk 20 Sig 10 AC Sig 18 AC Sig	2 2 2 or 2	Panel	Key Equipment	—
J86283B L3	Si	230	60	1200	0.1	Mounts in J86474A	TH Radio	—
KS-5257 L8	Se	105-125	50-60	8	1	Shelf	Magneto Operator Telephone Battery	—
KS-5653 L1	Se	105-115	50-60	24	1	19-in. Relay Rack	Talking Supply	—
KS-5653 L2	Se	105-115	50-60	24	1	23-in. Relay Rack	Talking Supply	—
KS-5653 L3	Se	105-115	50-60	24	1	19-in. Relay Rack	Relay Supply	—
KS-5653 L4	Se	105-115	50-60	24	1	23-in. Relay Rack	Relay Supply	—
KS-5663 L5	Se	105-125	25-60	75/120	0.2	Shelf	TWX Printers	—
KS-5663 L6	Se	105-125	50-60	75/130	0.15/0.2	Shelf	Carrier TWX	—
KS-5663 L7	Se	105-125	50-60	75/120	0.2	Shelf	TWX Printers	—
KS-5663 L8, L9, and L10	Ge	117	60	130 20 AC	0.2 0.7	19-in. Relay Rack	130C1 TTY	C
KS-5703 L1	Se	105-125	50-60	6	15	Wall	Charging Batteries	—
KS-5739 L1	Se	105-125	50-60	48	1	19-in. Relay Rack	Relay Supply LD-TD2	—

2.05 (Continued)

CODE	TYPE	AC INPUT		DC OUTPUT		ARRANGED FOR MOUNTING ON	TYPICAL APPLICATION	SEE NOTES
		VOLTS	HERTZ	VOLTS	AMPERES			
KS-15687 L1	Se	105-125	60	6	20	Portable	Charger for 1, 2, or 3 Cells	—
KS-15687 L2	—	AC Input Leads and DC Charging Leads				—	—	—
KS-15687 L3	Se	105-125	60	6	20	Portable	Charger for 1, 2, or 3 Cells	—
KS-15687 L4	—	AC Input Leads and DC Charging Leads				—	—	—
J87202A L1	Ge	117	60	25 11	0.45 0.075	Wall	Transistor Amplifier Supply	—
J87206A L1	Si	105-129	60	4.5	0.028	Desk Top	Radio Paging Battery Charger	—

Note A: An external AC line circuit breaker per KS-15815 is required.

Note B: L4 has same outputs as L6 and in addition has 20-Hertz ringing.

Note C: Regulated for line voltage variations.

3. LIST OF REGULATORS

3.01 AC Voltage Regulators

ELECTRONIC TYPE

CODE	AC INPUT		AC OUTPUT			ARRANGED FOR MOUNTING ON	TYPICAL APPLICATION	SEE NOTES
	VOLTS	HERTZ	VOLTS	KVA	PF			
KS-5650	105-125	50/60/70	60/115	0.25	0.9	19-in. Relay Rack or Portable Carrying Case	31-type Transmission Measuring Set	A
KS-5655	25-35	18-22	84-88	0.044	1	23-in. Relay Rack	805C Ringing Power Plant	B
J86246A L1	200-250	60-heaters 20-control	250	0.052	—	23-in. Relay Rack	804C Ringing Power Plant	C
J86246B L1	200-250	60	115	0.057	—	23-in. Relay Rack	804C Ringing Power Plant	C
J86253B	45-52 DC	—	84-88	1	—	23-in. Relay Rack	804C and 804D Ringing Power Plant	—

3.01 (Continued)

CODE	AC INPUT		AC OUTPUT			ARRANGED FOR MOUNTING ON	TYPICAL APPLICATION	SEE NOTES
	VOLTS	HERTZ	VOLTS	KVA	PF			
J86262A L1	230	60	250	0.052		19-in. Duct Type Bay	L3 Carrier	D
J86268A L1	115/130	60	115/130	0.75	0.8	19-in. Relay Rack	TD-2 Secondary Route System L3 Carrier	A
J87214	190/260 or 380/500	60	±24	0-100		23-in. Relay Rack	110A, 111A, 301C, 302A, and 303A Power Plants	—
J87252	24 DC	—	-20 DC	2.5		Plug-in Unit	100A Prot Switch System	—
J87277	190/260 or 380/500	60	±24	0-100		23-in. Relay Rack	110A, 111A, 303A, 301C, and 302A Power Plants	—
J87279	-20.0 to -28.0 DC	—	-19 DC	4.0		Plug-in Unit	TD3 Radio System	—
J87287	-48 DC +24 DC	—	-18 DC +18 DC	0.1-0.25 0.9-1.40		6-in. Mounting Plate	No. 1 ESS ADF	—
ELECTRO-MECHANICAL TYPE								
KS-15508 L1	95-135	55-65	115	2.3	Any	Shelf or Floor	Power Plant General 1 Phase	—
KS-15508 L2	95-135	55-65	115	4.6	Any	Shelf or Floor	Power Plant General 1 Phase	—
KS-15508 L3	95-135	55-65	115	10	Any	Shelf or Floor	Power Plant General 1 Phase	—
KS-15508 L4	195-255 180-225	55-65	230 208	6.5 5.8	Any	Shelf or Floor	Power Plant General 1 Phase	—
KS-15508 L5	195-255 180-225	55-65	230 208	22 20	Any	Shelf or Floor	Power Plant General 1 Phase	—
KS-15508 L6	195-255 180-225	55-65	230 208	10 9	Any	Shelf or Floor	Power Plant General 3 Phase	—
KS-15508 L7	195-255 180-225	55-65	230 208	15 13.5	Any	Shelf or Floor	Power Plant General 3 Phase	—
KS-15508 L8	195-255 180-225	55-65	230 208	30	Any	Shelf or Floor	Power Plant General 3 Phase	—
KS-15508 L10	195-255 180-225	55-65	230 208	63	Any	Shelf or Floor	Power Plant General 3 Phase	—

3.01 (Continued)

