

• CONDENSERS • INDUCTORS • TUBE SOCKETS • CABINET RACKS

• MULTI WIRE CONNECTORS • PILOT, DIAL, AND PANEL LIGHTS

# JOHNSON

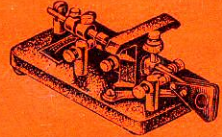


## RADIO ELECTRONIC PRODUCTS

CHASSIS, PANELS • ROTARY BEAM ANTENNAS • Q ANTENNAS • INSULATORS



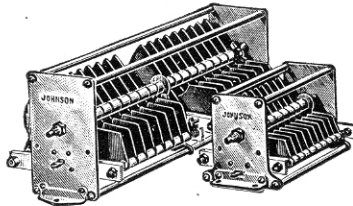
• PLUGS AND JACKS • COUPLINGS • CHOKES • TUBE CAP CONNECTORS



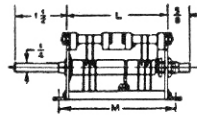
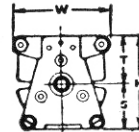
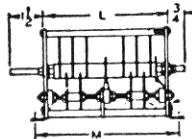
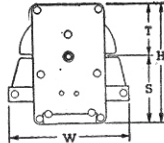


## VARIABLE CONDENSERS

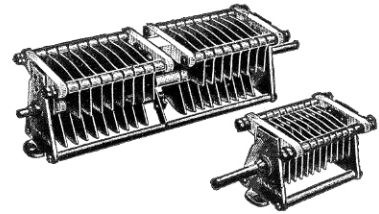
TYPES C AND D



Type C Dual	Type D Single
Type	T S W H
C	2 1/8 3 3/8 5 1/2 5 1/2
D	1 3/4 2 3/8 4 1/4 4



TYPES E AND F



Type E Dual	Type F Single
Type	T S W H
E	1 1/8 1 3/8 2 5/8 2 1/2
F	1 3/8 1 3/8 2 1/8 2

JOHNSON C and D condensers are sturdily constructed to give trouble-free operation under the most severe service. Only the finest materials are employed yet these units are lower in price than any other quality condensers.

All dual models have center rotor connections, to insure balanced operation at ultra-high frequencies. Heavy laminated phosphor bronze contact springs insure low resistance circuits.

Important features include: Heaviest aluminum plates of any similar condenser—.051" thick—Steatite insulation—Large laminated rotor brushes—Center rotor contacts on all dual condensers—Heavy 5/16" diameter aluminum tie rods for frame strength and rigidity—1/4" cadmium-plated steel shafts.

Supplied with single hole mounting brackets which fit either top or bottom of end plate so that stators may be mounted to top or bottom as preferred.

Panel space, Type C, 5 1/2" wide x 5 3/8" high panel space, Type D, 4 1/4" wide x 4" high.

Mounting (M) dimension, on both C and D Types, 7/8" more than L dimension.

### TYPE C SINGLE SECTION

Cat. No.	List Price	Cap. per Sect.		Number Plates	L
		Max.	Min.		
250C70	\$16.50	252	34	24	6 1/8
500C70	23.50	496	56	47	12 1/8
250C90	19.50	245	45	31	12 1/8
350C90	23.00	337	63	43	14 1/8
50C110	11.75	51	19	8	4 3/8
100C110	15.00	103	30	17	8 3/8
250C110	23.25	251	66	41	18 3/8
50C130	13.00	51	24	10	7 1/8
100C130	17.00	102	42	21	13 3/8

### TYPE C DUAL SECTION

Cat. No.	List Price	Cap. per Sect.		Number Plates	L
		Max.	Min.		
200CD45	20.50	204	21	15	8 1/8
300CD45	24.00	290	26	21	10 1/8
200CD70	23.50	198	27	19	12 1/8
300CD70	31.00	305	37	29	16 1/8
150CD90	25.00	147	30	19	14 1/8
200CD90	29.00	196	38	25	18 1/8
50CD110	17.50	50	18	8	10 1/8
65CD110	19.25	66	21	11	12 1/8
100CD110	24.50	103	32	17	16 1/8
50CD130	20.00	51	24	10	14 1/8

### TYPE D SINGLE SECTION

Cat. No.	List Price	Cap. per Sect.		Number Plates	L
		Max.	Min.		
50D35	8.00	49	12	5	2 3/8
100D35	8.75	99	14	8	2 3/8
150D35	9.75	151	18	12	2 3/8
250D35	11.25	252	24	20	4 3/8
350D35	12.50	343	27	27	5 1/8
500D35	14.75	496	36	39	6 3/8
100D45	9.50	104	19	12	4 3/8
150D45	11.00	146	23	17	4 3/8
50D70	8.75	51	17	7	2 3/8
70D70	9.75	72	18	11	4 3/8
100D70	10.75	98	23	15	4 3/8
150D70	12.50	151	31	23	6 1/8
250D70	15.50	244	45	37	10 1/8
350D70	19.00	351	62	53	13 1/8
50D90	10.00	53	20	10	4 3/8
70D90	11.00	73	25	14	5 1/8
100D90	12.00	99	30	19	7 1/8
150D90	14.25	149	43	29	10 1/8
250D90	18.75	249	68	49	15 7/8

### TYPE D DUAL SECTION

Cat. No.	List Price	Cap. per Sect.		Number Plates	L
		Max.	Min.		
100DD35	11.75	95	13	8	4 3/8
150DD35	13.25	147	15	12	5 1/8
200DD35	15.75	202	19	16	7 1/8
300DD35	18.75	291	24	23	9 1/8
500DD35	25.50	496	38	39	13 1/8
150DD45	16.25	155	24	18	9 1/8
200DD45	18.50	198	27	23	12 1/8
50DD70	12.50	52	17	11	7 1/8
70DD70	14.25	72	17	15	9 1/8
100DD70	16.00	97	22	17	11 1/8
150DD70	20.75	151	31	23	13 1/8
200DD70	23.75	199	39	30	16 1/8
50DD90	14.50	52	19	10	9 1/8
100DD90	19.50	97	30	19	14 1/8

Designed as rugged, compact units for medium and low power transmitters, type E and F condensers are in a class by themselves. They have more capacity per cubic inch and occupy less panel space for their rating than any other condenser on the market. Their rapid adoption by manufacturers of high grade equipment and discriminating amateurs is ample proof of their excellence.

Points of superiority: Heavy aluminum plates, .032" thick, with rounded edges for maximum voltage rating—Heavy aluminum tie rods 1/4" diameter for frame strength and rigidity—Steatite insulation—Stator mounted above to reduce capacity to ground—heavy phosphor bronze contact springs, cadmium plated—Center contact on dual models—Chassis or panel mounting—Stainless steel shafts.

In addition to mounting foot shown, removable single hole brackets are furnished so that condenser may be inverted from position shown, or other components mounted above.

Panel space, Type E, 2 5/8" wide x 2 1/2" high panel space, Type F, 2 1/8" wide x 2" high. Mounting (M) dimension, on both E and F Types, 1/8" more than L dimension.

### TYPE E SINGLE SECTION

Cat. No.	List Price	Cap. per Sect.		Number Plates	L
		Max.	Min.		
250E20	\$ 6.20	244	12	.045"	23
350E20	7.00	353	15	.045"	33
500E20	8.10	488	19	.045"	45
35E30	4.75	39	8	.075"	6
50E30	4.95	52	9	.075"	8
70E30	5.25	73	9	.075"	11
100E30	5.60	100	11	.075"	15
150E30	6.30	154	14	.075"	23
250E30	7.50	251	20	.075"	37
350E30	8.90	347	25	.075"	51
35E45	5.15	38	9	.125"	9
50E45	5.50	53	11	.125"	12
70E45	5.85	74	13	.125"	17
100E45	6.35	101	16	.125"	23
150E45	7.35	145	20	.125"	33
250E45	9.35	241	32	.125"	55

### TYPE E DUAL SECTION

Cat. No.	List Price	Cap. per Sect.		Number Plates	L
		Max.	Min.		
200ED20	9.60	200	10	.045"	19
300ED20	11.20	312	13	.045"	29
50ED30	7.85	52	8	.075"	8
70ED30	8.35	72	8	.075"	11
100ED30	9.15	99	10	.075"	15
150ED30	10.50	153	13	.075"	23
200ED30	11.75	196	15	.075"	29
50ED45	8.35	52	10	.125"	12
70ED45	9.40	74	12	.125"	17
100ED45	10.85	100	15	.125"	23

### TYPE F SINGLE SECTION

Cat. No.	List Price	Cap. per Sect.		Number Plates	L
		Max.	Min.		
35F20	4.50	35	7	.045"	6
50F20	4.70	54	8	.045"	9
70F20	4.90	66	8	.045"	11
100F20	5.35	106	10	.045"	17
150F20	6.05	154	12	.045"	25
250F20	7.25	252	17	.045"	41
35F30	4.80	36	8	.075"	9
50F30	5.10	52	9	.075"	13
70F30	5.45	67	11	.075"	17
100F30	6.10	99	14	.075"	25
150F30	7.15	148	18	.075"	37

### TYPE F DUAL SECTION

Cat. No.	List Price	Cap. per Sect.		Number Plates	L
		Max.	Min.		
50FD20	7.65	53	7	.045"	9
70FD20	8.15	66	7	.045"	11
100FD20	8.95	104	9	.045"	17
150FD20	10.30	153	11	.045"	25
200FD20	11.55	202	14	.045"	33
50FD30	8.30	51	8	.075"	13
70FD30	9.30	66	10	.075"	17
100FD30	10.75	99	13	.075"	25

### DEPARTURES FROM STANDARD

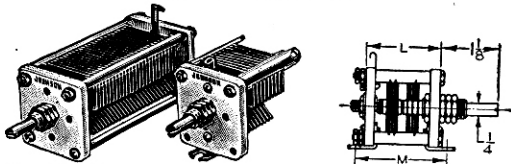
Special plate spacings, capacities, shaft extensions, insulation, mounting brackets, terminals, etc., can be furnished to specifications for commercial applications.

### CONDENSERS FOR HIGHER VOLTAGES

The JOHNSON line includes heavy duty pressurized or air dielectric fixed and variable condensers for high voltage commercial applications. Data sheets furnished on request.



## TYPE H CONDENSER



Two End Plates Single End Plate

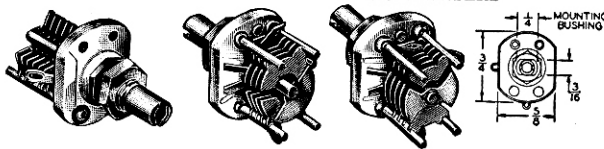
The Type H condenser was designed for aircraft transmitters and combines a minimum of weight and size with simple but rugged construction. Capacities and spacings are provided for low and medium power stages. Use of steatite for end plates avoids any possibility of "short circuit loops" and permits panel mounting with both rotor and stator insulated from ground. Has aluminum plates .020" thick. End plate 1 1/2" square. Capacity measurements are taken with condenser in position shown above.

Mounting (M) dimension is 1/8" more than the L dimension.

### TYPE H SINGLE SECTION

Cat. No.	List Price	Cap. per Sect.		Spacing	Number Plates	L
		Max.	Min.			
<b>Single End Plate</b>						
25H15	\$2.70	25	4	.030"	6	1 1/2"
35H15	2.80	35	4	.030"	8	1 3/8"
50H15	2.95	49	4	.030"	11	1 1/2"
70H15	3.20	69	6	.030"	15	1 3/4"
100H15	3.50	97	7	.030"	21	1 7/8"
<b>Double End Plate</b>						
150H15	5.00	146	9	.030"	31	2 1/8"
250H15	6.60	242	13	.030"	51	3 1/8"
25H30	4.10	28	7	.080"	13	2 1/8"
35H30	4.50	37	8	.080"	17	2 1/4"
50H30	5.05	54	11	.080"	25	2 3/8"
70H30	5.75	74	13	.080"	35	4 1/8"
<b>DUAL SECTION</b>						
35HD15	4.70	31	6	.030"	7	1 1/8"
50HD15	5.05	51	7	.030"	11	2 3/8"
70HD15	5.55	71	8	.030"	15	2 1/2"
100HD15	6.25	99	10	.030"	21	3 3/8"
35HD30	6.05	38	12	.080"	17	4 1/8"
50HD30	7.15	55	15	.080"	25	6

### MINIATURE AIR VARIABLE CONDENSERS

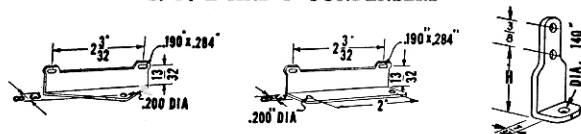


The smallest air variables ever built. A necessity in all types of high frequency equipment. Available in single, differential and butterfly types. Single hole mounting flats on mounting bushing to prevent turning. Split sleeve rotor bearings — no shaft wobble. Steatite end frames.

Cat. No.	List Price	Capacity		Number Plates	L
		Max.	Min.		
<b>Single</b>					
5M11	\$1.45	5.1	1.5	5	3 3/8"
9M11	1.55	8.7	1.7	9	3 3/4"
15M11	1.75	14.6	2.1	15	3 7/8"
20M11	2.00	19.7	2.6	21	4 1/4"
<b>Differential</b>					
6MA11	\$2.10	5.6	1.8	7	3 3/8"
9MA11	2.30	9.3	2.0	13	3 3/4"
15MA11	2.60	14.8	2.3	22	3 7/8"
19MA11	3.00	19.3	2.7	31	4 1/8"
<b>Butterfly</b>					
3MB11	\$2.10	3.3	1.7	7	3 3/8"
5MB11	2.30	5.3	2.1	13	3 3/4"
9MB11	2.60	8.5	2.7	22	3 7/8"
11MB11	2.90	11.0	3.2	31	4 1/4"

L: Length Behind Panel

### MOUNTING BRACKETS FOR C, D, E AND F CONDENSERS

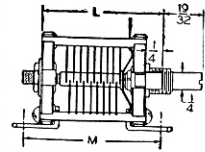


Cat. No.	List Price
115-100—Single Hole Bracket for C or D condenser.....	\$0.15
115-101—Two Hole Bracket for C or D condenser.....	.15
115-102—Single Hole Bracket for E condenser.....	.10
115-103—Single Hole Bracket for F condenser.....	.10

## NEW JOHNSON TYPE L VARIABLES (167 Series)

Ceramic Soldered for Stability, Strength

With the introduction of this new line of air variables, JOHNSON brings many important design advantages never before available.



Outstanding of these is the use of perfected ceramic soldering which assures absolute — and permanent — rigidity and strength, absolute — and permanent — maintenance of capacities!

There are no eyelets, nuts or screws to work loose, causing stator wobble and fluctuations in capacity. JOHNSON ceramic soldering leaves a bond which is stronger than the rugged steatite end plates themselves. There's nothing to come loose, because the stator terminals, mounting posts and rotor bearings are ceramic soldered!

Silent operation on the highest frequencies is assured with a split sleeve tension bearing that also prevents fluctuations in capacity.

