

WILLIAM DUBILIER  
339 GARDEN ROAD  
PALM BEACH, FLORIDA 33480

# DUBILIER

CONDENSERS  
AND  
RESISTANCES

*for Constructors  
& Service Engineers*

## Foreword

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OF all the components used in radio receivers, amplifiers and television apparatus, Resistances and Condensers form by far the larger number.

To anyone in any way interested in these instruments it is useful to have by them an up-to-date concise and informative manual dealing with Resistances and Condensers.

Each year many thousands of interested persons make a point of obtaining the Dubilier booklet and keep it by them as a handy book of reference.

This year, as in previous years, the Dubilier booklet lives up to its reputation in again providing information and details of all the latest developments in Condensers and Resistances.

There are several features of special interest to Service Engineers, Traders and Maintenance Organisations who are reminded that further information is gladly provided upon receipt of specific enquiries. Remember Dubilier means Dependability.

August, 1935.





# DUBILIER FOR DEPENDABILITY

## MICA CONDENSERS

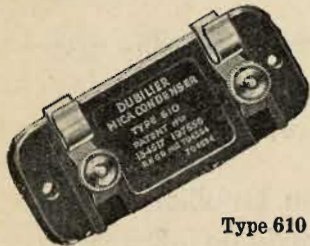
Types 665, 670, 610 and 620



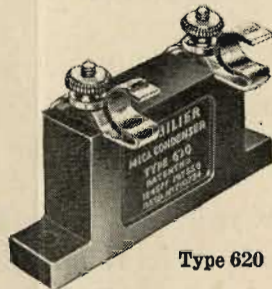
Type 665



Type 670



Type 610



Type 620

Standard capacity tolerance  $\pm 15\%$ .  
250v. D.C. peak working. 500v. A.C. test.

Type 665.		Type 670.	
Capacity $\mu\text{F.}$	Price Each.	Capacity $\mu\text{F.}$	Price Each.
		·00005	1/-
·0001	6d.	·0001	1/-
·0002	6d.	·0002	1/-
·0003	6d.	·0003	1/-
·0005	9d.	·0005	1/-
		·001	1/3
		·002	1/3
		·005	1/6
		·006	1/6
		·01	2/-

Type 665 and 670 Condensers are packed for sale to the trade in boxes of one dozen.

# DUBILIER FOR RELIABILITY

## MICA CONDENSERS

WILLIAM DUBILIER  
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Type 770

250v. D.C. working. 500v. D.C. test.

Type	Capacity $\mu\text{F.}$	Price Each.
B775	·01	3/-
B775	·02	3/6
B775	·05	5/6
B775	·1	8/-
B776	·2	14/6
B776	·25	18/-
B777	·5	32/6

500v. D.C. working. 1000v. D.C. test.

Type	Capacity $\mu\text{F.}$	Price Each.
B770	·01	3/6
B770	·02	5/-
B770	·03	6/-
B770	·05	8/-
B770	·1	12/-

1000v. D.C. working. 2000v. D.C. test.

Type	Capacity $\mu\text{F.}$	Price Each.
B770	·0001 to ·001	7/-
B770	·001 to ·004	8/-
B770	·004 to ·008	9/-
B770	·008 to ·01	10/-

Recommended for use in H.F. circuits and where high voltages are involved.

Type 610 and 620. 250v. D.C. working. 500v. A.C. test.		Type 620. 500v. D.C. working. 1000v. D.C. test	
Capacity $\mu\text{F.}$	Price Each.	Capacity $\mu\text{F.}$	Price Each.
·0001 to ·0005 with Grid Leak Clips ...	1/3	·0001 to ·0005 ...	2/6
·00005 to ·0009 with Grid Leak Clips and Series Parallel Clips ...	1/8	·001 to ·004 ...	3/-
·001 to ·002 ...	2/-	·005 ...	3/3
·003, ·004, ·005 ...	2/3		
·006 ...	2/6		
·01 ...	3/-		

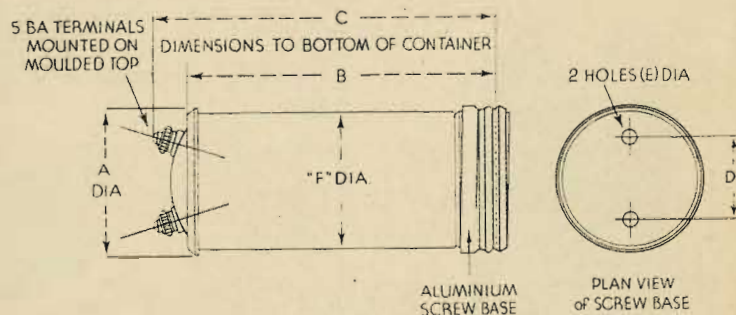




# DUBILIER UNIVERSALLY ACCLAIMED

## NON-INDUCTIVE PAPER DIELECTRIC CONDENSERS

Type 9200



Container No.	A	B	C	D	E	F
9200	$\frac{29}{32}$ "	$2 \frac{11}{16}$ "	$3 \frac{1}{8}$ "	$\frac{1}{8}$ "	$\frac{9}{16}$ "	$\frac{13}{16}$ "
9201	$1 \frac{13}{32}$ "	$2 \frac{11}{16}$ "	$3 \frac{1}{8}$ "	$\frac{1}{8}$ "	$\frac{5}{16}$ "	$1 \frac{1}{8}$ "
9202	$1 \frac{13}{32}$ "	$4 \frac{15}{16}$ "	$5 \frac{3}{8}$ "	$\frac{1}{8}$ "	$\frac{3}{16}$ "	$1 \frac{1}{8}$ "
9203	$1 \frac{31}{32}$ "	$4 \frac{15}{16}$ "	$5 \frac{3}{8}$ "	$\frac{1}{8}$ "	$\frac{3}{16}$ "	$1 \frac{1}{8}$ "
9204	$2 \frac{11}{32}$ "	$4 \frac{15}{16}$ "	$5 \frac{3}{8}$ "	$\frac{1}{8}$ "	$\frac{3}{16}$ "	$2 \frac{1}{4}$ "

