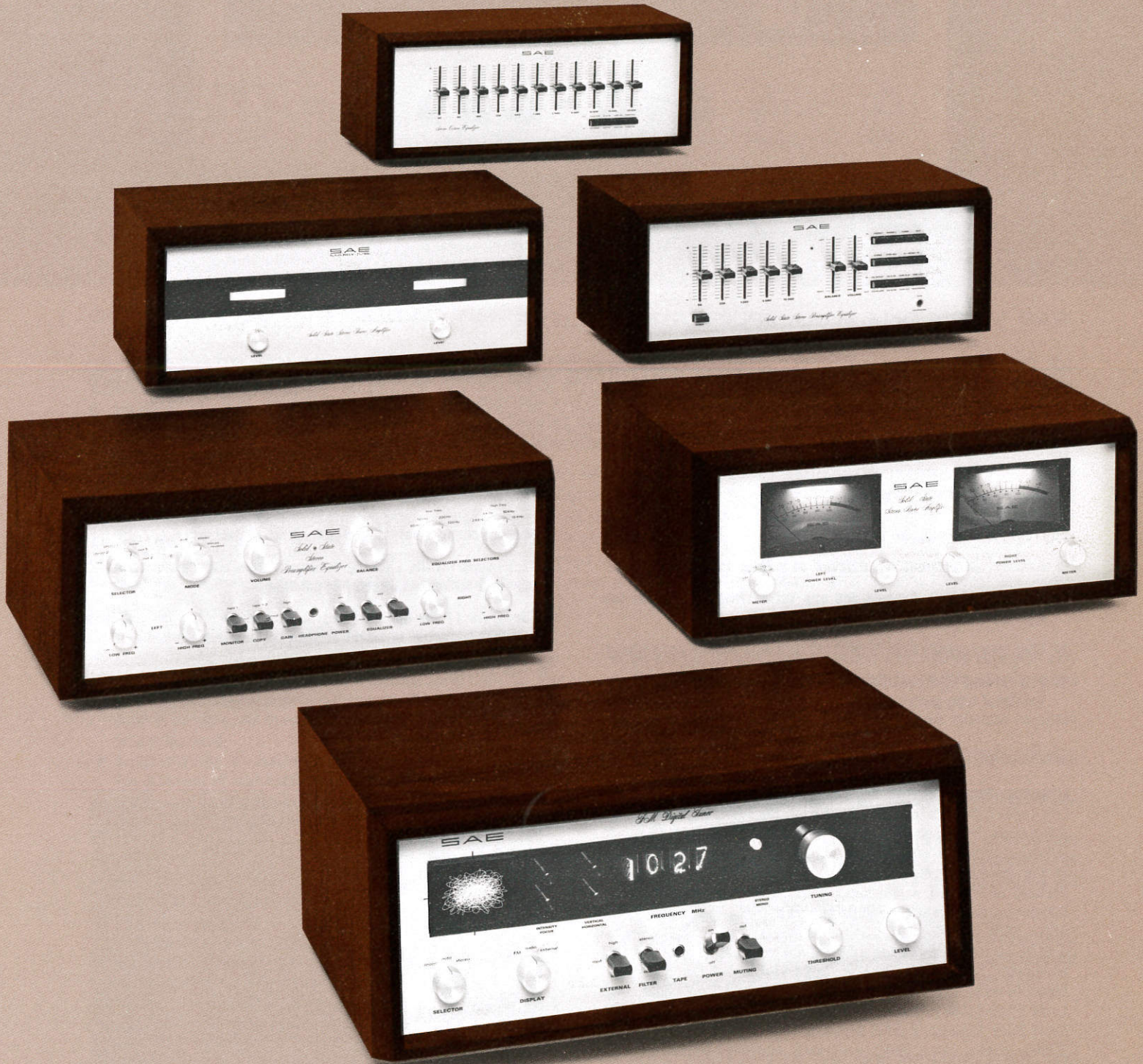
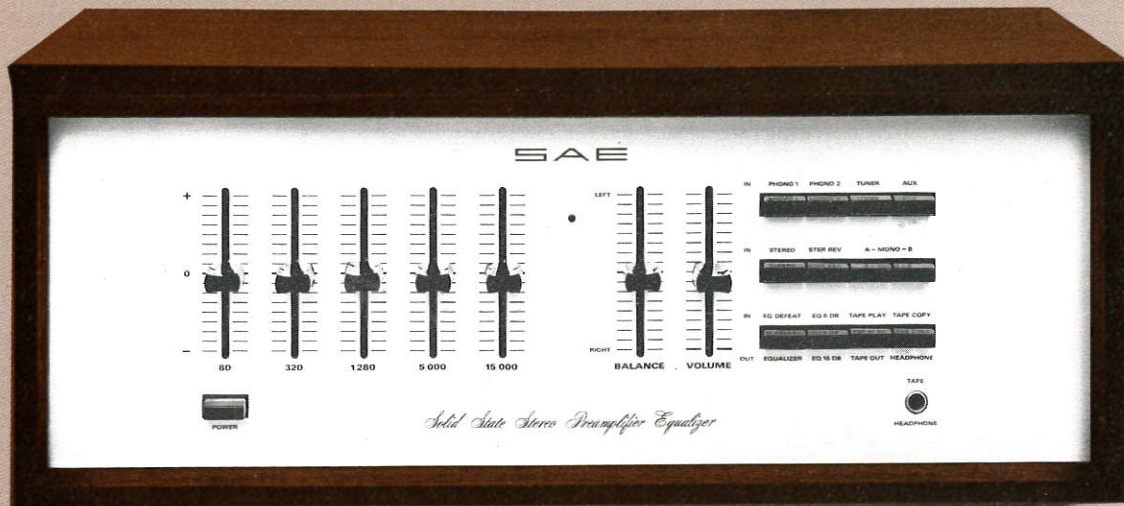


