

FEATURES

- Allows Instant Product Evaluation
- Preassembled and Pretested
- SIP Socket for THAT2180-Series VCAs
- XLR Input/Output Connectors
- Choice of On-Board or External Control Voltage Source
- Generous Prototyping Area
- Complete Documentation Package
- Schematic and Assembly Drawing

APPLICATIONS

- Verification of 2180 Performance
- Comparison of 2180-Series Performance
- Prototyping VCA Circuits
- PCB Layout Reference Design

Description

The 2180 Demonstration Board is a self-contained circuit board that simplifies evaluating the performance of a 2180-Series Voltage Controlled Amplifier (VCA) IC. It features a simple signal path consisting of a differential input buffer, the VCA and the VCA's output current-to-voltage converter. Gain control voltage is supplied on the board, but may also be supplied externally. An external (± 15) power supply is required.

Completely assembled and tested, the 2180 Demonstration Board comes with XLR connectors for signal input, signal output and external control voltage input. A socket is

provided for inserting your choice of 2180-Series VCAs. Power supply connections are made via a 3-pin 0.1-inch-center Molex connector.

To ease prototyping specific applications, spare circuit board area is perforated, with plated-through holes. This makes the board particularly useful for experimentation.

With a 2180 Demonstration Board and standard audio cables, an engineer can start testing the performance of basic 2180 circuitry in seconds, and can begin trying out additional circuit ideas in minutes.

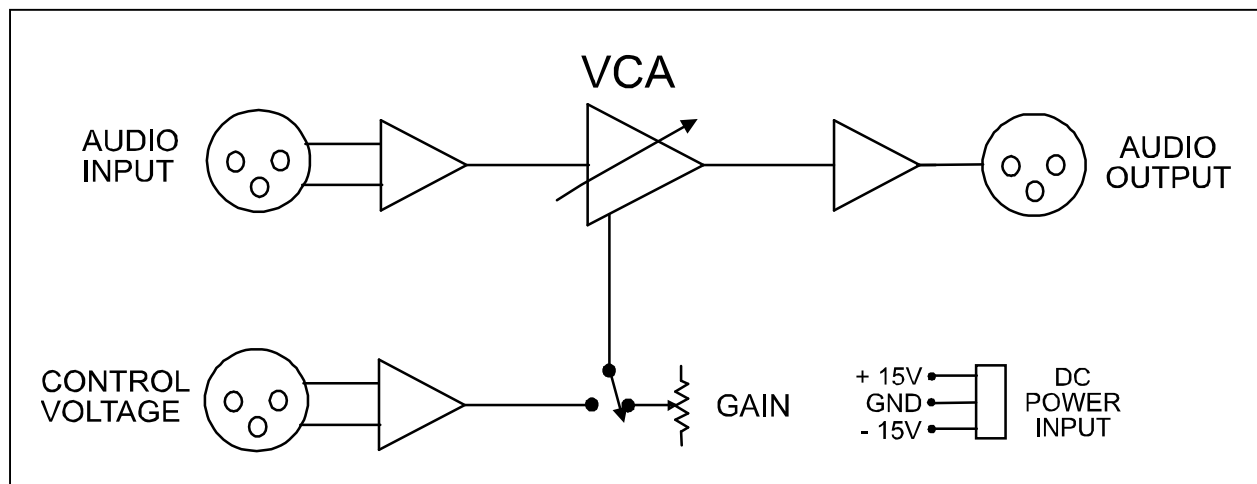


Figure 1. 2180-DEMO Block Diagram

SPECIFICATIONS¹

| Absolute-Maximum Ratings ($T_A = 25^\circ\text{C}$) | | | |
|---|------------|--|--------------|
| Positive Supply Voltage (V_{CC}) | +18 V | Operating Temperature Range (T_{OP}) | 0 to +70 °C |
| Negative Supply Voltage (V_{EE}) | -18 V | Storage Temperature Range (T_{ST}) | 0 to +100 °C |
| External Control Voltage (V_C) | ± 12 V | | |

| Typical Power Supply Requirements | | | | | | |
|--|----------|------------|-----|-----|-----|-------|
| Parameter | Symbol | Conditions | Min | Typ | Max | Units |
| Positive Supply Voltage | V_{CC} | | +12 | +15 | +18 | V |
| Negative Supply Voltage | V_{EE} | | -18 | -15 | -12 | V |