Type	BS		9200		LSB		LSA		LEG		LSG	
	Max. Working Peak Volts	Test Volts	250	300	350	400	400	650	650	900 D.C.	2500 D.C.	
Capacity $\mu$ F.	Price Each	Type No.	Price Each	Type No.	Price Each	Type No.	Price Each	Type No.	Price Each	Type No.	Price Each	Type No.
Up to 0.1	1/9	9200	2/-	9200	2/-	9200	2/-	9200	2/6	9200	3/-	9200
0.2	1/9	9200	2/-	9200	2/-	9200	2/-	9200	2/6	9200	—	—
0.25	—	9201	2/-	9200	2/-	9200	2/-	9200	3/-	9201	4/6	9201
0.5	—	9201	2/-	9200	2/-	9200	2/6	9201	3/6	9201	6/-	9202
1.0	2/-	9202	2/6	9201	2/9	9201	3/-	9201	5/6	9202	8/6	9203
2.0	2/6	9202	3/6	9201	4/-	9201	4/6	9202	8/-	9203	12/-	9204
3.0	3/9	9203	5/6	9202	6/-	9202	6/6	9202	10/6	9204	—	—
4.0	5/-	9204	7/-	9202	7/6	9202	8/-	9203	10/6	9204	—	—
5.0	—	—	8/6	9203	9/6	9203	10/-	9203	—	—	—	—
6.0	—	—	10/6	9203	11/6	9203	12/-	9204	—	—	—	—
7.0	—	—	11/6	9203	12/6	9203	13/6	9204	—	—	—	—
8.0	—	—	13/-	9204	14/-	9204	15/-	9204	—	—	—	—
9.0	—	—	14/6	9204	15/6	9204	—	—	—	—	—	—
10.0	—	—	16/-	9204	17/-	9204	—	—	—	—	—	—



# THE WORLD'S FINEST CONDENSERS

## PAPER DIELECTRIC CONDENSERS



Type BB.

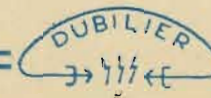
Type BB.				
250v. D.C. Working. 500v. D.C. Test.				
Capacity $\mu$ F.	Overall Size. T. W. H.		Price Each.	
Up to .09	$\frac{11}{16}$ "	$2 \frac{3}{8}$ "	$3$ "	1/9
.1	$\frac{11}{16}$ "	$2 \frac{3}{8}$ "	$3$ "	1/10
.2	$\frac{11}{16}$ "	$2 \frac{3}{8}$ "	$3$ "	2/-
.25	$\frac{11}{16}$ "	$2 \frac{3}{8}$ "	$3$ "	2/3
.5	$\frac{11}{16}$ "	$2 \frac{3}{8}$ "	$3$ "	2/6
1.0	$1$ "	$2 \frac{3}{8}$ "	$3$ "	2/6
2.0	$1$ "	$2 \frac{3}{8}$ "	$3$ "	3/6
4.0	$2 \frac{1}{8}$ "	$2 \frac{3}{8}$ "	$3$ "	5/6



Type LSG.

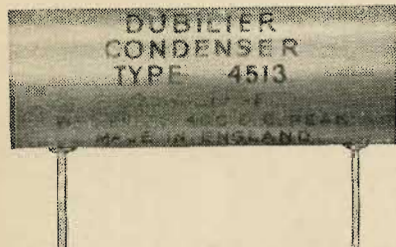
Type BS.				
Max. Working Peak Volts 250 D.C. Test Volts 500 D.C.				
Capacity $\mu$ F.	W.	D.	Overall Height.	Price Each with Terminals
1.0	$2 \frac{1}{2}$ "	$\frac{5}{8}$ "	$4 \frac{13}{16}$ "	2/-
2.0	$2 \frac{1}{2}$ "	$1$ "	$4 \frac{13}{16}$ "	2/8
4.0	$2 \frac{1}{2}$ "	$1 \frac{1}{2}$ "	$4 \frac{13}{16}$ "	5/-

Type	LSA				LEG				LSG			
	400 D.C. 1000 D.C.				650 D.C. 1500 D.C.				900 D.C. 2500 D.C.			
Max. Wkg. Peak volts Test volts	W.	D.	Overall Height.	Price Each with Terminals	W.	D.	Overall Height.	Price Each with Terminals	W.	D.	Overall Height.	Price Each with Terminals
Up to .1	$1 \frac{1}{8}$ "	$\frac{5}{8}$ "	$5 \frac{1}{8}$ "	2/-	$1 \frac{1}{8}$ "	$1$ "	$2 \frac{1}{8}$ "	4/-	$2 \frac{1}{8}$ "	$\frac{3}{8}$ "	$5 \frac{1}{8}$ "	6/-
.2	$1 \frac{1}{8}$ "	$\frac{5}{8}$ "	$5 \frac{1}{8}$ "	2/2	$1 \frac{1}{8}$ "	$1$ "	$2 \frac{1}{8}$ "	4/-	$2 \frac{1}{8}$ "	$\frac{3}{8}$ "	$5 \frac{1}{8}$ "	6/-
.25	$1 \frac{1}{8}$ "	$\frac{5}{8}$ "	$5 \frac{1}{8}$ "	2/4	$1 \frac{1}{8}$ "	$1$ "	$2 \frac{1}{8}$ "	4/6	$2 \frac{1}{8}$ "	$\frac{3}{8}$ "	$5 \frac{1}{8}$ "	6/6
.5	$1 \frac{1}{8}$ "	$\frac{5}{8}$ "	$5 \frac{1}{8}$ "	2/6	$1 \frac{1}{8}$ "	$1$ "	$2 \frac{1}{8}$ "	5/-	$2 \frac{1}{8}$ "	$\frac{3}{8}$ "	$5 \frac{1}{8}$ "	7/-
1.0	$1 \frac{1}{8}$ "	$\frac{5}{8}$ "	$5 \frac{1}{8}$ "	3/-	$2 \frac{1}{8}$ "	$1 \frac{1}{8}$ "	$2 \frac{1}{8}$ "	5/10	$2 \frac{1}{8}$ "	$1 \frac{1}{8}$ "	$5 \frac{1}{8}$ "	8/6
2.0	$1 \frac{1}{8}$ "	$\frac{5}{8}$ "	$5 \frac{1}{8}$ "	4/6	$2 \frac{1}{8}$ "	$1 \frac{1}{8}$ "	$2 \frac{1}{8}$ "	8/6	$2 \frac{1}{8}$ "	$2 \frac{1}{8}$ "	$5 \frac{1}{8}$ "	12/6
4.0	$1 \frac{1}{8}$ "	$1 \frac{1}{8}$ "	$5 \frac{1}{8}$ "	8/-	$2 \frac{1}{8}$ "	$2 \frac{1}{8}$ "	$2 \frac{1}{8}$ "	16/-	$4 \frac{1}{8}$ "	$2 \frac{1}{8}$ "	$5 \frac{1}{8}$ "	24/6
6.0	$2 \frac{1}{8}$ "	$1 \frac{1}{8}$ "	$5 \frac{1}{8}$ "	12/-	$2 \frac{1}{8}$ "	$3 \frac{1}{8}$ "	$2 \frac{1}{8}$ "	23/-	$6 \frac{1}{8}$ "	$2 \frac{1}{8}$ "	$5 \frac{1}{8}$ "	35/-
10.0	$3 \frac{1}{8}$ "	$2 \frac{1}{8}$ "	$5 \frac{1}{8}$ "	18/-	—	—	—	—	—	—	—	—





