

ADCOM[®] POWER AMPLIFIERS HIGH CURRENT, HIGH PERFORMANCE



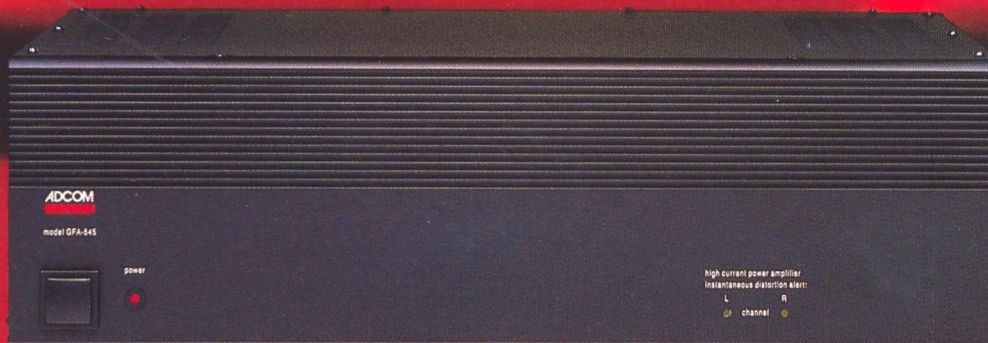
The modestly-priced amplifiers that deliver price-no-object sonic performance.

ADCOM POWER AMPLIFIERS.

These high-power, high-current amplifiers easily and accurately interface with virtually any speaker system available today (perhaps even tomorrow)—including some troublesome exotic types whose impedance falls as low as 1 ohm.




GFA-535



GFA-545



GFA-555



Before we tell you about Adcom's amplifiers, there are a few facts you should know about amplifiers in general.

Amplifiers vary enormously in two related areas: how accurately they present the audio signal to the speakers, and how well they interface with the complex electrical load presented by many speakers. The latter is probably the least understood of all the factors affecting the ultimate sound in a given stereo system.

All the specifications that describe an amplifier's performance—including our own—are laboratory measurements made with standard purely resistive loads. These measurements provide relative benchmarks, but do not fully predict an amplifier's performance with any particular speaker system.

The importance of high current.

The standard 8-ohm impedance at which an amplifier's output power is normally referenced may not even be close to the actual moment-by-moment impedance presented by a given speaker under typical operating conditions. That is, with a music signal driving a speaker.

A speaker with a nominal rating of 8 ohms can actually present the amplifier with a load anywhere from almost 60 ohms to less than 2 ohms, depending on the frequencies it is handling at any given moment.

But even when operating well within normal limits, an amplifier's output circuit interacts with the speaker's impedance variations to affect, for better or worse, how the music sounds.

As speaker impedance falls, increased current is drawn from the amplifier output stage. In fact, many amplifiers, when pushed to very high levels and very low impedances, reach a point where their protection circuitry had better shut them off... or their output transistors will self-destruct.

Which brings us to Adcom.

Despite their affordable prices, Adcom's amplifiers were conceived and designed to be compared with "esoteric" price-no-object amplifiers.

The flagship of this new generation is the GFA-555. Throughout its development, we subjected it to comparative blind listening tests against highly-regarded amplifiers priced up to nine times higher.

Although some listeners reported hearing subtle differences among all the amplifiers, none heard anything to suggest that the Adcom amplifier was priced much lower than the others.

When a production model of the GFA-555 was tested by *Stereophile* magazine (Vol. 8, No. 4), the results were even more gratifying:

"It is so clearly superior to past amplifiers in the low- to mid-priced range—not to mention most amplifiers two to three times its price—that I can unhesitatingly recommend it for even the most demanding high-end system.

"... it rivals any transistor power amplifier in its price class that I have heard—including high-powered receivers or amps with trick power supplies—at any price."

Why Adcom amplifiers sound better than those more expensive amplifiers.

High current output stage.

The GFA-555, GFA-545 and GFA-535 all use multiple high-current discrete output transistors, each capable of handling large amounts of current. In the GFA-555, for example, 16 such devices are used, providing a capability of more than 20 amperes into low impedance loads.

The GFA-545 and GFA-535 use 12 and 8 of these devices, respectively, and achieve high levels of current capability that few amplifiers with comparable power claims have been able to deliver up to now.

Transient capability—which differentiates the demands of music from conventional test procedures—is greater than 800 watts into 2-ohm loads with the GFA-555. The GFA-545 and GFA-535 also produce considerably more dynamic power than their continuous power measurements would suggest. And the continuous power is always there whenever you need it, not just for milliseconds. All Adcom amplifiers are designed to remain stable, without glitches or oscillation, under virtually any operating condition.

No matter how complex a load it presents, no speaker made yesterday, today—or probably even tomorrow—should be a problem for Adcom amplifiers.

Well-regulated, high-current power supplies.

Adcom amplifiers use custom-designed transformers that provide especially tight regulation and a minimum of interchannel crosstalk, vibration, hum, or noise. The GFA-555 and GFA-545 use expensive toroidal transformers, which are noted for their higher performance capability. The GFA-535 uses two transformers, one for each channel, in order to provide some of the benefits of toroidals without the additional cost.

The power supply in all three models is designed with separate rectifier bridges and specially-designed filter storage capacitors. The GFA-555 has a total capacitance of 60,000 microfarads; the GFA-545, 40,000; the GFA-535, 27,200. This high capacity provides tremendous reserves for high dynamic power demands. (As an informal but impressive way of experiencing these reserves, you can unplug the AC line cord of an Adcom amplifier while your system is operating, and the music will probably continue for several seconds.)