### Differential Butterfly

These new variables are ideal for peak efficiency even under the severest conditions, such as portable — mobile operation.

Two sets of stator contacts are provided for connecting components to either side of condenser without appreciably increasing inductance of the circuit. New bright alloy plating is used. It has high corrosion resistance and possesses lower electrical resistance than other common platings.

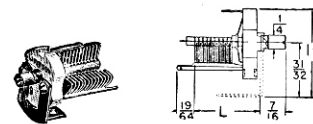
Mounting (M) dimension is 1/4" more than the L dimension.

• Other capacities and spacings available on special order •

### TYPE L SINGLE SECTION

Cat. No.	List Price	Cap. per Sect.		Spacing	Number Plates	L
		Max.	Min.			
<b>Single End Plate</b>						
10L15	\$2.40	11	2.8	.030"	3	1 1/8"
25L15	2.55	27	3.5	.030"	7	1 3/8"
50L15	2.90	51	4.6	.030"	13	1 7/8"
75L15	3.00	75	5.7	.030"	19	1 3/4"
<b>Double End Plate (Also Available in .080" Spacing)</b>						
100L15	4.85	99	6.8	.030"	25	2 1/8"
200L15	6.10	202	11.6	.030"	51	3 3/8"
<b>Dual Section (Also Available in .080" Spacing)</b>						
25LD15	4.70	27	3.5	.030"	14	1 3/8"
50LD15	5.45	51	4.6	.030"	26	2 1/4"
100LD15	6.55	99	6.8	.030"	50	3 3/8"
<b>Differential (Also Available in .080" Spacing)</b>						
10LA15	2.90	11	2.8	.030"	4	1 1/8"
25LA15	3.10	27	3.5	.030"	10	1 3/8"
50LA15	3.50	51	4.6	.030"	19	1 7/8"
<b>Butterfly</b>						
10LB15	3.30	10.5	2.8	.030"	7	1 3/8"
25LB15	3.80	26	4.3	.030"	18	1 7/8"
50LB15	4.40	51	6.5	.030"	34	1 3/4"

### TYPE J CONDENSER



The Type J condenser is a midget with big condenser characteristics. It has wider spacing than most small types, yet occupies little more space and is ideal for oscillator and low power stages. The spacing is .025" and universal type mounting brackets make possible a variety of mountings including chassis, panel, or inside tube socket type inductors. Steatite end plate is 1 1/8" wide.

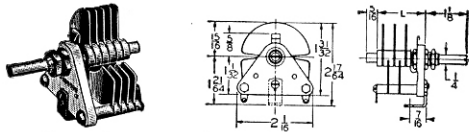
Cat. No.	List Price	Cap. per Sect.		Spacing	Number Plates	L
		Max.	Min.			
7J12	\$1.95	8	2.6	.025"	3	1 1/8"
15J12	2.10	17	3.3	.025"	6	1 3/8"
25J12	2.30	29	3.6	.025"	10	1 7/8"
50J12	2.70	52	4.9	.025"	19	1 1/4"
75J12	3.15	73	6	.025"	26	1 3/4"
100J12	3.75	102	7	.025"	36	1 3/8"

### EXPLANATION OF TYPE NUMBERS

The first part of the type number indicates the capacity per section in mmfd. The following letter indicates the frame size or type. A second letter D indicates a two section type. The final number multiplied by 10 is the approximate peak breakdown voltage. Capacity measurements of the E and F types are made with the condensers in the position shown in the above illustration. The C and D types are measured in inverted position.



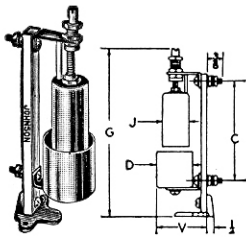
### TYPE G CONDENSER



The Type G condenser is extremely popular as a neutralizing condenser for medium and low power stages. It is also widely used for grid and plate tuning at high and ultra-high frequencies. A wide range of capacities and spacing make it adaptable to many applications. It has a single end plate of steatite and low minimum capacity. .032" rounded aluminum plates, universal mounting bracket locking nut, and front and rear shaft extension are among outstanding features.

Cat. No.	List Price	Cap. per Sect.		Spacing	Number Plates	L
		Max.	Min.			
25G20	\$3.40	27	4	.045"	5	1 1/2"
50G20	3.75	52	5	.045"	9	1 3/4"
9G45	3.25	7.7	3.6	.125"	3	1 1/8"
13G45	3.45	13	4.7	.125"	5	1 1/8"
23G45	3.75	23	6.4	.125"	9	1 3/8"
6G70	3.75	5.7	3.5	.225"	3	1 1/8"
12G70	4.25	12	6	.225"	7	2 5/8"

### TYPE N CONDENSER



Small mounting space requirements, extremely high voltage rating in proportion to size, fine adjustment with uniform voltage breakdown rating throughout the full capacity range, and low cost, make these neutralizing condensers ideal for the modern transmitter. "Plates" are aluminum cups supported on a steatite frame with cast aluminum mounting bracket. Because of the design these condensers will withstand much higher voltage than conventional flat plate condensers of the same spacing. The N375 has been improved and now features a bushing for the guide shaft for greater stability and a beaded lower cup for high voltage rating. Peak R.F. Breakdown Ratings at 2 Mc.; N125 8,500, N250 11,500, N375 14,500.

Cat. No.	List Price	Capacity		D	C	G	V	Spacing
		Max.	Min.					
N125	\$6.50	11.0	1.1	1 3/8"	3 1/8"	6 1/2"	1 1/2"	.125"
N250	7.50	10.6	1.4	1 3/4"	3 3/4"	7 1/2"	2 1/8"	.250"
N375	9.50	10.7	1.7	2 3/8"	5 3/8"	8 3/8"	2 1/8"	.375"

### TINNED COPPER SOLDERING TERMINALS



Terminals Illustrated in the Order Listed

Available in eleven sizes, JOHNSON soldering terminals meet the requirements of most applications. Composed of copper for low resistance, they are tinned to permit easy soldering.

Cat. No.	List Price Per C	Size Hole	Length
110-880	\$0.40	6-32	1 1/2"
110-881	.75	1/4"	1 1/2"
110-882	1.50	3/8"	1 1/2"
110-883	2.75	10-32	1 1/2"
110-884	2.75	10-32	1 1/2"
110-885	4.00	1/4"	1 1/2"
110-886	1.90	.180"	1 1/2"
110-887	2.75	3/16"	1 1/2"
110-888	2.75	3/16"	1 1/2"
110-889	4.25	3/16"	1 1/2"
110-890	4.25	3/16"	1 1/2"

### INDUCTOR CLIPS



Clip No. 235-804 is plated phosphor bronze and is designed for making connections to the JOHNSON edgewise wound or similar inductors. No. 235-860 will take wire from No. 20 to No. 10 without danger of tilting and shorting adjacent turns.



Cat. No.	List Price	Type
235-804	\$0.30	LC4
235-860	.15	860

### FUSE CLIP



115-840

This cadmium plated phosphor bronze clip provides sure grip for 3/8" diameter fuse or resistor. Mounts with No. 8 screw.

Cat. No.	List Price
No. 115-840	\$0.03
No. 110-112	.07

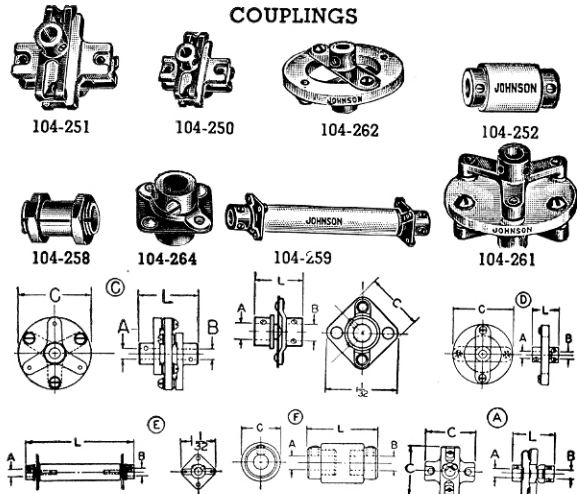
### SCREW TERMINAL

A convenient and substantial clip for use as antenna and ground connections and power terminals. Furnished complete with 2 screws.



110-112

### COUPLINGS



All JOHNSON insulated shaft couplings are characterized by best steatite insulation properly proportioned for electrical and mechanical strength, by accurate metal parts heavily plated, by advanced design, and by skillful manufacture.

The phosphor bronze springs of the -250 and -251 series couplings provide flexibility without backlash and adjust to minor shaft misalignments. Rigid types -252, -262 and -261 meet the requirements of accurate shaft alignment and high torque.

The -259 and -2593 are bar type couplings recommended for high voltages or very high frequencies.

The -264 is a small bakelite insulated flexible coupling for DC or low voltage RF applications.

Cat. No.	List Price	Modulated Peak Volt.	Dim. Dwg.	Dimension		
				L	A	B
104-250	\$1.00	4000	A	1 1/8"	1/4"	1/4"
104-2503	1.10	4000	A	1 1/8"	1/4"	3/8"
104-251	1.40	5000	A	2 1/8"	3/8"	3/8"
104-251A	1.40	5000	A	2 1/8"	1/4"	1/4"
104-251B	1.40	5000	A	2 1/8"	3/8"	3/8"
104-252	.90	1000	F	1 1/4"	1/4"	1/4"
104-258	.35		1/2"	3/4"	1/4"	1/4"
104-259	1.50	8000	E	3 3/8"	1/4"	1/4"
104-2593	1.45	5000	E	2 3/8"	1/4"	1/4"
104-261	4.25	7500	C	2 1/2"	3/8"	3/8"
104-262	.85	5000	D	2"	1/4"	1/4"
104-264	.60	400	B	1 3/8"	1/4"	1/4"

### PANEL BEARINGS

Nickel plated brass for 1/4" shaft and up to 3/8" panels. Also with 3" and 6" nickel-plated brass shafts.

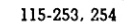


Cat. No.	List Price
115-255	\$0.20
115-256	.40
115-2562	.60

### FLEXIBLE SHAFTS

Phosphor bronze, non-rusting with 1/4" hubs.

Permit out of line or up to 90 degree angular control.



Cat. No.	List Price
115-253	\$0.50
115-254	.70

### BAKELITE KNOB



A new and extremely versatile knob for screwdriver or hand operation. Has set-screw for attachment. 1 1/8" long, skirt 3/4" diameter.

Cat. No.	List Price
116-214-1	\$0.50
116-214-2	.50

### RADIO FREQUENCY CHOKES

Cat. No.	List Price	Frequency	Current Rating	Length
750	\$1.75	1.7 to 30 mc	150 ma	1 1/2"
752	2.50	1.7 to 30 mc	500 ma	2 1/8"
754	3.00	1.7 to 30 mc	750 ma	4 1/8"
101-760	.60	Ultra-high	250 ma	1 1/2"
101-762	1.15	Ultra-high	1500 ma	2 7/8"



## NEW JOHNSON AIR-WOUND HAM INDUCTORS

### A Coil to Match Your Tube — A Link to Match Your Line

There are two models for most bands for use with either high voltage low current, or low voltage high current tubes.

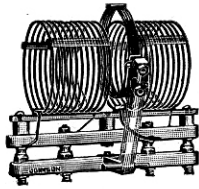
With these new JOHNSON Ham Inductors and "plug-in" Swinging Link Assemblies the amateur can instantly match coil to tube — link to line. These outstanding inductors are also available in semi-fixed models.

### Heavier Windings on All Models

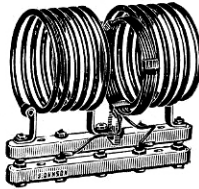
Efficiency is further increased because coil windings are a wire-size larger than on most available in-

ductors — resulting in less heating, lower loss and consequently higher efficiency.

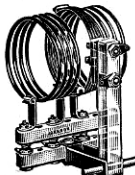
The new JOHNSON Inductors and "plug-in" Link Assemblies fit all conventional inductor assemblies.



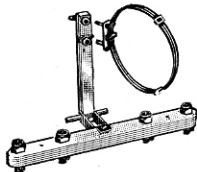
Inductor 1000HCS40  
Link 1000SL5



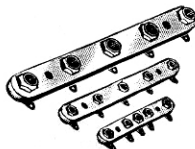
Inductor 500HCF20  
Link 150/500FL5



Inductor 150H/LCS14  
Link 150/500SL5



Jack Bar 1000JBS with  
1000SLA Arm Assembly  
and 1000SL5 Link



Jack Bars  
1000JBS, 500JBS, 150JBS

### SWINGING LINK INDUCTORS

Catalog Number	List Price
1000HCS160	\$11.50
1000LCS160	11.50
1000HCS80	10.25
1000LCS80	10.25
1000HCS40	9.25
1000LCS40	9.25
1000HCS20	8.50
1000LCS20	8.50
1000H/LCS14	8.00
1000H/LCS10	7.50
500HCS160	6.25
500LCS160	6.25
500HCS80	5.75
500LCS80	5.75
500HCS40	5.25
500LCS40	5.25
500HCS20	4.50
500LCS20	4.50
500H/LCS14	3.50
500H/LCS10	3.25
500H/LCS6	3.25
150HCS160	5.50
150LCS160	5.50
150HCS80	5.00
150LCS80	5.00
150HCS40	4.50
150LCS40	4.50
150HCS20	4.00
150LCS20	4.00
150H/LCS14	3.25
150H/LCS10	3.00
150H/LCS6	3.00

### SEMI-FIXED LINK INDUCTORS

Catalog Number	List Price	Wire Size	Cap.* mmfds.
1000HCF80	\$9.90	10	99
1000LCF80	9.90	10	140
1000HCF40	8.90	10	46
1000LCF40	8.90	10	73
1000HCF20	8.50	8	24
1000LCF20	8.50	8	55
1000H/LCF14	8.15	.250**	19
1000H/LCF10	7.65	.250**	19
1000H/LCF6	7.15	.250**	18
500HCF80	5.60	14	100
500LCF80	5.60	14	148
500HCF40	5.10	12	45
500LCF40	5.10	12	76
500HCF20	4.35	10	27
500LCF20	4.35	10	50
500H/LCF14	3.35	6	25
500H/LCF10	3.10	6	37
500H/LCF6	3.10	6	19
150HCF80	4.85	16	19
150LCF80	4.85	16	18
150HCF40	4.35	14	102
150LCF40	4.35	14	151
150HCF20	3.85	12	51
150LCF20	3.85	12	68
150H/LCF14	3.10	8	28
150H/LCF10	2.85	8	57
150H/LCF6	2.85	8	21
		8	32
		8	19
		8	19
		8	16

\*Total circuit capacity required to effect resonance at low frequency end of band. Actual condenser capacity will be smaller by the sum of the tube output and wiring capacities, generally between 5 and 20 mmfd.  
\*\*.250 diameter copper tubing.