| Electrical Characteristics² | | | | | | |
|---|---------------|---------------------------------|------|-------------|------|------------|
| Parameter | Symbol | Conditions | Min | Typ | Max | Units |
| Gain Range | | Internal Control | -100 | — | +20 | dB |
| | | External Control | -120 | — | +60 | dB |
| Control Voltage Constant | | External Control | 88 | 100 | 112 | mV/dB |
| Supply Current | | ± 15 V Supply | — | 28 | 40 | mA |
| Input Impedance, Audio | Z_{IN} | Differential | 19.6 | 20 | 20.4 | k Ω |
| Input Impedance, Control | Z_{IN} | Differential | 3.16 | 3.3 | 3.43 | k Ω |
| Input Overload | $V_{IN(Max)}$ | $V_{CC} = -V_{EE} = 15\text{V}$ | +18 | +19 | — | dBV |
| Output Impedance | Z_{OUT} | Single-ended | 95 | 100 | 105 | Ω |
| Minimum Resistive Load | | | 600 | — | — | Ω |
| Maximum Capacitive Load | | | — | — | 1 | nF |
| Dimensions | | | | 5 x 7 x 1.5 | | in |
| Weight | | | | 0.4 | | lb |

1. All specifications are subject to change without notice.
2. Unless otherwise noted, $T_A=25^\circ\text{C}$, $V_{CC}=+15\text{V}$, $V_{EE}=-15\text{V}$.

