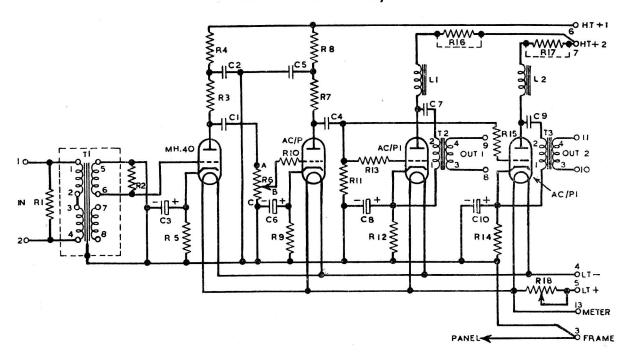
Issue 2. December, 1944

## AMPLIFIER A/10



### Components Table

	Value or		$Value\ or$		$Value\ or$
Component	Type	Component	Type	Component	Type
C1	$0.5 \mu { m F}$	Ll	C8	R9	$1,000\Omega$
C2	$2~\mu{ m F}$	L2	C8	R10	$500\Omega$
C3	$50 \mu F$	R1	$500\Omega$	R11	$250,\!000\Omega$
C4	$0.5 \mu { m F}$	R2	$200{,}000$ $_{\Omega}$	R12	$1,500 \Omega$
C5	$2~\mu { m F}$	R3	$100,\!000$ $^{\Omega}$	R13	$500\Omega$
C6	$50 \mu F$	R4	$20,\!000\Omega$	R14	$1,500 \Omega$
C7	$6~\mu{ m F}$	R5	$2{,}000$ $_{\Omega}$	R15	$500\Omega$
C8	$50~\mu\mathrm{F}$	m R6	$100,\!000\Omega$	R16	$3,\!000$ $\Omega$
C9	$6~\mu{ m F}$	R7	$15{,}000$ $_{\it \Omega}$	R17	$3{,}000$ $\Omega$
C10	$50 \mu F$	R8	$10,\!000\Omega$	R18	$1.7$ $\Omega$

#### **Transformers**

T1. Turns Ratio 1/14.5 Type IT256.

T2. Turns Ratio 2.83/1 No. 186.

#### AMPLIFIER A/10

Technical Instructions Item 3(A/10)

Issue 2. December, 1944

#### Circuit

The A/10 is a three-stage amplifier with a screened input transformer and two output stages, output No. 2 providing a source of echo. Resistance-capacity coupling is used between the stages and the output stages are choke-capacity coupled to their output transformers. The volume control operates in the input to the second stage and the grid bias is automatic.

Ribbon-microphone frequency correction has recently been removed, the modification being precisely the same as that outlined under A/9.

#### **Impedances**

Input impedance		 • •	 	 (approx) 300 ohms
Output impedance (Nos. 1	& 2)	 	 	 (approx) 300 ohms
Normal load impedance		 	 	 (approx) 600 ohms

#### Volume Control

	Total	No. of	Loss per	$Loss\ on$
Type	Resistance	Studs .	Stud	$Lowest\ Stud$
P10	$100,000\Omega$	10	4 db.	Infinite

#### Supply Data

		Autc	matic				
Stage	Valve	$Grid\ Bias$		Anode	Current	Filaments	
		Volts negative		mA (a)	pprox)	Volts	Amps
	,	H.T.250v	H.T.300v	H.T.250v	$\rm H.T.300v$		, ^
1	MH40	2	2.6	1.0	1.3	4	1
2	AC/P	8	10	8.2	10.0	4	1
3 (Main)	AC/P1	28	26	19	17.5	4	1
3 (Echo)	AC/P1	28	26	19	17.5	4	1
		Total		47.2	46.3		4
High Tension	Supply						
H.T.+1	(Stages 1 & 2)	••			250 volts 300 v	rectified olts batte	1 1 2 2 10 2
H.T.+2	(Output Stage	s)			250 volts 300 v	rectified olts batte	
			The periods	D10	D 17 :		

(The resistances R16, R17 in series with the supply leads to the output stages should be in circuit when the supply is at 300 volts but should be shorted out when it is at 250 volts).

# AMPLIFIER A/10 Technical Instructions

Item 3(A/10)

Issue 2. December, 1944

Low Tension Supply 4–6 volts rectified A.C. (adjusted to 4 volts by
a series resistance.)
600 Ohm Test Gain
Testing Conditions
Volume control set for maximum output.
Loss Pads key at 60 db.
T.M.S. sending level $\dots \dots \dots$
Gain at 1,000 c/s (outputs 1 & 2) $66\pm 2$ db.
Frequency Response 50–9,000 c/s $\pm 1$ db. relative to 1,000 c/s.
•
Working Voltage Gain
Testing Conditions
Volume control set for maximum output.
Output loaded with 600 ohms and at approximately zero level.
Gain at 1,000 c/s $69.5\pm2$ db.