### JACK BAR ASSEMBLIES

Cat. No. 150JBS	150 Watt Jack Bar	List Price	\$1.45
Cat. No. 500JBS	500 Watt Jack Bar	List Price	2.00
Cat. No. 1000JBS	1000 Watt Jack Bar	List Price	3.00

### SWINGING LINK ARM ASSEMBLIES

Cat. No.	List Price
150/500SLA—Arm Assembly for 150/500 Watt Inductors.....	\$1.70
1000SLA—Arm Assembly for 1000 Watt Inductors.....	2.10

### BRACKETS

Cat. No.	List Price
150/500FLB—150/500 Watt Bracket for Semi-Fixed Link Inductor.....	\$0.45
1000FLB—1000 Watt Bracket for Semi-Fixed Link Inductor.....	.80

### "PLUG-IN" LINKS

Cat. No.	No. Turns	List Price
150/500SL12	12	\$3.00
150/500SL5	5	1.90
150/500SL2	2	1.60
1000SL10	10	3.10
1000SL5	5	2.40
1000SL2	2	1.80

### SEMI-FIXED LINKS

Cat. No.	No. Turns	List Price
150/500FL12	12	\$2.20
150/500FL5	5	1.40
150/500FL2	2	1.20
1000FL10	10	2.10
1000FL5	5	1.60
1000FL2	2	1.30

### TUBE CAP CONNECTORS

Collet types, numbers 119-838 through 119-841 are recommended for heavy current industrial uses. The outside diameter is 7/8" and connector may be tightened with spanner wrench listed below. The 119-843 is a part of the 124-212 socket for 833A tubes and is recommended for other tubes having .567" diameter caps and requiring radiator type connectors for high R.F. currents. The flexible strap is 5/8" long and 3/8" wide.

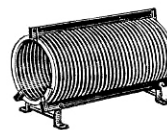


119-838  
119-839  
119-840  
119-841  
119-843  
119-852  
119-854

Cat. No.	List Price	Tube Cap Dia.
119-838	\$1.35	.375
119-839	1.40	.437
119-840	1.50	.567
119-841	1.75	.676
119-843	1.50	.567
119-846	.35	.125

Cat. No.	List Price	Tube Cap Dia.
119-848	\$0.16	.070
119-849	.12	.048
119-850	1.80	.250
119-851	1.80	.360
119-852	.06	.360
119-854	.12	.566
119-838	Spanner wrench for use with Nos. 119-838 through -841.....	
	List Price	\$1.25

### EDGEWISE WOUND "HI-Q" INDUCTORS

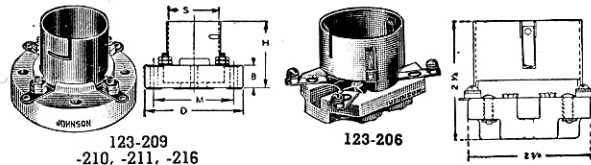


Design improvements and mycalex insulation are new features in this inductor of plated edge-wound copper strip. They are widely used in commercial equipment, and will safely handle more than 1000 watts in continuous service. Other sizes and types of inductors are manufactured for commercial broadcast and industrial electronic applications. More information available on request.

Cat. No.	List Price	Inductance μh	Winding L x ID
232-610	\$11.50	31	7 1/2" x 2 1/2"
232-611	7.50	13	4 1/2" x 2 1/2"
232-619	7.35	19	3 1/8" x 4"
232-620	15.10	84	8 1/2" x 4"
232-622	11.75	41	6 1/2" x 3 1/4"
232-623	6.10	8	2 3/8" x 3 1/4"
232-624	9.10	20	6" x 3 1/4"
232-626	7.75	10	4 3/4" x 2 1/2"
232-627	5.25	2.8	1 1/2" x 2 1/2"
232-628	6.75	4.4	4 5/8" x 2 1/2"



## TUBE SOCKETS



No. 123-206 industrial bayonet socket with rugged metal shell for extremely high voltage applications. Will accommodate 8008, 5C22, FG104, GL146 and other tubes with similar bases. Has steatite insulation, silver plated beryllium copper contacts, screw terminals and three heavy springs in shell insure tube being held securely in place.

Nos. -209, -210, -211 and -216 all have heavy phosphor bronze, side wiping type contacts, metal shells and white, glazed porcelain bases.

No. -209 is similar to No. -210, but provides greater spacing between contacts and shell, for higher voltages, No. -211, the standard "50 watt" socket has double filament contacts for carrying heavy currents.

No. -216 is for tubes having a GIANT 5 pin bayonet base such as the 803, RK28, etc. "S" dimension -209, -210 series 1.386", -211 series 1.886", -216 series 2.198".

Suffix letters "SB" identify sockets with beryllium copper contacts and steatite bases.

Cat. No.	List Price	D	H	M	B	Base
123-206	\$3.00	2 5/8 x 3 7/8	2 1/2	2 3/4	7/8	Four-Pin Super Jumbo
123-209	1.50	2 1/8	1 3/8	2 5/8	1 1/8	Medium Four-Pin Bayonet
123-209SB	2.50	2 1/8	1 3/8	2 5/8	1 1/8	Medium Four-Pin Bayonet
123-210	1.50	2 1/2	1 7/8	2 1/8	1 1/8	Standard Jumbo Four-Pin
123-211	1.85	3 3/8	2 3/8	2 1/8	1 1/8	Standard Jumbo Four-Pin
123-211SB	3.50	3 3/8	2 3/8	2 1/8	1 1/8	Standard Jumbo Four-Pin
123-216	3.00	3 3/4	2 7/8	3 1/8	1 1/8	Giant Five-Pin Bayonet
123-216SB	5.15	3 3/4	2 7/8	3 1/8	1 1/8	Giant Five-Pin Bayonet

No. -213 takes Eimac 152TL and 304TL. Contacts arranged for either series or parallel filaments.

No. -214 takes Eimac 1500TH and similar tubes. Has air jet tube for cooling filament tube seals.

No. -215 is for "250 watt" tubes such as 204A, 849, etc. The plate terminal has a "safety cup" which prevents accidental dislodgement of the tube.

Cat. No.	List Price	Base
124-213	\$2.00	"Eimac"
124-214	2.75	"Eimac"
124-215	4.25	"250 Watt"

### MINIATURE SOCKETS

Cat. No.	Description	List Price
120-267	Miniature socket, all ceramic	\$0.50
120-277B	Miniature socket with shield base	.75
133-277S	Miniature socket, shield base only	.15
133-278A	1 3/8" shield for 277 B or S	.20
133-278B	1 3/4" shield for 277 B or S	.20

### ACORN SOCKETS

The -265 was designed for "acorn" tubes. Contacts silver-plated beryllium copper, base grade L-4 Steatite

Cat. No.	List Price	Mtg. Cen.
121-265	\$1.10	1 3/8"

### SPECIAL SOCKETS

The No. -212 socket for RCA833 or 833A. Base of steatite. Filament clamps incorporate "springs" which minimize strains on the glass tube seals and prevent breakage. Plate leads include laminated phosphor bronze strips for flexibility. Regularly supplied with 5 1/8" plate leads. Other lengths available on special order.

Cat. No. 124-212	List Price \$10.00
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No. -234 for Western Electric 5D21, 705A, 715A, 715B includes heavy steatite base and special locking device for retaining tube in socket.

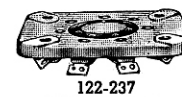
Cat. No. 122-234	List Price \$3.00
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### WAFER SOCKETS

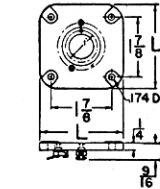
JOHNSON wafer sockets are insulated with grade L 4 steatite or better, top and sides glazed, underside impregnated in conformance with latest Army Navy specifications. Contacts are brass with steel spring, cadmium plated and are mounted against phenolic washers in molded recesses to prevent movement. Rivets are countersunk and mounting holes bossed to permit sub-panel mounting. Locating grooves facilitate tube insertion.

Cat. No.	List Price	Pin
122-217	\$0.75	7-pin small
122-224	.60	4-pin
122-225	.65	5-pin
122-226	.70	6-pin
122-227	.75	7-pin med.
122-228	.80	Octal

No. -237 is a 7-pin large steatite wafer socket for transmitting tubes having a GIANT 7-pin base such as the HK257, and RCA 813.



No. -247 is a 7-pin steatite wafer socket for transmitting tubes such as the 826. It is furnished with etched aluminum base shield



The 122-244 is a 4-pin wafer socket of steatite insulation, for transmitting tubes having a Super Jumbo base such as the 8008. Brass clip contacts and reinforcing steel springs are cadmium-plated and are designed for high currents. Four mounting holes spaced 1 7/8" between centers.

Cat. No.	List Price	Dimension L
122-237	\$1.10	2 5/8"
122-244	2.00	2 5/8"
122-247	1.25	2 5/8"

The 122-101 is a 7 pin steatite wafer socket of special design incorporating a base shield, retainer springs and provision for mounting button mica capacitors directly to the socket. Socket is specially designed for UHF use with tubes such as the 826, 829 and 832. Contacts and spring are silver plated and recessed to prevent movement. Grid terminals are designed so connecting wires may be isolated from other circuits and permit small grid coils to be mounted on the terminal ends. Four mounting holes are equally spaced 2.312 inches between centers.

Cat. No. 122-101	List Price \$3.00
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The 122-102 is designed for high frequencies. Accommodates Eimac 4X-500A tube. Mounting holes in both top and bottom rims. Widely used for coaxial circuits, with coaxial line mounted directly on the tube socket. Terminals so arranged to provide by-pass capacity to ground through the insulation. Mounting holes are provided for adding by-pass condensers for additional capacity. Socket is 2 1/8" high and 4" in diameter.

Cat. No.	List Price
122-102	\$18.00

The 122-275 is a 5 pin steatite wafer socket for transmitting tubes having a GIANT 5 pin base such as the 4-125A and RK48. Contacts are of a superior construction, brass clip and steel spring, both cadmium plated, and are designed for high currents. Adequate ventilation for tubes is provided by five 1/4" holes spaced between contacts. Four mounting holes are equally spaced 2 1/4" between centers.

Cat. No. 122-275	List Price \$1.75
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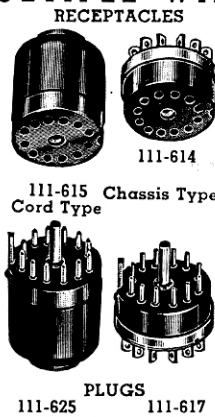
THE JOHNSON TUBE SOCKET GUIDE IS AVAILABLE UPON REQUEST.



## MULTIPLE WIRE CONNECTORS

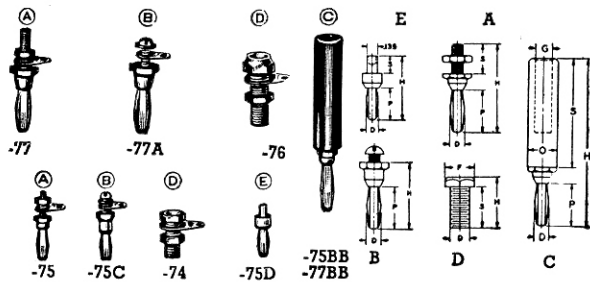
JOHNSON cable connectors provide a most efficient means of quickly connecting or disconnecting multiple electrical circuits in low-voltage control, audio and instrument service. Contacts accommodate No. 16 stranded wire, or No. 14 solid. Minimum surface creepage path for 12 contact types  $\frac{1}{8}$ " for 7 contact types  $\frac{3}{8}$ ". Body material of molded black bakelite, back shells are brass dull black finished, shell liners are fibre. Plug and receptacle polarized for quick accurate insertion. The cadmium plated steel mounting yokes fit standard switch boxes and cover plates and are supplied with necessary hardware.

The multiple Wire connectors, tip plugs and jacks appearing on this page are former Mallory-Yaxley products.



Catalog Number	List Price	No. of Connector		PIN PLATE Bracket Mounted
		Contacts	Type	
<b>RECEPTACLES</b>				
111-614	\$2.00	12	Chassis	
111-615	2.30	12	Cord	
111-644	1.00	7	Chassis	
111-645	1.25	7	Cord	
<b>PLUGS</b>				
111-617	2.10	12	Chassis	
111-625	2.40	12	Cord	
111-631	1.45	7	Chassis	
111-635	1.70	7	Cord	
<b>PIN PLATE BRACKET MOUNTED</b>				
111-682	1.60	12		
<b>MOUNTING YOKE</b>				
111-6002	.25	for 7 wire connectors		
111-6003	.25	for 12 wire connectors		

## PLUGS AND JACKS



### "BANANA SPRING" TYPE

Nickel-silver springs and high grade nickel plated brass screw machine parts with accurate threads and milled nuts. Studs extend full length of springs for added support.

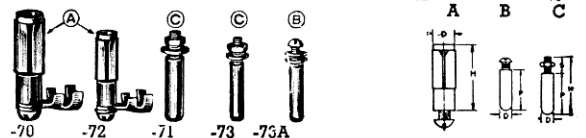
75D is designed for riveting. Spring is beryllium copper. 75BB has  $\frac{1}{8}$ " black plastic handle; 75BR same but red. 77BB has  $\frac{1}{4}$ " black plastic handle; 77BR same but red.

75 or 75A can be furnished with beryllium copper spring on special order, and all plugs can be furnished with nickel, cadmium or silver plating if required.

108-7451 is a red plastic insulated jack similar to the 108-74 and furnished with fibre washers. 108-7452 same but black.

If washers used for insulated mounting fits  $\frac{1}{8}$ " holes,  $\frac{3}{32}$ " maximum panel thickness.

Cat. No.	List Price	Illus.	Dwg.	S	P	H	G	O	Thread
108-75	\$0.12	A	$\frac{3}{8}$	.53	.170	1.115			6-32
108-75A	.13	A	$\frac{3}{4}$	.53	.170	1.490			6-32
108-75BB	.40	C	$\frac{13}{8}$	.53	.170	2.115	.215	$\frac{7}{16}$	
108-75BR	.40	C	$\frac{13}{8}$	.53	.170	2.115	.215	$\frac{7}{16}$	
108-75C	.13	B	$\frac{7}{8}$	.53	.170	.94			6-32
108-75D	.10	E	$\frac{7}{8}$	.40	.155	.81			
108-77	.30	A	$\frac{5}{8}$	.74	.300	1.77			$\frac{1}{4}$ -28
108-77A	.35	B	$\frac{5}{8}$	.74	.300	1.15			10-32
108-77BB	.50	C	$\frac{13}{4}$	.74	.300	2.90		$\frac{5}{16}$	$\frac{5}{8}$
108-77BR	.50	C	$\frac{13}{4}$	.74	.300	2.90		$\frac{5}{16}$	$\frac{5}{8}$
Jacks		F	D	S	H	B			Thread
108-74	.11	D	$\frac{5}{8}$	$\frac{1}{4}$	$\frac{5}{8}$	.166			$\frac{1}{4}$ -28
108-7451	.25	$\frac{1}{8}$	$\frac{1}{4}$	$\frac{1}{2}$	$\frac{3}{4}$	.166			$\frac{1}{4}$ -28
108-7452	.25	$\frac{1}{8}$	$\frac{1}{4}$	$\frac{1}{2}$	$\frac{3}{4}$	.166			$\frac{1}{4}$ -28
108-76	.35	D	$\frac{1}{2}$	$\frac{3}{8}$	$1\frac{1}{2}$	.277			$\frac{3}{8}$ -24



### "SPRING SLEEVE" TYPE

These jacks have maximum current carrying capacity, minimum resistance, great mechanical strength, and snug fit. Wiping action of spring on insertion insures good electrical contact. Tension is maintained by phosphor bronze "spring sleeves," two sizes available. Furnished regularly nickel plated, but cadmium or silver can be supplied on special order.