SAE SCIENTIFIC AUDIO ELECTRONICS, INC.



Components for the Connoisseur



SAE MARK NINE PREAMPLIFIER EQUALIZER

The SAE MARK NINE PREAMPLIFIER EQUALIZER offers the features and flexibility of an equalizer and a preamplifier control center. Professional-type slide pots and pushbuttons are utilized instead of the conventional rotary-type controls. The MARK NINE's operational characteristics are much like those used in recording studios. The equalizers may be used to compensate for poorly equalized records, modify the tonal characteristics of loudspeakers, and in some instances be used to compensate for room characteristics.

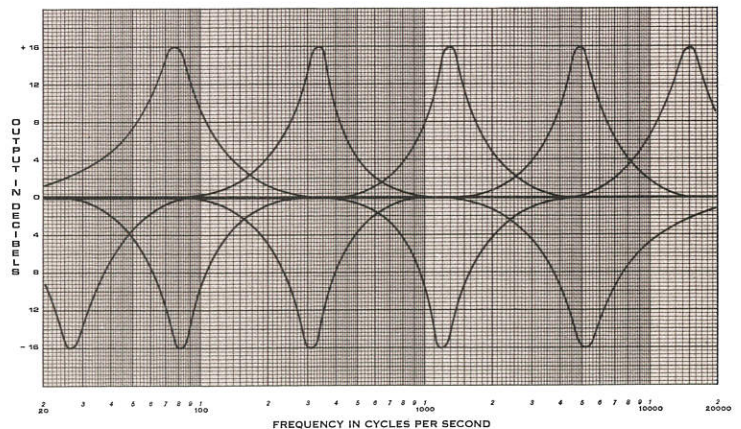
UNIQUE FEATURES

- Professional-type equalizer utilizing five frequencies instead of conventional tone controls.
- Ten torroidal LC bandpass filters with 12 dB/octave slopes.
- Specially designed slide controls assure the industry's most accurate tracking. Equalizer and balance controls feature a center detent position.
- Exclusive tape-copy facility.
- Program and mode selections are made with pushbuttons.
- Equalizers have dual range: variable to plus or minus 16 dB or plus or minus 8 dB.
- An equalizer defeat switch to electrically remove the equalizers from the circuit.

SPECIFICATIONS

Frequency Response: High Level Inputs ± 0.25 dB 10 Hz to 100kHz. Low Level Inputs ± 1 dB 20Hz to 20kHz. **RMS Harmonic Distortion:** Guaranteed less than 0.02% for any audio frequency (20Hz to 20kHz) at rated output (2.5 volts output). Typical performance .01% at the residual level of our test equipment: (Generator: Hewlett Packard H20-200CD, Distortion Analyzer — Hewlett Packard 333A.) **Inter-modulation Distortion:** 60 Hz and 7kHz 4/1 — 60Hz and 12kHz 4/1 — 60Hz and 2kHz 4/1: Guaranteed less than 0.02% at rated output. Typical performance .01% at the residual level of our test equipment. (IM Analyzer used is Audio Instrument Co. No. 168A.) **Signal-to-Noise Level:** Low Level 75 dB below a 10 mV input. High Level 90 dB below rated output. **Gain:** Phono 62 dB at 1000Hz. High Level 20 dB. **Maximum Output:** 18 volts into high impedance. **Impedances:** Phono 47,000 ohms. High Level 100,000 ohms. Output 600 ohms. **Dimensions:** 17"W x 7"D x 5.75"H. **Shipping Weight:** 15 lbs. **Price:** \$350.00. **Walnut Cabinet:** \$30.00. **Rack Kit:** \$15.00.