CODE	AC INPUT		AC OUTPUT			ARRANGED FOR MOUNTING ON	TYPICAL APPLICATION	SEE NOTES
	VOLTS	HERTZ	VOLTS	KVA	PF			
KS-15908 L1	207-253 188-228	55-65	230	5	Any	Shelf or Floor	TH Radio System Test Bench	—
MAGNETIC TYPE								
KS-15575 L1	105-129	60	117	0.75	0.8	19-in. Relay Rack	TD-2 Secondary Route System	A
KS-15575 L2	105-129	60	117	0.75	0.8	19-in. Relay Rack		
KS-15631 L1	95-130	60	115	0.03	1	Shelf or Panel	Miscellaneous	—
KS-15631 L2	95-130	60	115	0.06	1	Shelf or Panel	Miscellaneous	—
KS-15631 L3	95-130	60	115	0.12	1	Shelf or Panel	Miscellaneous	—
KS-15631 L4	95-130	60	115	0.25	1	Shelf or Panel	Miscellaneous	—
KS-15631 L5	95-130	60	115	0.5	1	Shelf or Panel	Miscellaneous	—
KS-15631 L6	95-130	60	115	0.12	1	Shelf or Panel	Miscellaneous	—
KS-15631 L7	95-130	60	115	0.25	1	Shelf or Panel	Miscellaneous	—
KS-15862 L1	95-130	60	118	0.5	0.8	Shelf or Panel	Miscellaneous	A
KS-15862 L2	95-130	60	115	0.5	0.8	Shelf or Panel	Miscellaneous	A
KS-15909 L3, L4	105-129	60	10/18	5/1.6	—	Panel	101J Power Plant	—
KS-19641	208/230	60	230	0.66	0.95	Relay Rack	TH Radio	—

Note A: Lagging PF.

Note B: Unregulated 86- and 105-volt outputs also available. Total output current not to exceed 0.5 ampere.

Note C: Used to regulate a 20-Hertz motor-generator set by generator field control. The rectifier per J86246B is associated with the regulator to supply the generator field.

Note D: Used in motor control circuit where it is associated with a bridge regulator circuit.

3.02 Filament Regulator

ELECTRONIC TYPE

CODE	AC INPUT		AC OR DC OUTPUT			ARRANGED FOR MOUNTING ON RELAY RACKS	TYPICAL APPLICATION	SEE NOTE
	VOLTS	HERTZ	VOLTS	AMPS	NUMBER			
J86223A L1	105-125	50-60	6.3	1.5	3 — AC	19-in. Channel Type	L Carrier	—
J86223A L2	105-125	50-60	6.3	1.5	2 — AC	19-in. Channel Type	L Carrier	—
J86223A L3	105-125	50-60	6.3	0.3-0.6	1 — DC	19-in. Channel Type	L Carrier	A
			6.3	0.3-1.0	2 — DC			
J86223A L4	105-125	50-60	6.3	1.5	3 — AC	19-in. Duct Type	L Carrier	—
J86223A L5	105-125	50-60	6.3	1.5	2 — AC	19-in. Duct Type	L Carrier	—
			6.3	0.3-0.6	1 — DC			
J86223A L6	105-125	50-60	6.3	1.5	1 — AC	19-in. Duct Type	L Carrier	A
			6.3	0.3-1.0	2 — DC			
KS-15915 L1	117	60	6.4	15	1 — AC	19-in. Relay Rack	TH Radio	—
			6.4	1.5	1 — DC			

Note A: When adjusted for full-load 6.3-volt dc output, the ac output may be as high as seven volts requiring an external resistor.

4. LIST OF VIBRATOR-INVERTERS

REGULATED

CODE	DC INPUT		AC OUTPUT		ARRANGED FOR MOUNTING ON	TYPICAL APPLICATION	SEE NOTE
	VOLTS	AMPS	VOLTS	AMPS			
KS-15574 L1	128/132	7.5	117	0.16	19-in. Relay Rack	TD-2 Secondary Route System	—
KS-15574 L2	Vibrator — 130 Volts, 60 Hertz						
KS-15662 L1	115	1.7	115	1.3	Shelf	1A Telephone Answering Set	—
KS-15662 L2	Vibrator — 110 Volts, 60 Hertz						
KS-15679 L1	6	22	115	0.65	Shelf	L3 Carrier	—
KS-15679 L2	Vibrator — 6 Volts, 60 Hertz						
UNREGULATED							
KS-15597 L1	48	0.6	27	0.6	Vertical Plate	1A Card Translator	—
KS-15597 L2	Vibrator — 50 Volts, 60 Hertz						

5. LIST OF POWER UNITS (CODED APPARATUS)

CODE	AC INPUT		DC OUTPUT		ARRANGED FOR MOUNTING ON	TYPICAL APPLICATION
	VOLTS	HERTZ	VOLTS	AMPERES		
17A	105-129	60	±18	0.20	Wall	Data Sets No. 401F and 602A
18A	117	60	±24 21 AC	0.08 0.04	Wall	Data Sets No. 108 and 109 and Data Auxiliary Set No. 816A
19B2	111/117/123	60	18-20 DC Talk	0.6	Wall	Key Telephone Systems
19C2	111/117/123	60	20-26 DC Sig	1.5	Rack	Key Telephone Systems
20B2	111/117/123	60	8.75-11 AC Sig or	4.5		
			16-20 AC Sig	1.4		
20C2	111/117/123	60	18-20 DC Talk	0.6	Wall	Key Telephone Systems
21A	117	60	20-26 DC Sig	1.5	Rack	Key Telephone Systems
			8.75-11 AC Sig or	4.5		
			16-20 AC Sig	1.4		
25A	117	60	110 AC Ring	30Hz	Wall	No. 1671A1 Type Telephone Sets
			+25.5	0.46		
			-25.5	0.40		
26A	117	60	26 AC	0.75	Wall	Data Set No. 103E
27A1	111/117/123	60	±18	0.25	Wall	No. 303 Type Wideband Data Stations
28A1	111/117/123	60	±18	0.69	Wall	Key Telephone Systems
31A	117	60	18-26 DC Talk	0.09	Wall	Data Set No. 403
			20-26 DC Sig	0.2		
			8.75-11 AC Lamp	2.1		
J87276	105-129	60	16-20 AC Buzzer	0.2	Cabinet	101 ESS — EPBX Phase II Switching Unit
			±18.5	2		
			-23.0	0.4		
			10 AC	2		
			±18.5	5		
J87292	105-129	60	10 AC	0.3	Cabinet	101 ESS — EPBX Phase II Switching Unit
			+24	6		
			+24	12		
			-24	2		
			+6.6	38		

6. LIST OF POWER SUPPLIES

J87276	105-129	60	+24	6	Cabinet	101 ESS — EPBX Phase II Switching Unit
			+24	12		
			-24	2		
			+6.6	38		
			+24	6		
J87292	105-129	60	+24	6	Cabinet	101 ESS — EPBX Phase II Switching Unit
			+24	12		
			-24	2		
			+6.6	38		
			+24	6		

7. GENERAL NOTES

7.01 The following equipment has been replaced as indicated. Where "A&M Only" items appear, the issue numbers shown are those of the issue in which the rating was first applied.