Cat. No.	List Price	D	S	P	H	Thread
106-71	\$0.25	.375	$\frac{1}{2}$	$1\frac{1}{8}$	$1\frac{3}{4}$	$\frac{1}{4}$ -28 screw
106-73	.15	.250	$\frac{3}{8}$	$1\frac{1}{8}$	$1\frac{3}{4}$	10-32 screw
106-73A	.15	.250		$1\frac{1}{8}$	$1\frac{3}{4}$	10-32 tapped
Jacks						
106-70	.50	$\frac{1}{2}$			$1\frac{1}{2}$	$\frac{1}{4}$ -20 screw
106-72	.35	$\frac{3}{8}$			$1\frac{1}{8}$	10-32 screw

### PLASTIC HEAD TIP JACKS

#### REMOVABLE ROUND HEAD TIP JACK

Cat. No.	List Price	Color
105-520	\$0.20	Red
105-521	.20	Black
105-522	.20	Dark Green
105-524	.20	Brown
105-525	.20	Light Blue
105-526	.20	Orange
105-527	.20	Yellow
105-528	.20	Light Green
105-529	.20	Dark Blue
105-530	.20	Ivory



#### MOLDED ROUND HEAD TIP JACK

Description similar to removable head type except that brass body is molded integral with head, and additional phenolic washer is furnished.  $\frac{3}{16}$ "-40 thread.

105-418 Red List Price \$0.30	105-419 Black List Price \$0.30	105-418
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#### INSULATED COMBINATION JACK

Supplied with shoulder bushing, phenolic washer and one piece contact and nut. Maximum chassis thickness  $\frac{1}{8}$ ". Mounts in  $\frac{3}{8}$ " diameter hole. Provides insulated jack for phonetip plugs and No. 75 series "Banana Spring" plugs.

No. 105-420 Red List Price \$0.30	No. 105-421 Black List Price \$0.30
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#### METAL HEAD TIP JACKS

##### Large Round Head

Supplied with fibre shoulder bushing, phenolic washer and hex nut. Mounts in  $\frac{1}{2}$ " hole if shoulder bushing is used.  $\frac{3}{16}$ " maximum panel thickness. Contact is phosphor bronze cadmium plated.

105-16	105-16 List Price \$0.50
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Headless Tip Jack Metal parts brass. Body nickel plated.  $\frac{1}{4}$ -32" thread.

105-1	105-1 List Price \$0.10
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Long Solderless Tip Plug



For use with tip jacks Nos. 105-16 and 105-420.

No. 105-15	List Price \$0.20
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No. 105-14—Solderless Tip Plug Long Sharpened Point List Price \$0.22

105-15

##### Small Round Head

$\frac{3}{16}$ "-40" thread. Supplied with fiber bushing to fit  $\frac{3}{8}$ " panel hole.  $\frac{1}{16}$ " maximum panel thickness.

No. 105-416	List Price \$0.20
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105-416

##### Small Hex Head

Similar to 105-416 except has hex head and  $\frac{1}{4}$ -32" thread. Supplied with fiber bushing to fit  $\frac{3}{8}$ " panel hole.

No. 105-417	List Price \$0.15
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105-417

Short Solderless Tip Plug



For use with tip jacks Nos. 105-416, 105-417, 105-418, and 105-529.

No. 105-415	List Price \$0.18
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105-415

TWIN TIP JACKS

Mounting holes  $\frac{7}{8}$ " centers. Molded black phenolic.

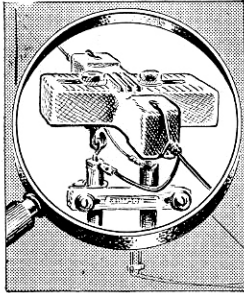
105-401	105-401	105-401	105-401	105-401
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105-401 SHORTING TYPE TWIN TIP JACKS

Circuit closes automatically when tips are removed.

No. 105-432—Black	No. 105-433—Red
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List Price \$0.60



### THE JOHNSON "Q" AND JOHNSON "Q" BEAM

#### COMPLETE "Q" SYSTEMS

Cat. No.	List Price	Band (Meters)
137-2Q	\$7.00	2
137-6Q	10.50	6
137-10Q	9.75	10
137-14Q	14.00	14
137-20Q	16.50	20
137-40Q	28.00	40

The consistent results obtained by the thousands of users of the JOHNSON Q antenna system are due to the extremely high efficiency of this famous antenna. Applications include half-wave doublet, either horizontal or vertical, harmonic or "long wire" radiator, radiator-reflector, radiator director, "V" Beam, JOHNSON Q Beam and others.

The JOHNSON Q Beam is a special application of the Q system. It consists of two half-wave Q antennas spaced 1-5 wave and Q sections connected in parallel at the bottom. In ordering specify two Q antennas for the lower frequency of the two bands desired. For example if you want a Q Beam to operate on 10 and 20 meters, order two JOHNSON Qs for 20 meters.

The -2Q and -6Q use aluminum tubing for the radiating portion as well as for the matching section. The 136-35 Jack Strip and 136-38 Plug Strip make an ideal feeder connection at the transmitter when the antenna is suspended.

#### ALUMINUM "Q" TUBING

Cat. No.	List Price	Band (Meters)	Length
136-ST10	\$4.50	10	2-8'6"
136-ST14	7.50	14	3-8'6"
136-ST20	9.50	20	4-8'6"
136-ST40	18.00	40	8-8'6"

#### "Q" SUSPENSION ASSEMBLY



Includes new type insulator and all necessary hardware for connecting "Q" matching section to antenna and transmission line. Insulator may also be used to bring off "Zepp" feeders from the flat top.

Cat. No.	List Price
136-39 — Suspension Assembly.....	\$3.25
136-106 — Antenna Feeder Insulator only...	.60

136-106

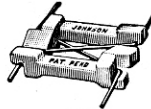
#### FEEDER INSULATORS

Nos. 136-122, -124 and -126 are conventional feeder spreaders of high grade low absorption porcelain. Silicone impregnated for finest water repellent characteristics. No. 136-122 is provided with notches for 1/2" line spacing. All have 3/8x1/2" cross section. No. 136-31 is a glazed porcelain transposition insulator which permits crossing transmission lines at frequent intervals to prevent radiation and provide 2" line spacing.

Cat. No.	List Price	Lg.
136-122	\$0.16	2"
136-124	.23	4"
136-126	.30	6"
136-31	.16	



136-122, -124, -126



136-31

#### ANTENNA INSULATORS

These insulators include both wet and dry process porcelain. The 136-107 and 136-112 are wet process and are 1" in diameter. The Commercial Type is 1 1/2" in diameter, for use where much greater strength is necessary. The 136-104 is dry process and is 5/8" square, for service where the strength of the 1" or 1 1/2" types is not required.

These JOHNSON antenna insulators have long leakage paths, low capacity and their freedom from moisture absorption results in exceptional efficiency.

The 136-151, -152, -153 are wet process porcelain and are 1 1/2" in diameter. End fittings are of non-corrosive aluminum alloy.

Cat. No.	List Price	Break. Strng.	Lg.
136-104	\$0.20	400 lbs.	4"
136-107	1.10	800 lbs.	7"
136-112	1.20	800 lbs.	12"



136-107, 136-112



136-151, -152, -153

Cat. No.	List Price	Breaking Strength	Net Overall
136-151	\$9.00	5000 lbs.	8" 15 1/2"
136-152	12.00	5000 lbs.	12" 19 1/2"
136-153	17.50	5000 lbs.	20" 25 1/2"

Cat. No. 136-32—Airplane compression type strain insulator of porcelain. 2" long. List Price \$0.15

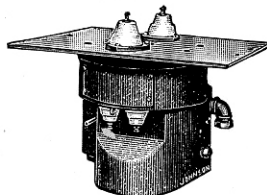


136-32

### JOHNSON UNIVERSAL ROTOMATIC ANTENNA ARRAY



New direction indicator and Beam control is Selsyn motor operated.



Heavy-duty drive unit is self-lubricating and fully enclosed.

Available with Parasitic or Phased Driven Elements. Enjoy more QSOs — work more DX with the new JOHNSON Universal Rotomatic Beam.

The new symmetrical unidirectional beam employing phased driven elements is easy to tune — performs beautifully.

DeLuxe Models of the parasitic or phased arrays are available for two-band operation, employing two separate sets of elements but only one transmission line.

#### NEW JOHNSON PARASITIC ARRAY

When you see it you will realize it's in a class by itself! New, unique design allows an infinite variety of element lengths and spacing. Perfect impedance matching on two bands — any impedance from 50 to 600 ohms — coaxial or open wire line.

#### NEW ROTATOR AND DIRECTION INDICATOR

The heavy-duty drive unit will take rain, sleet and high winds in its stride — will turn on the coldest mornings. Rotation is instantly reversible, 360° at 1 1/2 RPM. Motor control and antenna relay switch are contained in the selsyn indicator case.

The elements, rotator, direction indicator, etc., may all be purchased separately.

See your JOHNSON Jobber for Rotomatic catalog (includes prices)

### ROTOMATIC FEATURES

✓ **New Antenna Array**  
The entire unit is so sturdy that it will withstand heavy icing and high winds.

Two-band operation with Deluxe model. Two arrays fed with same transmission line, switched by low-loss RF relay.

✓ **New Matching System**  
New matching system permits efficient wide band operation and freedom to move about from the low to the high end of the bands. In addition, either open wire line or coaxial cable may be used.

✓ **New Heavy Duty Drive Unit**  
Powerful, smooth, continuous rotation either direction at 1 1/2 RPM. Mechanism is self-lubricating and fully enclosed in weather-proof housing.

Universal bracket for mounting on pole or platform. May be driven with 1/20 HP motor or larger — rated at 1750 RPM.

✓ **New Direction Indicator and Beam Control**

Selsyn motor controlled indicator. Indicating arrow glides through 360°, in either direction, over a map with compass graduations. Stop beam anywhere instantly.





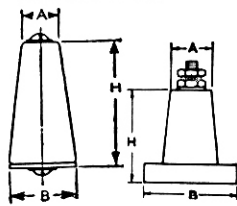
## INSULATORS AND BUSHINGS

JOHNSON insulators were introduced in the early twenties, and soon established the sort of dominance that occurs occasionally when one line offers more in choice of style and size; in advanced but practical design; and in mass production economy than others. This position has been maintained through the years by careful attention to the product, the line, and the needs of the user.

JOHNSON insulators are specifically designed for high frequencies. Insulating materials were selected after exhaustive laboratory tests. Superior grade, low absorption, well glazed electrical porcelain, and Grade L 4 or better steatite are used.

Of the insulators appearing under the headings "Steatite" and but the 500 series and the 135-55 are offered in this finer material for the first time. Their dielectric losses are but a fraction of those for the same parts in porcelain, and they are particularly recommended for high frequency work.

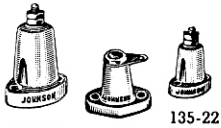
In addition to fine quality insulating materials the JOHNSON line distinguishes itself with perfection of ceramic design logical proportions; clean-cut, accurate molding; and high grade nickel-plated brass hardware, with milled (not stamped) nuts.



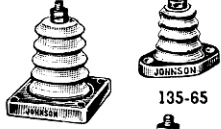
### STAND-OFF AND CONE INSULATORS

The stand-off insulators feature heavy, breakage-resistant bases and adequate "glaze grooves" around mounting screw holes. Numbers 135-65, 135-66, 135-67 and 135-68 have unbreakable, drawn and etched aluminum bases.

The No. 500 cone insulator series are steatite for better high frequency insulation. Threads are tapped directly into the ceramic. Furnished complete with machine screws, brass and cushion washers.



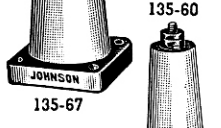
135-20 135-22J 135-22



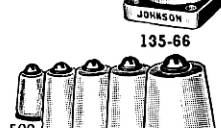
135-65 135-68



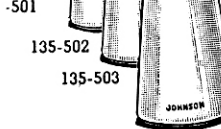
135-62 135-67



135-66 135-67



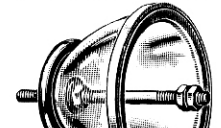
135-502 135-503



135-501 135-504



135-866 -867 135-865



135-15-1

### STAND-OFF INSULATORS

Cat. No.	List Price	Dimensions			Hardware	
		A	B	M*	H	
<b>Steatite</b>						
135-20	\$0.22	3/4	1 3/4	1 5/8	1 5/8	10-32
135-20J	.27	3/4	1 3/4	1 5/8	1 5/8	74 Jack
135-22	.18	1 1/2	1 3/2	1 5/8	1	8-32
135-22J	.23	1 1/2	1 3/2	1 5/8	1	74 Jack
135-24	.14	3/8	1	1 1/8	5/8	6-32

<b>Porcelain</b>						
Cat. No.	List Price	A	B	M*	H	Hardware
135-60	.90	1 1/8	2 1/2	1 7/8	4 1/2	1/4-20
135-62	.50	7/8	1 7/8	1 3/8	2 3/4	1/4-20

<b>Metal Base Types</b>						
Cat. No.	List Price	A	B	M*	H	Hardware
135-65	.30	5/8	1 7/8	1 1/2	1 3/8	10-32
135-65J	.35	5/8	1 7/8	1 1/2	1 3/8	74 Jack
135-66	.70	1 1/8	1 3/4	1 3/8	2 3/4	1/4-20
135-66J	.90	1 1/8	1 3/4	1 3/8	2 3/4	76 Jack
135-67	.85	1 1/8	2 1/4	1 3/4	4 1/2	1/4-20
135-67J	1.10	1 1/8	2 1/4	1 3/4	4 1/2	76 Jack
135-68	.40	3/8	1 3/4	1 3/8	2	10-32
135-68J	.50	3/8	1 3/4	1 3/8	2	74 Jack

\* Mounting centers.

### STEATITE CONE INSULATORS

Cat. No.	List Price	A	B	H	Hardware
135-500	.30	1 1/8	5/8	5/8	6-32
135-501	.35	1/2	3/4	1	8-32
135-502	.65	1/2	1	1 1/2	8-32
135-503	.75	5/8	1 1/8	2	10-32
135-504	1.45	3/4	1 1/2	3	10-32

### METAL BASES

Aluminum bases for replacement on 135-65, -66, -67 and -68 insulators.

Cat. No.	List Price	For Use With
135-865	\$0.12	135-65
135-866	.15	135-66, 135-68
135-867	.20	135-67

### FEED-THRU BOWL

Glass bowl 7" diam. by 4 3/8" deep. Flange 7 3/4" O.D.

