CutscenePRO

TRS's **Advanced** Vanilla Cutscene Generator

Current Version: Version 2.4.1

Report Bugs and Get Technical Support by emailing

trs@theredstonescientist.com

ATTENTION: This generator does not work in 1.13+. It also does not work on bedrock. This will no longer be updated.

Introduction

Getting Your Personal Copy

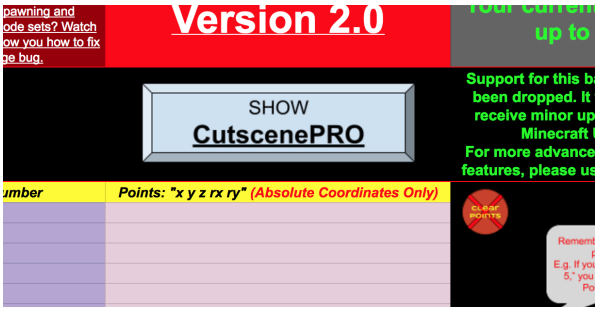
Lots and lots of people need access to these tools and due to the way Google Spreadsheets works, you can't just start using it immediately. Just like the original Cutscene Generator, you have to make your own personal copy. **Luckily, this is very easy to do! Just go to the menu bar on Google sheets and click on "File" -> "Make a Copy" and save it to your personal drive.**

DO NOT REQUEST ACCESS TO THE ORIGINAL SPREADSHEET!

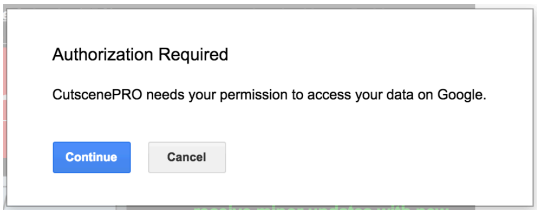
The request will be ignored!

Displaying CutscenePRO

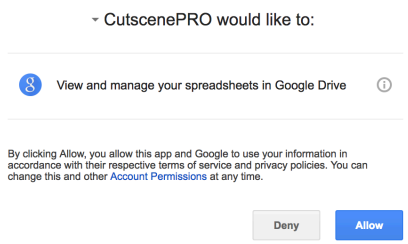
Not everyone wants the advanced features of CutscenePRO, and that's okay! When you first open up the spreadsheet you'll see the newly 1.11 compatible version of the original Vanilla Cutscene Generator. Because CutscenePRO is only for advanced users, you have to press a button to reveal it. Right above the point list is a big button that says **"Show CutscenePRO."** Press that and Google will reveal to you the wonderful new tools now at your disposal!



The first time you do this, it will ask you for your permission to access your Spreadsheet. **The generator WILL NOT function without having permissions granted.** *It is completely safe to grant access to CutscenePRO.* It will never touch any of your other documents other than your personal copy of "CutscenePRO."



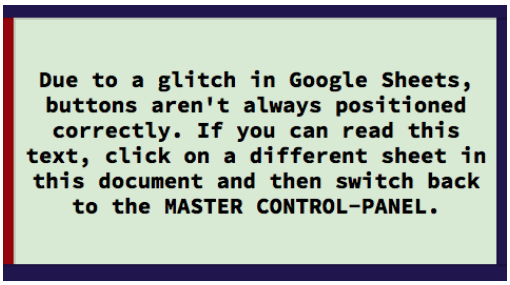
When it asks for authorization, hit the **"Continue"** button, select your google account, and then press **"Allow."**



Google's Button Glitch

CutscenePRO has a number of buttons that float over-top of the spreadsheet cells. Due to a long-standing bug with Google Sheets (that doesn't seem like it's going to be fixed anytime soon), on the initial load-in of the spreadsheet in your browser, the buttons are likely to be in the entirely wrong places and cover up important options.

How can you tell it's happening? On the Master Control-Panel, you'll be able to see this text:



This is the text that's in the cell that normally contains the "Generate" Button. If you can read this text, it means you are experiencing this annoying glitch.

Luckily, it's extremely easy to fix; just click on a different sheet in the same document and then switch back to the Master Control-Panel. This goes for any of the other sheets you might experience the glitch on as well.

Updating Your Personal Copy

Remember, your personal copy of CutscenePRO will NOT automatically update! You have to get another copy from the original!