LIST OF "A&M ONLY" AND "MFR DISC." EQUIPMENT

EQUIPMENT	RATING	DETAILS LAST SHOWN IN ISSUE	REPLACING EQUIPMENT
J86205A L1 & L2	Mfr Disc.	2	J86731A L6
J86207B L2	Mfr Disc.	3	—
J86207D L5 & L6	Mfr Disc.	1	J86251A L1* L4*
J86207E L5 L6 L7 L8	Mfr Disc. Mfr Disc. Mfr Disc. Mfr Disc.	1 1 1 1	J86251A L1 L4 — L4*
J86207K L1 & L2	Mfr Disc.	3	—
J86207M L1 & L2	Mfr Disc.	13	—
J86207P L1	Mfr Disc.	1	J86263B L1
J86207R L1	Mfr Disc.	1	—
J86207S L1	Mfr Disc.	1	J86263A L1
J86213A L1	Mfr Disc.	—	KS-19481 L1 & L2
J86214 L1, L2, & L3	Mfr Disc.	2	—
J86215A L1	Mfr Disc.	1	KS-15508 L3
J86219A L1	Mfr Disc.	3	—
J86220B L1	Mfr Disc.	2	J86220B L2
J86225C L1	Mfr Disc.	10	—
J86226A L1	Mfr Disc.	3	—
J86226B L1 & L2	Mfr Disc.	3	—
J86227A L1	Mfr Disc.	3	—
J86227B L1	Mfr Disc.	3	—
J86227C L1 & L2	Mfr Disc.	1	J86227D L1 & L2
J86228B L1	Mfr Disc.	3	—
J86229A L1	Mfr Disc.	3	—
J86230B L1	Mfr Disc.	2	J86230B L2
J86239A L1 & L2	Mfr Disc.	1	J86239B L1 & L2
J86239B L1 & L2	Mfr Disc.	3	J86239C
J86240A L1	Mfr Disc.	3	J86240A L6
J86244A L1 L2 L3	Mfr Disc. A&M Only Mfr Disc.	2 3 3	J86244A L3 J86244A L3 J86244A L4
J86244A L4, L5, & L6	Mfr Disc.	4	—
J86253A L1	Mfr Disc.	1	J86253B L1
J86254A L1	Mfr Disc.	1	J86254B L1
J86254B L1	Mfr Disc.	3	J86254B L2
J86254C L1	Mfr Disc.	3	J86254C L2
J86255A L1	Mfr Disc.	1	J86255B L1
J86255B L1	Mfr Disc.	3	J86255B L2
J86256B L2	Mfr Disc.	4	—
J86257A L1 & L2	Mfr Disc.	2	—
J86263A L1	Mfr Disc.	3	—
J86263B L1	Mfr Disc.	3	—
J86265A L1	Mfr Disc.	—	J86265B L1
J86272 L1	Mfr Disc.	1	—
J86273A	Mfr Disc.	2	J86295A
J86273B	A&M Only	2	J86295A
J86273C	A&M Only	2	J86295A
J86283B L2	Mfr Disc.	1	J86283B L3
J86295A L3 & L4	A&M Only	3	—
J87207A	Mfr Disc.	1	J87207B
J87208A L1	Mfr Disc.	1	J87208A L3
J87208A L2	Mfr Disc.	1	J87208A L4
J87211A L1	Mfr Disc.	3	J87211A L5
J87211A L2	Mfr Disc.	3	J87211A L6
J87211A L3 & L4	Mfr Disc.	1	—
J87211B L1	Mfr Disc.	—	J87211B L5
J87211B L2	Mfr Disc.	—	J87211B L6
J87211B L3 & L4	Mfr Disc.	—	—
J87214B	Mfr Disc.	5	J87214C
J87214B L1	Mfr Disc.	3	J87214B L6
J87214B L2	Mfr Disc.	5	J87214C L2
J87214B L3 & L4	Mfr Disc.	2	J87214B L5
J87214B L5	Mfr Disc.	5	—

EQUIPMENT	RATING	DETAILS LAST SHOWN IN ISSUE	REPLACING EQUIPMENT
J87214B L6	Mfr Disc.	5	J87214C L1
J87215A L1	Mfr Disc.	1	J87215A L2
J87216A	Mfr Disc.	2	J87216C
J87216B	Mfr Disc.	2	—
J87222A L1	Mfr Disc.	4	J87222C L1
J87222B L1	Mfr Disc.	4	J87222D L1
J87223A L1	Mfr Disc.	3	J87223C L1
J87223B L1	Mfr Disc.	5	J87223D L1
J87224A L1	Mfr Disc.	1	—
J87235A	Mfr Disc.	1	—
J87238	Mfr Disc.	1	—
J87239B L1	Mfr Disc.	1	J87239B L2
J87240B L1	Mfr Disc.	1	J87240B L2
KS-5368 L1			
L2,L5, & L6	Mfr Disc.	3	—
KS-5420 L1			
& L2	Mfr Disc.	3	—
KS-5663 L4	Mfr Disc.	1	KS-5663 L7
KS-5669 L1	Mfr Disc.	3	—
L2	Mfr Disc.	3	—
KS-5695	Mfr Disc.	1	KS-15508
KS-5740 L1	Mfr Disc.	1	J86256B L1
& L2	Mfr Disc.	1	J86256A L1

EQUIPMENT	RATING	DETAILS LAST SHOWN IN ISSUE	REPLACING EQUIPMENT
KS-5769 L1			KS-5769 L2
& L2	Mfr Disc.	3	& L3
KS-5789 L1	Mfr Disc.	3	—
KS-5928 L3	Mfr Disc.	1	KS-5928 L4
L4	Mfr Disc.	3	—
L6	Mfr Disc.	3	KS-5928 L7
KS-15508 L9	Mfr Disc.	2	KS-15508 L10
KS-15523 L1	Mfr Disc.	3	KS-15523 L4
KS-15620 L1			KS-15620 L9
& L2	Mfr Disc.	3	& L10
L4			KS-15620 L6
& L7	Mfr Disc.	3	& L8
KS-15668 L1	Mfr Disc.	3	KS-15668 L2
KS-15678 L1			
& L2	Mfr Disc.	3	—
L13	Mfr Disc.	3	KS-15678 L17
L14	Mfr Disc.	3	KS-15678 L16
			& L17
KS-15689 L1			
L2			
& L3	Mfr Disc.	3	J86273A
KS-15911 L1	Mfr Disc.	1	KS-15911 L2
			& L3

**60 Hertz Only*



Fig. 1 — J86205B I3, 22-Volt, 1/2-Ampere Semiconductor-Type Rectifier For Wall or Shelf Mounting

