

# **Base station power supply output current slew rate**





## Overview

---

What are slew rates & step loads?

When investigating power delivery solutions and sequencing, it is important to consider the slew rates and step loads of your PDN. The voltage slew rate of a power supply is the rate of change of voltage over time ( $\Delta V/\Delta T$ ) when a VRM output is enabled and applied to the load.

What is slew rate?

Slew rate defines the maximum rate of change per unit time for either output voltage or output current. Magna-Power's limits on slew rate produce a non-linear rise time effect. Magna-Power's slew rate specifications characterize the power supply's rise-time in response to a programmed voltage or current change.

What is slew rate in power supplies?

If the signal is a sine wave and the slew rate is 10000V/sec, the rise time will take 1 second. Therefore, high-voltage amplifiers are required to have high slew rate performance. This page provides descriptions of Slew Rate in Power Supplies.

What are slew rate specifications?

The slew rate specifications apply to any transition in voltage or current. For example, the same slew rate would apply for a programmed transition from 0 to 50% load as from 0 to 100%. The rise time for voltage and current can be model using Equation 1:.

What is voltage slew rate?

Voltage slew rates can determine how much voltage overshoot and undershoot is seen at the load and is caused mainly by race conditions in the control circuitry as it tries to reach the target voltage.



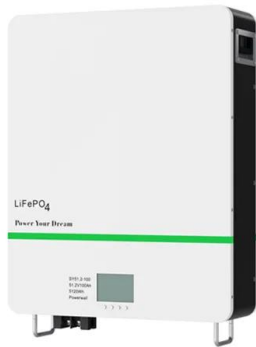
What is a load transient slew rate?

The slew rate of the load step, usually in amperes per microsecond. The maximum voltage deviation allowed on both edges of the step. The expected recovery time. Figure 1 shows an example of how these specifications are usually defined. Figure 1. Graphical description of a load transient measurement



## Base station power supply output current slew rate

---



[Slew Rate , Power Supply terms , Matsusada Precision](#)

Slew Rate measures the frequency characteristics of a power supply. For example, in high-voltage amplifiers, the slew rate is used as a performance ...

[Email Contact](#)

### [Large-Signal Specifications for High-Voltage Line Drivers](#)

ABSTRACT Output voltage swing, output current, and slew rate interact with many other specifications in operational amplifiers. This application note develops the definitions for each ...

[Email Contact](#)



### Slew rate and bandwidth

Slew rate notes Slew rate measured in linear range of current sense amplifiers (CSA) Slew rate is not defined in non-linear range A device with a 0-V input could be considered having a ...

[Email Contact](#)

### Slew rate

Slew rate Slew rate effect on a square wave: red=desired output, green=actual output In electronics and electromagnetics, slew rate is defined as the change of voltage or current, or ...

[Email Contact](#)



### [FAQ: Power-Rail Sequencing and Slew Rate](#)

How do power slew rates effect electronics? The rate that your power-supply rail comes up to its intended voltage or falls back down to zero directly affects all of the chips and ...

[Email Contact](#)



### [Slew-rate limiter circuit \(Rev. B\)](#)

$C1 = 470\text{nF}$  rate and choose a standard value for the feedback capacitor, C1. Choose the Vs value of R2 to set the capacitor current necessary for the desired slew rate.

[Email Contact](#)



### [Get More Usable Power on Your Bench , Keysight Blogs](#)

A higher slew rate allows the power supply to quickly raise its output to a new set voltage. Increasing the output voltage and setting a current limit ...

[Email Contact](#)



### [Slew Rate in Op-Amp : Working, Calculation & Its Applications](#)

Slew rate is the rate at which point an amplifier can react to a change within the output. In different waveforms with various frequencies and equal amplitude, we can notice that the amplitude in ...

[Email Contact](#)



### [What is power supply slew rate and can it be programmed?](#)

What is power supply slew rate and can it be programmed? Slew rate is defined as rate of change of voltage or current in a period of time. It is a frequently used term in operational amplifier ...