You can tell when there is a new update available because a message will appear in large type in *Cell F15* on the Master Control-Panel notifying you. You can click on that cell to get a link to the updated version.

When you have the latest version, the cell should instead tell you that "Your current version is up to date."

Basic Overview

CutscenePRO is structured in two main parts, The Master Control-Panel (MCP) and Path Sheets. Path Sheets contain all your points and timing data while the MCP controls your overall Cutscene settings.

The Path System

In CutscenePRO, unlike the old generator, instead of placing all your points in one place, now each ***Cutscene*** is split into one or more ***Paths***.

***Cutscene*: A *Cutscene* refers to the entire scene from beginning to end. This is what is installed into your world. A single *Cutscene* is made up of one or more *Paths*.**

***Path*: A *Path* refers to a continuous line of points from "A" to "B" to "C" etc. One or more Paths make up a single *Cutscene*. Each *Path* is allotted a specific period of time (defined by the user, more on that later) of the total cutscene to use in whatever way you wish.**

The points and settings of each **Path** are defined on separate sheets within the CutscenePRO workbook; one per path.
You can name a **Path** whatever you want, provided you don't duplicate names. The name of a **Path** is defined by what you name the sheet.

You can add a new path by clicking the "Add New Blank Path" button on the Master Control-Panel (MCP). It will ask you to enter your path name in a text box.

You can rename a sheet by double-clicking on it. *Note that you will receive a "Heads Up!" warning when you try to rename or delete a path. You can just click "OK." It's not a problem in this case.*

Why have multiple paths?

For many different reasons. The primary and original intention of the path system was to enable a Cutscene to instantly cut from one point to another without having to travel along a line to get there (i.e. instant teleportation). An illustration of what this new Cutscene format looks like can be seen in [Figure A].

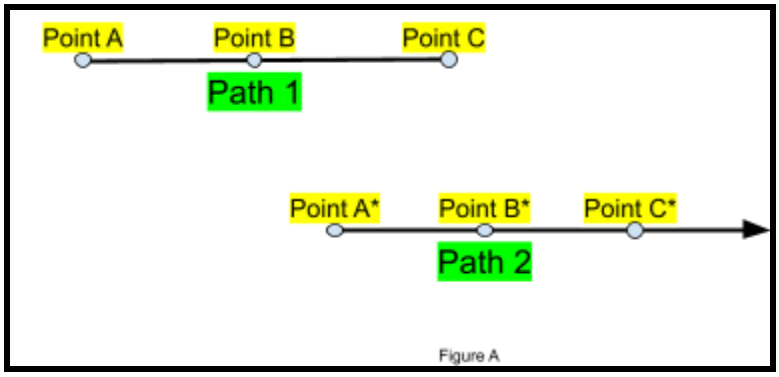


Figure A

Following the diagram, the Cutscene would begin by taking the target along *Path 1* by teleporting the target to *Point A* followed by a smooth path to *Point B*, and finally a smooth path to *Point C*. Once the target arrives at *Point C*, they will be teleported to the beginning of *Path 2* by teleporting to *Point A**, followed by a smooth path to *Point B**, and so on.

This isn't the only advantage the "Path System" provides. The other advantages of this system will quickly become apparent.

The Path List

This is where the magic happens. Located on the Master Control-Panel (MCP), this table is how you specify in what order your Paths should appear in your Cutscene and how long each one will take (if using "Individual Settings").

***NOTE**: Every time you edit this, a message will appear at the bottom right of your screen telling you to wait. It's okay to continue editing while this message appears, as long as you don't press the "Generate" button while it is processing. Just know that some of the values or error messages you see may be inaccurate until the message disappears.*

	Path Sheet Names	Individual Time Control (seconds)
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		

Starting with number 1 and continuing down to 100, you can order up to 100 different named paths in your

Cutscene. With a maximum of 500 points per path, that means up to 50,000 points!

Remember that every one of the names you write in this list must have it's own Path Sheet. Take care to spell your Path names the exact same way on both the Path List and each Path Sheet's name!

On the right hand side of *The Path List* is the "Individual Time Control" column (this is only applicable when using "Individual Settings"). Next to each path name, you can specify, in seconds, the amount of time you wish to allot to that Path. Your total Cutscene time will automatically be calculated and displayed at the bottom of the page *(Cell E117)*. See "Time Control" for more information.