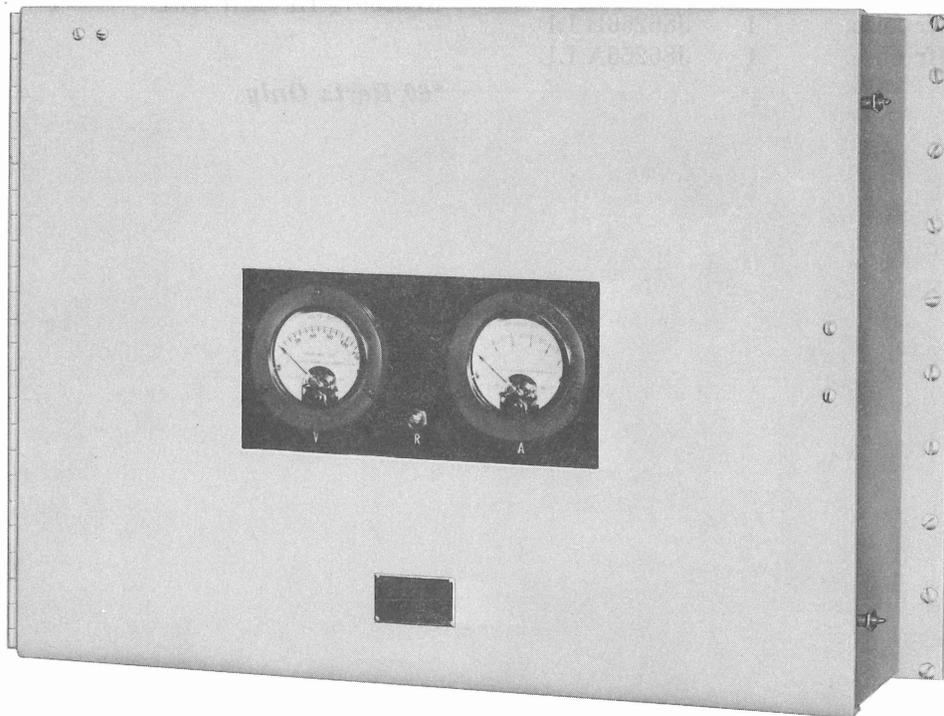


Fig. 2 — J86207U, 130-Volt, 3-Ampere Regulated Electron Tube-Type Rectifier Unit for 23-Inch Relay Rack Mounting

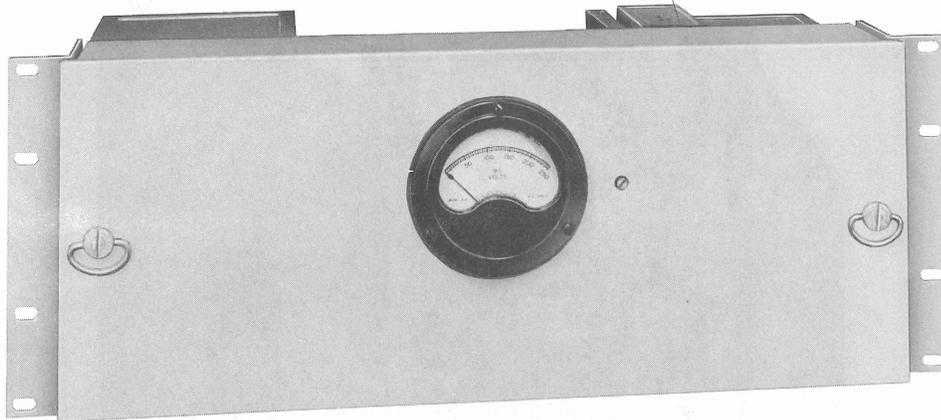


Fig. 3 — J86225A L1, 150-Volt, 0.25-Ampere Regulated Electron Tube-Type Rectifier Unit for 19-Inch Channel-Type Framework

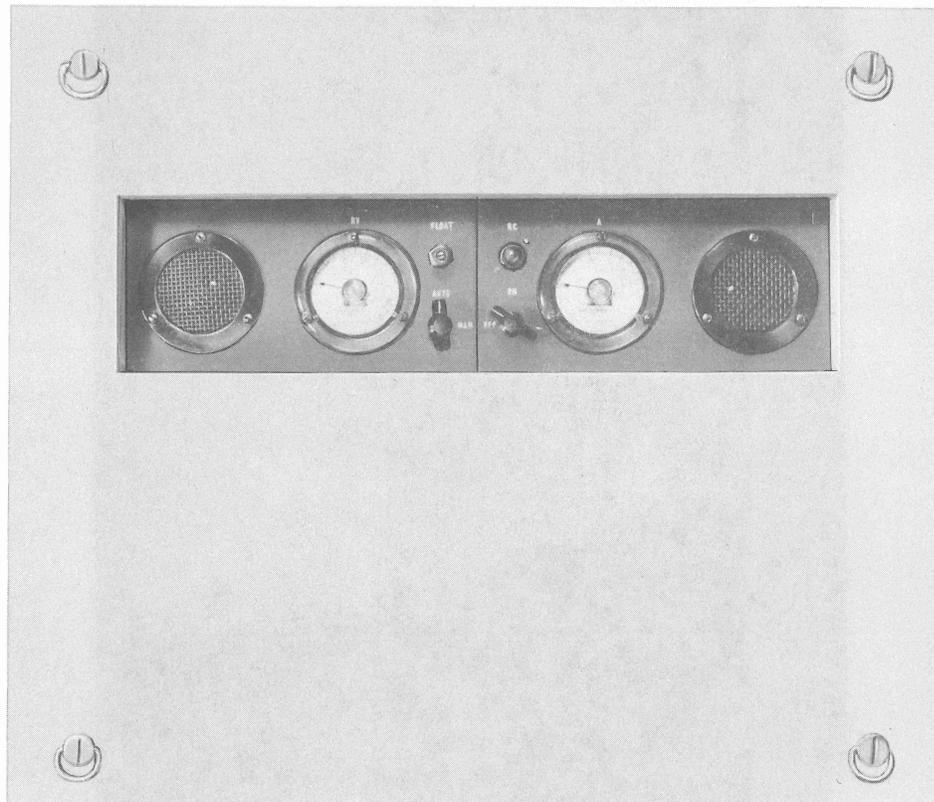


Fig. 4 — J86240A, 130-Volt, 8-Ampere Regulated Electron Tube-Type Rectifier Unit for 23-Inch Relay Rack Mounting (Channel or Duct)