Equalizer Control Range: ± 15 dB at 60Hz, 120Hz, 220Hz, 320Hz, 2.5kHz, 5kHz, 10kHz, and 15kHz.





SAE MARK TWO-B, THREE-A AND FOUR-B AMPLIFIERS

These three SAE amplifiers are a direct outgrowth of the time-tested MARK THREE power amplifier. The MARK TWO-B, THREE-A, and FOUR-B offer the same reliable operation while delivering high power with very low distortion.

Many years of research and development, and pioneering technique have lead to these units. Now for the first time, a variety of high power units are available to the discerning consumer.

UNIQUE FEATURES

- A truly effective automatic protection circuit without the use of loud-speaker or B+ fuses, or any other manual resets.
- Two panel indicator lights identify left and right channel operation.
- An all-aluminum black chassis heat sink for maximum heat dissipation of its 12 output transistors.
- No driver or output transformers of any kind.
- Separate power supply for each channel, enabling maximum efficiency from both channels simultaneously.
- Equipped with one Gain control for each channel.
- Power transformers and circuit boards are manufactured by SAE to ensure quality control.

SPECIFICATIONS

Rated Power Output: Mark Two-B; 90+ watts per channel. Mark Three-A; 120+ watts per channel. Mark Four-B; 60+ watts per channel. All ratings are RMS per channel, both channels driven 20Hz to 20kHz. — **RMS Harmonic Distortion:** Guaranteed less than 0.1% for any audio frequency (20Hz to 20kHz) both channels driven to rated output RMS. Typical performance (0.02%) at the residual level of our test equipment: (Generator: Hewlett Packard H20-200CD, Distortion Analyzer: Hewlett Packard 333A.) — **Intermodulation Distortion: 60Hz and 7kHz 4/1 — 60Hz and 12kHz 4/1 — 60Hz and 2kHz 4/1:** Guaranteed less than 0.1% at full rated sine wave power. Typical performance is less than .02% IM distortion at any power level. (IM Analyzer used is Audio Instrument Co. No. 168A.) — **Frequency Response:** 1 watt: ± 0.1 dB 20Hz to 20kHz. 1 watt: +0, -2 dB 3Hz to 100kHz. Rated output: ± 0.1 dB 20Hz to 20kHz. — **Power Bandwidth (3 dB down points):** 8Hz and 50kHz. — **Signal-to-Noise Level:** Guaranteed better than 100 dB below rated output. — **Square Wave Response:** Less than 2.0 micro-second rise time 20Hz to 20kHz. Absolutely no overshoot or ringing with resistive load. — **Damping Factor:** 150+ . — **Duty Cycle:** Continuous for program material; music and/or voice. — **Stability:** Unconditionally stable with any type of load, or no load, including full range electrostatic loudspeakers. — **Input Requirements:** 1.0 volt RMS for full rated output RMS. — **Input Impedance:** 100,000 ohms. **Dimensions:** 17"W x 13.75"D x 5.75"H. — **Shipping Weight:** Mark Two-B and Mark Three-A; 43 lbs., Mark Four-B; 32 lbs. — **Price:** (including audio cables): Mark Two-B; \$450.00, Mark Three-A; \$550.00, Mark Four-B; \$350.00. — **Walnut Cabinets:** \$30.00. — **Rack Kit:** \$15.00.



SAE MARK SIX FM DIGITAL TUNER

The SAE MARK SIX FM DIGITAL TUNER is the utmost in versatility, reliability, and perfection in the reproduction of FM signals. Many new developments are unique to the MARK SIX. Foolproof tuning accuracy is achieved through the use of three SAE exclusives. They are: Digital Readout Frequency Display, the display of tuning and audio signals on a large 3" rectangular oscilloscope, and the automatic selection of this oscilloscope display by a touch-sensitive tuning knob.