Time Control

One of the main features that sets CutscenePRO apart from the old version, is the ability to fine-tune all the timings of your Cutscene. Unlike the old generator, in CutscenePRO you can control the amount of time between each point.

However, before you can start timing your points, you first need to allot some time to your Paths. There are two types of "Time Control" available for Paths *(you can change this setting in **Cell C3** on the **MCP**)*.

The first mode is "Total Time." When using "Total Time," you specify a duration that all of your paths added together should amount to (the total duration of your Cutscene) and each Path will consequently be allotted an equal percentage of that time.

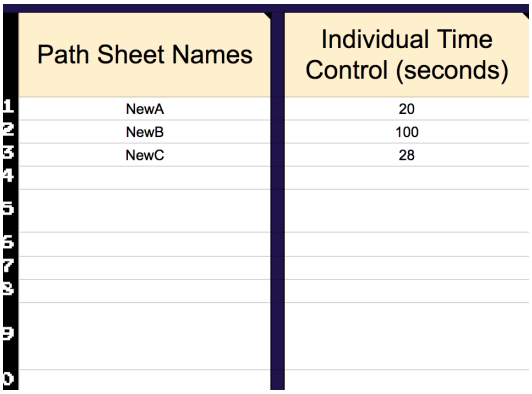
When using "Total Time" control:

Allotted Time per Path = Total Cutscene Time / # of Paths

Alternatively, you can use the more powerful "Individual Settings" control. When using "Individual Settings," you specify how much time you want to allot to each path and control them individually.

NOTE: More info about the Master Control-Panel (MCP) and Time Control can be found later in the MCP Section of this guide.

Information about specific point timings will be discussed later.



	Path Sheet Names	Individual Time Control (seconds)
1	NewA	20
2	NewB	100
3	NewC	28
4		
5		
6		
7		
8		
9		
10		

Generation

Unlike the previous Cutscene Generator, your 1-CMD installation will not automatically generate as you work. Instead, you have to press a button. This big green button is located on the MCP in *Cell C15* (see “Google’s Button Glitch”).

When you press the button, the first thing that will happen is a message will pop up asking you to confirm that there are no processes that are still happening. As you work, the spreadsheets are constantly updating values and adjusting data. Wait until the loading bar on the top right of the window disappears. If you don’t see it, wait a few more seconds and you’re good to go!

Depending on how long your cutscene is and how many paths you have, the command may take some time to generate. ***Do not change any data in CutscenePRO while waiting for your command to generate.***

Provided the generator doesn’t notify you of any errors, fairly soon the newly generated command will appear in a popup window. Just triple click on it to select it and then copy it to your clipboard using Ctrl+C or CMD+C (⌘+C).

You should know what to do from here! Head into your Minecraft world, get a command block (/give @p command_block), go to your spawn chunks or somewhere else that will be loaded during your cutscene, paste your command in and activate it!

Using CutscenePRO

Let’s go over all the amazing features that CutscenePRO has to offer! Now that you understand the main mechanics of how it works, let’s take a quick overview of how to design a cutscene. You can break it down into six simple steps.