[Email Contact](#)

### [How to Use Slew Rate for EMI Control](#)

I modified the power supply shown in Figure 1 using the LM5140-Q1 controller (see Figure 4). Using slew-rate control optimizes the switch-node rise and fall time, eliminating switch-node ...

[Email Contact](#)



### [Slew rate and the available configurations](#)

Magna-Power's slew rate specifications characterize the power supply's rise-time in response to a programmed voltage or current change. Slew rate is distinct from the power supply's much ...

[Email Contact](#)





## [Get More Usable Power on Your Bench , Keysight Blogs](#)

A higher slew rate allows the power supply to quickly raise its output to a new set voltage. Increasing the output voltage and setting a current limit affects the up-programming time.

[Email Contact](#)



## Ramping Up on Slew Rate (Rev

1 Slew Rate Definition Slew rate is the fastest output voltage change over time in operational amplifiers, typically measured in units of volts per microsecond, V/us. Some low-power op ...

[Email Contact](#)



## Slew Rate Explanation

This means that for example when a large sine wave causes slew rate limitation or distortion, the sine starts to resemble a triangle due to the constant current charging the cap. ...

[Email Contact](#)



## Step Loads and Slew Rates

When investigating power delivery solutions and sequencing, it is important to consider the slew rates and step loads of your PDN. The voltage slew rate of a power supply ...

[Email Contact](#)



### [Load transient testing with high slew rates](#)

Depending on the design, the load transient board may be limited in maximum current, thermal dissipation or slew rate. Because the transient board is connected externally, wiring is often ...

[Email Contact](#)



### [Slew Rate in Amplifiers: What It Means and How It...](#)

Power supply: The available supply voltage and current can limit the maximum slew rate, as the output stage of an amplifier must be able to ...

[Email Contact](#)

### [Get More Usable Power on Your Bench](#)

This application note explains how to use the E36200 Series autoranging bench power supply in an R&D lab or on your bench to help you get more usable power from a power supply.

[Email Contact](#)



### [Design Of A Slew Rate Controlled Output Buffer](#)

The resulting noise voltage can potentially cause spurious transi- tions at the inputs of devices sharing the same power and ground rails. Therefore, controlling the output voltage variations ...

[Email Contact](#)





### [Tips to improve DC supply slew rate](#)

The slew rate of a DC power supply is the rate at which the output voltage and output current changes. This characteristic is important in many applications, especially ...

[Email Contact](#)



### [What is power supply slew rate and can it be ...](#)

Slew rate is defined as rate of change of voltage or current in a period of time. It is a frequently used term in operational amplifier ...

[Email Contact](#)

### [Power Tips: a Simple Circuit Yields Fast, Controllable ...](#)

The power supplies for these systems require special attention to control topology selection and output filter design to support fast current steps. Once designed, a key challenge is testing the ...



[Email Contact](#)



### **Maximum Slew Rate**

Maximum slew rate is defined as the maximum rate of change of the output voltage in an electronic circuit, quantified in volts per microsecond (V/us), and is determined by the output ...

[Email Contact](#)



### [Get More Usable Power on Your Bench](#)

Variable slew rate protects high current devices  
A power supply capable of outputting 10 A or more provides enough energy to damage devices with large inrush current. Devices such as ...

[Email Contact](#)



### [What is power supply slew rate and can it be programmed?](#)

Slew rate is defined as rate of change of voltage or current in a period of time. It is a frequently used term in operational amplifier specifications, but it also applicable when ...

[Email Contact](#)

### [Slew Rate , Power Supply terms , Matsusada Precision](#)

Slew Rate measures the frequency characteristics of a power supply. For example, in high-voltage amplifiers, the slew rate is used as a performance indicator that represents the speed ...

[Email Contact](#)



## Contact Us

For catalog requests, pricing, or partnerships, please visit:  
<https://www.ogrzewanie-jelenia.pl>