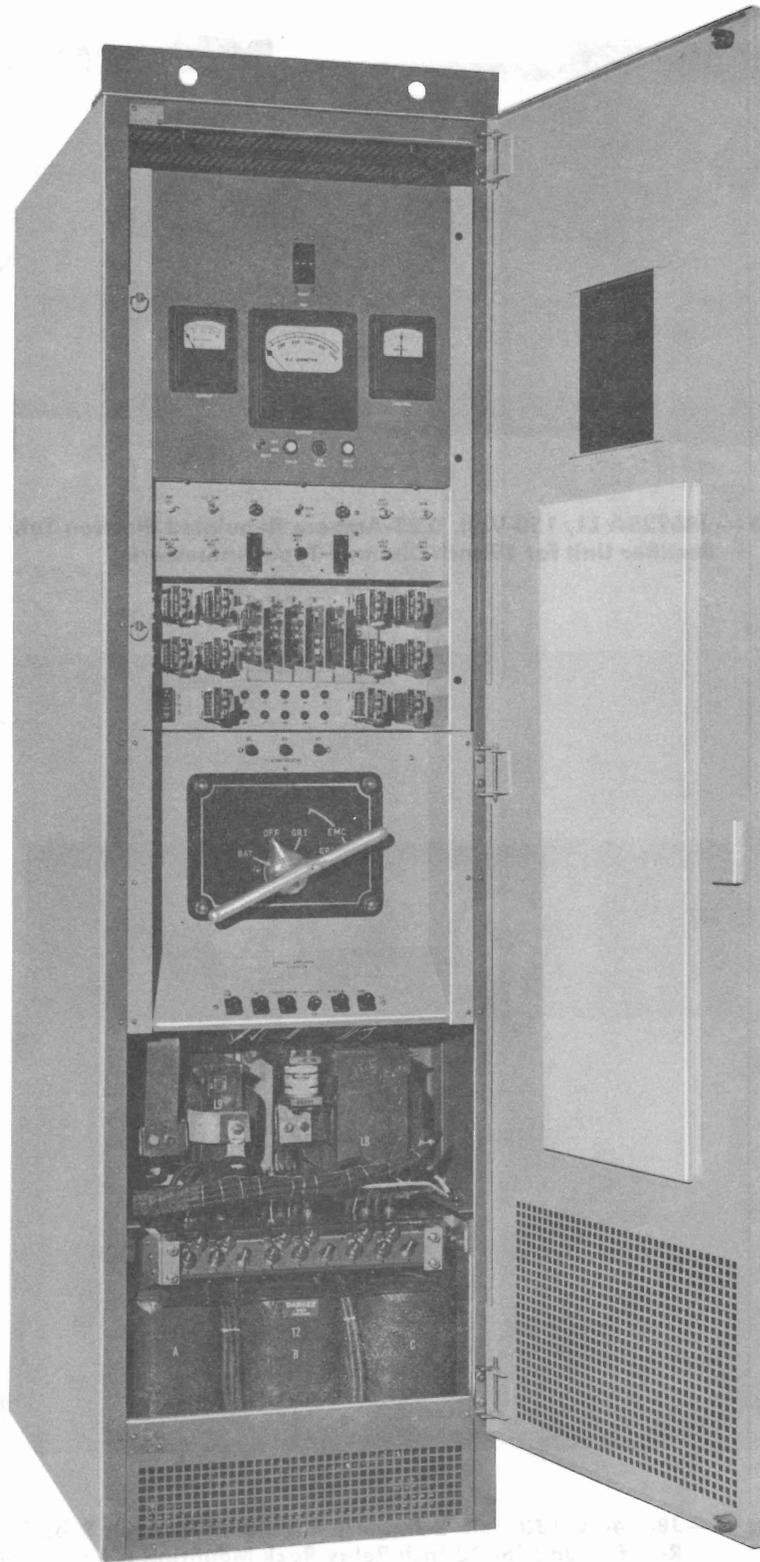


Fig. 5 — KS-19211 L4, 24-Volt, 800-Ampere Rectifier Unit — Floor Mounted

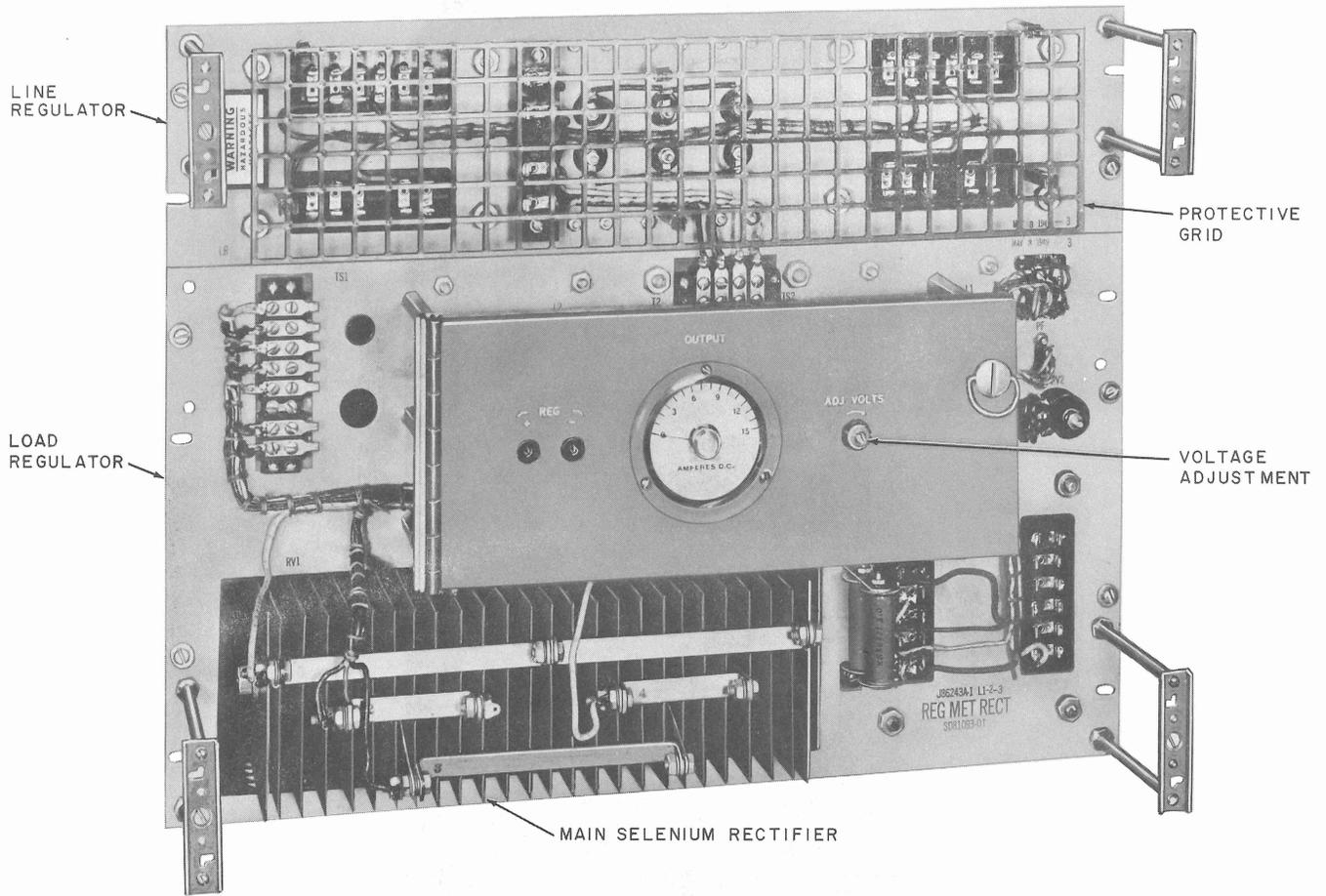