1. Set the MCP Options
2. Create Path Sheets
3. Order Your Path List *(Steps 3 through 5 can be done in any order)*

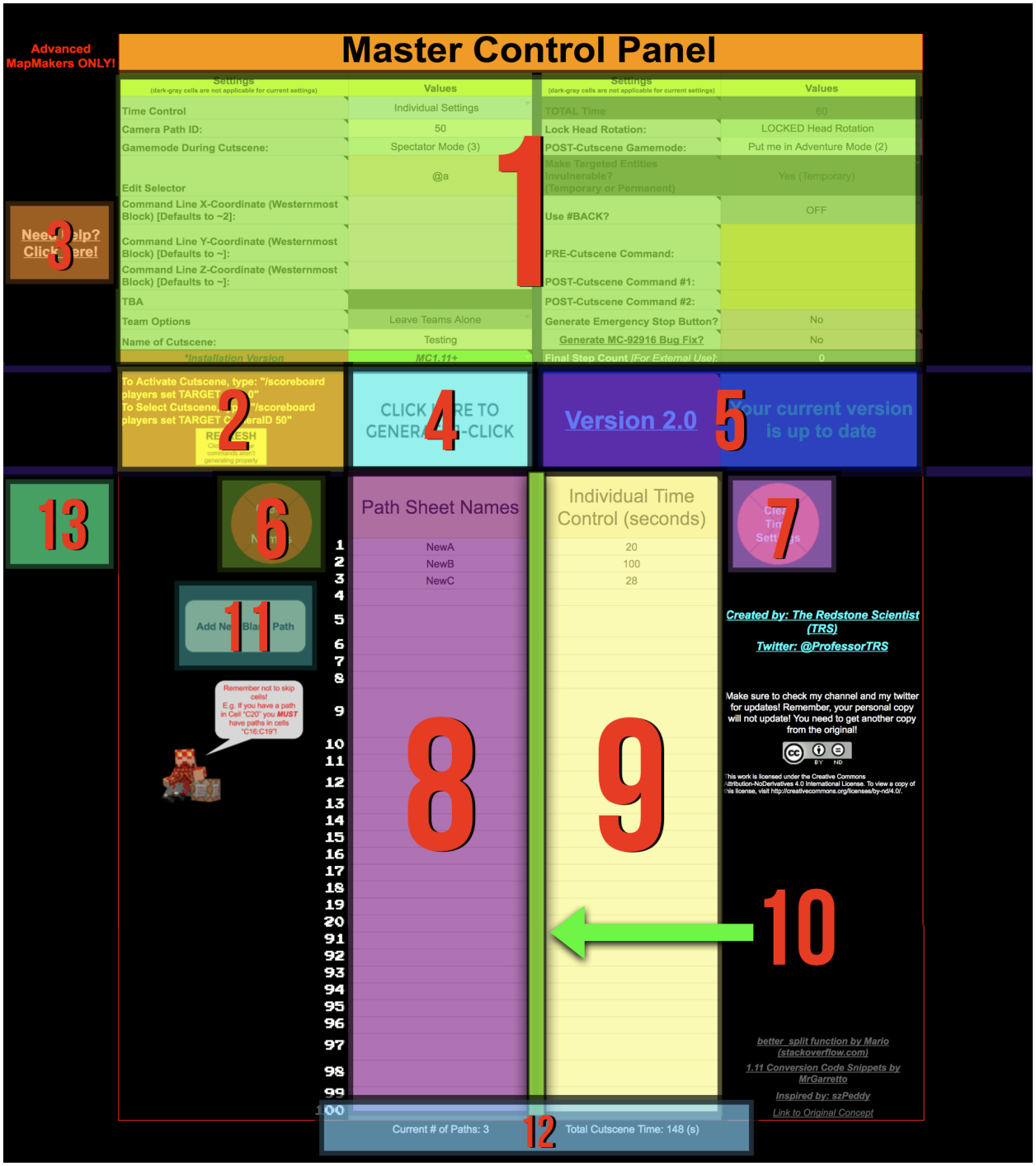
4. Input Your Points *(Steps 3 through 5 can be done in any order)*
5. Timings *(Steps 3 through 5 can be done in any order)*
    a. *Allocate Time to Each Path*
    b. *Time Your Points*
6. Generation

First off, you'll set the options for your Cutscene on the MCP. After that, you'll add your named path sheets. You can do the next three steps in any order you like! You need to order your paths on the MCP Path List, input your points on your paths, and time BOTH your paths and your points. Finally, hit that generate button!

Let's begin by going over all the features of the Master Control-Panel.

The Master Control-Panel (MCP)

Interface



1. Cutscene Options Panel

Detailed information about the options panel is covered in the next section.

2. How to Activate Your Cutscene

3. Click Here to get linked to this manual

4. Generate Cutscene Button

5. Version Indicator and Notification

On the left, you can see the current version of your personal copy of CutscenePRO. On the right, you can see whether or not there is an update available. This will automatically change whenever the original spreadsheet version number is updated.

6. Clear Path Names Button

By pressing this button, the column containing all your Path Sheet names will be cleared (Cells C17:C116).

7. Clear Time Settings Button

By pressing this button, the column containing all your Path Timing data will be cleared (Cells D17:D116).

