

# TONE CONTROL AMPLIFIER

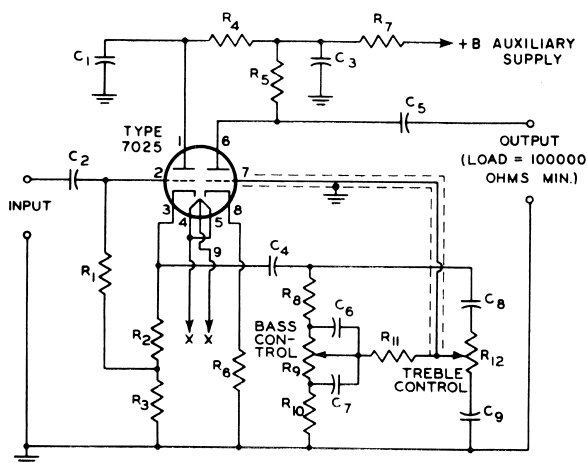


Fig. 4

## DC VOLTAGE MEASUREMENT CHART

TYPE	PIN NUMBER								
	1	2	3	4	5	6	7	8	9
7025	+240	+16	+17.5	*	*	+165	0	+1	*

All voltages  $\pm 20\%$  measured from pin to ground with no signal input, using AWA Voltohmyst or similar instrument.

\* This voltage will vary with the type of power amplifier used, as follows: 15 watt (Fig. 1), +50 volts; 30 watt (Fig. 2), zero volts; 50 watt (Fig. 3), +65 volts.

## PERFORMANCE SPECIFICATION

**Sensitivity:** 0.5 volt rms for output of 1.25 volts with controls set for flat response.

**Control:** +16db bass and treble boost, -16db bass and treble cut.

## PARTS LIST

- C1: 20  $\mu\text{f}$ , 450 volts
- C2: 0.047  $\mu\text{f}$
- C3: 20  $\mu\text{f}$ , 450 volts
- C4: 0.1  $\mu\text{f}$
- C5: 0.22  $\mu\text{f}$
- C6: 0.0022  $\mu\text{f}$
- C7: 0.022  $\mu\text{f}$
- C8: 220  $\mu\mu\text{f}$
- C9: 0.0022  $\mu\text{f}$
- R1: 0.47 megohm
- R2: 1500 ohms
- R3: 15000 ohms
- R4: 22000 ohms
- R5: 0.1 megohm
- R6: 1000 ohms
- R7: 15000 ohms
- R8: 0.1 megohm
- R9: Bass-Control Potentiometer, 1 megohm
- R10: 10000 ohms
- R11: 0.1 megohm
- R12: Treble-Control Potentiometer, 1 megohm

## NOTE

All resistors — 0.5 watt,  $\pm 10\%$ , unless otherwise specified.

All capacitors — 400 volts, unless otherwise specified.

The Audio Manufacturer's Group of the British Radio Electrical Manufacturer's Association has issued a Provisional Specification for Methods of Measuring and Expressing the Performance of Audio Frequency Amplifiers. At the time of going to press comments are being studied preparatory to the issue of a complete specification. It is hoped to have more to say of this in future issues.

# PREAMPLIFIER FOR LOW-OUTPUT MICROPHONES

## PERFORMANCE SPECIFICATION

**Sensitivity:** 3 millivolts rms for output of 220 millivolts

## DC VOLTAGE MEASUREMENT CHART

TYPE	PIN NUMBER								
	1	2	3	4	5	6	7	8	9
5879	0	—	+1.8	*	*	—	+78	+98	+1.8

All voltages  $\pm 20\%$  measured from pin to ground with no signal input, using AWA Voltohmyst or similar instrument.