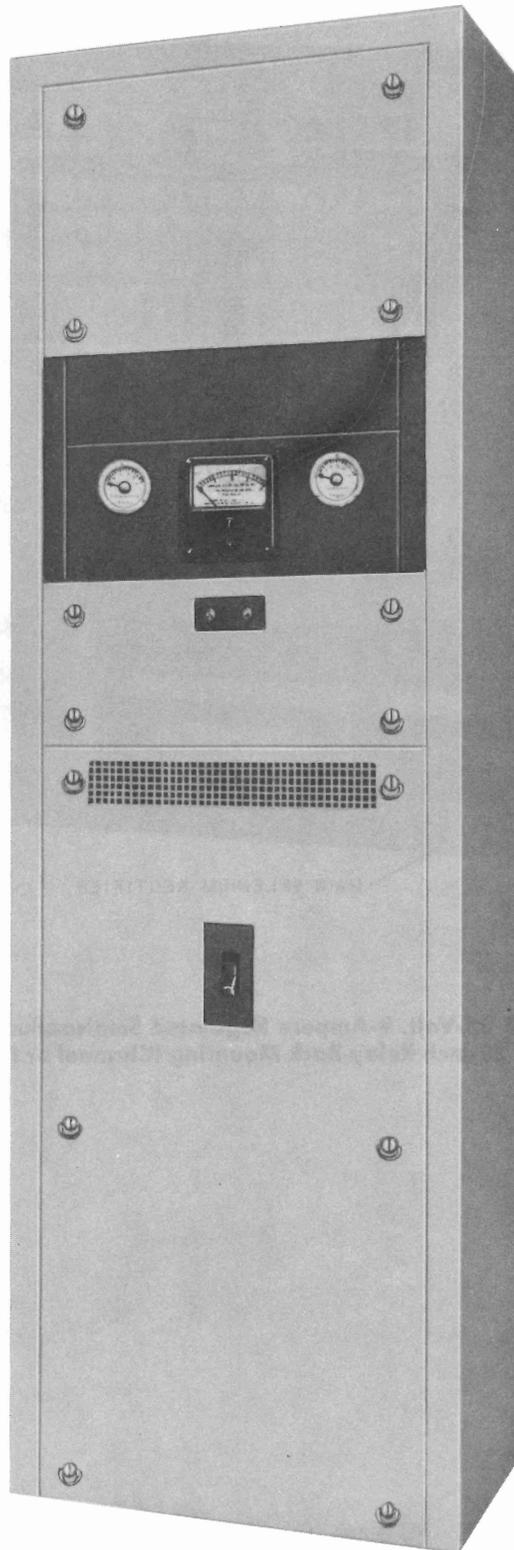


Fig. 6 — J86243A 23-Volt, 9-Ampere Regulated Semiconductor-Type Rectifier Unit for 23-Inch Relay Rack Mounting (Channel or Duct)