## TUBULAR PAPER CONDENSERS



400v. D.C. Peak Working. 1000v. D.C. Test.		
Type.	Capacity. μF.	Price Each.
4511	·001 to ·025	1/-
4512	·03 to ·05	1/3
4513	·1	1/4
4514	·15	1/6
4515	·2 to ·25	1/9
4517	·3 to ·5	2/-

For use in circuits where non-inductive condensers are essential.

## PAPER DIELECTRIC CONDENSER BLOCKS

A few examples of typical condenser blocks taken from a wide range.

D.C. Volts.		Total Capacity μF.	Type No.	Arrange- ment of Tags.	Arrangement of Tappings.	Dimensions.			Price Each.
Working	Test.					W.	L.	H.	
500	1250	0·2	BE256	Top	0·1+0·1C	1 13/16"	1"	3/4"	2/6
500AC	1000AC	·02	BE328	Top	·01+·01	1 3/4"	3/4"	2 1/4"	2/6
500AC	1500AC	0·2	BE31L	Top (wires)	0·1+0·1	1 3/4"	3/4"	2 1/4"	3/-
1700DC	5500DC	12	BE73	Top	6+6C	5 1/2"	10"	12"	100/-

Condenser blocks for use in conjunction with Westinghouse Metal Rectifier, in voltage-doubling circuits.

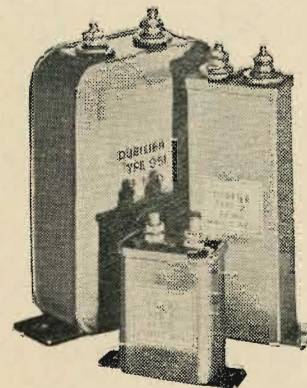
Westinghouse Rectifier Type No.	Capacity of each Section for 50 cycles.	D.C. Wkg: Voltage.	Condenser Type No.	Dimensions.			Price Each.
				W.	L.	H.	
HT 5 & HT12	4	200	BE316	3"	2"	2 1/4"	8/-
HT 8	4	350	BE355	3"	2 3/4"	2 1/4"	13/-
HT10	8	250	BE361	2 1/2"	4"	4 3/4"	20/-

C — denotes common earth tag.



## OIL-IMMERSED PAPER DIELECTRIC CONDENSERS

Types 950 and 951



The intensive development of high fidelity amplifier and television apparatus has called for condensers of exceptional design. This requirement has been adequately fulfilled by this range of Oil-Immersed Condensers.

The lower capacity values are eminently suitable for use as coupling condensers in high quality resistance capacity amplifiers owing to the exceedingly high insulation resistance and instantaneous breakdown voltage.

The larger capacities are excellent

for reservoir, smoothing and decoupling in television apparatus and in amplifiers employing output valves of 400 volts and over, since under these conditions they are practically surge proof. Each Condenser comprises a multiple paper dielectric condenser element, impregnated and oil immersed by a patented process, hermetically sealed in a metal container which is provided with fixing lugs and finished in a serviceable grey colour.

These Condensers are the smallest and most compact on the market for the particular capacities and working voltages.

The technique of design of radio apparatus has been advanced by the introduction of this range of oil-immersed Condensers. They fulfil the obvious requirement of designers of apparatus for Television, Radio and LF amplifiers using high voltages.

The range of capacities and voltages are given in the table overleaf. Standard condensers have a capacity tolerance of  $\pm 15\%$  but closer tolerances can be supplied to special order.





## OIL-IMMERSED PAPER DIELECTRIC CONDENSERS

Types 950 and 951

Type.	Capacity mfd.	D.C. Working Volts.	D.C. Test Volts.	Height	Width.	Depth.	List Price Each.
950	0.02	1,500	3,000	3/4"	1 13/16"	1 1/8"	10/-
950	0.1	1,500	3,000	2 1/8"	1 13/16"	1 1/8"	10/9
950	0.5	1,500	3,000	2 1/8"	1 13/16"	1 1/8"	11/-
950	1.0	1,000	2,000	2 7/8"	1 13/16"	1 1/8"	11/6
950	1.0	1,500	3,000	4 3/4"	1 13/16"	1 1/8"	13/-
951	1.0	2,000	4,000	5 1/8"	3 1/2"	1 1/2"	15/-
951	1.0	3,000	6,000	5 1/8"	3 1/2"	3"	20/-
951	1.0	3,500	7,000	5"	5 1/8"	3 1/2"	25/-
951	1.0	4,000	8,000	5 1/2"	5 1/8"	3 1/2"	30/-
950	2.0	1,000	2,000	4 3/4"	1 13/16"	1 1/8"	13/-
951	2.0	2,000	4,000	5 1/8"	3 1/2"	2"	17/6
951	4.0	1,000	2,000	5 1/8"	3 1/2"	1 1/2"	17/6
951	4.0	2,000	4,000	5 1/8"	3 1/2"	3 1/2"	21/-

Capacity tolerance  $\pm 15\%$ .



## HIGH VOLTAGE DRY ELECTROLYTIC CONDENSERS

Cylindrical Aluminium Containers.



Type 0281

These electrolytic condensers can be used in all circuits where there is a polarizing D.C. voltage which, with the addition of any alternating or ripple voltage is below the specified maximum safe peak for the type used. Care must be taken to observe the correct polarity to avoid damage to the condenser.