8. Path Sheet Names

This is where you order all of your Paths to be used in your Cutscene. There are spaces for up to 100 paths.

9. Individual Time Control (seconds)

This is where you allocate time to each of your Paths. Write down a number (in seconds) next to the name of the Path you want to allocate time to. Decimals are supported! (This column is greyed out if you are using "Total Time" mode).

10. Error Display

If any errors are found on one of the Path Sheets in your list, a red "X" will appear next to the affected Path name. If you entered a Path name that does not exist, a red "-" will appear next to the cell. You cannot generate a Cutscene if there are any red "X"s or "-"s.

11. Add New Blank Path Button

12. Total Indicators

13. MCP Error Codes

If there are any errors found on the Master Control-Panel, their error codes will be displayed in this cell. This is similar to the error code cell on Path Sheets. If you don't see anything in this cell, there are no errors. A guide to CutscenePRO Error Codes can be found here: https://theredstonescientist.com/cutsceneerrors

Options

Note that if a cell is colored dark gray, then it is not applicable with your current settings.

Time Control (C3)

Do you want to control the time for each path individually or set a total time for the entire cutscene? More information about this can be found in the "Time Control" section of this manual.

Total Time (F3)

If "Time Control (C3)" is set to "Total Time," this value is the amount of time in seconds that your cutscene will last. Each path will receive an equal percentage of the total cutscene time.

Camera Path ID (C4)

This number will help identify which cutscene to use when there are multiple cutscenes in your world.
Specify what Camera Path number the current spreadsheet represents on the "CameraID" scoreboard objective.

Lock Head Rotation (F4)

[May Affect Performance]
When set to "LOCKED," the player will be unable to move their camera with the mouse during the cutscene.
When set to "UNLOCKED," the player will be able to look around freely during the cutscene.
When using "UNLOCKED" you must be using **MC1.10 and above**. (NOTE: This could cause more lag because it is using the less efficient /teleport command combined with an additional /execute command)

Gamemode During Cutscene (C5)

If you select "Gamemode 3 (Spectator)," all invisible entities will be visible, except the hotbar will disappear.

Any of the other two settings will leave the GUI visible but keep invisible entities hidden. (Note that players can still suffocate in blocks in Adventure and Survival!)

NOTE: Gamemode 1 is not available because players can open the creative inventory in Creative mode.

1.11 DOES support Gamemode 0 and 2 during cutscenes but it requires 4 additional commands to be run every tick during cutscene runtime.

POST-Cutscene Gamemode (F5)

Specify if you'd like to automatically be put into a certain gamemode after the Cutscene completes.

Edit Selector (C6)

What players or entities do you want to experience the cutscene?

Be sure to include the target selector variable. Any arguments need ONLY to be satisfied in the FIRST tick of the cutscene.

[Defaults to "@a"]

1.10-1.11+ REQUIRED for targeting NON-Player entities. If you want to do entity paths, use @e.

The Generator does not support "@r". NOTE: The generator does not auto-check selector validity. Please be sure you have written it correctly.

You can use just a target selector variable by itself or add some arguments to it like "@a[tag=test,m=0]"

Make Targeted Entities Invulnerable? (F6)

[Only valid if the "@e" selector is used in "Edit Selector (C6)"]

Should the entity targets become invulnerable for the cutscene? Often Cutscenes cause targets to go through blocks or treacherous areas. If this option is enabled, you can set the non-player-entity targets to become invulnerable.
If you want the tag to be added, should it become vulnerable again at the end of the cutscene (Temporary) or stay invulnerable at the end (Permanent)?

Command Line X - Coordinate (C7)

The X-Coordinate of where the bottom westernmost corner of the command block structure should generate. This can be absolute or relative coordinates.

e.g. ~1

e.g. 10

Defaults to "~2" if blank

Must be a whole number.

Command Line Y - Coordinate (C8)

The Y-Coordinate of where the bottom westernmost corner of the command block structure should generate. This can be absolute or relative coordinates.

e.g. ~1

e.g. 10

Defaults to "~" if blank

Must be a whole number.

Command Line Z - Coordinate (C9)

The Z-Coordinate of where the bottom westernmost corner of the command block structure should generate. This can be absolute or relative coordinates.

e.g. ~1

e.g. 10

Defaults to "~" if blank

Must be a whole number.

