# API 500 SERIES COMPRESSOR

# MODEL **SV12**

## INTRODUCTION

Thank you for choosing this API Select SV12 Compressor. The SV12 is a single channel compressor in the API 500 Series format, featuring API's patented award winning compressor circuit. This is one channel of the API Select SR22 rackmount compressor. The design includes the patented 'THRUST' switch to protect the sensitive high frequency content of the audio signal even under the most vigorous of compression ratios.

This is the same compressor circuit originally designed into all ATI Paragon mixing consoles. Audio Toys, Inc. (ATI) was founded in 1988 to manufacture audio equipment for live sound reinforcement use. The most revered product was the API Paragon P40 and later, its successor, the Paragon II mixing console. Paragons could be found on many of the top tours in the '90's and early 2000's. One of the many distinctive features of the Paragon was the inclusion of on-board dynamics processing - a gate and a compressor, both of which were the favorites of many of the top live engineers on the road. The compressor circuit from the Paragon is faithfully replicated in the API SV12.

ATI was able to aquire API in 1999. Today, the engineering approach and manufacturing processes of ATI have been incorporated into the company which has become API.

The perfect companion to your SV14 EQ, the SV12 compressor provides comprehensive easy-to-use control of the audio signal with metering of both gain reduction and either output or input signal (jumper selection) level.  While there are no Attack or Release controls, the SV12 uses an timing circuit which automatically varies the attack and release characteristics in response to the audio signal passing through the unit. This results in very pleasing audio compression without the potential clicks and pops of either hard-edged attack or super-fast release times.

## LAYOUT

The API Select SV12 is a single channel compressor in the popular API 500 Series format.

Each unit features switches for the patented THRUST circuit, hard or soft knee, and bypass. Compressor controls are set via continuously variable potentiometers for threshold, compression ratio, and output makeup gain.  The pair of LED meters show signal level and gain reduction with an additional LED at the top of the gain reduction meter to indicate when the input signal is above the set threshold level.
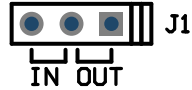
# FRONT PANEL CONTROLS
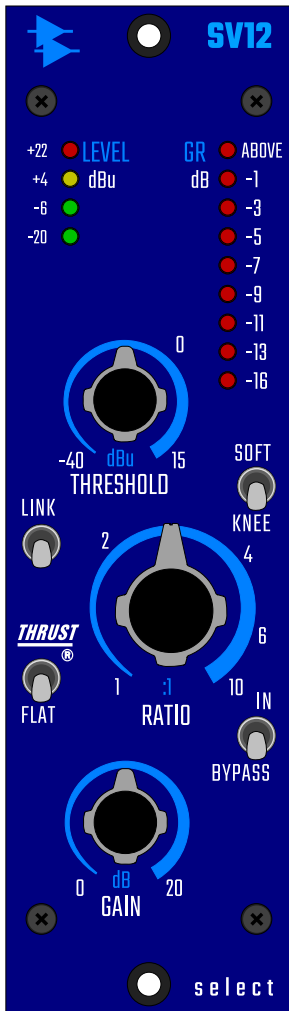
## LEVEL METER
This 4 segment LED meter shows either output (default) or input signal level in dBu. To change this setting, move the jumper at location J1 on the printed circuit board assembly.

## ABOVE LED
LED will light when the input signal is above the set threshold level.
**Note:** *this LED will light regardless of the BYPASS switch position.*

## GR METER
This 8 segment LED meter shows gain reduction for the current input signal and compression controls settings.
**Note:** *this meter will operate regardless the of BYPASS switch position.*
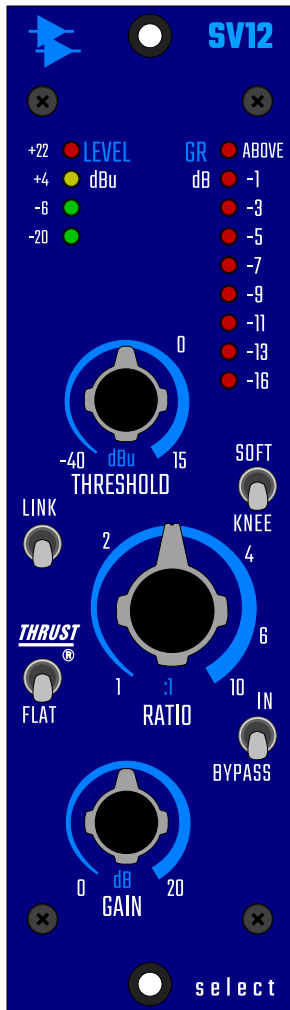
## THRESHOLD
The THRESHold control sets the signal level above which compression will occur and can be adjusted from -40dBu to +15dBu.