Capacity $\mu$ F.	Type	Height	Diameter	Price Each.
4 $\mu$ F	0283	5 7/16"	1"	4/6
6 $\mu$ F	0281	5 7/16"	1 1/2"	5/-
8 $\mu$ F	0281	5 7/16"	1 3/4"	5/6

Height above chassis 4 1/2".



Type 9203E

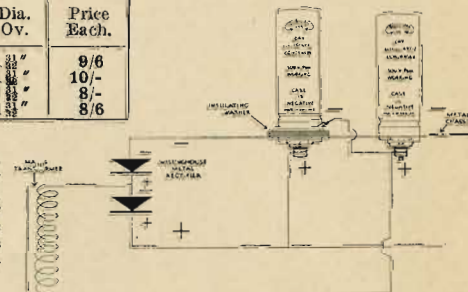
## MULTIPLE CAPACITY DRY ELECTROLYTIC CONDENSERS

Inverted single hole chassis mounting (3/8" dia.) with Flexible Leads. 500 V.D.C. Peak Working.

Capacity $\mu$ F.	Type	Construction Details.	No. of Leads	H.T. Ov.	Dia. Ov.	Price Each.
S-8	9203E	Case neg.	2	5 1/4"	1 3/16"	9/6
S & 8	9203E	Case isolated	4	5 1/4"	1 3/16"	10/-
S-4	9203E	Case neg.	2	5 1/4"	1 3/16"	8/-
S & 8	9203E	Case isolated	4	5 1/4"	1 3/16"	8/6

Height above chassis 4 1/8".

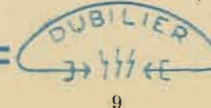
When the aluminium container types of electrolytic condensers, with the containers negatively connected are used in voltage-doubling circuits, care should be taken to insulate from the chassis or earth, the container of the condenser on the positive side of the voltage doubling system. Special insulating washers and connecting tag washers can be supplied for this purpose (see diagram).



## REVERSIBLE DRY ELECTROLYTIC CONDENSERS

The Reversible types of Dry Electrolytic Condensers have been designed primarily for use in Universal and D.C. receivers to avoid the risk of damage to the receiver, due to reversal of polarity in the event of the receiver mains plug being inserted the wrong way round. Like other types of Electrolytic Condensers, the Reversible types require a polarizing voltage, and should never be used on unrectified A.C. only. Cylindrical Aluminium Containers. Inverted single hole chassis mounting (3/8" dia.) 275v. D.C. Peak Working.

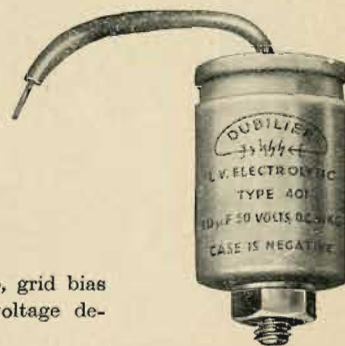
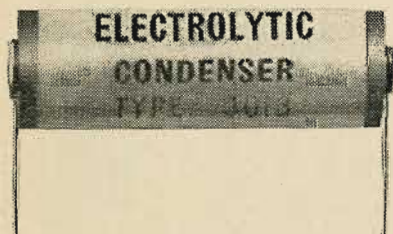
Capacity $\mu$ F.	Type.	Construction Details.	Number of Leads	Height Overall.	Diameter Overall.	Price Each.
S-4	9203E	Case isolated	3	5 1/4"	1 31/32"	10/-
S-8	9203E	Case isolated	3	5 1/4"	1 31/32"	12/6
S	0281	Case negative	Terminal	5 1/16"	1 1/2"	7/6





# DUBILIER FOR DEPENDABILITY

## LOW VOLTAGE DRY ELECTROLYTIC CONDENSERS



The chief uses for these Condensers are, grid bias decoupling, and other forms of low voltage decoupling and smoothing.

NOTE.—These condensers are marked + or coloured red at their positive terminals or wires according to the type, and this polarity must be strictly observed.

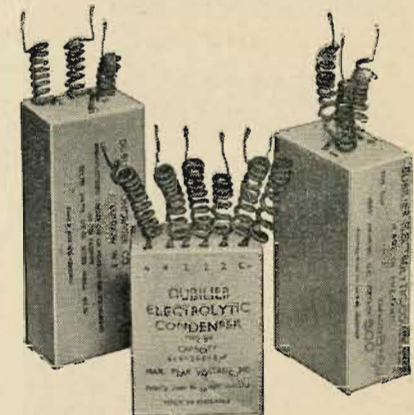
Max: Working Voltage D.C.	Capacity μF.	Type No.	Dia-meter.	Length.	Depth.	Height.	Price.
10	200	0283	1 1/8"	—	—	4 1/2"	4/6
12	50	402	1"	—	—	2 11/16"	3/-
12	50	3013	3/4"	2 1/4"	—	—	2/-
12	1,000	AD5	—	3 1/4"	1 1/2"	5 3/16"	10/-
12	2,000	AD6	—	3 3/4"	2 1/2"	5 3/16"	15/-
25	20	401	1"	—	—	1 11/16"	2/6
25	25	3013	3/4"	2 1/4"	—	—	2/-
50	10	401	1"	—	—	1 11/16"	2/6
50	12	3013	3/4"	2 1/4"	—	—	2/-
50	20	402	1"	—	—	2 11/16"	3/-
50	50	3003	1 1/8"	2 3/4"	—	—	4/-
50	50	0281	1 1/8"	—	—	4 1/2"	5/6
100	10	402	1"	—	—	2 11/16"	3/-



# DUBILIER MINIMISES SERVICING

## DRY ELECTROLYTIC CONDENSERS

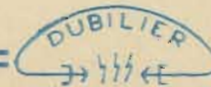
In Impregnated Containers.  
For Service Engineers only.



The following list of condensers is a selection of the many which we supply to radio manufacturers. The details are given with a view to service engineers having particulars available when requiring replacements.