Use #BACK? (F7)

REMEMBER THAT IN ORDER FOR THIS TO WORK, THE ORIGINAL POSITIONS OF ALL TARGETS MUST BE WITHIN LOADED CHUNKS BY THE TIME THE CUTSCENE ENDS!

(They can be unloaded mid-cutscene as long as they are re-loaded before the last step)

The "#BACK" function will send players and entities back to their original position before the cutscene began.

The single-entity version uses far fewer command blocks and is less intensive on your map but will only work when there is just 1 target in your cutscene (for example: just 1 player or just 1 pig).

The multi-target version uses more command blocks but will work with any number of entities.

PRE-Cutscene Command (F8)

You have the option of executing a custom command on the ***first tick*** of your cutscene (that's step=0) automatically. Leave blank to do nothing.

Note that if you wish to execute additional commands, it is recommended to use a "setblock" or "blockdata" command to activate other commands elsewhere on your map. See the F.A.Q for more.

POST-Cutscene Command #1 (F9)

You have the option of executing a custom command at the end of your cutscene automatically. Leave blank to do nothing.

Note that if you wish to execute additional commands, it is recommended to use a "setblock" or "blockdata" command to activate other commands elsewhere on your map. See the F.A.Q for more.

POST-Cutscene Command #2 (F10)

You have the option of executing a 2ND custom command at the end of your cutscene automatically. Leave blank to do nothing.

Note that if you wish to execute additional commands, it is recommended to use a "setblock" or "blockdata" command to activate other commands elsewhere on your map. See the F.A.Q for more.

Team Options (C11)

You can automatically add your targets in the Cutscene to a team and set their options to some useful things.

There are two options, NameTagsOFF and CollisionOFF. You can choose any combination of these or choose to leave your teams alone. Remember that players and entities can only be registered on one team at a time, so if your targets are already on a team, they will automatically leave it!

Generate Emergency Stop Button (F11)

Due to the way that the CutscenePRO structure is optimized, it is much more difficult to stop a cutscene in the middle than it is in the original version.

If you stop a cutscene in the middle, you have to reinstall it. However, if you enable the "Emergency Stop Button," a line of command blocks will generate that you can use to manually reset a cutscene in the middle.

If you select the “Yes (w/Entity Execute)” option, an invisible armor stand will be summoned at the emergency stop button to allow you to trigger it remotely. By typing in chat:

/execute @e[tag=STOPx] ~ ~ ~ blockdata ~ ~ ~ {auto:1}

(where “x” is the CameraID of your cutscene)

You can automatically trigger the emergency stop button which will then reset itself.

Name of Cutscene (C12)

This name will appear on a sign on the generated structure.

[Leave Blank for no name]

Generate MC-92916 Bug Fix? (F12)

This will add 2-3 command blocks to your structure to provide “a band-aid fix” for a long-standing Minecraft bug known as MC-92916. This involves odd behavior when teleporting to unloaded chunks. **Note that this fix only applies when you are using the “@p” or “@a” selectors in “Edit Selector (C6).”**

So when do you use this? Typically this problem occurs on servers more than singleplayer worlds. You can tell it's happening because even though you will be teleported to the beginning of the Cutscene, your step score will not increase.

How can you avoid this bug?

The best way to avoid it is by activating the Cutscene while the starting point of Path#1 is in a currently loaded chunk. Then, make sure that each of your subsequent paths have their starting points in loaded chunks at the end of the previous path. ***I realize this is a rather confusing explanation but 90% of the time you don't need to worry about this.*** ***If you need help or have questions, contact me for technical support.***

Installation Version (C13)

CutscenePRO will work on a number of Minecraft versions.

Currently Supported Minecraft Versions: MC1.9, MC1.10, MC1.11

There are a few things that need to be changed depending on your Minecraft version, so you need to tell CutscenePRO what Minecraft version you will be using your Cutscene in.

REMEMBER:

1.10-1.11+ required for targeting NON-Player entities

1.11 DOES support Gamemode 0 and 2 during cutscenes but it requires 4 additional commands to be run every tick during cutscene runtime.

