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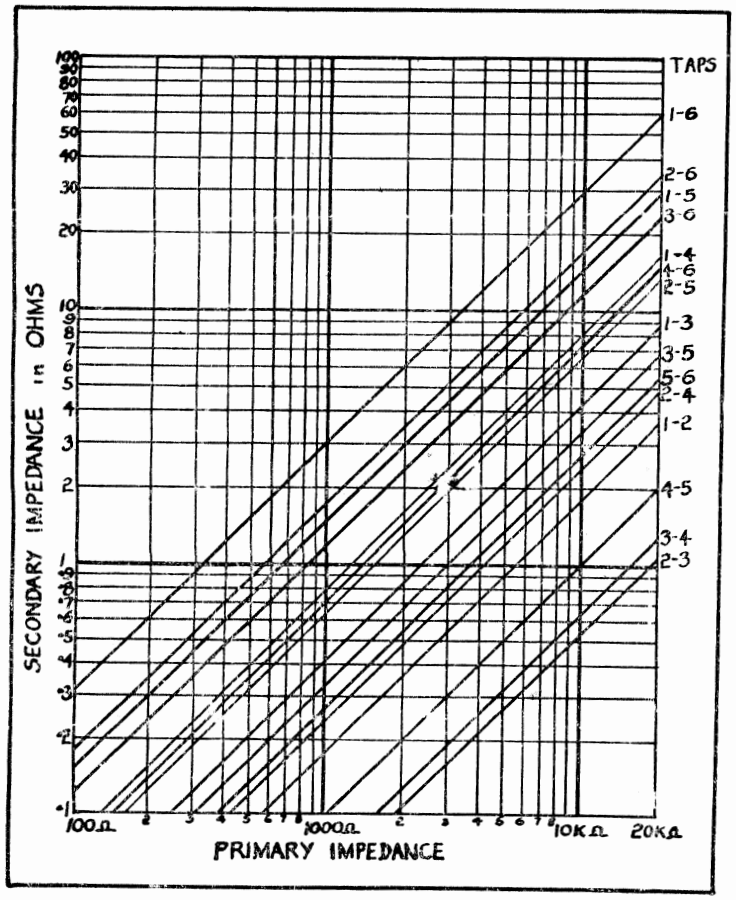
BEACON RADIO LIMITED

UNIVERSAL OUTPUT TRANSFORMERS

3 watt, 6 watt and 10 watt :: INSTRUCTIONS

BEACON universal output transformers are designed to give correct impedance matching between a wide variety of output valves, operated either singly or in push pull, and most loud-speaker voice coils. For single ended operations, the red primary centre tap is ignored and one blue lead connected to the valve anode, the other being connected to the valve anodes and the red becomes the high tension connection. The 3 watt and 6 watt sizes are suitable for both single and push pull operation, the 10 watt size is normally manufactured to give best results where there is very little unbalanced direct current in the primary winding, as is generally the case in push pull operation.

To use the GRAPH follow these simple directions, and no difficulty should be experienced in selecting the correct secondary taps for use with any given primary impedance and voice coil impedance.



IMPEDANCE MATCHING GRAPH
for
BEACON 3 watt 6 watt and 10 watt
UNIVERSAL TRANSFORMERS

(1) Ascertain from published valve data the correct *anode* load plate to plate load in the case of push pull valves.

(2) Locate the impedance along the bottom edge of the graph and draw a **vertical** line form this point.

() Similarly locate the correct voice coil impedance with the aid of the figures on the lefthand side of the graph. Draw a **horizontal** line from this point.

(4) The **diagonal** line nearest the point where the two lines cross, will indicate which secondary taps to use.

As an example take the case of 6V6GT with recommended anode load of 5,000 ohms, being required to work with a 3.7 ohm voice coil. Using the procedure outlined above, the correct secondary taps are found to be 4 and 6.

If neither voice coil impedance nor anode load impedance are known, the correct secondary connections may readily be determined by trial, but when they are known the graph should save valuable time by assisting in the selection of the taps.

NOTE:—The same graph may be used for 3 watt, 6watt and 10 watt universal line matching transformers by multiplying the **Primary Impedance** required by **10** before using the graph.

(e.g.—600 ohms becomes 6000 ohms for the purpose of using the graph in conjunction with a BEACON universal line to voice coil transformer.)

PRIMARY		SECONDARY												
P to P Imp.	P-B-B-P	Join 9 & 10 Con. to 7 & 12	Join 9 & 10 Con. to 8 & 12	Join 9 & 10 Con. to 8 & 11	Join 8 & 9 Con. to 7 & 12	Join 7 & 9 10 & 12 Con. to 7 & 10	Join 8 & 9 10 & 11 Con. to 8 & 10	Join 3 & 4 Con. to 1 & 6	Join 3 & 4 Con. to 2 & 6	Join 2 & 3 Con. to 1 & 6	Join 3 & 4 Con. to 2 & 5	Join 1 & 3 4 & 6 Con. to 1 & 4	Join 7 & 11 8 & 12 Con. to 7 & 8	Join 1 & 5 2 & 6 Con. to 1 & 2
Line to RF	500 ohms connected to 7 and 8; join 7 to 11 and 8 to 12							15000	9300	7700	5000	3700		
Line to RF	500 ohms connected to 1 and 2, join 1 to 5 and 2 to 6	16.000	11.000	8000	6800	4000	2000							
2000	2-3-4-5	8600	6350	4300	3620	2150	1070						200	
2000	1-2-5-6	15.700	11.400	7900	6550	3920	1950						350	
3000	2-3-4-5	13.000	9400	6500	5500	3240	1620						300	
3000	1-2-5-6	23.500	17.000	11.800	10.000	5900	2950						520	
3800	2-3-4-5	16.400	12.000	8200	7000	4100	2050						380	
3800	1-2-5-6	29.800	21.500	15.000	12.600	7500	3740						660	
4000	2-3-4-5	17.400	12.500	8650	7300	4300	2160						400	
4000	8-9-10-11							5500	3450	2850	1850	1380		250
5000	2-3-4-5	21.600	15.700	10.800	9150	5400	2700						500	
5000	8-9-10-11							7000	4300	3500	2300	1730		300
6000	1-3-4-6	8600	6350	4300	3620	2140	1070						200	
6000	8-9-10-11							8300	5150	4250	2750	2180		370
6600	1-3-4-6	9500	7000	4750	4000	2350	1180						220	
6600	8-9-10-11							9100	5650	4660	3000	2400		405
7000	1-3-4-6	10.000	7300	5050	4280	2500	1250						230	
7000	8-9-10-11							9700	6000	5000	3200	2400		430
8000	1-3-4-6	12.000	8400	5800	4900	2900	1440						270	
8000	8-9-10-11							11000	6900	5650	3700	2760		500
9000	1-3-4-6	13.000	9400	6500	5500	3240	1620						300	
9000	8-9-10-11							12500	7750	6300	4150	3100		550
9000	7-9-10-12							6200	3900	3200	2050	1550		275
10000	1-3-4-6	14.400	10,500	7200	6100	3600	1800						330	
10000	8-9-10-11							14000	8600	7100	4600	3450		600
10000	7-9-10-12							6900	4300	3500	2300	1740		310
12000	1-3-4-6	17.400	12.500	8700	7250	4320	2150						400	
12000	7-9-10-12							8300	5150	4250	2750	2070		370
14000	7-9-10-12							9700	6000	4900	3200	2440		430
16000	7-9-10-12							11000	6900	5600	3700	2780		500
18000	7-9-10-12							12500	7750	6300	4150	3140		550