

Light-controlled AGC amplifier circuit

Overview

This application note describes a low frequency AGC circuit using a wide dynamic range AD8336 variable gain amplifier (VGA) as the gain control element, an AD736 rms-to-dc converter as the detector, a low cost rail-to-rail AD8551 op amp, and an ADP3339 LDO as the reference. The circuit diagram of the actual multiplier circuit as illustrated in Figure 3 makes it easier to determine the multiplication constant, M . An AGC circuit, a closed-loop feedback system, is shown in Figure 1. The loop consists of a controllable gain element, a. Automatic gain control (AGC), sometimes Automatic volume control (AVC) is a closed-loop feedback regulating circuit in an amplifier or chain of amplifiers, the purpose of which is to maintain a suitable signal amplitude at its output, despite variation of the signal amplitude at the input. The amplifiers are devices which produces an output signal which is several times higher in amplitude than the input signals. The circuit shown in Figure 1 uses the ADL6010 detector, along with the HMC985A voltage. In this project, you are going to learn how automatic gain control (AGC) works by hearing of a 1-kHz tone varies. When there is no input signal from the microphone, the 1 -kHz tone is heard from the speaker.



Article Content

Feb 27, 2026

Automatic Gain Control (AGC) circuits

There are many component and circuit configurations that can be used as a variable gain amplifier (VGA), which is the main

Jan 02, 2026

Automatic Gain Control (AGC) Circuits | Tutorials on Electronics | Next ...

Circuits Today: Automatic Gain Control (AGC) — An informative article detailing the working principles, types, and applications of

Mar 04, 2026

AN-1451 LM4935 Automatic Gain Control (AGC) Guide

The LM4935 features an Automatic Gain Control (AGC) circuit that addresses this situation by compensation for significant variations

May 13, 2026

AN-1451 LM4935 Automatic Gain Control (AGC) Guide

Automatic Gain Control (AGC) Overview microphone is typically used in an environment where the level of the audio source is

Nov 08, 2025

Automatic gain control

Automatic gain control (AGC), sometimes Automatic volume control (AVC) is a closed-loop feedback regulating circuit in an amplifier

Jan 27, 2026

CN0390 Circuit Note | Analog Devices

The automatic gain control (AGC) circuit is useful in multiple applications such as amplitude stabilization of a synthesizer, controlling

Aug 23, 2025

Understanding Automatic Gain Control

Closing the Loop The solution here is something called automatic gain control, abbreviated

May 24, 2026

Automatic Gain Control (AGC) in Receivers

Automatic Gain Control (AGC) circuits are employed in many systems where the amplitude of an incoming signal can vary over a

Aug 05, 2025

Automatic Gain Control (AGC) Circuits | Tutorials on Electronics | Next ...

1.1 Definition and Purpose of AGC Automatic Gain Control (AGC) is a crucial technique in electronic signal processing that ensures a

May 10, 2026

5M41 FOR REPRINT

DESIGN AND OPERATION OF AUTOMATIC GAIN CONTROL LOOPS FOR RECEIVERS IN MODERN COMMUNICATIONS

Nov 03, 2025

The why, where, and how of automatic gain control, Part 2

The next part looks at some other AGC applications and uses. Related EE World content How does a precision

Dec 15, 2025

(PDF) Automatic Gain Control Circuit for Mobility Visible Light ...

Circuit and system of the Auto Gain Control (AGC) is a very important to be used in Visible Light Communication

Oct 01, 2025

A Linear-in-Decibel Automatic Gain Control Amplifier With Dual Mode ...

Abstract: A reconfigurable fully integrated automatic gain control (AGC) amplifier is presented which is based on a

Apr 02, 2026

AN-934 60 dB Wide Dynamic Range, Low Frequency AGC Circuit

This application note describes a low frequency AGC circuit using a wide dynamic range AD8336 variable gain amplifier (VGA) as

Apr 01, 2026

Simplest automatic gain control circuit with BJT + op-amp

I'm trying to implement a simple automatic gain control to my amplifier circuit. What I'm amplifying is a small signal

Apr 10, 2026

CN0390 Circuit Note | Analog Devices

The circuit shown in Figure 1 uses the ADL6010 detector, along with the HMC985A voltage variable attenuator (VVA) and the

Mar 21, 2026

FORKIN dd

AGC connection diagram. This circuit retains function of RF gain control. Figure 2 — High-frequency communications receiver modifi

Sep 30, 2025

CiteSeerX

Hier sollte eine Beschreibung angezeigt werden, diese Seite lässt dies jedoch nicht zu.

Nov 03, 2025

How to design circuit for Automatic gain control Amplifier?

The Automatic Gain Control (AGC) amplifiers are another category of amplifiers which can

Jul 06, 2026

Automatic Gain Control Circuit Diagram

When it comes to the design of an AGC circuit, there are several different components to consider. For example, there

May 16, 2026

Auto Gain Control in Electronic Systems

AGC (Auto Gain Control) is a widely used technique in electronic systems that automatically

Apr 06, 2026

What is Automatic Gain Control?

An Automatic Gain Control (AGC) circuit is a circuit that is designed to maintain a constant output signal level after

Jan 20, 2026

Usage of the Automatic Gain Control Circuit (AGC)

1 Introduction The TDA520x, TDA521x, TDA522x, TDA7200, TDA7210 and TDA7210V receivers provide an AGC

Aug 25, 2025

Automatic_Gain_Control_AGC_Using_the_Diamond_Transistor_OPA

As a differential amplifier with current output, the OPA660 allows users to control the transconductance by varying the total quiescent

May 17, 2026

Automatic Gain Control

Automatic gain control (AGC) The audio volume could vary significantly (and annoyingly) as one tunes across the broadcast band

Dec 13, 2025

Agc circuit using a single transistor LM324

In this project, you are going to learn how automatic gain control (AGC) works by hearing of a 1-kHz tone varies. When there is no

Contact Us

For more information, pricing, or custom solutions, please contact us:

Website: <https://www.iiss.co.za>

Email: sales@iiss.co.za

Phone: +27 63 174 2895

Address: Unit 8, Innovation Park, 15 Rivonia Road, Sandton, Johannesburg, 2196, South Africa

This document is for informational purposes only. Specifications subject to change without notice.