Furnished with cork gaskets. 135-15-1 is single with 10 1/4" stud. 135-15-3 is double with 16" stud. 135-15-7 is double with 24" stud.

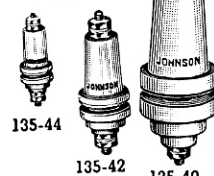
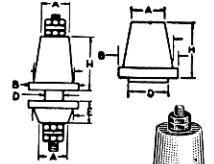
Cat. No.	List Price	Single bowl	Double bowl
135-15-1	\$17.00		
135-15-3	30.00		
135-15-7	31.00		

### THRU-PANEL INSULATORS AND BUSHINGS

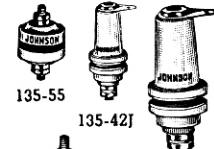
In the thru-panel and bushing series special attention has been given to obtaining high mechanical strength through heavier construction and at the same time increasing the breakdown voltage. Flat mounting surfaces with cushion washers eliminate breakage. Bottom pieces have long internal and external portions for higher breakdown voltage rating, and grooved surfaces to increase leakage path. Jack types have terminals permitting connection above as well as below the panel.

JOHNSON lead-in bushings are designed to have even greater mechanical strength and long leakage path in proportion to size. Numbers 135-53 and 135-54 are supplied as single porcelain parts including cushion washers.

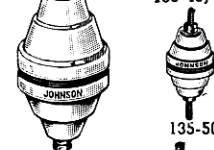
Nos. 20, 20J, 22, 22J and 24 are now also steatite with heavily plated brass hardware.



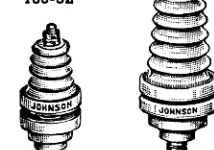
135-44 135-42 135-40



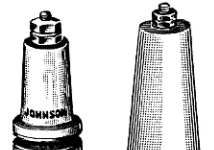
135-55 135-42J



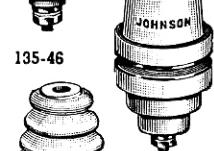
135-52 135-40J



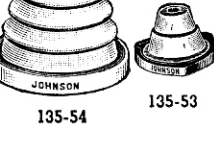
135-45 135-48



135-46 135-47



135-48 135-53



135-54 135-55

### THRU-PANEL INSULATORS

Cat. No.	List Price	Dimensions					Hardware
		A	B	D	E	H	
<b>Steatite</b>							
135-40	\$0.35	1 1/8	1 1/8	1 1/8	1/2	1 1/4	10-32
135-40J	.45	1 1/8	1 1/8	1 1/8	1/2	1 1/4	74 Jack
135-42	.30	1/2	3/4	400	3/8	7/8	10-32
135-42J	.40	1/2	3/4	400	3/8	7/8	74 Jack
135-44	.25	3/8	5/8	305	5/8	5/8	6-32
<b>Porcelain</b>							
135-45	.45	5/8	1 1/4	1/2	1 1/8	1 3/8	10-32
135-45J	.60	5/8	1 1/4	1/2	1 1/8	1 3/8	74 Jack
135-46	1.00	1 1/8	1 5/8	1 1/8	1	2 3/4	1/4-20
135-46J	1.25	1 1/8	1 5/8	1 1/8	1	2 3/4	76 Jack
135-47	1.40	1 1/8	2 1/8	1 1/8	1 1/2	4 1/2	1/4-20
135-47J	1.65	1 1/8	2 1/8	1 1/8	1 1/2	4 1/2	76 Jack
135-48	.65	3/8	1 5/8	1 1/8	1 1/8	10-32	
135-48J	.80	3/8	1 5/8	1 1/8	1 1/8	2	74 Jack

### LEAD-IN BUSHINGS

<b>Steatite</b>						
Cat. No.	List Price	A	B	H	Hardware	
135-50	.35	3/8	3/4	1 1/8	1/2	6-32
135-51	.50	5/8	1 1/4	1 1/8	1 1/8	10-32
135-52	.80	7/8	1 3/4	1 3/8	1 1/8	1/4-20
135-55	.30	1/2	3/4	1 1/8	1/4	6-32
<b>Porcelain</b>						
135-53	.30	1 1/8	2 1/2	1 3/8	1 3/4	
135-54	.75	1	3 1/2	2 1/4	4	

### MOUNTING FLANGES

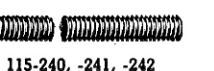
Stamped aluminum Mounting Flanges for Lead-in Bushings 135-53 and 135-54.

Cat. No.	For Bushing No.	List Price
135-90	135-53	\$0.35
135-91	135-54	.70

### THREADED BRASS ROD

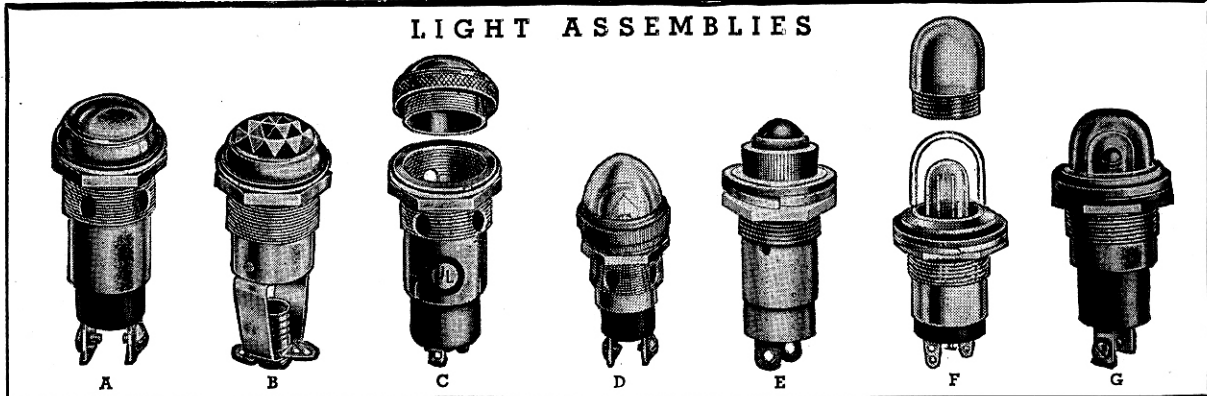
Intended primarily for use with lead-in bushings 135-53 and 135-54. Accurately cut threads, heavy nickel plating, complete with 4 washers and 4 nuts, 1/4" diameter, 1/4-20 thread. It has many other uses in radio construction.

Cat. No.	List Price	Length
115-240	\$0.50	8"
115-241	.60	10"
115-242	.70	15"





### LIGHT ASSEMBLIES



JOHNSON Indicator Light Assemblies are outstanding examples of sound engineering design, excellent material and careful workmanship. Their use is your assurance of complete satisfaction.

The listings on these two pages include only those standard units in greatest demand but many other types are readily available. Special assemblies can be furnished in production quantities.

Cat. No.	List Price	Illus.	Mounting Hole Size	Length Behind Panel <sup>7</sup>	Bulb Shape	Lamp Base	Jewels			Terminals		Insulation	Underwriter Approved	Color
							Type	Size	Holder	No.	Type			
147-800	\$1.05	B	1"	2 3/8"	G3 1/2, T3 1/4	Min. Screw	Faceted	1"	Friction	2	Solder	Fiber		
147-801	1.05	B	1"	2 3/8"	G3 1/2, T3 1/4	Min. Screw	Smooth	1"	Friction	2	Solder	Fiber		
147-802	1.10	B	1"	2 3/8"	S6	Cand. Screw	Faceted	1"	Friction	2	Solder	Fiber		
147-803	1.10	B	1"	2 3/8"	S6	Cand. Screw	Smooth	1"	Friction	2	Solder	Fiber		
147-804	1.10	B	1"	2 3/8"	G3 1/2, T3 1/4	Min. Bay.	Faceted	1"	Friction	2	Solder	Fiber		
147-805	1.10	B	1"	2 3/8"	G3 1/2, T3 1/4	Min. Bay.	Smooth	1"	Friction	2	Solder	Fiber		
147-1000	1.40	A	1"	2 3/8"	S6	Cand. Screw	Faceted	1"	Friction	2	Solder	Porcelain	Yes	
147-1001	1.40	A	1"	2 3/8"	S6	Cand. Screw	Smooth	1"	Friction	2	Solder	Porcelain	Yes	
147-1002	1.50	A	1"	2 3/8"	S6	Cand. Screw	Colored Disc <sup>6</sup>	1"	Friction	2	Solder	Porcelain	Yes	
147-1003	1.40	A	1"	2 3/8"	T4 1/2, NE45	Cand. Screw	Faceted	1"	Friction	2	Solder	Porcelain	Yes	
147-1004	1.40	A	1"	2 3/8"	T4 1/2, NE45	Cand. Screw	Smooth	1"	Friction	2	Solder	Porcelain	Yes	
147-1005	1.50	A	1"	2 3/8"	T4 1/2, NE45	Cand. Screw	Colored Disc <sup>6</sup>	1"	Friction	2	Solder	Porcelain	Yes	
147-1032	1.65	A	1"	2 3/4"	S6	Cand. Screw	Faceted	1"	Friction	2	Screw	Phenolic	Yes	
147-1033	1.65	A	1"	2 3/4"	S6	Cand. Screw	Smooth	1"	Friction	2	Screw	Phenolic	Yes	
147-1034	1.75	A	1"	2 3/4"	S6	Cand. Screw	Colored Disc <sup>6</sup>	1"	Friction	2	Screw	Phenolic	Yes	
147-1035	1.65	A	1"	2 3/4"	T4 1/2, NE45	Cand. Screw	Faceted	1"	Friction	2	Screw	Phenolic	Yes	
147-1036	1.65	A	1"	2 3/4"	T4 1/2, NE45	Cand. Screw	Smooth	1"	Friction	2	Screw	Phenolic	Yes	
147-1037	1.75	A	1"	2 3/4"	T4 1/2, NE45	Cand. Screw	Colored Disc <sup>6</sup>	1"	Friction	2	Screw	Phenolic	Yes	
147-1050	1.75	A	1"	2 1/2"	G6	S. C. Cand. Bay.	Faceted	1"	Friction	1	Screw	H. Rubber		
147-1051	1.75	A	1"	2 1/2"	G6	S. C. Cand. Bay.	Smooth	1"	Friction	1	Screw	H. Rubber		
147-1052	1.85	A	1"	2 1/2"	G6	S. C. Cand. Bay.	Colored Disc <sup>6</sup>	1"	Friction	1	Screw	H. Rubber		
147-1053	1.75	A	1"	2 1/2"	G6	D. C. Cand. Bay.	Faceted	1"	Friction	2	Screw	H. Rubber	Yes	
147-1054	1.75	A	1"	2 1/2"	G6	D. C. Cand. Bay.	Smooth	1"	Friction	2	Screw	H. Rubber	Yes	
147-1055	1.85	A	1"	2 1/2"	G6	D. C. Cand. Bay.	Colored Disc <sup>6</sup>	1"	Friction	2	Screw	H. Rubber	Yes	
147-1056	1.75	A	1"	2 3/8"	G6, NE48	D. C. Cand. Bay. <sup>1</sup>	Faceted	1"	Friction	2	Screw	H. Rubber	Yes	
147-1057	1.75	A	1"	2 3/8"	G6, NE48	D. C. Cand. Bay. <sup>1</sup>	Smooth	1"	Friction	2	Screw	H. Rubber	Yes	
147-1058	1.88	A	1"	2 3/8"	G6, NE48	D. C. Cand. Bay. <sup>1</sup>	Colored Disc <sup>6</sup>	1"	Friction	2	Screw	H. Rubber	Yes	
147-1076	2.00	A	1"	2 3/8"	G6, NE48	D. C. Cand. Bay. <sup>2</sup>	Faceted	1"	Friction	2	Screw	H. Rubber	Yes	
147-1077	2.00	A	1"	2 3/8"	G6, NE48	D. C. Cand. Bay. <sup>2</sup>	Smooth	1"	Friction	2	Screw	H. Rubber	Yes	
147-1078	2.10	A	1"	2 3/8"	G6, NE48	D. C. Cand. Bay. <sup>2</sup>	Colored Disc <sup>6</sup>	1"	Friction	2	Screw	H. Rubber	Yes	
147-1110	1.15	E	1 1/8"	1 3/8"	T3 1/4	Min. Bay.	Faceted	1 1/8"	Threaded	2	Solder	Phenolic		
147-1111	1.15	E	1 1/8"	1 3/8"	T3 1/4	Min. Bay.	Smooth	1 1/8"	Threaded	2	Solder	Phenolic		
147-1112	1.15	E	1 1/8"	1 3/8"	G3 1/2	Min. Bay.	Faceted	1 1/8"	Threaded	2	Solder	Phenolic		
147-1113	1.15	E	1 1/8"	1 3/8"	G3 1/2	Min. Bay.	Smooth	1 1/8"	Threaded	2	Solder	Phenolic		
147-1142	1.10	F	1 1/8"	1 3/8"	T3 1/4	Min. Bay.	Lucite	5/8"	Threaded	2	Solder	Phenolic	Yes	
147-1143	1.25	F	1 1/8"	1 3/8"	T3 1/4, NE51	Min. Bay. <sup>3</sup>	Lucite	5/8"	Threaded	2	Solder	Phenolic	Yes	
147-1144	1.25	F	1 1/8"	1 3/8"	T3 1/4, NE51	Min. Bay. <sup>4</sup>	Lucite	5/8"	Threaded	2	Solder	Phenolic	Yes	
147-1200	1.65	C	1"	2 3/8"	S6	Cand. Screw	Faceted	1"	Threaded	2	Solder	Porcelain	Yes	
147-1201	1.65	C	1"	2 3/8"	S6	Cand. Screw	Smooth	1"	Threaded	2	Solder	Porcelain	Yes	
147-1202	1.75	C	1"	2 3/8"	S6	Cand. Screw	Colored Disc <sup>6</sup>	1"	Threaded	2	Solder	Porcelain	Yes	
147-1209	1.90	C	1"	2 3/8"	S6	Cand. Screw	Faceted	1"	Threaded	2	Screw	Phenolic	Yes	
147-1210	1.90	C	1"	2 3/8"	S6	Cand. Screw	Smooth	1"	Threaded	2	Screw	Phenolic	Yes	
147-1211	2.00	C	1"	2 3/8"	S6	Cand. Screw	Colored Disc <sup>6</sup>	1"	Threaded	2	Screw	Phenolic	Yes	
147-1212	1.90	C	1"	2 3/8"	T4 1/2, NE45	Cand. Screw	Faceted	1"	Threaded	2	Screw	Phenolic	Yes	
147-1213	1.90	C	1"	2 3/8"	T4 1/2, NE45	Cand. Screw	Smooth	1"	Threaded	2	Screw	Phenolic	Yes	
147-1214	2.00	C	1"	2 3/8"	T4 1/2, NE45	Cand. Screw	Colored Disc <sup>6</sup>	1"	Threaded	2	Screw	Phenolic	Yes	
147-1217	1.90	G	1"	1 13/16"	T4 1/2, NE45	Cand. Screw	Lucite	1"	Threaded	2	Screw	Phenolic	Yes	
147-1218	1.60	G	1"	1 13/16"	T3 1/4, NE51	Min. Bay. <sup>5</sup>	Lucite	1"	Threaded	2	Solder	Phenolic	Yes	
147-1219	2.10	G	1"	2 1/8"	T4 1/2, G6, NE48	D. C. Cand. Bay. <sup>1</sup>	Lucite	1"	Threaded	2	Screw	H. Rubber	Yes	
147-1220	2.25	G	1"	2 1/8"	T4 1/2, G6, NE48	D. C. Cand. Bay. <sup>2</sup>	Lucite	1"	Threaded	2	Screw	H. Rubber	Yes	
147-1600	2.00	D	1"	2 1/8"	S6	Cand. Screw	Glass	1 1/8"	Threaded	2	Screw	Phenolic	Yes	
147-1604	2.00	D	1"	1 13/16"	G6	S. C. Cand. Bay.	Glass	1 1/8"	Threaded	1	Screw	H. Rubber		
147-1605	2.00	D	1"	1 13/16"	G6	D. C. Cand. Bay.	Glass	1 1/8"	Threaded	2	Screw	H. Rubber	Yes	

(1) Requires 30,000 ohm external resistor with NE48.  
 (2) Has built in 30,000 ohm resistor for NE48.  
 (3) Has built in 200,000 ohm resistor for NE51.  
 (4) Has built in 100,000 ohm resistor for NE51, brighter glow but decreased life.  
 (5) Requires 200,000 ohm external resistor for NE51.  
 (6) See Colored Disc explanation at right.  
 (7) Max. length from front of panel.