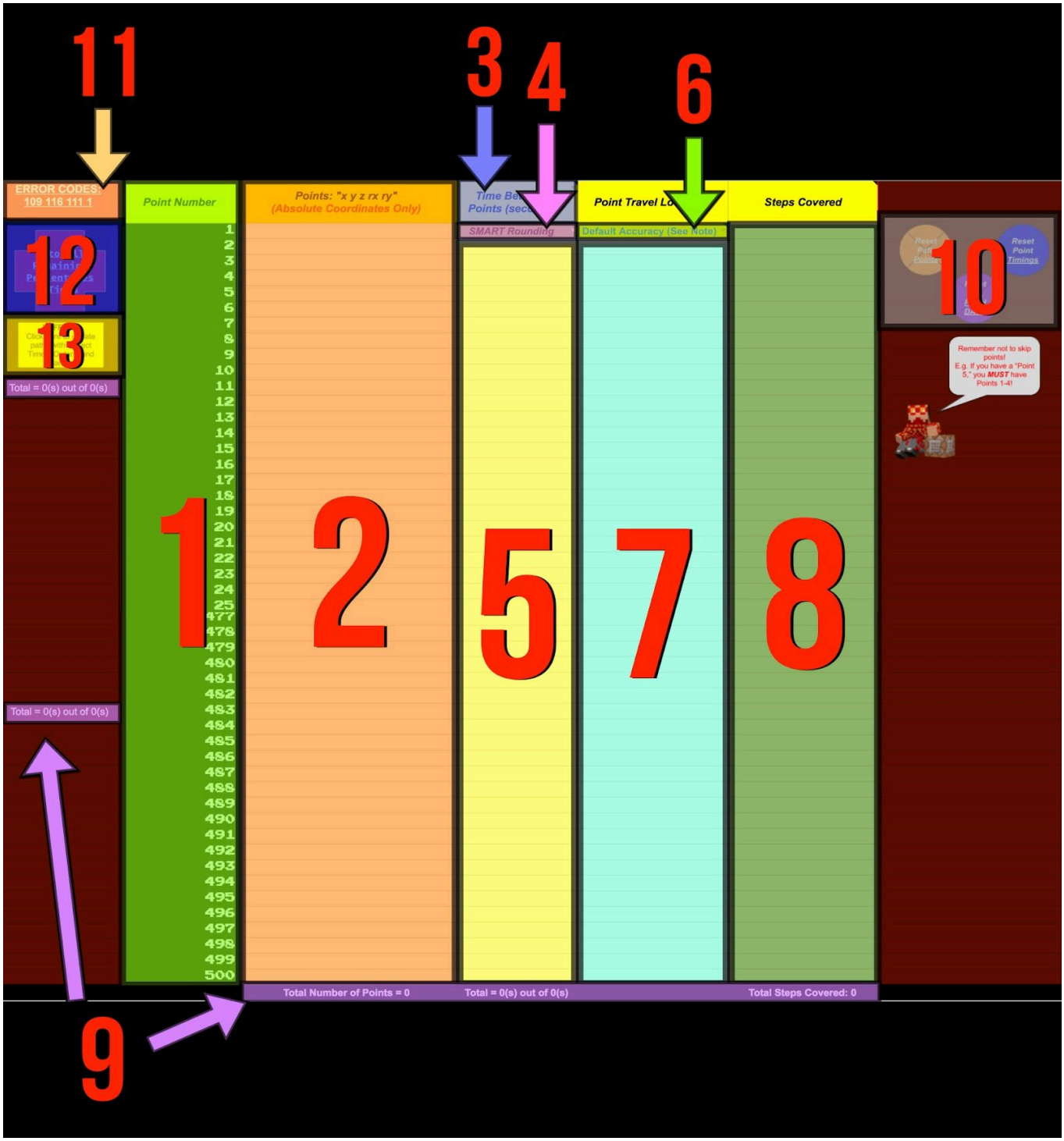
1.9 does NOT support UNLOCKED Head Rotation.

Final Step Count [For External Use] (F13)

This isn't an option for you to set. This is just a helpful reference for you to know what the final step count of your Cutscene is. A target's progress in a Cutscene is tracked using a scoreboard objective called "step" that increases by 1 every tick. Once the target reaches the step count displayed in this cell, the Cutscene will end.