Peak Working Voltage D.C.	Capacity μF. (old nomenclature)	Type No.	Dimensions			Price Each.
			Height	Width	Depth	
300	16+16+16	312	4 1/8"	2 3/4"	1 3/8"	9/6
350/25	8+8+4+4+25+25	0288	4 1/8"	2 1/4"	2 1/4"	9/-
350	12+12+4+1	312	4 1/8"	2 3/4"	1 3/8"	9/-
300	4+4+2+2+2	305	3"	2 1/4"	1 1/8"	5/-
300	4+4+2+2	305	3"	2 1/4"	1 1/8"	4/6
500	4+4	0286	4 1/8"	1 3/8"	1 1/8"	4/6
500	6+6	310	4 1/8"	1 3/8"	1 3/8"	5/-
500	16+8	0288	4 1/8"	1 3/8"	2 1/4"	7/6
500	12+8	316	4 7/16"	2 1/2"	1 7/16"	7/-
500	6+6+3	312	4 1/8"	2 3/4"	1 3/8"	6/-
500	8+8+8	312	4 1/8"	2 3/4"	1 3/8"	7/6
500	8+8+2	0288	4 1/8"	1 3/8"	2 1/4"	6/9
550	8+8	317	4 1/8"	1 3/8"	1 3/8"	6/6
500	8+4	310	4 3/8"	1 3/8"	1 3/8"	5/-
500	8+6	0288	4 3/8"	1 3/8"	2 1/4"	5/6
500	8 and 8 four leads	0288	4 1/8"	1 3/8"	2 1/4"	6/-
500	16 and 16 four leads	314	4 1/8"	3 1/2"	1 3/8"	11/6
500	8 minus 8	0288	4 1/8"	1 3/8"	2 1/4"	6/-
500	4	0284	4 1/8"	1 3/8"	1 1/8"	3/-
500	8	0280	4 1/8"	1 3/8"	1 7/8"	4/-
500	16	0288	4 3/8"	1 3/8"	2 1/4"	7/6

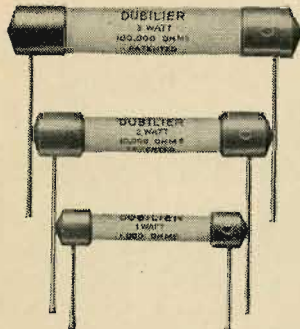
Condensers for other capacities and voltages can be supplied specially to order. When ordering, fullest possible details should be given and the make of set specified.





METALLIZED RESISTANCES

1, 2 and 3 watt



These world-famous resistances retain their premier position with all experienced designers, as proved by the millions giving satisfactory service.

Resistance ohms.	ONE WATT Price 1/- each		TWO WATT Price 2/- each		THREE WATT Price 3/- each	
	Max. Current mA.	Max. Voltage.	Max. Current mA.	Max. Voltage	Max. Current mA.	Max. Voltage
100	100.0	10.0	141.4	14.1	173.0	17.3
250	63.2	15.8	89.3	23.3	108.0	27.3
500	44.8	22.3	60.3	31.6	76.0	38.7
1000	31.6	31.6	44.7	44.7	55.0	54.7
1500	25.8	38.7	36.4	54.7	45.0	67.0
2000	22.3	44.7	31.6	63.2	39.0	77.4
2500	20.0	50.0	28.2	70.7	34.5	86.6
3000	18.2	54.7	25.8	77.4	31.5	95.0
3500	16.9	59.1	23.9	83.6	28.0	102.0
4000	15.8	63.2	22.3	89.4	27.5	110.0
5000	14.1	70.7	20.0	100.0	24.4	122.0
6000	12.9	77.4	18.2	109.5	22.3	134.0
7000	11.9	83.6	16.9	118.3	20.7	145.0
8000	11.1	89.4	15.8	126.4	19.3	155.0
9000	10.5	94.8	14.9	134.1	18.2	164.0
10000	10.0	100.0	14.1	141.4	17.3	173.0
12000	9.1	109.5	12.9	154.9	15.8	190.0
12500	8.9	111.8	12.6	158.1	15.5	194.0
15000	8.1	122.4	11.3	173.2	14.2	212.0
17500	7.5	132.2	10.7	187.0	13.0	229.0
20000	7.0	141.4	10.0	200.0	12.2	245.0
25000	6.3	158.1	8.9	223.6	11.2	273.0
30000	5.7	173.2	8.1	244.9	10.0	300.0
40000	5.0	200.0	7.0	282.8	8.6	345.0
50000	4.4	223.6	6.0	316.2	7.7	385.0
75000	3.6	273.8	5.1	387.3	6.3	474.0
100000	3.1	310.0	4.4	440.0	5.5	550.0
150000	2.5	375.0	3.6	540.0	4.5	670.0
200000	2.2	440.0	3.1	630.0	3.5	700.0
250000	2.0	500.0	2.8	700.0	2.8	700.0
300000	1.8	540.0	2.3	700.0	2.3	700.0
400000	1.5	600.0	1.7	700.0	1.7	700.0
500000	1.4	700.0	1.4	700.0	1.4	700.0

Grid-leaks having the same physical dimensions as the 1 watt resistances are available as follows:—

- 0.25 MΩ 0.5 MΩ
  - 1 MΩ 2 MΩ
  - 3 MΩ 4 MΩ
  - 5 MΩ 10 MΩ
- 1/- each

These Resistances are packed in boxes containing one dozen for sale to the trade.

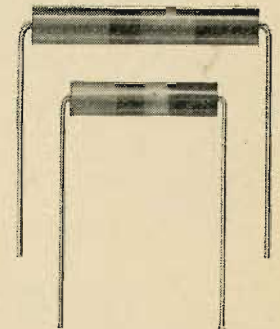


INSULATED METALLIZED RESISTANCES

1/3 and 1/2 watt.

Available to Service Engineers only.

These resistances represent the latest developments in resistance design. The resistance element, complete with connecting wires, is moulded into a body of high insulation bakelite. The electrical characteristics, size and weight make them particularly suitable for use under a wide variety of conditions. The resistance element being completely insulated removes any possibility of accidental short circuits.



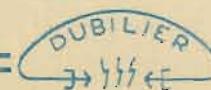
These resistances do not supersede existing ceramic types. Available only to Service Engineers. The standard colour code is adopted to indicate the resistance value.

PRICE 6d. each.