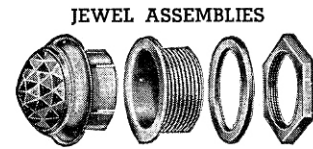
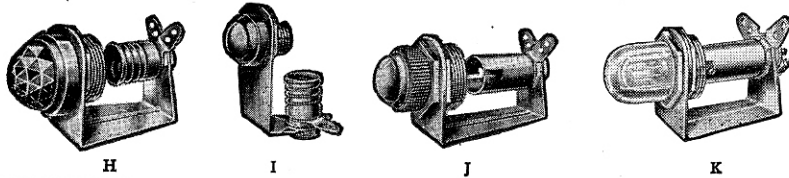
\* **COLORED DISCS**—Where this designation (\*) appears, a colored plastic disc is placed behind a clear sandblasted (frosted) smooth jewel, to conceal color until lighted. Also prevents external light from giving appearance of bulb being lighted.

In addition, lettering, numerals, or insignia may be printed on a plastic disc back of the jewel, and arranged to be visible either continuously or only after lamp is lighted.

SPECIFY COLOR: RED, GREEN, AMBER, BLUE, OPAL, CLEAR. FOR NEON DO NOT USE BLUE, GREEN, OPAL



## BRACKET TYPE PILOT LIGHTS AND JEWEL ASSEMBLIES

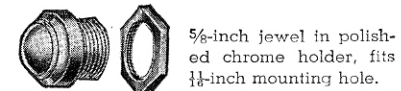


Cat. No.	List Price	Illustration	Mounting		Lgh. Behind Panel	Bulb (1) Shape	Base	Jewel		
			Hole Size	Panel				Type	Size	Color
147-100	\$0.80	H	1"	1 1/2"	G3 1/2, T3 1/4	Min. Scr.	Faceted (4)	1"	S	
147-101	.80	H	1"	1 1/2"	G3 1/2, T3 1/4	Min. Scr.	Smooth (4)	1"	P	
147-103	.85	H	1"	2 1/8"	S6	Cand. Scr.	Faceted (4)	1"	E	
147-104	.85	H	1"	2 1/8"	S6	Cand. Scr.	Smooth (4)	1"	C	
147-106	.85	H	1"	1 1/2"	G3 1/2, T3 1/4	Min. Bay.	Faceted (4)	1"	I	
147-107	.85	H	1"	1 1/2"	G3 1/2, T3 1/4	Min. Bay.	Smooth (4)	1"	F	
147-200	.60	I	1 1/8"	1 1/4"	G3 1/2	Min. Scr.	Faceted	5/8"	Y	
147-201	.60	I	1 1/8"	1 1/4"	G3 1/2	Min. Scr.	Smooth	5/8"		
147-203	.65	I	1 1/8"	1 1/4"	S6	Cand. Scr.	Faceted	5/8"	C	
147-204	.65	I	1 1/8"	1 1/4"	S6	Cand. Scr.	Smooth	5/8"	O	
147-206	.65	I	1 1/8"	1"	G3 1/2	Min. Bay.	Faceted	5/8"	L	
147-207	.65	I	1 1/8"	1"	G3 1/2	Min. Bay.	Smooth	5/8"	O	
147-300	.40	I	7/8"	1 1/4"	G3 1/2	Min. Scr.	Faceted	1/2"	R	
147-301	.40	I	7/8"	1 1/4"	G3 1/2	Min. Scr.	Smooth	1/2"		
147-303	.45	I	7/8"	1 1/4"	S6	Cand. Scr.	Faceted	1/2"	Clear	
147-304	.45	I	7/8"	1 1/4"	S6	Cand. Scr.	Smooth	1/2"	Red	
147-306	.45	I	7/8"	1"	G3 1/2	Min. Bay.	Faceted	1/2"	Green	
147-307	.45	I	7/8"	1"	G3 1/2	Min. Bay.	Smooth	1/2"	Amber	
147-400	.55	J	1 1/8"	1 1/4"	G3 1/2, T3 1/4	Min. Scr.	Faceted (4)	1/2"	Blue	
147-401	.55	J	1 1/8"	1 1/4"	G3 1/2, T3 1/4	Min. Scr.	Smooth (4)	1/2"	Opal	
147-403	.60	J	1 1/8"	1 1/2"	G3 1/2, T3 1/4	Min. Bay.	Faceted (4)	1/2"		
147-404	.60	J	1 1/8"	1 1/2"	G3 1/2, T3 1/4	Min. Bay.	Smooth (4)	1/2"		
147-406	.55	K	1 1/8"	1 1/4"	T3 1/4	Min. Bay.	Lucite (4)	5/8"	For	
147-407	.70	K	1 1/8"	1 1/4"	T3 1/4, NE51	Min. Bay. (2)	Lucite (4)	5/8"	Neon	
147-408	.70	K	1 1/8"	1 1/4"	T3 1/4, NE51	Min. Bay. (3)	Lucite (4)	5/8"	DO NOT	
147-700	.60	H	1 1/8"	1 1/4"	G-3 1/2	Min. Scr.	Faceted	5/8"	Use:	
147-701	.60	H	1 1/8"	1 1/4"	G-3 1/2	Min. Scr.	Smooth	5/8"	Blue	
147-703	.65	H	1 1/8"	1 1/2"	G-3 1/2	Min. Bay.	Faceted	5/8"	Green	
147-704	.65	H	1 1/8"	1 1/2"	G-3 1/2	Min. Bay.	Smooth	5/8"	Opal	

Colors, all types: Red, Green, Amber, Blue, Opal, Clear.

One-inch jewel, polished chrome bezel, with mounting sleeve to fit 1-inch hole, fiber washer and nut.

Cat. No.	List Price
147-110—Faceted Jewel.....	\$0.70
147-111—Smooth Jewel.....	.70
147-112—Colored Disc.....	.80



147-210—Faceted Jewel.....	\$0.40
147-211—Smooth Jewel.....	.40

1/2-inch jewel, nickel-plated holder and nut, fits 7/8-inch mounting hole.

147-310—Faceted Jewel.....	\$0.25
147-311—Smooth Jewel.....	.25

3/8-inch jewel, nickel-plated holder and nut, fits 3/4-inch mounting hole.

147-510—Faceted Jewel.....	\$0.20
147-511—Smooth Jewel.....	.20



147-410—Faceted Jewel.....	\$0.40
147-411—Smooth Jewel.....	.40

### SPECIAL TYPES

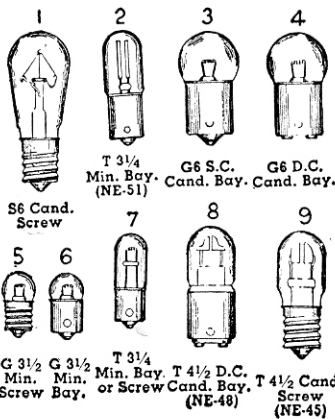
JOHNSON manufactures a complete line of bracket-type pilot lights and jewel assemblies. Illustrated are only a few of the more popular types. JOHNSON can readily fill your requirements for any type, regardless of specifications.

- (1) See bulb and base illustrations below.
- (2) With 200,000-ohm built-in resistor for NE51.
- (3) With 100,000-ohm resistor. Brighter glow reduced lamp life.
- (4) Bulb removable from front of panel.

\* See page G-21 for explanation.

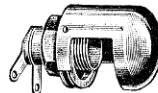
### BULB SPECIFICATIONS

Bulbs used on all pilot lights may be identified from these illustrations, but are not included in prices.



### PANEL LIGHT

For front panel illumination. Has polished nickel hood, easily removable for lamp replacement; can be rotated to any position. Fits 1/2" mounting hole. Made for miniature bayonet or screw base, T 3/4 or G 3 1/2, bulbs.



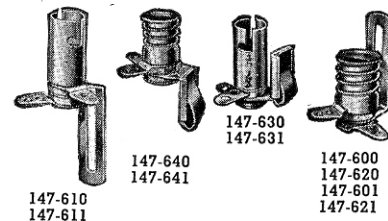
Cat. No.	List Price
147-330—Miniature Screw Base.....	\$0.80
147-329—Miniature Bayonet Base.....	.90

### VARIABLE LIGHT INTENSITY

Pilot lights similar to 147-400, -800, -1110, -1200 can be furnished with either polarized or shutter type variable light intensity jewel holders. Information on request.

### DIAL LIGHT BRACKETS

Brackets insulated on all types. Many other styles and combinations can be furnished from available tools, also with wire leads.



Cat. No.	Socket	List Price
147-610		147-610
147-611		147-611
147-630		147-630
147-631		147-631
147-640		147-640
147-641		147-641
147-600		147-600
147-620		147-620
147-601		147-601
147-621		147-621
147-600—Min. Screw (Bracket Down).....		\$0.13
147-601—Min. Screw (Bracket Up).....		.13
147-610—Min. Bay. (Bracket Down).....		.16
147-611—Min. Bay. (Bracket Up).....		.16
147-620—Cand. Screw (Bracket Down).....		.15
147-621—Cand. Screw (Bracket Up).....		.15
147-630—Min. Bay. (Bracket Down).....		.17
147-631—Min. Bay. (Bracket Up).....		.17
147-640—Min. Screw (Bracket Down).....		.14
147-641—Min. Screw (Bracket Up).....		.14

DO NOT FAIL TO SPECIFY COLOR OF JEWELS. PRICES DO NOT INCLUDE BULBS.



# SPEED-X

SPEED-X keys, formerly made by Les Logan Co. of San Francisco, Calif., have attained a pre-eminent position as the leading complete line. Now manufactured by JOHNSON, their reputation will be maintained, and improved wherever possible.

### HIGH SPEED SEMI-AUTOMATIC KEYS

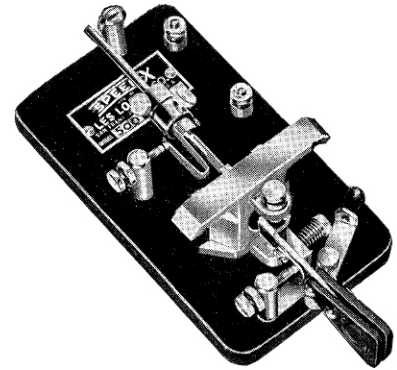
SPEED-X Semi-Automatic Keys are designed and constructed to rigid specifications and are approved by the experienced professional and amateur C. W. operators. They are fully adjustable from lowest to highest speeds. Manufactured in four distinctive and attractive models. Fully guaranteed against any defect in material or workmanship. Bases of all models drilled for stationary mounting.

**STANDARD MODEL 114-500.** New-Improved Standard Model Semi-Automatic Key mounted on extra heavy steel base  $3\frac{1}{2}'' \times 6\frac{1}{4}'' \times \frac{1}{2}''$  finished in attractive wrinkle baked enamel. Mounted on four rubber feet to insure stationary position at all times. The finish will not scratch or chip and will last indefinitely. The frame is finished same as base and has five adjustments with lock nuts, assuring dependable operations at all speeds. Vibrator arm, posts, switch and all machine parts heavily plated in beautiful satin chromium. Complete with adjustable weight,  $\frac{1}{8}''$  pure silver contacts, circuit-closing switch and two paddles adjustable to any desired height. Net weight  $4\frac{1}{2}$  lbs.

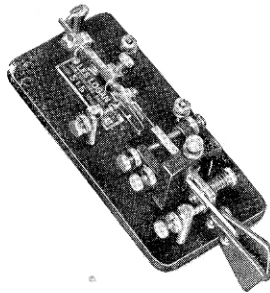
114-500.....List Price \$17.50  
114-500-L (Left-handed model).....List Price 19.50

**MODEL 114-501.** Beautiful Chrome finish. Heavy steel base  $6\frac{1}{4}'' \times 3\frac{1}{2}'' \times \frac{1}{2}''$  with four non-slip rubber feet. Heavy brass connector strips mounted under base. Heavy die cast frame with same finish as base and with five screws for sensitive adjustments. Vibrator is designed to obtain slowest and fastest speeds required by high speed operators. Pure silver  $\frac{1}{4}''$  contacts. Pigtail connections to vibrating arm. Perfectly aligned free acting vibrator bearings. Lock nuts on all adjustments. Paddles adjustable to any required height. All machine parts heavily chrome plated, which makes this the most outstanding semi-automatic key on the market. Furnished with circuit closing switch. Net weight  $4\frac{1}{2}$  lbs.

114-501.....List Price \$25.00  
114-501-L (Left-handed model).....List Price 27.50



Nos. 500, 501



114-515

**AMATEUR MODEL 114-515.** Baked Black Wrinkle Enamel Finished Steel Base  $6\frac{1}{4}'' \times 3'' \times \frac{3}{8}''$  with four rubber feet to prevent slipping or tilting. Heavy Brass connector strips. Die Cast Frame finished same as base with adjustable trunion screws. Chromium brass Vibrator has main spring and U-spring made of clock spring for smooth snappy action. Adjustable weight. Two adjustable black fibre paddles. Two sets  $\frac{1}{8}''$  pure silver contacts. Lock nuts for every adjustment. Damping wheel, post screws, springs and terminals chrome plated. Packed in attractive carton. Net weight  $3\frac{1}{4}$  lbs.