\* This voltage will vary with the type of power amplifier used, as follows: 15 watt (Fig. 1), +50 volts; 30 watt (Fig. 2), zero volts; 50 watt (Fig. 3),

## PARTS LIST

C1: 25  $\mu\text{f}$ , 25 volts  
C2: 0.047  $\mu\text{f}$

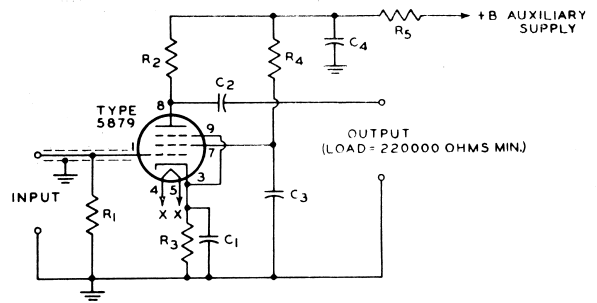


Fig. 8

C3: 0.22  $\mu\text{f}$   
C4: 40  $\mu\text{f}$ , 450 volts  
R1: 2.2 megohms  
R2: 0.1 megohm  
R3: 1000 ohms  
R4: 0.47 megohm  
R5: 22000 ohms

## NOTE

All resistors 0.5 watt,  $\pm 10\%$ , unless otherwise specified.

All capacitors 400 volts, unless otherwise specified.

# TWO-CHANNEL MIXER

## PERFORMANCE SPECIFICATION

**Sensitivity:** 3 millivolts rms for output of 20 millivolts

## PARTS LIST

C1: 0.1  $\mu\text{f}$   
C2, C3: 47  $\mu\mu\text{f}$   
C4: 25  $\mu\text{f}$ , 25 volts  
C5: 0.1  $\mu\text{f}$   
C6: 20  $\mu\text{f}$ , 450 volts

R1: Value depends on output load required for previous stage or type of input device. Should not exceed 2.2 megohms.

R2: 0.47 megohm  
R3: Volume Control Potentiometer, 0.5 megohm  
R4: 0.1 megohm  
R5: 1000 ohms  
R6: 0.47 megohm  
R7: Same as R3  
R8: 0.1 megohm  
R9: Same as R1  
R10: 22000 ohms

## NOTE

All resistors 0.5 watt,  $\pm 10\%$ , unless otherwise specified.

All capacitors 400 volts, unless otherwise specified.

# PREAMPLIFIER FOR TAPE HEAD

(NARTB EQUALIZATION)

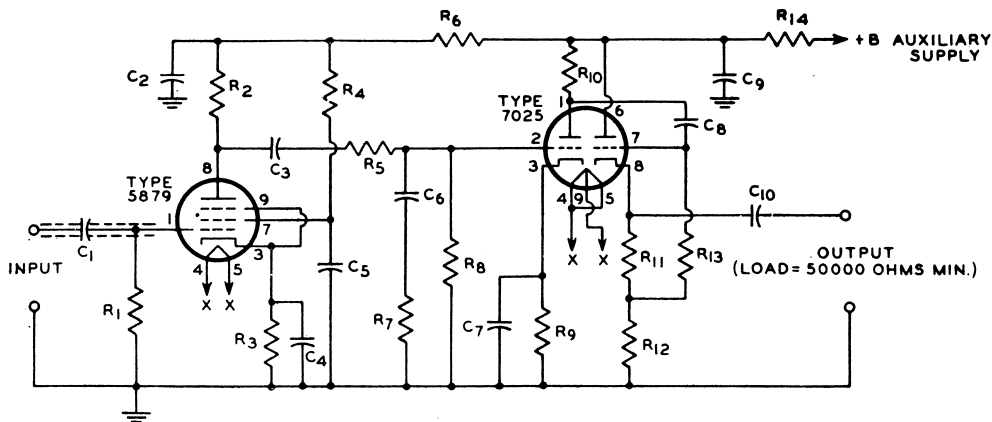


Fig. 7

## PERFORMANCE SPECIFICATION

**Sensitivity:** 3 millivolts rms for output of 0.55 volts at 1000 cps.

## DC VOLTAGE MEASUREMENT CHART

TYPE	PIN NUMBER								
	1	2	3	4	5	6	7	8	9
5879	0	—	+1.8	*	*	—	+75	+95	+1.8
7025	+190	0	+1.3	*	*	+285	+17	+19	*

All voltages  $\pm 20\%$  measured from pin to ground with no signal input, using AWA Volttohyst or similar instrument.

\* This voltage will vary with the type of power amplifier used, as follows: 15 watt (Fig. 1), +50 volts; 30 watt (Fig. 2), zero volts; 50 watt (Fig. 3), +65 volts.

### NOTE

All resistors 0.5 watt,  $\pm 10\%$ , unless otherwise specified.