**Fig. 7 — J86244A, 12-Volt, 200-Ampere
Regulated Semiconductor-Type
Rectifier Unit, Floor Mounted**

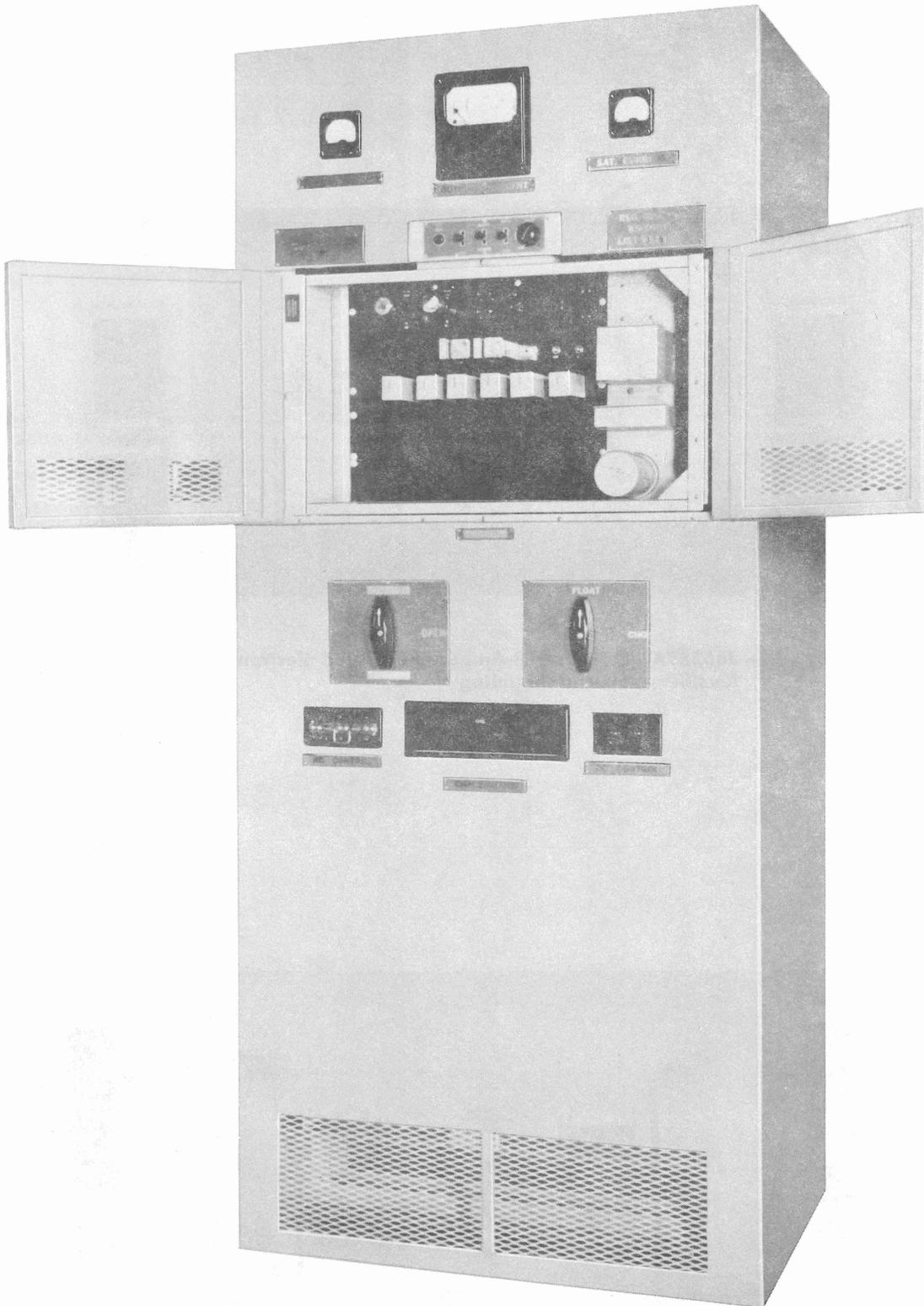


Fig. 8 — J86249A L1 and J86249E L2, 48-Volt, 100-Ampere Regulated Disc Rectifier Unit — Self-Contained, Floor-Mounting Framework

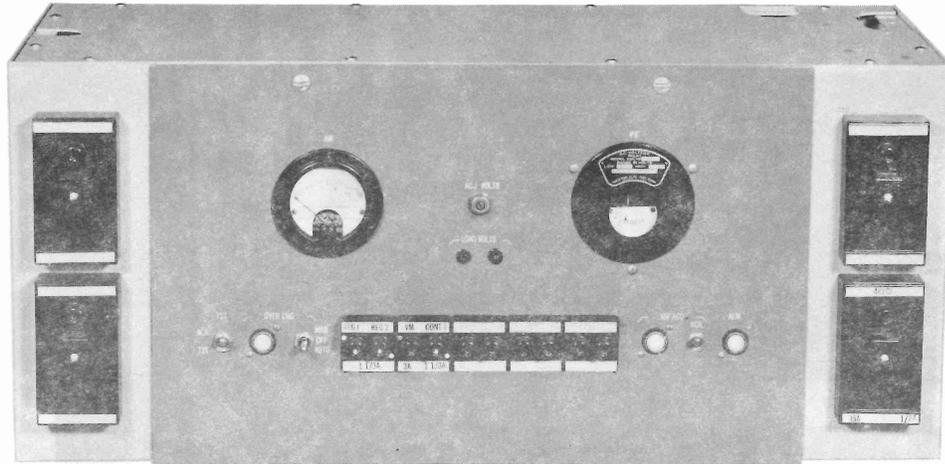


Fig. 9 — J86251A L1, 50-Volt, 8-Ampere Regulated Electron Tube-Type Rectifier — Special Mounting

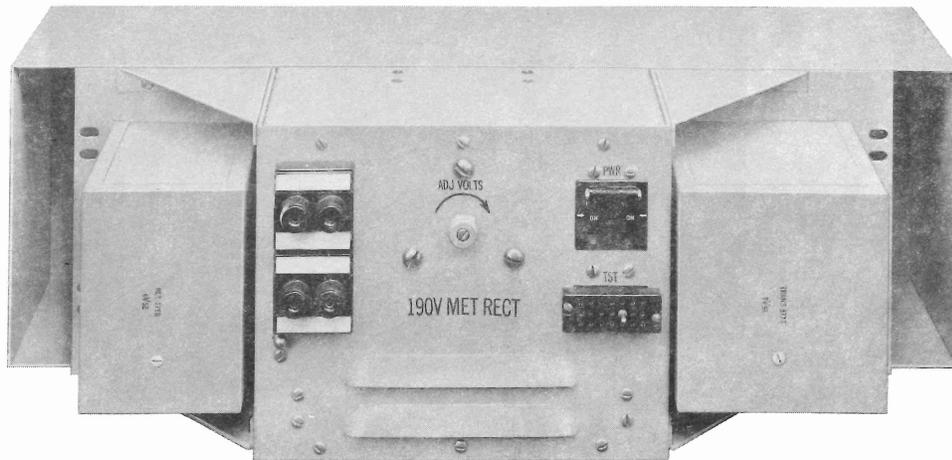


Fig. 10 — J86254B L1, 230-Volt, 0.55-Ampere Semiconductor-Type Rectifier — Manual Regulation for 19-Inch Duct-Type Framework

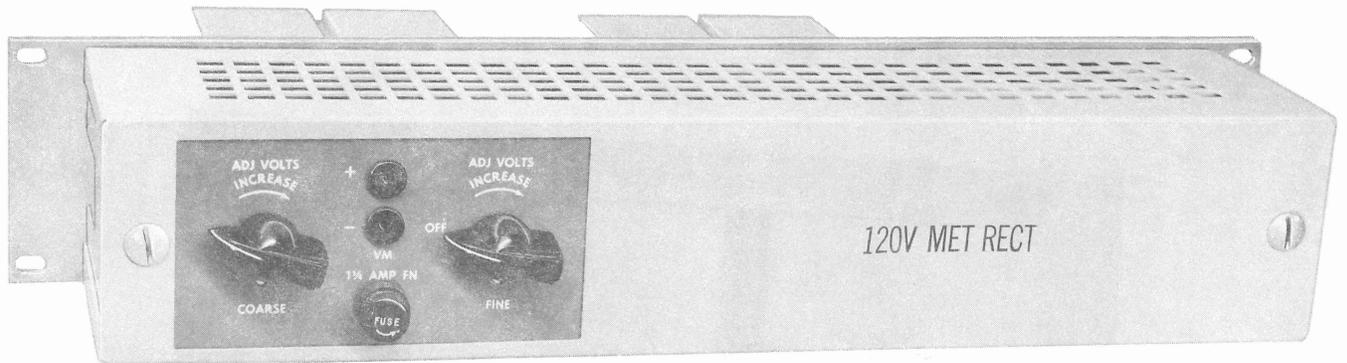


Fig. 11 — J86256B L1, 120-Volt, 0.45-Ampere Semiconductor-Type Rectifier — Manual Regulation for 19-Inch Relay Rack Mounting

