THAT Corporation

THAT4320 Analog Engine
Compressor Demonstration System

THAT 4320 DEMO-A

FEATURES

- Basic Compressor/Limiter Circuit
- Threshold
- Compression Ratio
- Output Gain
- Preassembled and Pretested
- Socket for THAT4320
- XLR Input/Output Connectors
- Generous Prototyping Area
- Complete Documentation Package
  - Schematic and Assembly Drawing

APPLICATIONS

- Verification of 4320 Performance
- Compressor/Limiter Application Evaluation
- Prototyping 4320 Applications
- PCB Layout Reference Design

Description

The THAT4320 Demonstration System is a self-contained circuit board that simplifies evaluating the performance of a 4320 Analog Engineâ Dynamics Processor IC. It features the 4320 connected in a basic three-control (ratio, threshold and gain) compressor/limiter circuit. An external (±5) power supply is required.

Completely assembled and tested, the THAT4320 Demonstration System comes with XLR connectors for signal input and output. A socket is provided for inserting a THAT 4320S. Power supply connections are made via a 3-pin 0.1-inch-center Molex connector.

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

With a 4320 Demonstration System and standard audio cables, an engineer can start testing the performance of basic 4320 circuitry and begin trying out additional circuit ideas in minutes.

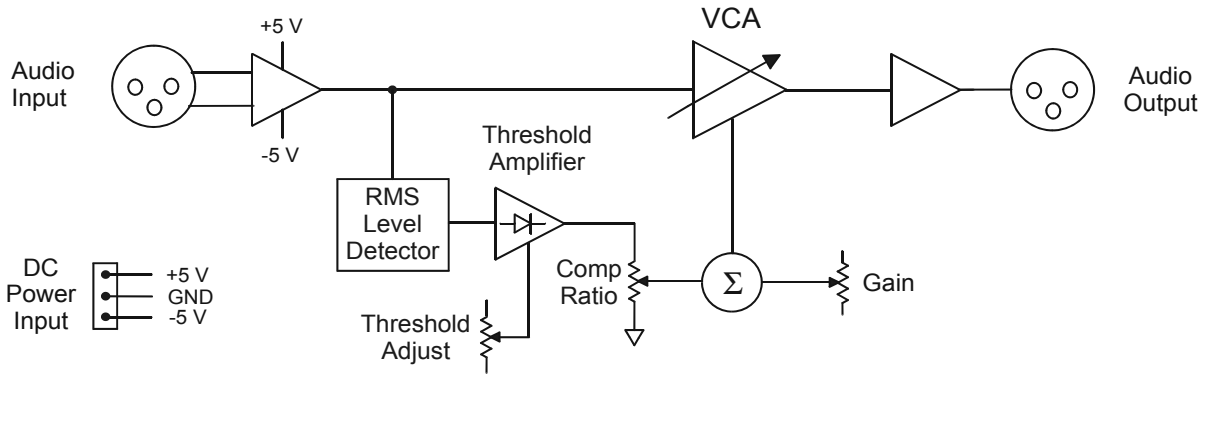

Figure 1. 4320-DEMO-A Block Diagram

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 Document 600048 Rev. 03

SPECIFICATIONS[1]

Absolute Maximum Ratings

Postive Supply Voltage (V_{CC})	+18 V	Operating Temperature Range (T_{OP})	0 to +70 °C
Negative Supply Voltage (V_{EE})	V_{CC} - 18 V	Storage Temperature Range (T_{ST})	0 to +100 °C

Electrical Characteristics[2]