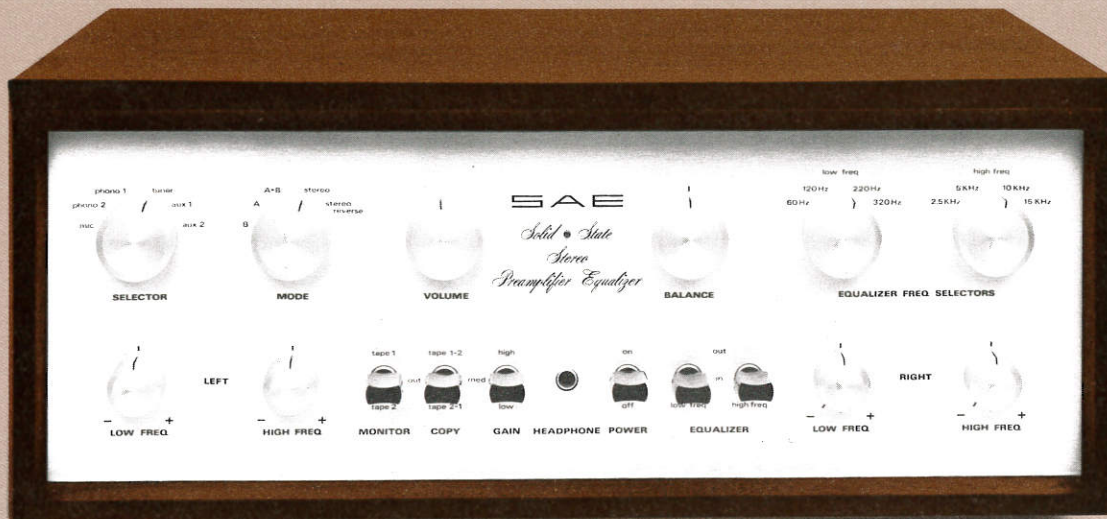
The MARK SIX is the industry's first FM tuner which features a direct numerical readout of the assigned frequency in MHz of the FM station tuned in. SAE's Digital Readout measures the tuner's own oscillator frequency directly with an accuracy equal to that required by the FCC for FM broadcast stations. In addition, SAE combines in the MARK SIX ultra-low distortion, outstanding separation, and exceptional quieting and selectivity. The MARK SIX exhibits its superiority in weak-signal areas or congested urban locations where critical tuning is necessary. There can be no possibility of confusion or error in station identification with SAE's Digital Readout.

UNIQUE FEATURES

- Digital Readout Frequency Display — four Nixie long-life readout tubes identify the precise station frequency assignment for any of the 100 channels available across the FM band. The readout count is corrected 60 times per second which permits fast dialing across the band.
- A high-intensity 3" rectangular oscilloscope accurately displays the presence of multi-path distortion, center-of-channel tuning, relative signal strength and Lissajous displays of all stereo and mono signals with provision for external input. Should a signal be absent, the oscilloscope trace intensity is automatically diminished.
- A touch-sensitive tuning knob automatically switches the oscilloscope trace from audio display to tuning display.
- Precision-ground twin ball bearings create the smoothest station-to-station tuning in the industry.
- A 14-pole Butterworth-type toroid phase-linear IF filter provides 75 dB selectivity with realignment never required.
- An 8-stage integrated-circuit limiter with internal regulated voltage and current stabilization provides exceptional noise pulse rejection.
- A four-gang tuned FET RF front end insures spurious response rejection of 100 dB.
- Inverse feedback is used on all audio amplifier stages to maintain distortion at less than 0.1%.
- A "Stereo-only" position mutes all stations except those transmitting stereo broadcasts.
- A front-panel muting control removes interchannel noise and can be adjusted to gate on signals as low as 1 μ v for minimum station rejection. Muting circuitry also features station-skirt muting and "no thump" FET audio attenuators.
- A rear-panel jack is provided for 4-channel multiplex.
- Foolproof computer-logic circuitry guarantees accurate identification of stereo and mono functions utilizing 2 indicator lights and automatically switches stereo signals to mono below 8 μ v.

SPECIFICATIONS

Sensitivity: 1.6 μ V (IHF) — **Harmonic Distortion (RMS):** Less than 0.1% @ 100% modulation — **S/N Ratio (Hum and Noise):** Greater than 75 dB — **Capture Ratio:** 1.9 dB — **AM Suppression:** Greater than 60 dB — **Spurious-Response Rejection:** Greater than 100 dB — **Image Rejection:** Greater than 100 dB — **IF Rejection:** Greater than 100 dB — **Alternate-Channel Selectivity:** 75 dB — **Stereo Separation:** 50 dB @ 1kHz — **Frequency Response:** $\pm 1/2$ dB, 20Hz to 15kHz — **Drift:** Less than 15kHz ($\pm .015\%$) — **Outputs (Total 4):** 1.0 volt R.M.S. Tape out, fixed out, variable out, MX out — **Muting:** 60 dB quieting of noise between stations with front-panel threshold adjustment — **Antenna Inputs:** 300-ohm balanced and 75-ohm unbalanced — **Oscilloscope Display:** 3" rectangular presentation, 1200 volt anode potential — **External Display Response:** 20Hz to 20kHz ± 1 dB — **External Display Sensitivity:** 0.1 volt with a three-position front-panel attenuator — **Controls:** Mono/Auto/Stereo-only Mode Selector, Oscilloscope Display Selector, External Display Attenuator, Stereo Filter Blend Switch, Power Switch, Muting Defeat Switch, Muting Threshold Control, Audio-Output Level Control, Oscilloscope: Intensity, focus, vertical and horizontal controls, Tuning Knob with Touch-Sensitive automatic Oscilloscope Display Switch — **Dimensions:** 17"W. x 10.5"D x 5.75"H — **Shipping Weight:** 25 lbs. — **Price:** \$950.00 — **Walnut Cabinet:** \$30.00 — **Rack Kit:** \$15.00.



