



Resistor Values for Gain Programming

dB Gain*	R1	Rf	Rd**
7	330	270	27
10	330	390	22
13	330	510	18
16	330	680	15
19	330	1000	10
24	330	1800	4.7
15	470	620	20
22	470	1500	10

*Gain figures are approximate due to component variations and tolerances.

**Small-value resistors for Rd should be measured and selected for actual value rather than rely on color code.



Note 1: This schematic follows Hayward W7ZOI and Kopski K3NHI paper (2009) on termination-insensitive IF amps [http://w7zoi.net/bidirectional_matched_amplifier.pdf].

Note 2: All transistors are 2N3904. Similar bi-polar type can be used as well, though the resulting gain setting may differ. All resistors are 1/4 Watt 5%. All capacitors are 0.10uF disk or MLCC types. Component reference numbers (R8, C3, etc.) follow the Hayward/Kopski original.

Note 3: The gain "programming" resistors are indicated in large bold typeface. See the "Gain Programming" table for resistor values.

Bi-Directional PG-TIA IF Amp



Sheet:
File: PG-TIA-B.kicad_sch

Drawn by T.F. Carney

Size: USLetter Date: 2022-11-02

(C) Todd F. Carney / Creative-Commons license (CC BY-SA 4.0)

Rev: A

Id: 1/1