All capacitors 400 volts, unless otherwise specified.

## PARTS LIST

C1: 0.047  $\mu\text{f}$   
 C2: 40  $\mu\text{f}$ , 450 volts  
 C3: 0.1  $\mu\text{f}$   
 C4: 25  $\mu\text{f}$ , 25 volts  
 C5: 0.22  $\mu\text{f}$   
 C6: 0.015  $\mu\text{f}$   
 C7: 25  $\mu\text{f}$ , 25 volts  
 C8: 0.022  $\mu\text{f}$   
 C9: 40  $\mu\text{f}$ , 450 volts  
 C10: 0.47  $\mu\text{f}$   
 R1: 1 megohm  
 R2: 0.1 megohm  
 R3: 1000 ohms  
 R4: 0.47 megohm  
 R5: 0.22 megohm  
 R6: 22000 ohms  
 R7: 3300 ohms  
 R8: 3.3 megohms  
 R9: 1500 ohms  
 R10: 0.1 megohm  
 R11: 1500 ohms  
 R12: 15000 ohms  
 R13: 0.47 megohm  
 R14: 4700 ohms

## DC VOLTAGE MEASUREMENT CHART

TYPE	PIN NUMBER								
	1	2	3	4	5	6	7	8	9
7025	+185	0	+1.5	*	*	+185	0	+1.5	*

All voltages  $\pm 20\%$  measured from pin to ground with no signal input, using AWA Voltohmyst or similar instrument.

\* This voltage will vary with the type of power amplifier used, as follows: 15 watt (Fig. 1), +50 volts; 30 watt (Fig. 2), zero volts; 50 watt (Fig. 3), +65 volts.

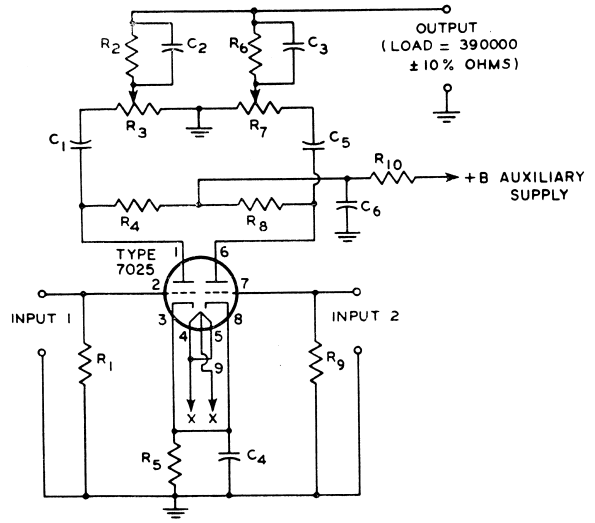


Fig. 9

# STEREO BALANCE UNIT

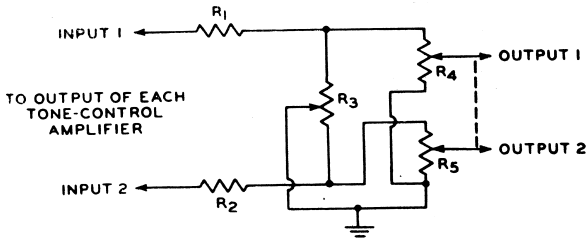


Fig. 10

### PARTS LIST

- R1, R2: 0.1 megohm  
 R3: Balance - Control Potentiometer, 0.5 megohm, linear taper.  
 R4, R5: Volume-Control Potentiometers, ganged, 1 megohm, audio taper.

### NOTE

All resistors 0.5 watt,  $\pm 10\%$ .

### ADJUSTMENT OF THE STEREO BALANCING UNIT

For proper operation of a stereo system, the output levels of the two channels should be equal. A typical method for balancing the two channels follows:—

1. Connect the output of a monaural signal source, such as an audio signal generator or a test record, to both the right and left channel inputs. Use a frequency of 1000 cps as a test frequency.
2. Set the ganged volume-control potentiometers (R4 and R5) to provide a comfortable listening level.
3. Measure the ac voltage developed across the voice coil of the speaker in each channel, with a VTVM.
4. Adjust the balance-control potentiometer (R3) so that the voltages across both voice coils are equal.

(With acknowledgements to RCA)