SAE MARK ONE PREAMPLIFIER EQUALIZER

The SAE MARK ONE PREAMPLIFIER EQUALIZER is the utmost in versatility, reliability and perfection in the reproduction of the audio spectrum with ultra-low distortion, outstanding separation, and control.

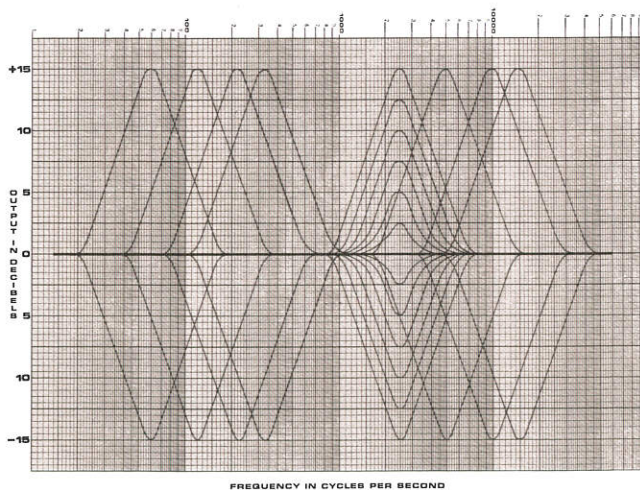
Performance and reliability are guaranteed through exhaustive testing and retesting of individual component parts. This attention to detail ensures trouble-free performance for many years.

UNIQUE FEATURES

- Front-panel headphone jack.
- Gain switch provides wider range of volume control.
- Two sets of Main Outputs and one set of Test Outputs for use with an oscilloscope.
- Step type controls used throughout including volume and balance.
- Professional type equalizer with eight frequencies instead of conventional tone controls.
- Center channel output jack with level control.
- Tape-copy facility allowing recording from one tape recorder to another without the need of "patching."
- Separate 11-position switches in each channel for low and high frequency control to select desired boost/attenuation.
- Two microphone inputs.
- Six switched and two unswitched convenience outlets.

SPECIFICATIONS

Frequency Response: High Level Inputs ± 0.25 dB 10Hz to 100kHz. Low Level Inputs ± 1 dB 20Hz to 20kHz. **RMS Harmonic Distortion:** Guaranteed less than 0.02% for any audio frequency (20Hz to 20kHz) at rated output (2.5 volts output). Typical performance .01% at the residual level of our test equipment: (Generator: Hewlett Packard H20-200CD, Distortion Analyzer -- Hewlett Packard 333A.) **Intermodulation Distortion: 60Hz and 7kHz 4/1 - 60Hz and 12kHz 4/1 - 60Hz and 2kHz 4/1:** Guaranteed less than 0.02% at rated output. Typical performance .01% at the residual level of our test equipment. (IM Analyzer used is Audio Instrument Co. No. 168A.) **Signal-to-Noise Level:** Low Level 75dB below a 10 mV input. High Level 90dB below rated output. **Gain:** Phono 62dB at 1000Hz. High Level 20dB. **Equalizer Control Range:** ± 15 dB at 60Hz, 120Hz, 220Hz, 320Hz, 2.5kHz, 5kHz, 10kHz, and 15kHz. **Maximum Output:** 18 volts into high impedance. **Impedances:** Phono 47,000 ohms. Microphone 100,000 ohms. High Level 100,000 ohms. Output 600 ohms. **Dimensions:** 17"W x 10½"D x 5¾"H. **Shipping Weight:** 18 lbs. **Price:** \$550.00. **Walnut Cabinet:** \$30.00. **Rack Kit:** \$15.00.





SAE MARK THREE POWER AMPLIFIER

The SAE MARK THREE POWER AMPLIFIER... brings a new level of quality of audio reproduction. The SAE MARK THREE is a reliable, ultra-low-distortion, very-high-power basic audio power amplifier.