Parameter	Symbol	Conditions	Min	Typ	Max	Units
Positive Supply Voltage	V_{CC}	Referenced to GND	+4.75	5	+5.25	V
Negative Supply Voltage	V_{EE}		-5.25	-5	-4.75	V
Gain Range		Internal Control	—	±20	—	dB
Control Voltage Constant		External Control	6.9	6.0	6.1	mV/dB
Supply Current	I_S	±5 V Supply	—	5	7.5	mA
Input Impedance, Audio	Z_{IN}	Differential	19.6	20	20.4	kΩ
Input Overload	$V_{IN\ (Max)}$	V_{CC} = 5V, V_{EE}= -5V	—	+9	—	dBV
Output Impedance	Z_{OUT}	Single-ended	95	100	105	Ω
Minimum Resistive Load	$R_{L\ MIN}$		2k	—	—	Ω
Maximum Capacitive Load	$C_{L\ MAX}$		—	—	1	nF
Dimensions				4 x 6 x 1.5		in
Weight				0.4		lb

1. All specifications are subject to change without notice.
2. Unless otherwise noted, T_A=25ºC, V_{CC}=+5V, V_{EE}= -5V.

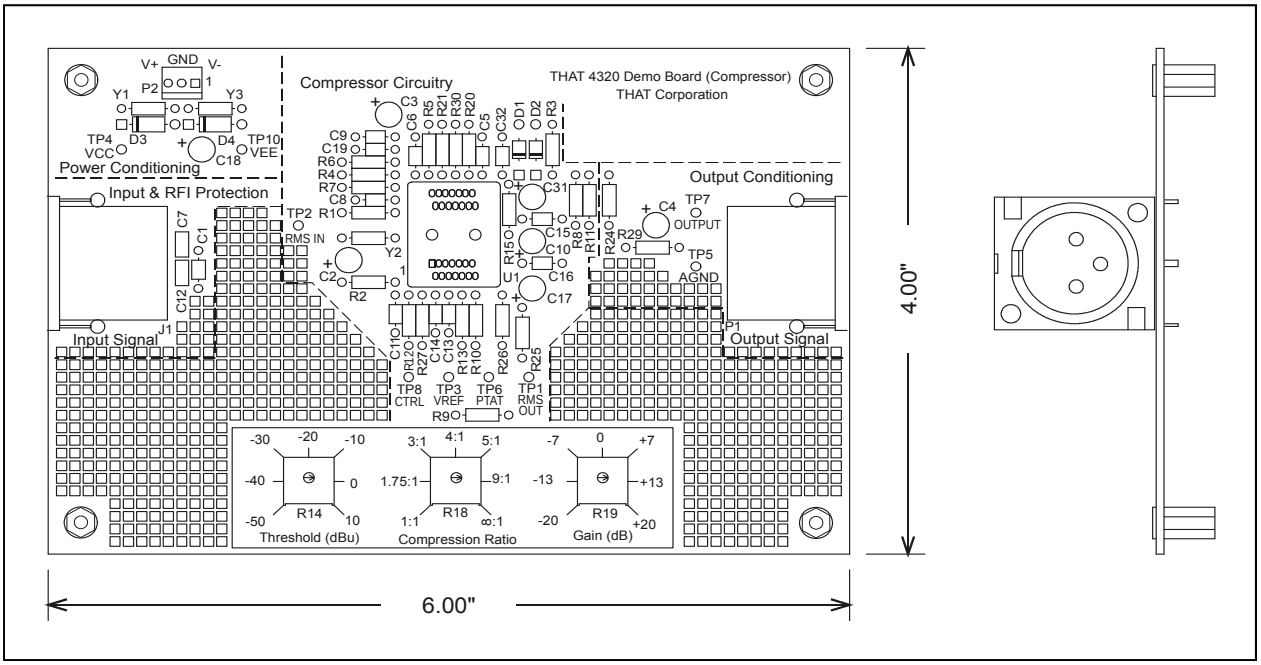

Figure 2. 4320-DEMO-A Outline Drawing

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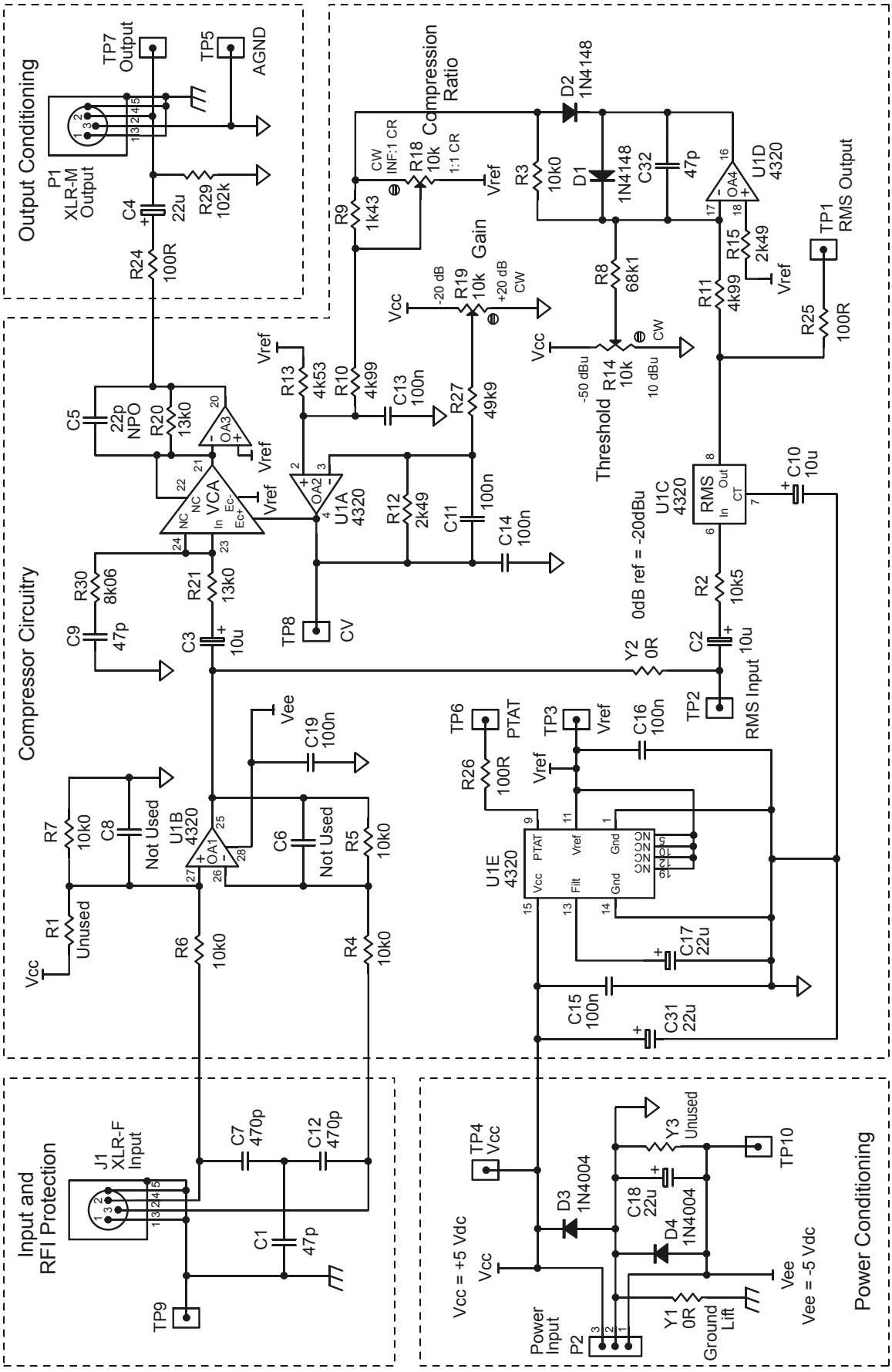

Note: Pin numbers for U1 (THAT4320) are for the QSOP-28 package. Pinouts for other packages may vary.

Revision History

Revision	ECO	Date	Change	Page
00	---	April 2004	Released	---
01	2599	Sept. 2011	Corrected power supply voltage	1, 2
02	2627	Dec. 2011	Schematic correction	3
03	2752	Jan. 2013	Correction to Input Overload specification	2

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