Ratings 1/3 and 1/2 watt Standard Tolerance ± 15%

STANDARD COLOUR CODE

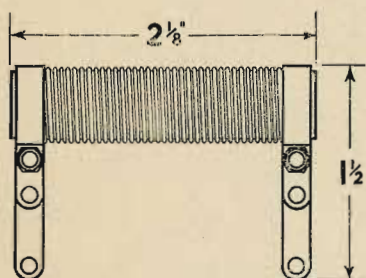
1st Figure "Body"	2nd Figure "End"	Ciphers "Band"
0 = Black	0 = Black	None = Black
1 = Brown	1 = Brown	0 = Brown
2 = Red	2 = Red	00 = Red
3 = Orange	3 = Orange	000 = Orange
4 = Yellow	4 = Yellow	0000 = Yellow
5 = Green	5 = Green	00000 = Green
6 = Blue	6 = Blue	000000 = Blue
7 = Violet	7 = Violet	
8 = Grey	8 = Grey	
9 = White	9 = White	





## "SPIROHM" WIRE-WOUND RESISTANCES

These Resistances are constructed with high resistance wire spiralled on to a flexible asbestos-covered insulated former and supported by a grooved porcelain body. They are particularly suitable for the high loading required for certain Resistances used in large amplifiers, electric gramophones and radio gramophones, etc., the standard size being capable of a continuous dissipation of 10 watts over the whole of the resistance. The rated wattage is that for the whole of the resistance and the maximum safe dissipation between tapings will be proportionately less.

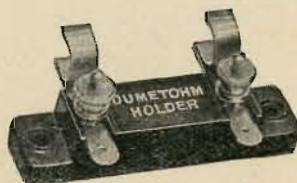


Resistance.	Milliamps.	Price Each.
200Ω	200	3/-
500Ω	140	3/-
1,000Ω	100	3/-
2,500Ω	60	3/-
5,000Ω	45	3/-
7,500Ω	35	3/6
10,000Ω	30	3/6
20,000Ω	20	4/-
30,000Ω	15	4/-
50,000Ω	10	5/-

### RESISTANCE HOLDERS

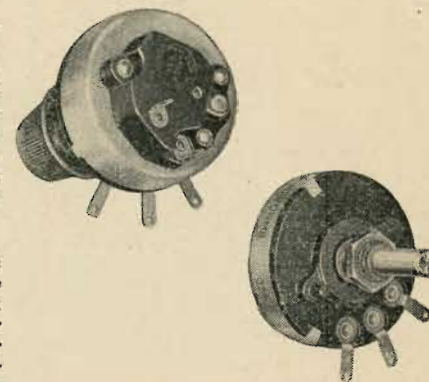
Dubilier Resistance Holders suitable for accommodating one watt type Metallized Resistances or Grid Leaks.

PRICE 1/- each.



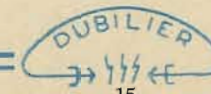
## METALLIZED VOLUME CONTROLS

Several features of special interest are embodied in these important components, not the least of which is the resistance element. This has a base of special bakelite on to which the resistance coating is deposited, cured and sealed at a high temperature, resulting in an element which is hardened, stabilised and permanently bonded to the base.



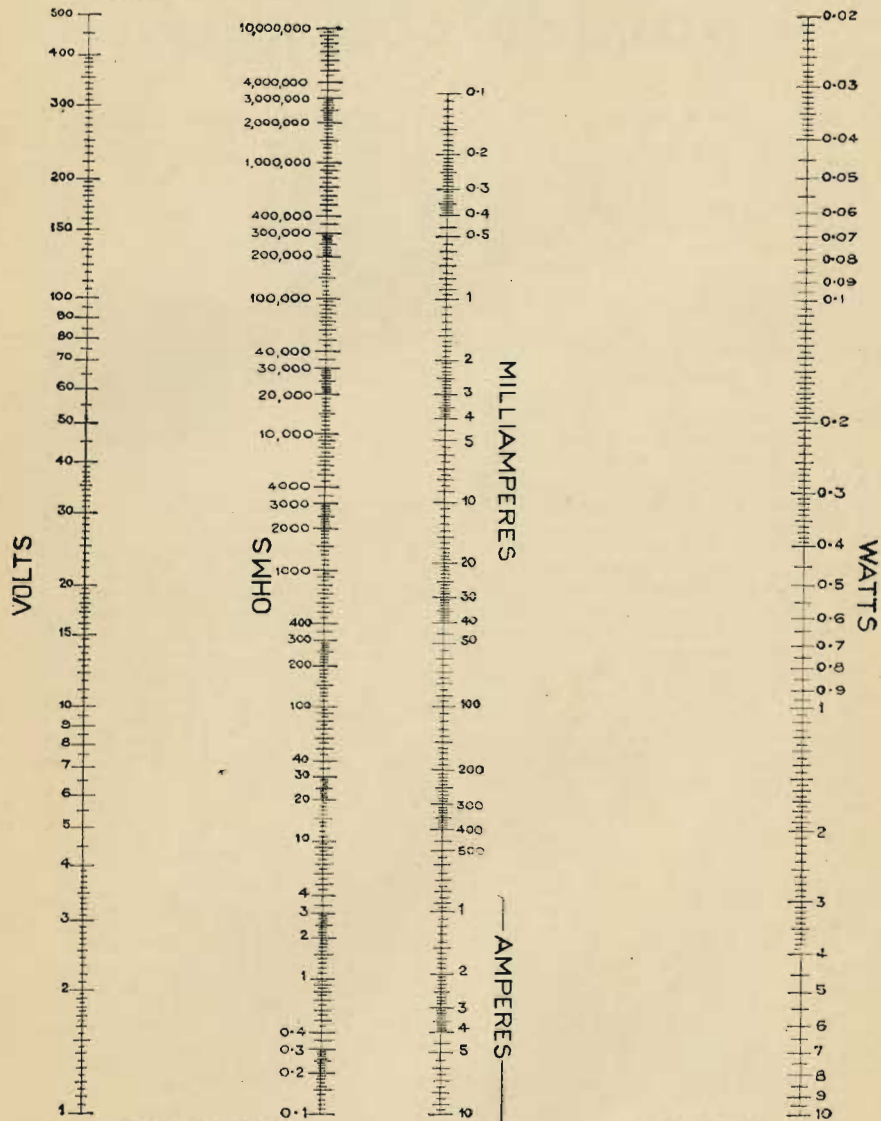
The construction of the contact arm is equally outstanding. The three spring fingers with spherical convex contact surfaces slide smoothly over the resistance track and they never deviate from their course, thus for any position of the arm contacts are always made at the same points, the three fingers being electrically in parallel preclude any chance of noisy operation. The contact arm is insulated from the control spindle. The resistance element is rivetted in position on a flat bakelite moulding which also carries a screwed mounting bush ( $\frac{3}{8}$ " ) and the three terminal tags. A tight dust-proof cover is permanently fixed and solid rivets are used which eliminates any risk of dust or dirt entering the interior. Although not specifically designed to be a power control, and no claims are made for this, they are capable of dealing with a load up to one watt with safety, provided the energy is dissipated over the whole of the resistance. They are of the one-hole fixing type and a locating pin is provided  $\frac{3}{8}$ " from the spindle centre. Particular attention is drawn to the 0.25 + 0.25MΩ Fadover which is a very convenient control for fading over from one gramophone turntable to another or for similar purposes. Standard tolerance values  $\pm 20\%$ . The range of these metallized Volume Controls covers all modern requirements and is as follows :—