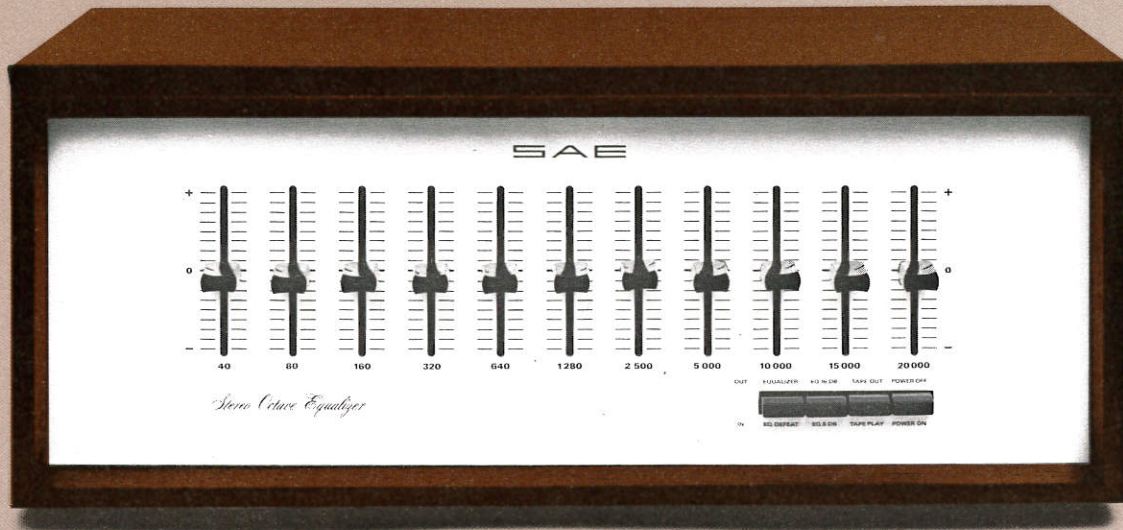
When used with associated components of commensurate performance, the SAE MARK THREE will reveal subtleties of source material that have been masked by all other amplifiers. Now for the first time, each instrumental voice has the same pure, distinctive, dynamic character that is such an intrinsic part of a live musical experience.

UNIQUE FEATURES

- A truly effective automatic protection circuit without the use of loud-speaker or B+ fuses, or any other manual resets.
- A semiconductor complement of 42 silicon devices.
- An all-aluminum black chassis heat sink for maximum heat dissipation of its 12 output transistors.
- No driver or output transformers of any kind.
- Separate power supply for each channel, enabling maximum efficiency from both channels simultaneously.
- Brushed gold-anodized front panel with a five-inch Power Meter for each channel.
- Equipped with one Gain control and one Meter Control Switch for each channel.

SPECIFICATIONS

Power Output: 120+ watts RMS per channel @ 8 ohms both channels driven 20 Hz to 20 kHz. — **RMS Harmonic Distortion:** Guaranteed less than 0.1% for any audio frequency (20Hz to 20kHz) both channels driven to 120 watts RMS. Typical performance (0.02%) at the residual of our test equipment: (Generator — Hewlett Packard H20-200CD, Distortion Analyzer — Hewlett Packard 333A.) — **Intermodulation Distortion: 60Hz and 7kHz 4/1 — 60Hz and 12kHz 4/1 — 60Hz and 2kHz 4/1:** Guaranteed less than 0.1% at 120 watts equivalent sine wave power. Typical performance is less than .02% IM distortion at any power level. (IM Analyzer used is Audio Instrument Co. No. 168A.) **Frequency Response:** 1 watt: ± 0.1 dB 20Hz to 20kHz. 1 watt: +0, -2 dB 3Hz to 100kHz. 120 watts: ± 0.1 dB 20Hz to 20kHz. **Power Bandwidth (3 dB down points):** 8Hz and 50kHz. — **Signal-to-Noise Level:** Guaranteed better than 100 dB below 120 watts RMS. **Square Wave Response:** Less than 2.0 micro-second rise time 20Hz to 20kHz. Absolutely no overshoot or ringing with resistive load. **Damping Factor:** 150+. — **Duty Cycle:** Continuous for program material; music and/or voice. — **Stability:** Unconditionally stable with any type of load, or no load, including full range electrostatic loudspeakers. — **Input Requirements:** 1.0 volt RMS for 120 watts RMS. **Input Impedance:** 100,000 ohms. — **Dimensions:** 17"W x 15"D x 5.75"H. — **Shipping Weight:** 45 lbs. — **Price** (including audio cables): \$700.00. — **Walnut Cabinet:** \$30.00. — **Rack Kit:** \$15.00.