114-515.....List Price \$12.50  
114-515-L (Left-handed model).....List Price 15.00

**JUNIOR MODEL 115-510.** Die Cast Base  $2\frac{3}{4}'' \times 6'' \times \frac{3}{4}''$  finished in black wrinkle baked enamel concealing heavy brass connector strips. Frame is same finish as base and all other parts are chromium plated. Vibrator Arm same as Standard model with lots of pep. Adjustable from eight words per minute to as high a rate as desired. Pure silver  $\frac{1}{8}''$  contacts, adjustable weight and two adjustable paddles. Circuit closing switch mounted on base. Being small, compact and streamlined, this semi-automatic key is an outstanding value. A light-weight but sturdily built machine for clean-cut sending. Net weight  $2\frac{1}{2}$  lbs.

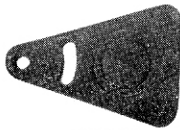
114-510.....List Price \$13.50

### REPLACEMENT PARTS

Cat. No.	Description	List Price	Cat. No.	Description	List Price
114-330	Adjustable Weight.....	\$0.25	114-352	Switch Knob.....	\$0.15
114-333	Self-locking Adj. Weight.....	.50	114-360	Black Navy Knob.....	.30
114-335	Key Spring.....	.10	114-361	$\frac{1}{2}''$ Chrome Screw.....	.10
114-336	Dash Spring.....	.10	114-362	$\frac{3}{4}''$ Chrome Screw.....	.13
114-337	Dot Spring.....	.10	114-363	1" Chrome Screw.....	.15
114-340	Set $\frac{1}{8}''$ Mounted Contacts.....	1.00	114-364	$\frac{1}{2}''$ Chrome Knurled Nut.....	.10
114-341	Set $\frac{1}{4}''$ Mounted Contacts.....	2.00	114-365	Chrome Terminal Nuts.....	.10
114-342	Key Mounds— $\frac{1}{8}''$ Contact.....	.40	114-370	Fibre Paddle.....	.25
114-345	(2) $\frac{1}{8}''$ Contacts.....	.20	114-375	Vibrator Arm Complete.....	3.00
114-346	(2) $\frac{1}{4}''$ Contacts.....	.50	114-376	Vibrator Arm Only.....	1.75
114-347	(4) .080 Contacts.....	.20	114-380	Plug for Hi-Speed Key.....	1.50
114-350	Black Key Knob.....	.20	114-390	$\frac{1}{8}''$ U Spring Contact.....	.60
114-351	Brown Key Knob.....	.20	114-391	$\frac{1}{4}''$ U Spring Contact.....	.75

#### 114-444 KIT

An assortment of the best selling parts for all makes of keys, selected from the above list, and packed in a beautiful display box.....List Price \$20.00



114-370



114-333



114-330



114-360



114-350



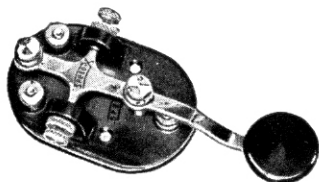
114-390



## SPEED-X

### MOULDED BAKELITE KEYS, BUZZERS, PRACTICE SETS

SPEED-X Moulded Bakelite and Metal Hand Keys, Practice Sets and Buzzers are used throughout the world as standard equipment in amateur and commercial work. Each unit is built according to rigid specifications and is fully guaranteed. All models have holes for stationary mounting. Code card supplied with each individually packed unit.



114-301

**AMATEUR KEY 114-301**—A general purpose key with moulded black bakelite base. Perfect insulation—adjustable smooth acting bearings—improved spring—nickel key arm—pigtail connections—no current on bearings— $\frac{1}{8}$ " pure silver contacts. Net Wt. 6 oz.

- 114-301.....List Price \$3.00
- 114-301-S—Same as Model 301 with circuit closing switch mounted on base.....List Price 3.50
- 114-301-SL with  $\frac{1}{4}$ " Contacts.....List Price 3.75

**PRACTICE KEY 114-300**—A well-built and inexpensive practice key for the beginner. Moulded Brown Bakelite base and knob. Spring bearings, perfect action, simple adjustments,  $\frac{1}{8}$ " pure silver contacts. All machine parts nickel plated. Standard Code card furnished. Net Wt. 5 oz.

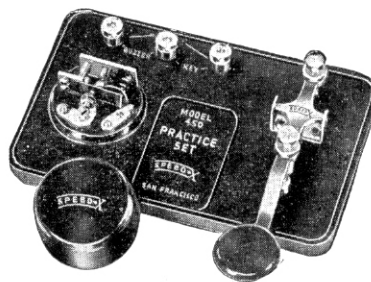
- 114-300.....List Price \$1.75
- 114-300-L with  $\frac{1}{4}$ " Contacts.....List Price 2.00

**PRACTICE KEY 114-312**—Heavy, die cast base finished in Gray Wrinkled Enamel. Smooth adjustable contacts,  $\frac{1}{8}$ " pure silver contacts. Has provision for plugging in our semi-automatic keys when desired. Net Wt. 9 oz.

- 114-312.....List Price \$3.25
- 114-312-S—Same as Model 114-312 with circuit closing switch mounted on base.....List Price 3.75
- 114-312-SL with  $\frac{1}{4}$ " Contacts.....List Price 4.00

**PRACTICE SET 114-450**—Consists of one constant frequency adjustable buzzer and a standard hand key with  $\frac{1}{8}$ " pure silver contacts mounted on a moulded brown bakelite light-weight base 6" x 4". Adjusting screws, key arm and all machine parts nickel plated. Light Spring for perfect keying. A complete sending and receiving set. Three hook-up diagrams on carton show how this Practice Set may be used singly for code practice and in pairs for point to point communications. Standard Code Card included. Net Wt. 12 oz.

- 114-450.....List Price \$4.50



114-450

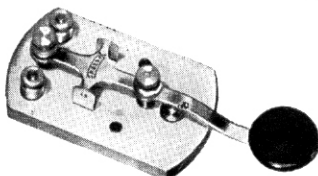
**CONSTANT FREQUENCY BUZZER 114-400**—Moulded Black Bakelite Base and Cap eliminates insulation problems. Large pure silver contacts—precision parts hold adjustments. Additional adjustment on vibrator. Resistance 2 ohms. Operates on two dry cells or one "C" battery. A high quality buzzer for all purposes. Net Wt. 3 oz.

- 114-400.....List Price \$2.00



114-400

### HEAVY DUTY METAL HAND KEYS



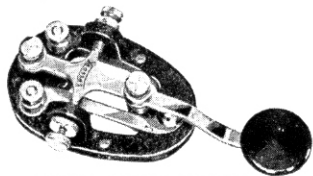
114-300, 114-305, 114-306

**METAL HAND KEY 114-305**—An inexpensive metal base key with black wrinkled enamel finish. Smooth acting spring bearings and adjustable key arm spring. Key arm and all machine parts bright nickel finish.  $\frac{1}{8}$ " pure silver contacts. Net Wt. 10 oz.

- 114-305.....List Price \$1.90
- 114-306—Same as Model 114-305 with Baked Wrinkle Brass finished base.....List Price 1.90

**STANDARD KEY 114-310**—Heavy die cast base finished in black wrinkled enamel. Smooth adjustable bearings.  $\frac{1}{8}$ " pure silver contacts. Has provisions for plugging in our semi-automatic keys when desired. Net Wt. 9 oz.

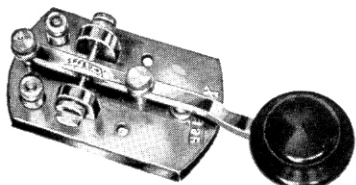
- 114-310.....List Price \$3.25
- 114-311—Same as 114-310 with Chromium finish base and parts.....List Price 4.00
- 114-316—Same as 114-310 with Baked Wrinkle Enamel Brass finish base.....List Price 3.25
- 114-316-L with  $\frac{1}{4}$ " Contacts.....List Price 3.50



114-310, 114-311, 114-316

**STANDARD KEY 114-310-S**—Same specifications as Standard model key 114-310 with circuit closing switch mounted on base.  $\frac{1}{8}$ " pure silver contacts. An attractive high-quality key. Net Wt. 10 oz.

- 114-310-S.....List Price \$3.75
- 114-311-S—Same as 114-311 with circuit closing switch mounted on base.....List Price 4.50
- 114-316-S—Same as 114-316 with circuit closing switch mounted on base.....List Price 3.75



114-320, 114-321, 114-326

**HEAVY DUTY KEY 114-320**—Black wrinkle enameled extra heavy Die Cast Base. Large sturdy chromium plated key arm with adjustable steel bearings. Heavy brass connector strip concealed under base. Well insulated for heavy duty work. Improved Navy Type Knob and  $\frac{1}{4}$ " pure silver contacts. Net Weight 12 oz.

- 114-320.....List Price \$4.25
- 114-321—Chromium Base.....List Price 5.00

**HEAVY DUTY KEY 114-326**—Same specifications as Heavy Duty Model 114-320 but base finished in a beautiful Lacquered BRASS finish. Arm and machine parts chromium plated. Well designed spring gives this model a light keying touch. Navy Type Knob and  $\frac{1}{4}$ " pure silver contacts. Net Wt. 12 oz.

- 114-326.....List Price \$4.25



### RADIO CABINETS

**A Host of Features**  
**Aluminum for Lightness**  
**Steel for Strength**

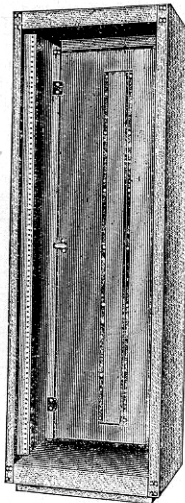
These new JOHNSON cabinets represent the first real advance in cabinet design since the introduction of the first Amateur relay panel cabinet years ago. JOHNSON'S extensive "know-how" and production facilities developed during more than ten years of experience building commercial cabinets for Broadcast Phasing Equipment and Transmitters, is now being applied to the design and manufacture of these superb Amateur cabinets.

#### FLOOR MODELS — REAR DOOR ONLY

They feature unique adjustable rails for standard relay panels. These rails may be moved forward or backward to suit the user making vertical chassis construction practical by allowing additional room at the front for mounting some components so they project forward. Later a Deluxe door will be available to allow full use of this feature. Present cabinets are arranged so that the door may be added at any time. Both vertical panel construction and front doors are widely used commercially, and now for the first time these features are offered to the Amateur at Amateur prices.

Other exclusive features include recessed toe spaces at front and sides; inside ventilation with inlets in the bottom of the cabinet and outlets in the top, allowing cabinets to be placed directly against other objects without restricting the air circulation; and reversible rear door (may be installed to hinge either way) with positive handle lock.

Side panels and rear doors are constructed of heavy (.051") aluminum for lightness, and sturdy steel frames, tops and bottoms for strength. Rails for panels tapped for 10-32 screws and will accommodate either Amateur or Western Electric notched panels. Shipped knocked-down for your convenience and to save you freight charges; easily assembled in a few minutes with screws and nuts, no self-tapping screws. Available in either fine black wrinkle outside and flat satin black inside or a beautiful silver gray (no purple) outside with a matching flat gray inside.



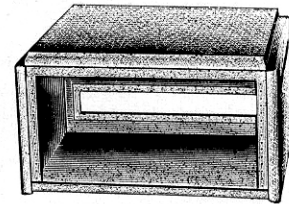
197-103-3

Cat. No.	List Price	Color	Overall Height	Panel Space	Net Weight	Ship. Weight
197-103-3	\$80.00	Gray	68"	61 1/4"	65 lbs.	77 lbs.
197-103-4	80.00	Black	68"	61 1/4"	65 lbs.	77 lbs.
197-102-3	57.50	Gray	48 3/4"	42"	56 lbs.	67 lbs.
197-102-4	57.50	Black	48 3/4"	42"	56 lbs.	67 lbs.

Size: 22" wide by 17 1/2" deep.  
 Panel Width: 19"

#### TABLE MODELS — TOP DOOR ONLY

More than mere cabinets, these JOHNSON units are superbly engineered as fine pieces of equipment. Built for a life-time of hard usage and handsomely styled to be in keeping with the most expensive apparatus. All aluminum construction for lightness, heavy .064" metal for strength. Rails for attaching panel are double thickness, tapped for 10-32 screws and on universal centers for either Amateur or Western Electric notched panels. Gracefully rounded top and front corners add to appearance and rugged mechanical strength. Opening at the bottom rear for attachment of plugs and cables to the chassis, also provides ventilation which is completed through inside baffles in the sides near the top.



197-111-3

Shipped knocked-down for your convenience and to save you freight charges, easily assembled in a few minutes with screws and nuts, not self-tapping screws. Available in either fine black wrinkle outside and flat satin black inside or a beautiful silver gray (not purple) outside with a matching flat gray inside.

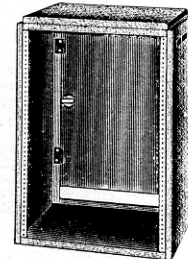
Cat. No.	List Price	Color	Overall Height	Panel Space	Net Weight	Ship. Weight
197-111-3	\$17.50	Gray	11 1/4"	8 3/4"	10 lbs.	13 lbs.
197-111-4	17.50	Black	11 1/4"	8 3/4"	10 lbs.	13 lbs.
197-110-3	19.00	Gray	13"	10 1/2"	10 3/4 lbs.	14 lbs.
197-110-4	19.00	Black	13"	10 1/2"	10 3/4 lbs.	14 lbs.
197-112-3	21.00	Gray	14 3/4"	12 1/4"	11 1/2 lbs.	14 lbs.
197-112-4	21.00	Black	14 3/4"	12 1/4"	11 1/2 lbs.	14 lbs.

Size: 21" wide by 15" deep.

Panel Width: 19"

#### TABLE MODELS — BOTH TOP AND REAR DOOR

Same, identical description as the three smaller sizes except for the addition of the rear door. This door is equipped with a positive flush snap-catch and may be installed to hinge from either side. Cabinet is much more rugged than ordinary types with rear doors. Includes top door also.



197-115-3

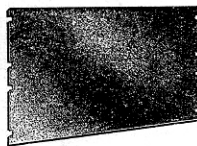
Cat. No.	List Price	Color	Overall Height	Panel Space	Net Weight	Ship. Weight
197-115-3	\$32.50	Gray	28 3/4"	26 1/4"	18 1/2 lbs.	23 lbs.
197-115-4	32.50	Black	28 3/4"	26 1/4"	18 1/2 lbs.	23 lbs.

Size: 21" wide by 15" deep.

Panel Width: 19"

#### RELAY RACK PANELS

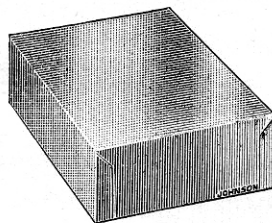
1/8" thick aluminum for lightness and easy working, W. E. notching, 19" long to fit standard relay racks or cabinets. Strength adequate for heaviest equipment. Beautiful, fine black or silver gray wrinkle finish.



Some colors can be furnished in 1/8" thick steel on special orders. Write for prices and delivery.