2MΩ.	Type B.	Standard Log.	without Switch.
0.5MΩ.	Type J.	" "	with S.P. Switch.
0.5MΩ.	Type B.	" "	without Switch.
0.25MΩ.	Type J.	" "	with S.P. Switch.
0.25MΩ.	Type B.	" "	without Switch.
100,000Ω.	Type B.	" "	" "
50,000Ω.	Type B.	" "	" "
0.25 + 0.25MΩ.	Fadover.	Two logs,	four terminals.
Type B. & J.	Without Switch	Price	3/6d. each
" "	With Switch	"	5/- each
Fadover	0.25 + 0.25	"	6/6d. each





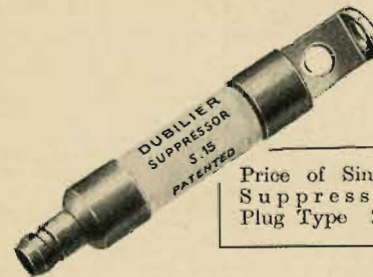
## RESISTANCE CALCULATOR



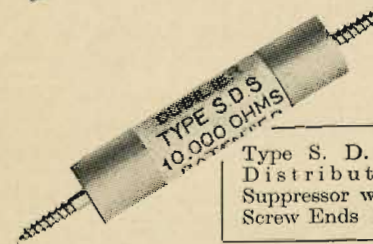
A straight edge placed across any two known quantities on the Calculator will enable either of the two unknown quantities to be read off.



## MOTOR RADIO SUPPRESSORS



Price of Single Suppressor Plug Type 2/6

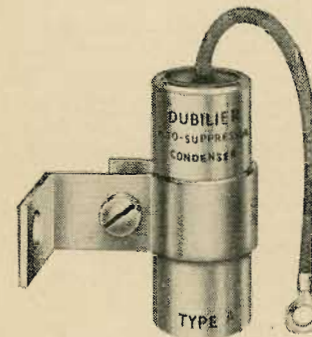


Type S. D. S. Distributor Suppressor with Screw Ends 2/6

Electrically ignited internal combustion engines as used in motor cars, motor boats and small electric lighting plants etc., frequently cause considerable interference to radio reception. If a radio receiver is used in the vicinity of these engines it is essential to employ means to reduce the radiation. Dubilier devices for this purpose were the first in the field, and as a result of considerable investigation the range now available will be found to be very satisfactory. The characteristics of Dubilier Suppressors are carefully designed and made to give a high degree of suppression without impairing engine performance.

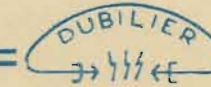
Interference is generated at the following points:—Sparking Plugs, Distributor, Spark Coil Contact Breaker, Petrol Lift Pump, Horn and Self-Starter. The suppression of the two latter is a refinement and not generally essential. If the engine is equipped with a magneto the distributor suppressor may be omitted, the contact suppressor condenser being connected with its lead to the point where the wiring leaves the magneto to go to the ignition switch.

In the case of installations required to pick up very weak signals or operate on short waves, such as picking up distant foreign stations or comparatively near stations of weak field strength, additional precautions may be desirable. Under these circumstances the sparking plug leads may require a suppressor at both ends and/or the use of screened leads. An electrically ignited internal combustion engine ignition diagram showing the essential suppressor positions appears on the following page.



Type A 0.5 $\mu$ F. 2.6d. each  
Type B 1.0 $\mu$ F. 3/- each

Suppressor Condenser C2 is usually supplied with radio equipped cars by the makers of the voltage regulator and is fitted inside the latter. On cars fitted with voltage regulator to which radio is added later a type B Suppressor Condenser should be connected. The leads to windscreen wiper should have a braided metal screen cover which should be effectively connected to frame or earth.