SAE MARK SEVEN STEREO OCTAVE EQUALIZER

The SAE MARK SEVEN STEREO OCTAVE EQUALIZER is a professional quality dual-range active equalizer that can alter the frequency response, octave-by-octave, of a stereophonic sound system. For the subjective needs of listeners, it offers a form and extent of frequency correction that is unprecedented in audio equipment. When an ultra-low-distortion tone control system that can effectively correct both equipment and recording characteristics is needed, and where the most faithful reproduction of music is desired, its use is mandatory for recording studios, theaters, and highest quality home music systems.

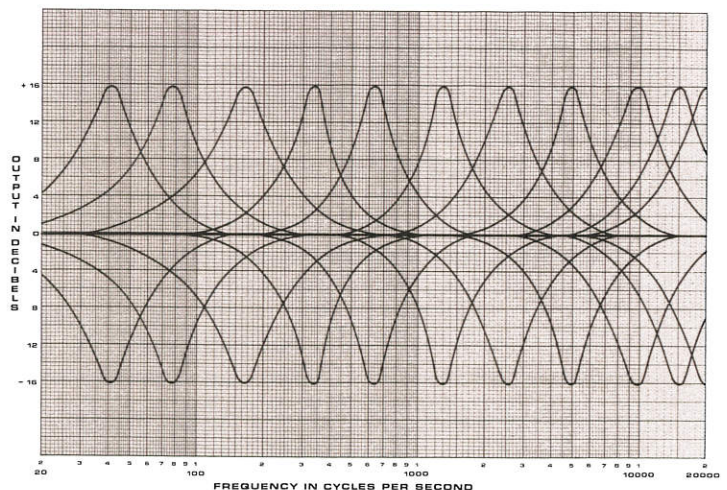
UNIQUE FEATURES

- 11 frequency level controls.
- 22 toroidal LC bandpass filters with 12 dB/octave slopes.
- Dual range: variable to plus or minus 16dB or plus or minus 8dB.
- Stereo slide pots with 0dB center detent position.
- A tape monitor circuit for use with receivers.
- Defeat switch to electrically remove the equalizer from the circuit.
- Individual amplifier modules that have been pretested and calibrated for matched stereophonic performance.

SPECIFICATIONS

Frequency Response: ± 0.25 dB 20Hz to 20kHz, 3dB down at 600kHz.
RMS Harmonic Distortion: Guaranteed less than 0.05% for any audio frequency (20Hz to 20kHz) at rated output (2.5 volts RMS output). Typical performance .01% at the residual level of our test equipment: (Generator: Hewlett Packard H20-200CD, Distortion Analyzer: Hewlett Packard 333A.)
Intermodulation Distortion: 60Hz and 7kHz 4/1 – 60Hz and 12kHz 4/1 – 60Hz and 2kHz 4/1: Guaranteed less than 0.05% at rated output. Typical performance .01% at the residual level of our test equipment. (IM Analyzer used is Audio Instrument Co. No. 168A.)
Signal-to-Noise Level: 90 dB below rated output.
Insertion Loss: Less than 1dB with all pots set at center detent "0dB" position.
Maximum Output: 7 volts into high impedance.
Input Impedance: 100,000 ohms.
Output Impedance: 600 ohms.
Dimensions: 17"W x 7"D x 5.75"H. **Shipping Weight:** 16 lbs. **Price:** \$450.00. **Walnut Cabinet:** \$30.00. **Rack Kit:** \$15.00.

Equalizer Control Range: ± 16 dB or ± 8 dB at 40Hz, 80Hz, 160Hz, 320Hz, 640Hz, 1280Hz, 2.5kHz, 5kHz, 10kHz, 15kHz, and 20kHz.





SAE MARK TWO-B, THREE-A AND FOUR-B AMPLIFIERS

These three SAE amplifiers are a direct outgrowth of the time-tested MARK THREE power amplifier. The MARK TWO-B, THREE-A, and FOUR-B offer the same reliable operation while delivering high power with very low distortion.

Many years of research and development, and pioneering technique have lead to these units. Now for the first time, a variety of high power units are available to the discerning consumer.

UNIQUE FEATURES

- A truly effective automatic protection circuit without the use of loud-speaker or B+ fuses, or any other manual resets.
- Two panel indicator lights identify left and right channel operation.
- An all-aluminum black chassis heat sink for maximum heat dissipation of its 12 output transistors.
- No driver or output transformers of any kind.
- Separate power supply for each channel, enabling maximum efficiency from both channels simultaneously.
- Equipped with one Gain control for each channel.
- Power transformers and circuit boards are manufactured by SAE to ensure quality control.