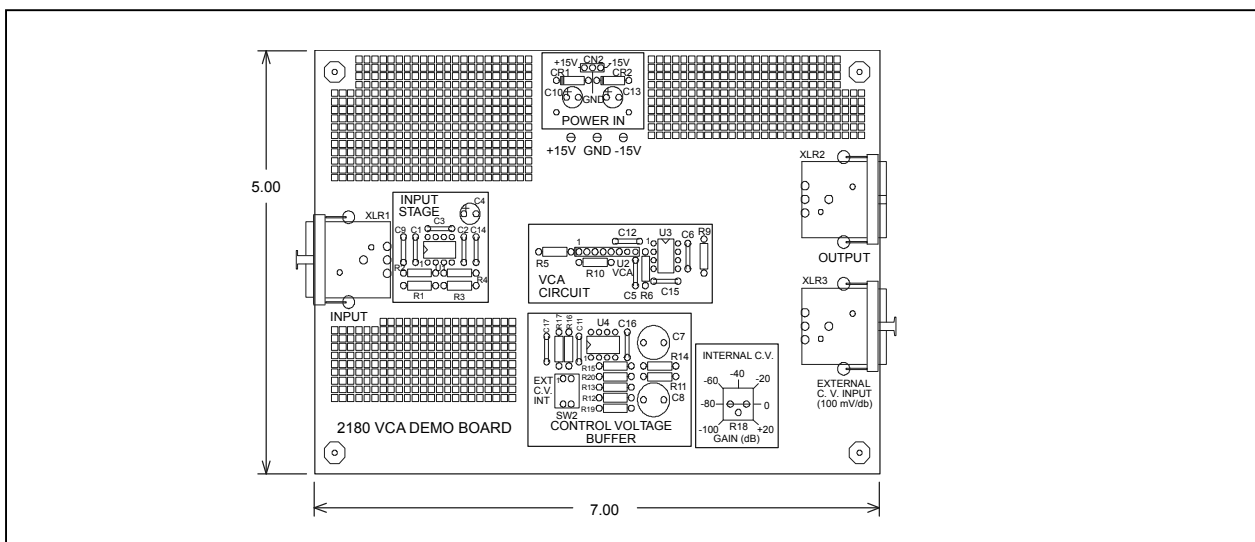
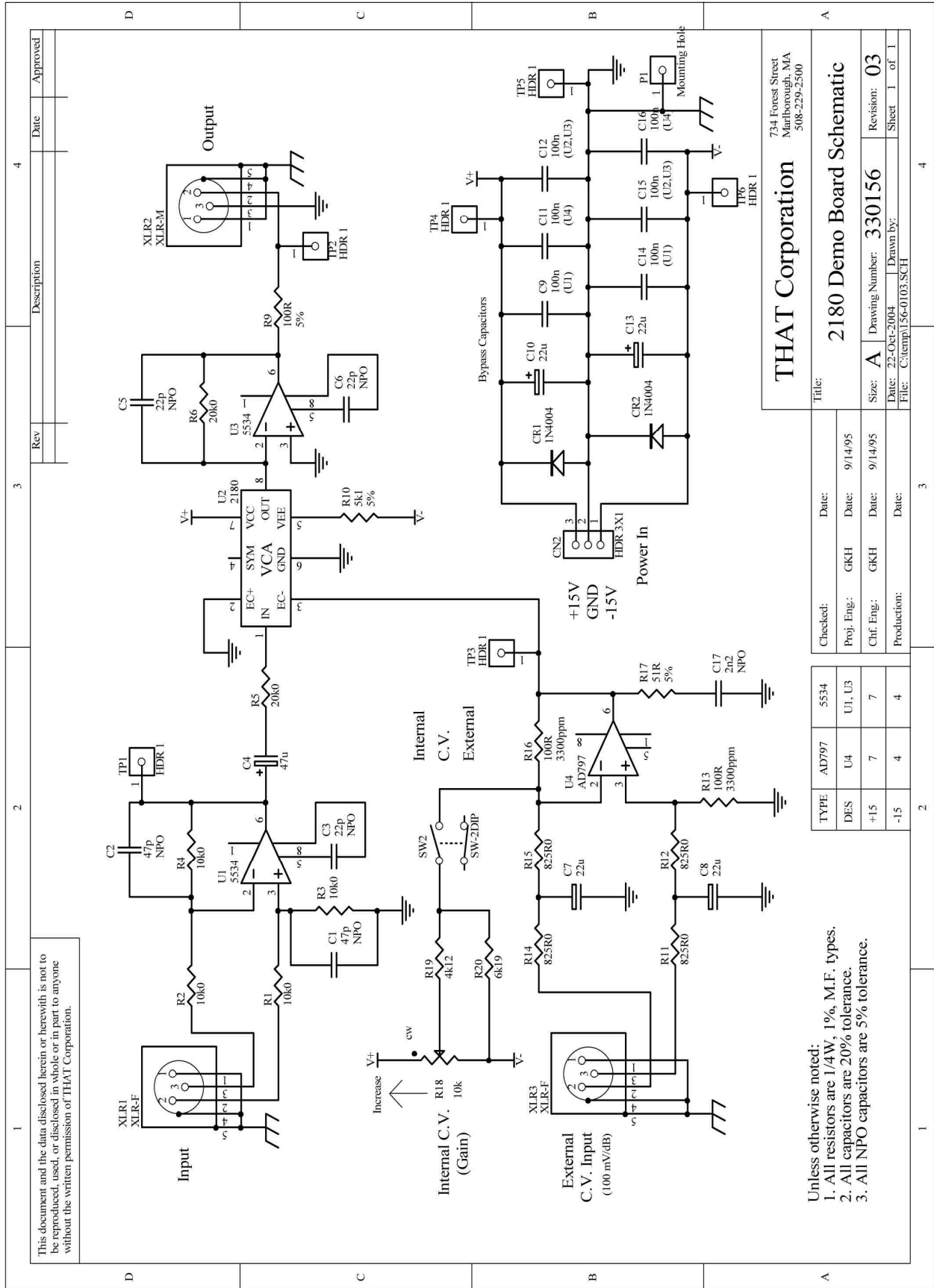


Figure 2. 2180-DEMO Outline Drawing



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- Unless otherwise noted:
1. All resistors are 1/4W, 1%, M.F. types.
 2. All capacitors are 20% tolerance.
 3. All NPO capacitors are 5% tolerance.

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Title: 2180 Demo Board Schematic

Checked: _____ **Date:** _____

Proj. Eng.: GKH **Date:** 9/14/95

Chf. Eng.: GKH **Date:** 9/14/95

Production: _____ **Date:** _____

Size: A **Drawing Number:** 330156 **Revision:** 03

Date: 22-Oct-2004 **Drawn by:** _____

File: C:\temp\156-0103.SCH

Sheet 1 of 1

Figure 3. 2180-DEMO Schematic

Revision History

| Revision | ECO | Date | Change | Page |
|-----------------|------------|-------------|------------------------------|-------------|
| 00 | --- | 12/01/02 | Released | --- |
| 01 | 2973 | 06/22/16 | Redrawn and schematic added. | 3,4 |

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