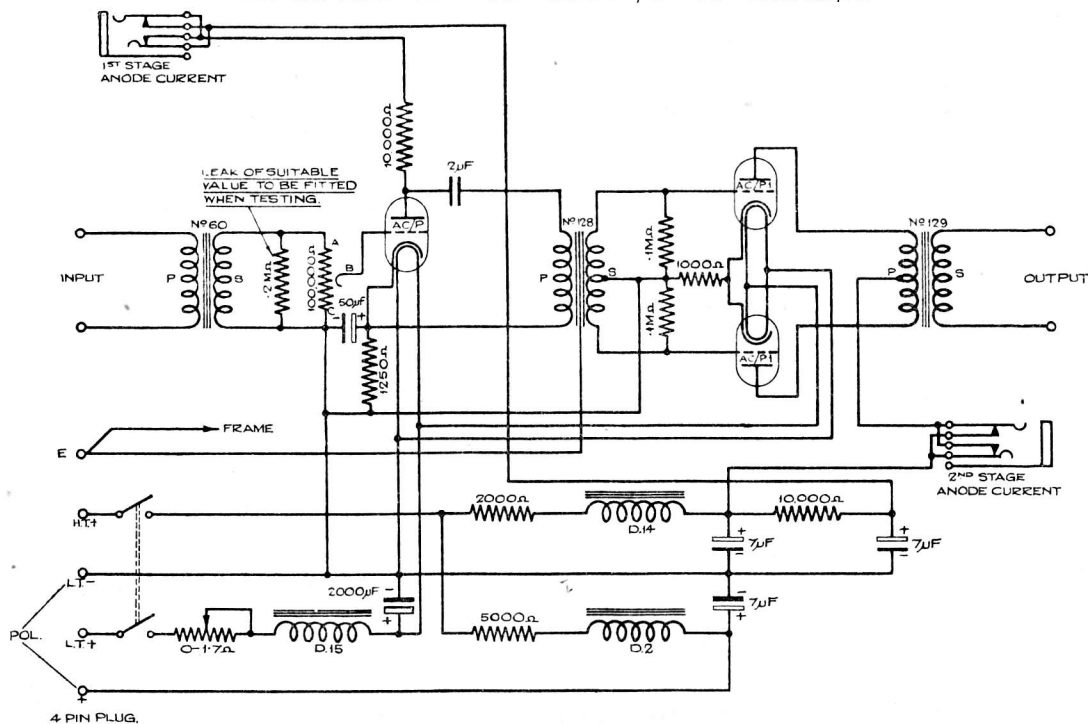


## AMPLIFIERS LSX/1 & LSX/2



Drawing A.3229, Issue 3

These are loudspeaker amplifier units provided for quality checking at transmitting stations and designed to operate from the rectified A.C. supplies normally available at the station. Amplifier LSX/1, for a loudspeaker requiring a D.C. polarising supply, is used at **Droitwich, Lisnagarvey, Burghead, Stagshaw and Daventry**, and amplifier LSX/2 (Drawing A.5256 not included), for a permanent magnet type loudspeaker, is used at **Redmoss**.

### Circuit

The two amplifiers are identical in design except that in amplifier LSX/2 the positive polarising supply lead and the associated smoothing circuit have been omitted.

It comprises two stages of which the second employs two valves operating in push-pull. The volume control is connected in the grid circuit of the first stage across the loaded secondary winding of the input transformer, and the valve is resistance-capacity coupled to the inter-stage transformer. The supplies to the unit are unsmoothed and are therefore applied via smoothing filters, followed in the case of the high tension supply to the first stage by a decoupling circuit. (In amplifier LSX/2, 16 $\mu$ F condensers replace the 7 $\mu$ F condensers used in amplifier LSX/1 in the high tension smoothing circuits.) In amplifier LSX/1 provision is made, as shown, for a D.C. polarising supply for the field winding of the loudspeaker. This is obtained from the common H.T. supply via a separate smoothing filter. Anode current jacks are provided in the H.T. supply leads for enabling the anode currents of the two stages to be read with a portable meter. The grid bias is automatic.

# AMPLIFIERS LSX/1 & LSX/2

Technical Instructions

Item 3 (LSX/1 & LSX/2). July, 1938

## Impedances

Input impedance	.. .. .	.. .. .	(approx)	2,530	ohms
Output impedance	.. .. .	.. .. .	(approx)	11.5	ohms
Normal load impedance (loudspeaker input)	.. .. .	.. .. .	(approx)	12	ohms

## Transformers

					<i>Number</i>	<i>Impedance Ratio</i>	<i>Turns Ratio</i>
Input	..	..	..	..	60	1/30.3	1/5.5
Interstage	..	..	..	..	128	1/16	1/4
Output	..	..	..	..	129	600/1	24.5/1

## Volume Control

Continuously variable potentiometer of resistance 100,000 ohms (approx).

## Supply Data

<i>Stage</i>	<i>Valve</i>	<i>Automatic Grid Bias</i> Volts negative	<i>Anode Current</i> mA (approx)	<i>Filaments</i> Volts    Amps	
1	ACP	7.9	6.3	4	1
2	2—ACP 1	32	16 (each valve)	4	1 (each valve)
<i>Total (not including polarising current)</i>			38.3		3
High Tension Supply	.. .. .	.. .. .	.. .. .	rectified A.C. unsmoothed at 320 V	
Low Tension Supply	.. .. .	.. .. .	.. .. .	rectified A.C. unsmoothed at 6V (adjusted to 4V by a series resistance)	

## Working Voltage Gain

Testing conditions

Volume control set for maximum output

Output loaded with 12 ohms and at a level of approximately + 4 db.

Gain at 1,000 c/s. .. .. . **19 ± 2 db.**