SPECIFICATIONS

Rated Power Output: Mark Two-B; 90+ watts per channel. Mark Three-A; 120+ watts per channel. Mark Four-B; 60+ watts per channel. All ratings are RMS per channel, both channels driven 20Hz to 20kHz. — **RMS Harmonic Distortion:** Guaranteed less than 0.1% for any audio frequency (20Hz to 20kHz) both channels driven to rated output RMS. Typical performance (0.02%) at the residual level of our test equipment: (Generator: Hewlett Packard H20-200CD, Distortion Analyzer: Hewlett Packard 333A.) — **Intermodulation Distortion: 60Hz and 7kHz 4/1 — 60Hz and 12kHz 4/1 — 60Hz and 2kHz 4/1:** Guaranteed less than 0.1% at full rated sine wave power. Typical performance is less than .02% IM distortion at any power level. (IM Analyzer used is Audio Instrument Co. No. 168A.) — **Frequency Response:** 1 watt: ± 0.1 dB 20Hz to 20kHz. 1 watt: +0, -2 dB 3Hz to 100kHz. Rated output: ± 0.1 dB 20Hz to 20kHz. — **Power Bandwidth (3 dB down points):** 8Hz and 50kHz. — **Signal-to-Noise Level:** Guaranteed better than 100 dB below rated output. — **Square Wave Response:** Less than 2.0 micro-second rise time 20Hz to 20kHz. Absolutely no overshoot or ringing with resistive load. — **Damping Factor:** 150+. — **Duty Cycle:** Continuous for program material; music and/or voice. — **Stability:** Unconditionally stable with any type of load, or no load, including full range electrostatic loudspeakers. — **Input Requirements:** 1.0 volt RMS for full rated output RMS. — **Input Impedance:** 100,000 ohms. **Dimensions:** 17"W x 13.75"D x 5.75"H. — **Shipping Weight:** Mark Two-B and Mark Three-A; 43 lbs., Mark Four-B; 32 lbs. — **Price:** (including audio cables): Mark Two-B; \$450.00, Mark Three-A; \$550.00, Mark Four-B; \$350.00. — **Walnut Cabinets:** \$30.00. — **Rack Kit:** \$15.00.

Scientific Audio Electronics, Inc. began operations in 1965 as an innovator in high-power, low-distortion, solid-state power amplifiers. In 1968, SAE expanded to its present 38,000 square feet facility which houses all manufacturing as well as research and development laboratories. At that time, only the Mark One Program Equalizer and the Mark Two Power Amplifier were being manufactured. In 1969, the Mark Three Power Amplifier and the Mark Four Power Amplifier were introduced. Over two years of research and development were put into these two units. Since then, new and exciting products have been introduced. Our latest addition is the Mark Six FM Digital Tuner. In the future, SAE will continue to set the pace in "state-of-the-art" components.

In SAE's endeavor to manufacture the finest professional components, all steps of production are strictly supervised to ensure the finest quality control. All circuit boards, amplifier power transformers and audio torroids used are manufactured within the SAE facility to assure utmost reliability. Two examples of SAE's attention to detail are the use of stainless steel screws and black-anodized aluminum chassis. These two features not only enhance the appearance of the equipment, but also ensure its durability. Each and every component is tested with test equipment whose accuracy is traceable to the National Bureau of Standards in Washington, D.C. All equipment is guaranteed to meet its advertised specifications for a full five years.

SAE, while expanding, will not sacrifice quality for speed in production. In the future, as now, every piece of equipment will be manufactured with the greatest care.

IN AN EFFORT TO MAINTAIN PROFESSIONAL QUALITY, SAE HAS INCORPORATED ALL OF THE FOLLOWING FEATURES INTO EVERY COMPONENT.

- Faithful reproduction of complex musical signals, including dynamics, timbre, transients, tonal character, and definition.
- Extended reliability that permits SAE to issue a full 5 year parts and labor warranty. (tubes — 1 year)
- Uncompromised design parameters and components, regardless of cost.
- Construction and layout that ensure unit-to-unit repeatable performance.
- Military grade G-10 glass-epoxy circuit boards used throughout.
- Selected deposited-carbon, close tolerance resistors offer lowest noise, consistent performance, and utmost reliability.
- All-aluminum black-anodized chassis.

5 Year Warranty

SAE — first in the industry to offer a full five year parts and labor warranty (tubes — 1 year) on its complete line of audio products when returned to the factory or an authorized warranty service station. (Transportation costs are not included)

INTERNATIONAL OFFICE:

Post Office Box 2361, Santa Ana, Calif. 92707 Cable Address: INTERDOM

REPRESENTATIVES IN: Toronto / Paris / Stockholm / Frankfurt / Tokyo / Singapore / Hong Kong / Bangkok / Pretoria

MAIN OFFICE:

Post Office Box 60271, Terminal Annex, Los Angeles, California 90060