The Class-A Amplifier Site
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D C Voltages

The following tables of dc voltages are provided to assist in initial testing and any fault-finding that may be required. They have been prepared from simulations of the 1969 and 1996 versions. The 1969 version was simulated with a supply rail voltage of 27V and a quiescent current of 1.2A and the 1996 version with +/-22V supply rails and a quiescent current of 2A.

The last three columns in the tables have been included to allow calculation of nodal dc voltages at other supply rail voltages. Vs is the supply rail voltage (the value of a single rail for dual-rail supplies), Vbe is the base-emitter potential for a transistor (typically 0.7V) and Iq is the quiescent current.

1969 Version

Device	Emitter	Base	Collector	Emitter	Base	Collector
Tr1	0V	0.7V	13.5V	0	Vbe	Vs / 2
Tr2	13.5V	14.2V	27.0V	Vs / 2	(Vs / 2) + Vbe	Vs
Tr3	0.7V	1.4V	14.3V	Vbe	2.Vbe	(Vs / 2) + Vbe
Tr4	12.9V	12.3V	1.4V	(Vs / 2) - Vbe	(Vs / 2) - 2.Vbe	2.Vbe

1996 Version

Device	Emitter	Base	Collector	Emitter	Base	Collector
Tr1	-22V	-21.3V	0V	-Vs	-Vs + Vbe	0
Tr2	0V	0.7V	21.3V	0	Vbe	Vs - (Iq / 3)
Tr3	-21.3V	-20.5V	0.7V	-Vs + Vbe	-Vs + 2.Vbe	Vbe
Tr4	0.7V	0.1V	-20.5V	Vbe	0.1	-Vs + 2.Vbe
Tr5	21.3V	20.7V	0.7V	Vs - (Iq / 3)	Vs - (Iq / 3) - Vbe	Vbe

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