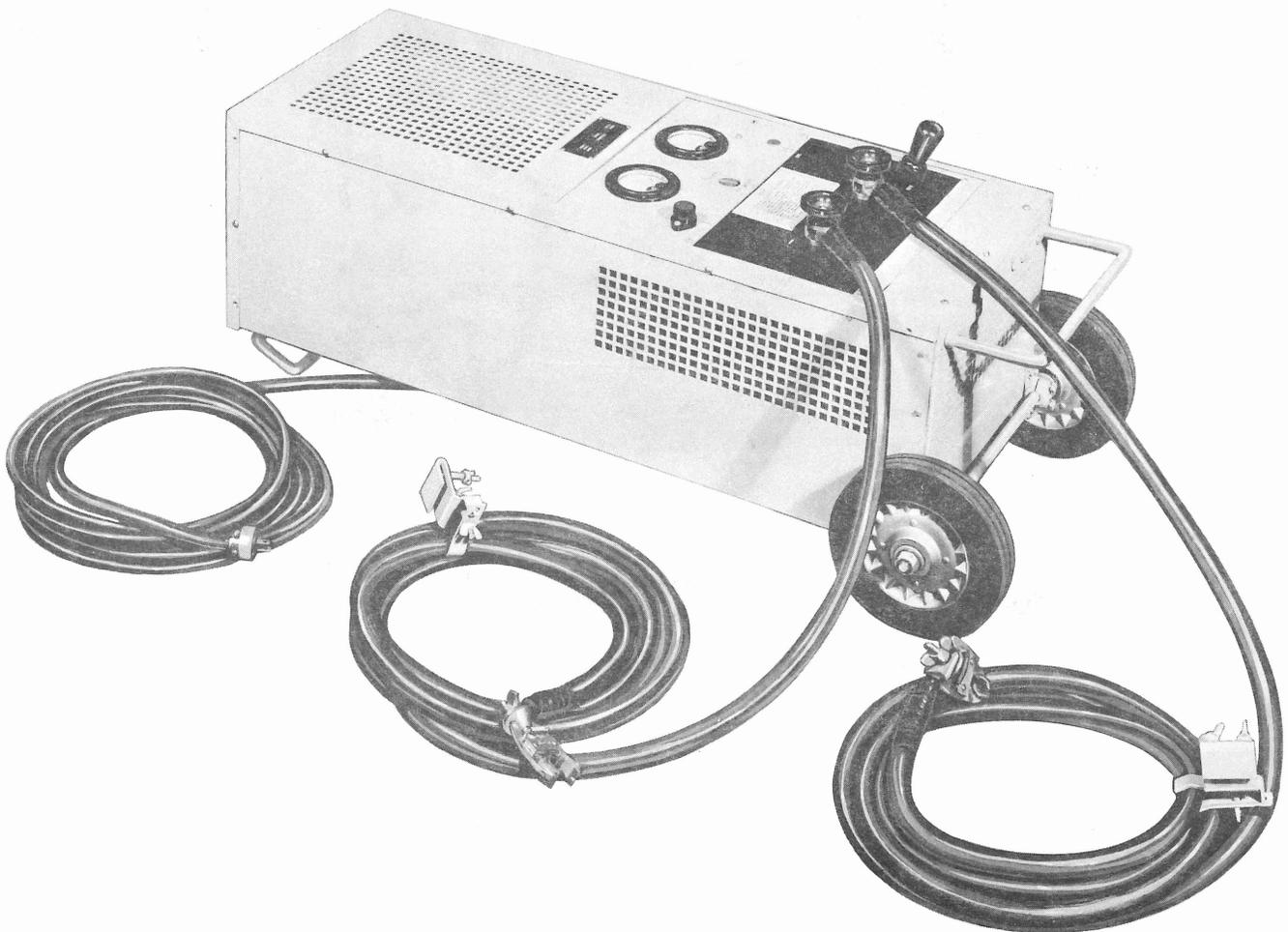


Fig. 12 — J86264A L1 Rectifier and L2 Charging Leads, 210-Ampere Portable Single-Cell Charger, Semiconductor-Type Rectifier, Manual Regulation

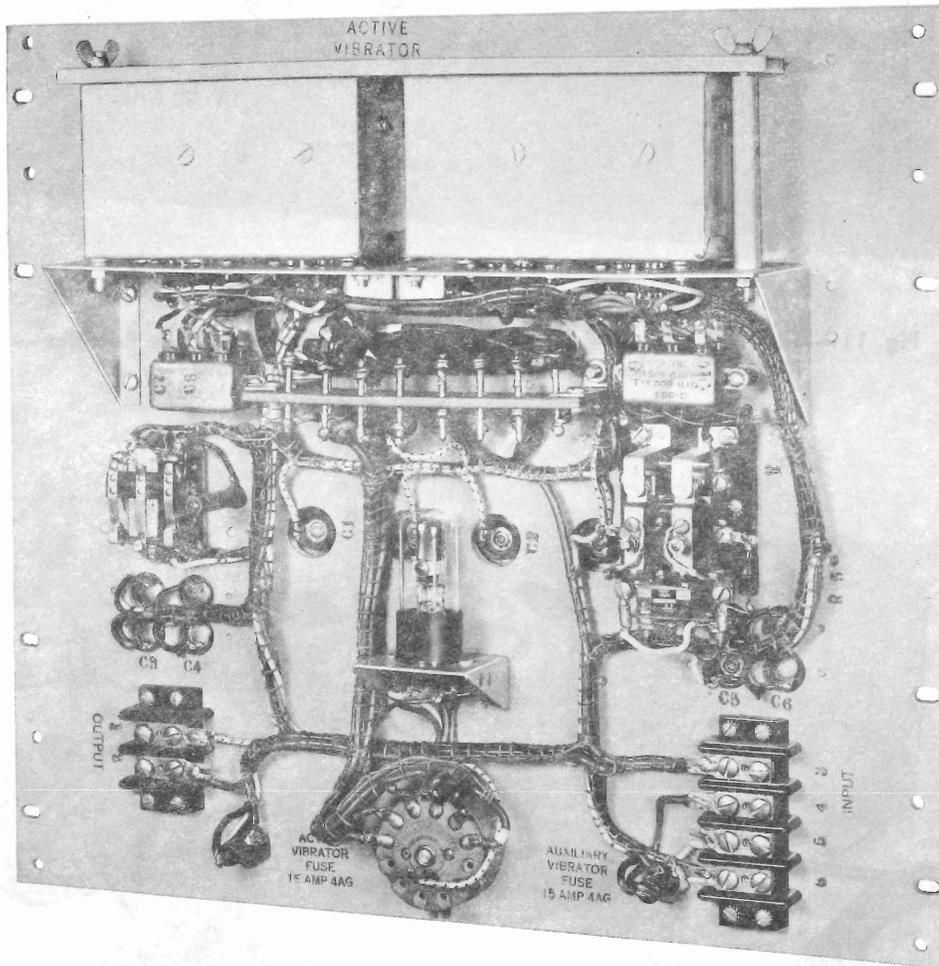


Fig. 13 — KS-15574 L1, Power Inverter — Vibrator Type — 130-Volt DC, 115-Volt AC, 75-Volt Ampere Output