## SOFT / HARD KNEE
When in the up "Soft" setting, compressor threshold knee is "rounded" (see graph).
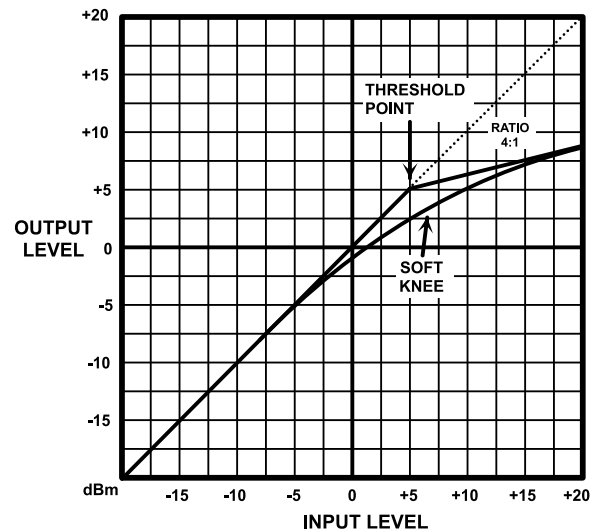
# FRONT PANEL CONTROLS - continued

### LINK
The Link switch activates the DC control voltage with other units in the API 500 Series enclosure.

*NOTE: Unlike the SR22 or other master/slave linked compressor pairs, where the master unit's control circuit becomes the master control for both units, the SV12 is slightly different.*
*Each SV12 with the Link active will contribute their gain reduction DC control voltage to a **common summed link bus** with each units' front panel controls **independently** determining how much gain reduction each unit will produce. In addition, each SV12 with Link active will have the gain reduced by the amount of the **summed control voltage from all the units active on the common Link Bus.** This allows for linking together into a common control bus for tasks such as maintaining stereo image or surround image during compression, or affecting one audio signal with another's dynamic characteristics. **The makeup Gain control enters the circuit after all of the link functions.***

*The DC Link Bus exists in API 500 Series racks and may be connected from channel to channel with zero ohm jumpers that can be add or removed as desired to limit the ability to link channels or create a division for multiple independent buses.*

### RATIO
This control sets the compressor ratio, which is variable from 1:1 to 10:1.

### THRUST
When the patented THRUST circuit is engaged, a high-pass filter is placed in front of the RMS detector. The result is preserved punchy bottom end while still compressing the overall signal.

### IN / BYPASS
When in the up (IN) position, audio passes through the SV12's compressor controls. The BYPASS is a hard relay bypass. If the unit loses power, it will default to the bypass position. This switch is NOT linked as part of the link mode, so you can still switch in and out each channel independently.

### GAIN
This control adds a variable 0dB to +20dB of make-up gain to compensate for compression level loss.

# Technical Specifications - SV12

Connectors: API 500 Edge Connector  VPR Alliance Compliant

Input Impedance: >20KOhms Balanced
Bandwidth: +/- 0.5db, 20Hz - 30kHz
THD+N @ 1kHz, +4dBu: <0.03%
Maximum Level: +24dBu
Signal-to-Noise Ratio: 112dB
Meter: -20 to +22 dBu Output Level, 0 to -16 dB Gain Reduction

Compressor Controls:
Threshold Range: -40dBu to +15dBu
Ratio Range: 1:1 to 10:1
Makeup Gain Range: 0dB to +20dB
Hard or Soft Knee switchable
Flat or Thrust side chain filter switchable
Attach Time: Program and Control Adaptive, 10mSec to 40mSec
Release Time: Program and Control Adaptive, 30mSec to 400mSec

Power Consumption: +/- 16 VDC @ 100mA

Unit Size: 1U 500 Module, 1.5" x 5.25" x 7.0"

Shipping Size: 4.5" x 6.5" x 10"

Unit Weight: 1.0 lbs

Shipping Weight: 1.5 lbs

(Specifications subject to change without notice)

# API Limited Warranty and Service Information

**a)** **Warranty Information:** API products carry a one year factory service and five year parts warranty from date of purchase. API (Automated Processes, Incorporated) does not cover claims for damage due to alteration and/or abuse. This warranty is limited to failures during normal use, which are due to defects in material or workmanship. If any defects are found in the materials or workmanship, or if the product fails to function properly during the applicable warranty period, API, at its option, will repair or replace the product.

**b)** **PLEASE NOTE:**The design or quality of any non-authorized third party service or vendor is beyond the control of API. Therefore, use of **NON-API VPR Alliance modules in any API product including consoles** may **VOID this warranty.** Also, service or modification of any API unit except by an authorized API representative may **VOID this warranty.**

c) API reserves the right to inspect any products that may be the subject of any warranty claims before repair or replacement is carried out. Final determination of warranty coverage lies solely with API.

d) This warranty is extended to the original purchaser and to anyone who may subsequently purchase this product within the applicable warranty period. Proof of purchase may be required.

**e)** **For questions regarding operation, interfacing or service of your API product, please contact your API dealer from whom you purchased the unit. Many times, your authorized API dealer is the fastest and most cost-effective way to maintain and service your product.**

f) The below steps are the best way to initiate the repair process or to submit a parts order request:

 **Repair procedure:**
 1. Fill out a Return Authorization(RA) form at service.apiaudio.com.
 2. Wait to receive an e-mail from API Audio with an RA#.
3. Use the API original box to package the unit. Write the RA# large and legibly on the box (if the RA# is not clearly visible on the box, the unit may be rejected by our receiving department)
 4. Include copy of the RA form with the unit.
 5. Ship the product **freight prepaid** to:

 API SERVICE DEPARTMENT
 8301 Patuxent Range Road Ste A1
 Jessup, MD 20794

 **Parts Order procedure:**
1. Fill out online PO form (for parts and parts numbers not listed online please fill out PO form with your name, e-mail, contact phone and shipping address and describe the part you need).
 2. Submit online PO form.
 3. API will e-mail you back with part numbers and procedure how to order/pay.

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