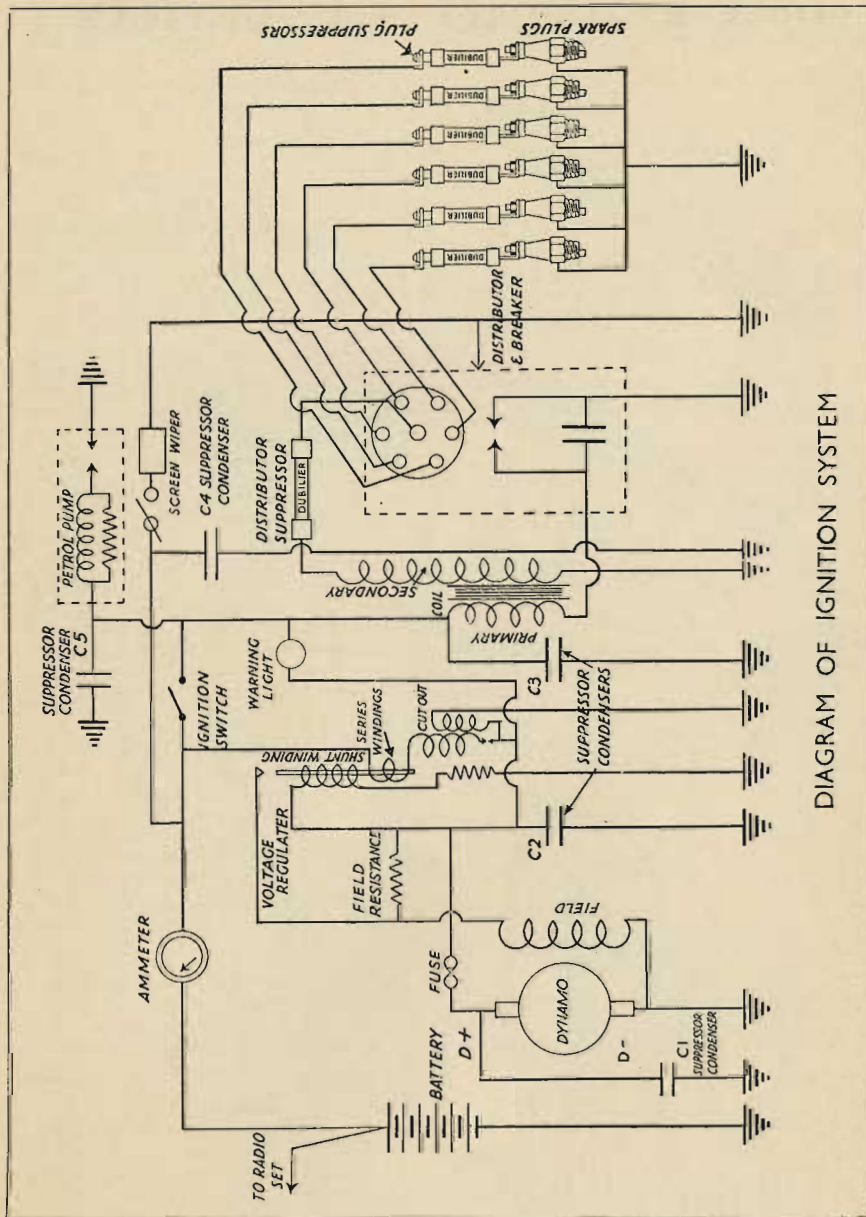


DIAGRAM OF IGNITION SYSTEM



## ANTI-INTERFERENCE DEVICES

Electrical interference in radio reception is caused by many forms of electrical apparatus, both domestic and industrial.

Interference enters the receiver by one or more, or a combination of, the following ways :—

Conducted interference, which is mains borne, entering the receiver via the mains lead.

Mains radiated interference, which is mains borne, re-radiated from the house wiring and picked up by the aerial-earth system so entering the receiver.

Directly radiated interference, which is picked up by the aerial-earth system directly from the source.

Household apparatus, such as Refrigerators, Fans, Bells, Sewing Machine Motors, Electro-Medical and Massage apparatus, may all cause interference when operating.

In the event of interference being experienced, the first step should be to ascertain that the noise is not due to bad or dirty connections faulty valves or components in the receiver, including the aerial-earth system.

In the event of difficulty the Post Office Authorities are prepared to assist, and a form for this purpose is obtainable at any ordinary Post Office.

Interference should preferably be dealt with at its source. Sometimes this is not possible or is inconvenient, and the next best course is to apply a suitable Anti-Interference Unit as near to the supply entry to the house as possible. This position is usually at the point where the house meter is situated. It is absolutely necessary that components for Anti-Interference Devices should conform to British Standard Specification No. 613. Dubilier conform to this specification, thereby safeguarding you. The appended list gives a selection of types of Anti-Interference Units which when chosen and fitted correctly have proved very efficacious. When fitting Anti-Interference devices, the leads between the Unit and the source of interference (or the main leads for house entry units) should be kept as short as possible.

Portable electrical appliances having three pin plugs and being earthed should if possible, have the condenser limited to  $0.1 \mu\text{F}$ . If larger capacities must be used they should be fitted with a discharge leak, which will discharge them to 0.2 of their peak voltage within one second of switching off. The required resistance value for  $2 \mu\text{F}$  is  $0.25 \text{M}\Omega$ ,  $1 \mu\text{F}$  -  $0.5 \text{M}\Omega$ ,  $0.5 \mu\text{F}$  -  $1 \text{M}\Omega$ .



## ANTI-INTERFERENCE DEVICES



Type 305/051

Dubilier Interference Filter Units for use with Mains apparatus rated at 250 volts A.C. or under. The components in these devices are made in accordance with B.S.S. No. 613.

### SINGLE STAGE CONDENSER FILTERS

For use with small motors such as sewing machines	Type	Price
	*301/851	5/-

For use with the majority of household appliances. Also for use at house supply entry	*305/051	7/6
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Suitable for machines up to about 1 kw. capacity. Also for use at house supply entry	*320/051	10/6

### CHOKE CONDENSER FILTERS

Single stage filter for use in mains lead of radio set or domestic appliance. 1, 2 or 3 amp. rating	...	66922	40/-
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Two stage filter for use where type 66922 is inadequate. 1, 2 or 3 amp. rating	...	69034	55/-
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(Maximum current should be stated when ordering).

NOTE.—Units rated for the greater currents are not to be recommended for use with lesser currents, since the filtering efficiency is then much lower.

### SPARK SUPPRESSOR UNITS.

For buzzers, flashers and other intermittent contacts. The Unit is connected across the contacts	...	*CR 3	6/-
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This type incorporates a spark suppressor unit and condenser filter. Suitable for motors with associated thermostat switch, also for flashers where an additional mains filter may be found desirable	...	*CR 1	10/-
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\* Fuses incorporated internally.





H.H.



**DUBILIER CONDENSER CO. (1925) LTD.**  
**DUCON WORKS, VICTORIA ROAD**  
**NORTH ACTON, W.3**

The articles in this catalogue are sold under limited license and manufactured under one or more of the following British patents :

195,266	197,556	198,355	213,978	216,334	231,883	232,129
232,782	239,073	239,492	240,020	241,716	247,881	248,385
249,132	249,133	258,244	267,568	290,556	295,006	301,980
320,405	326,855	376,765	398,929	416,994	173,744	206,107
216,334	251,970	262,006	270,241	275,081	277,341	272,851
283,543	272,083	281,246	329,604	349,688	349,726	370,199
370,890	387,282	416,751	419,622	425,332	425,347	311,778
344,776	358,100	361,332	398,825	405,151	416,010	416,049
416,994	254,894	and others.				

Radio manufacturers and industrial users are invited to apply for more detailed information.

**Stocked by—**