Black Cat. No.	Gray Cat. No.	List Price	Height
196-161-4	196-161-3	\$0.90	1 3/4"
196-162-4	196-162-3	1.55	3 1/2"
196-163-4	196-163-3	2.20	5 1/4"
196-164-4	196-164-3	2.85	7"
196-165-4	196-165-3	3.55	8 3/4"
196-166-4	196-166-3	4.25	10 1/2"
196-167-4	196-167-3	4.95	12 1/4"
196-168-4	196-168-3	5.65	14"
196-169-4	196-169-3	6.35	15 3/4"
196-170-4	196-170-3	7.05	17 1/2"
196-171-4	196-171-3	7.75	19 1/4"
196-172-4	196-172-3	8.45	21"

#### NEW DIE-CUT CHASSIS AND BOTTOM PLATES



Cat. No.	List Price	Size	Gauge
195-150	\$1.35	7 x 5 x 2	20
195-151	1.45	7 x 7 x 2	20
195-152	1.50	9 x 7 x 2	20
195-153	1.45	9 1/2 x 5 1/2 x 2	20
195-154	1.65	10 x 5 x 3	20
195-155	1.85	10 x 8 x 2 1/2	20
195-156	1.75	11 x 7 x 2	20
195-157	1.90	12 x 7 x 3	20
195-159	2.15	12 x 10 x 3	20
195-160	1.75	13 x 7 x 2	20
195-161	1.95	13 x 7 x 3	20
195-163	2.50	14 x 10 x 3	18
195-164	2.25	15 x 7 x 3	18
195-166	2.10	17 x 4 x 3	18

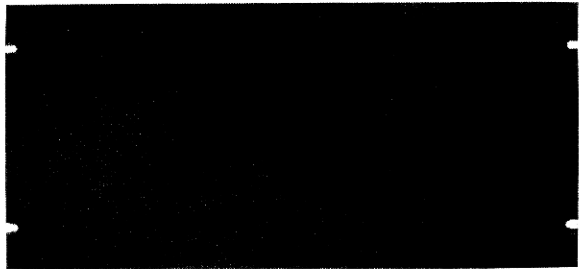
#### STEEL CHASSIS (Continued)

Cat. No.	List Price	Size	Gauge
195-167	\$2.40	17 x 7 x 3	18
195-168	2.20	17 x 8 x 2	18
195-169	2.55	17 x 8 x 3	18
195-170	2.40	17 x 10 x 2	18
195-171	2.75	17 x 10 x 3	18
195-172	3.15	17 x 10 x 4	18
195-173	3.55	17 x 10 x 5	18
195-174	2.70	17 x 11 x 2	18
195-175	2.95	17 x 11 x 3	18
195-176	3.00	17 x 12 x 2	16
195-177	3.40	17 x 12 x 3	16
195-178	3.85	17 x 12 x 4	16
195-179	3.25	17 x 13 x 2	16
195-180	3.75	17 x 13 x 3	16
195-181	4.25	17 x 13 x 4	16
195-182	4.60	17 x 13 x 5	16

#### STEEL BOTTOM PLATES

Cat. No.	List Price	Size	Gauge
195-250	\$0.70	5 x 7	20
195-251	.75	7 x 7	20
195-252	.80	9 x 7	20
195-257	.85	12 x 7	20
195-258	1.00	12 x 8	20
195-259	1.05	12 x 10	20
195-260	.90	13 x 7	20
195-267	1.00	17 x 7	20
195-268	1.05	17 x 8	20
195-270	1.25	17 x 10	20
195-274	1.30	17 x 11	20
195-276	1.35	17 x 12	20
195-279	1.60	17 x 13	20

# ALUMINUM RACK PANELS

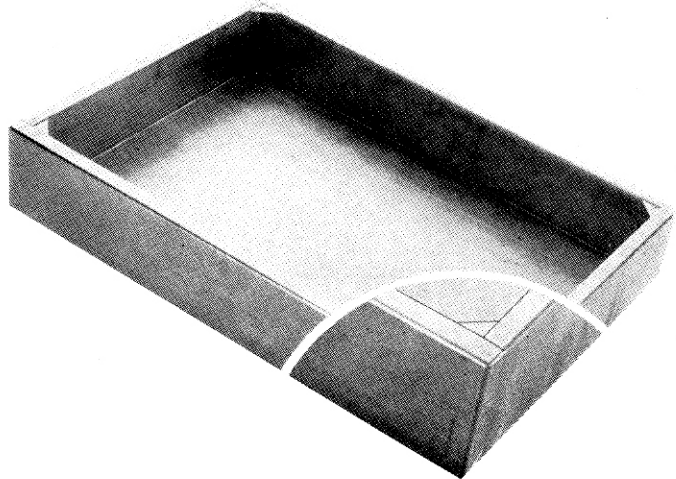


Black Cat. No.	Gray Cat. No.	Width	List Price
196-161-4	196-161-3	1 3/4"	\$1.00
196-162-4	196-162-3	3 1/2"	1.60
196-163-4	196-163-3	5 1/4"	2.20
196-164-4	196-164-3	7"	2.80
196-165-4	196-165-3	8 3/4"	3.40
196-166-4	196-166-3	10 1/2"	4.00
196-167-4	196-167-3	12 1/4"	4.65
196-168-4	196-168-3	14"	5.30
196-169-4	196-169-3	15 3/4"	5.95
196-170-4	196-170-3	17 1/2"	6.60
196-171-4	196-171-3	19 1/4"	7.30
196-172-4	196-172-3	21"	8.00

While light weight and easily worked, these panels are sufficiently strong for use on heavy chassis units. Panels are accurately sheared and notched from uniform 1/8" flat stock. Panel length is 19", notching is W.E. Finishes available are fine wrinkle black or beautiful silver gray (not purple). Specify color desired.

## ALUMINUM CHASSIS

Note the use of reinforcing gussets and multiple spot welds in the corners of JOHNSON aluminum chassis. This, together with close fitting butt joints results in an extremely stiff chassis suitable for any application. Chassis are carefully formed from high quality aluminum stock, have straight, sharp bends and present a truly finished appearance.



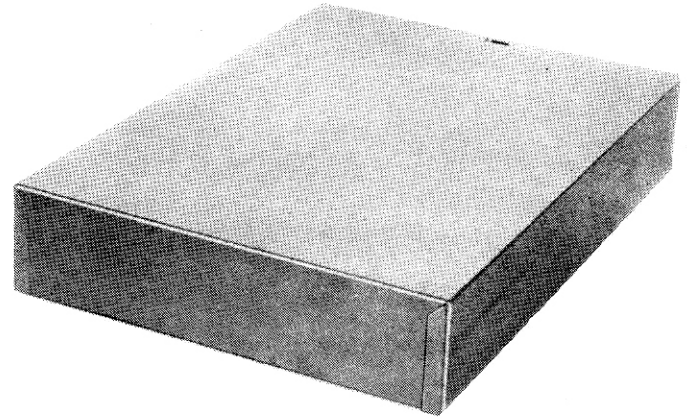
Cat. No.	Size	Gauge	List Price	Cat. No.	Size	Gauge	List Price
195-350	7 x 5 x 2	18	\$1.40	195-368	17 x 8 x 2	16	3.00
195-351	7 x 7 x 2	18	1.55	195-369	17 x 8 x 3	16	3.45
195-352	9 x 7 x 2	18	1.75	195-370	17 x 10 x 2	16	3.25
195-353	9 1/2 x 5 1/2 x 2	18	1.70	195-371	17 x 10 x 3	16	3.75
195-354	10 x 5 x 3	18	1.90	195-372	17 x 10 x 4	16	4.35
195-355	10 x 8 x 2 1/2	18	2.10	195-373	17 x 10 x 5	16	5.00
195-356	11 x 7 x 2	18	1.80	195-374	17 x 11 x 2	16	3.40
195-357	12 x 7 x 3	18	2.25	195-375	17 x 11 x 3	16	3.90
195-358	12 x 8 x 2 1/2	18	2.25	195-376	17 x 12 x 2	14	3.90
195-359	12 x 10 x 3	18	2.75	195-377	17 x 12 x 3	14	4.55
195-360	13 x 7 x 2	18	2.05	195-378	17 x 12 x 4	14	5.25
195-361	13 x 7 x 3	18	2.50	195-379	17 x 13 x 2	14	4.15
195-363	10 x 14 x 3	16	3.35	195-380	17 x 13 x 3	14	4.80
195-364	15 x 7 x 3	16	3.00	195-381	17 x 13 x 4	14	5.50
195-366	17 x 4 x 3	16	2.75	195-382	17 x 13 x 5	14	6.25
195-367	17 x 7 x 3	16	3.25				



**JOHNSON** . . . a famous name in Radio!  
E. F. JOHNSON CO., WASECA, MINNESOTA

# Points of Superiority of Johnson Chassis

rigid, welded corners  
die cut joints  
quality, heavy gauge metal  
durable, uniform finishes  
excellent workmanship

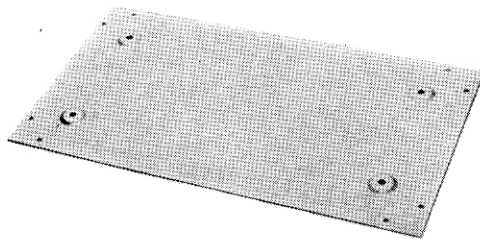


Accurately formed from high quality, close tolerance, heavier gauge material, JOHNSON chassis are really rigid. Each corner is spot welded and reinforced. Close fitting butt joints enhance appearance by eliminating the hole usually found at the top of each corner. The "bright alloy" plating used on JOHNSON steel chassis has high conductivity, resists corrosion and has a more permanent finish than zinc or cadmium.

## STEEL CHASSIS

Cat. No.	Size	Gauge	List Price	Cat. No.	Size	Gauge	List Price
195-150	7 x 5 x 2	20	\$1.25	195-168	17 x 8 x 2	18	2.10
195-151	7 x 7 x 2	20	1.35	195-169	17 x 8 x 3	18	2.45
195-152	9 x 7 x 2	20	1.45	195-170	17 x 10 x 2	18	2.35
195-153	9½ x 5½ x 2	20	1.35	195-171	17 x 10 x 3	18	2.75
195-154	10 x 5 x 3	20	1.45	195-172	17 x 10 x 4	18	3.25
195-155	10 x 8 x 2½	20	1.65	195-173	17 x 10 x 5	18	3.75
195-156	11 x 7 x 2	20	1.50	195-174	17 x 11 x 2	18	2.50
195-157	12 x 7 x 3	20	1.75	195-175	17 x 11 x 3	18	3.00
195-158	12 x 8 x 2½	20	1.80	195-176	17 x 12 x 2	16	3.00
195-159	12 x 10 x 3	20	2.20	195-177	17 x 12 x 3	16	3.40
195-160	13 x 7 x 2	20	1.60	195-178	17 x 12 x 4	16	3.90
195-161	13 x 7 x 3	20	1.80	195-179	17 x 13 x 2	16	3.35
195-163	14 x 10 x 3	18	2.50	195-180	17 x 13 x 3	16	3.75
195-164	15 x 7 x 3	18	2.10	195-181	17 x 13 x 4	16	4.30
195-166	17 x 4 x 3	18	1.90	195-182	17 x 13 x 5	16	5.00
195-167	17 x 7 x 3	18	2.25				

## CHASSIS BOTTOM PLATES



These 20 gauge "bright alloy" plated steel bottom plates fit the JOHNSON line of chassis and provide protection for components as well as effective RF

shielding. Bosses in each corner prevent marring of finished surfaces. Chassis mounting holes are punched and self tapping screws furnished.

Cat. No.	Size	List Price
195-250	5 x 7	\$ .70
195-251	7 x 7	.75
195-252	9 x 7	.80
195-257	12 x 7	.85
195-258	12 x 8	1.00
195-259	12 x 10	1.05
195-260	13 x 7	.90
195-267	17 x 7	1.00
195-268	17 x 8	1.05
195-270	17 x 10	1.25
195-274	17 x 11	1.30
195-276	17 x 12	1.35
195-279	17 x 13	1.60



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E. F. JOHNSON CO., WASECA, MINNESOTA



# JOHNSON

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Phone —Kenmore 5580

### **Chicago 31, Illinois**

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Phone—Rodney 1570

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Phone—Main 3363

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335 Fifth Street  
Phone—Atlantic 2253

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Phone—Hemlock 5281

### **Seattle 1, Washington**

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### **Syracuse 9, New York**

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Phone—8-1528

### **Toronto, Ontario, CANADA**

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Phone—Waverly 8077

### **Washington, D.C.**

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14th Park Road N.W.  
Phone—Columbia 3938

### **Winnipeg, Manitoba, CANADA**

C. M. ROBINSON CO.  
207 Scott Block  
Phone—96-789

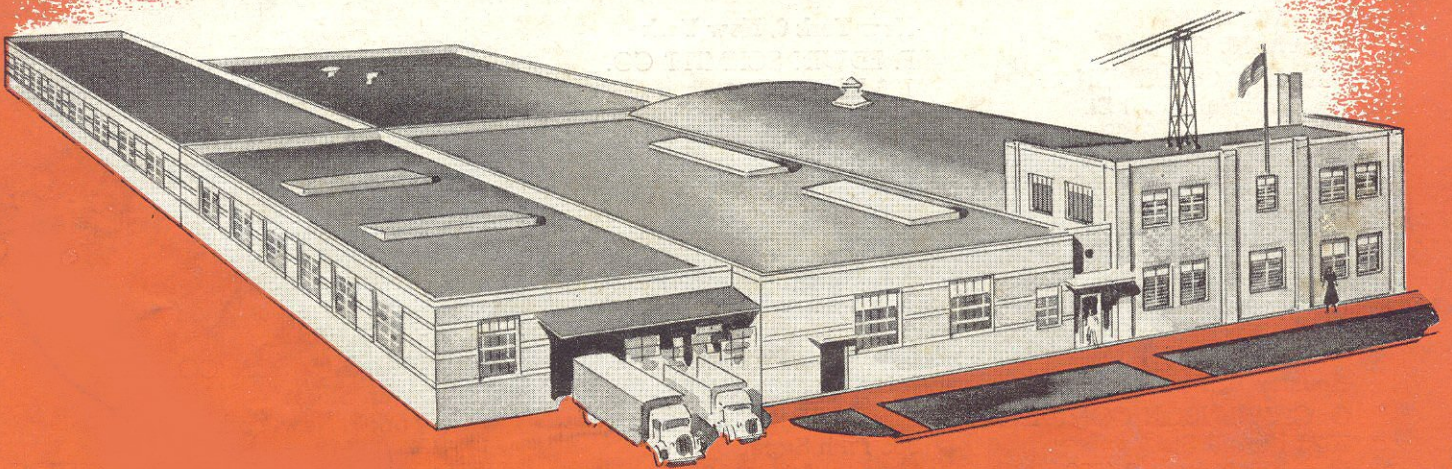
### **EXPORT**

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New York 7, New York  
Phone—7-5513  
Cable Address—Simontrice, N. Y.

# JOHNSON



RADIO ELECTRONIC PRODUCTS



**E. F. JOHNSON COMPANY**  
WASECA, MINN., U. S. A.