This rugged, efficient and stable power supply is extremely important, and is largely responsible for maintaining low distortion down to very

low frequencies—and for performance that remains relatively unaffected by fluctuations in AC line voltages.

No current-limiting protective circuitry.

The only protection needed against short-term overloads is power-supply fusing.

To protect against long-term overloads that can cause overheating, a thermal circuit breaker shuts down the amplifier when the heat-sink temperature reaches 75 degrees C. When the temperature drops, normal operation resumes automatically.

Advantages of direct coupling.

Coupling capacitors can be responsible for a variety of subtle signal distortions. Some manufacturers minimize the problem by using special and expensive capacitors. By direct coupling of the input and output of the circuitry, Adcom eliminates the need for such capacitors, and thus eliminates the problem at the source.

No protective output coil.

Most amplifier designs have protective coils in their output circuits to prevent spurious oscillations under typical load/signal conditions. But these coils are responsible for most amplifier/speaker interface problems. They introduce frequency-response irregularities and lower damping factor.

And when the amplifier is connected to high-capacitance loads, such as electrostatic speakers and some esoteric cables, the coil resonates to produce the oscillations they are supposed to prevent.

This is another problem Adcom solved by the direct coupling of the output. The damping factor remains high at all frequencies, phase shift is kept low, and sonic performance into difficult loads—particularly electrostatics—is improved.

Simple gain path throughout.

The gain path is simple and direct, with a minimum number of components, each of high quality, from input to output. This means less waveform distortion and less phase shift. Further, Adcom power amplifiers use only discrete circuit elements rather than integrated circuits. This allows for total flexibility in selecting individ-

ual elements and calibrating them for optimum performance at every stage. Functionally, the input circuit uses a differential-input transistor pair, followed by a single voltage-gain transistor. Both active elements in this stage are class-A biased, using very sophisticated double-regulated active current sources. This current supply is unaffected by variations in the power supply or signal.

This circuit design provides pure Class A operation for the input and second gain stages, resulting in low noise, low distortion and low DC offset voltages.

Instantaneous distortion alert.

The instant that any form of distortion—THD, IM, TIM, SID, etc.—exceeds 1 percent, a front-panel LED illuminates.

The highly accurate indicators are activated by unique circuitry that monitors the activity in the internal feedback loop.

Final word.

If you are looking for a new amplifier, appreciate the need for considerable power, understand the importance of high-current capability—and know great value when you hear it—you'll certainly want to compare the Adcom amplifiers to any others, at any price!

When you do, you'll hear for yourself that higher cost does not necessarily mean better performance. And like many other music lovers, you're likely to prefer any of ours purely on their own sonic terms—sight unseen and price unknown.

Anything less is a compromise.

SPECIFICATIONS:

AMPLIFIERS	GFA-555	GFA-545	GFA-535
Power output, watts/channel, continuous, both channels, 20 Hz-20 kHz, < 0.09% THD:			
8 ohms	200	100	60
4 ohms	325	150	100
Bridged, mono, 8 ohms, 20 Hz-20 kHz, < 0.25% THD:	600	n/a	n/a
Bridged, mono, 4 ohms, 20 Hz-20 kHz, < 0.25% THD:	850	n/a	n/a
Signal-to-noise ratio, A-weighted, full output:	-106 dB	-106 dB	-106 dB
Input impedance:	22 kOhms	22 kOhms	22 kOhms
Input sensitivity, for rated output, for 1 watt:	1.85 volts, 130 mV	1.3 volts, 130 mV	1.0 volt, 130 mV
Damping factor (20 Hz-20 kHz):	130	130	130
Dynamic headroom (at 4 ohms):	2.3 dB	2.6 dB	3 dB
Voltage:	120V/60 Hz (Available in 220V/50Hz on special order)		
Dimensions:	17" x 7 3/8" x 11 1/2" D (432mm x 187mm x 292mmD)	17" x 5 1/2" x 12 1/2" D (432mm x 140mm x 318mmD)	17" x 3 1/4" x 12 1/2" D (432mm x 83mm x 318mmD)
Shipping weight:	35 lbs. (15.9 kg.)	27 lbs. (12.2 kg.)	22 lbs. (10 kg.)
Optional rack mount adapters:			
Black:	RM-7	RM-5	RM-3
White:	RM-7W	RM-5W	RM-3W
Silver:	RM-7S	RM-5S	RM-3S

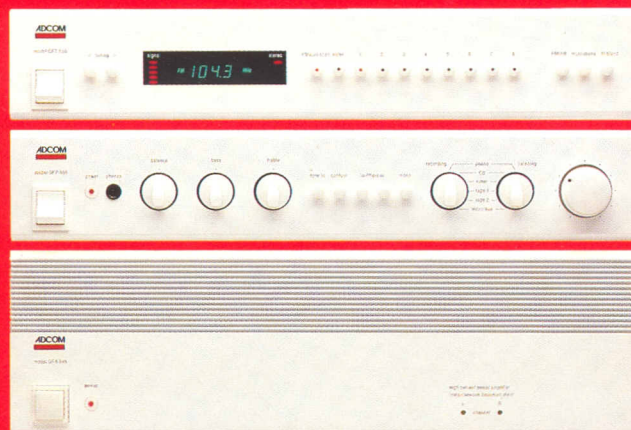
Cover photo: GFA-555 with optional RM-7 rack mount adapters

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Adcom products are available with white or silver front panels on special order. Shown: GFA-545 with GFT-555 AM/FM-stereo tuner and GFP-555 preamplifier with white front panels.