Path Sheets

Interface



1. Point Number Indicator

*Merely serves to number the possible points in a path from 1-500. Remember, you **CANNOT** skip points! This means that if you have a Point 4, you MUST have a Point 1, Point 2, and Point 3.*

2. Points List

For those of you familiar with the original Cutscene Generator, this column is similar to the old one. Enter coordinates or the new "WAIT" command. (Coordinates must be in the form of "x y z" or "x y z rx ry" where decimals are permitted for any of the values)

You may also enter data for ESPN

*Note that you **cannot** mix formats within the same path. In other words, if you use the format "x y z" WITHOUT "rx and ry" for one point, then you CANNOT use "rx and ry" for any other points on the same path. Likewise, if you specify "rx and ry" for one point, ALL points on the same path must have "rx and ry" specified.*

3. ***Seconds vs. Percentage*** Toggle

For each of your Paths, you have an option between two different types of Time Control. You can either specify time between points in seconds OR specify it by percentage of total path time.

What is percentage of total path time? Remember when you allocated time to your path on the MCP? That's your total path time. You can view your total path time on one of the many "Total Indicators" (Section 9 on the above map).

*To change your selected mode, just double click on the cell and choose an option from the dropdown menu. Regardless of your mode, type numbers ONLY. **Don't** type "%" or "seconds."*

4. Rounding Options [ADVANCED OPTION]

Click here to see the feature explanation below.

5. Point Timings

In this column, specify how long the travel time to each point will take. Just to make sure that everything is as clear as possible, you can see what "travel path's" time you are editing by looking in the column to the right, called "Point Travel Locations" (Section 7 on the Interface Key).

Depending on what Path Time Control mode you are using (specified in Section 3 on the Interface Key, "Seconds vs. Percentage Toggle"), it will help you to fill out this column. If you're using the "Percentage of Total Path Time" mode, all the values in this column should add up to 100 (for 100%). If you're using the "Time in Seconds" mode, then all the values in this column should add up to the number of seconds you've allotted on this path. As a reminder, you can take a look at the Total Indicators (Section 9 on the Interface Key), located at the bottom of the Path Sheet and every 25 cells in Column A, to see your current totals and how much time you've allotted.

IMPORTANT: Every single point you specify in "Column C" MUST have a time associated with it in "Column D." ***If you have no personal preference for timing on individual points, you can use TRS's favorite feature of CutscenePRO, the "Autofill" button (Section 12 of the Interface Key).***

6. Accuracy Settings

Click here to see the feature explanation below.

7. Point Travel Locations

THIS IS NOT AN INPUT COLUMN. THE DATA IN THIS COLUMN IS AUTOMATICALLY GENERATED.

Just to make sure that everything is as clear as possible, this column will automatically fill with data telling you specifically what parts of your travel you are timing in the cells to the left. Take a look at the example below:

Point Number	Points: "x y z rx ry" (Absolute Coordinates Only)	Percentage of Path Time (%)	Point Travel Locations
1	228.55 15.01847 797.902 132.9 31.7	SMART Rounding	Default Accuracy (See Note)
2	225.943 9.396 790.9 56.0 5.3	40	Point #1 to Point #2
3	221.27 8.27 791.2 -34.9 23.4	10	Point #2 to Point #3
4	222.8 5.27 801.925 0.9 5.1	14.54	Point #3 to Point #4
5	223.036 5.27559 808.452 122.7 2.7	17.73	Point #4 to Point #5
6	218.5 6.393 808.5 90.5 3.3	17.73	Point #5 to Point #6

As you can see, 40% of the total Path Time is the target's travel time from Point #1 to Point #2. 10% of the total Path Time is the target's travel time from Point #2 to Point #3. etc. etc.

8. Steps Covered

THIS IS NOT AN INPUT COLUMN. THE DATA IN THIS COLUMN IS AUTOMATICALLY GENERATED.

Recall that a Cutscene's progress and the progress of its targets is tracked through an objective called "step." This column provides reference for you to activate and time external events during the Cutscene. For example, let's say that the travel time of Point #7 to Point #8 is 6.45 seconds. Let's also say that, according to this column, the steps covered for these points' travel time is "402 to 531." We can time command blocks to go off precisely during this time of the Cutscene by using the following target selector:

@e[score_step_min=402,score_step=531]

9. Total Indicators

There are many places throughout a Path Sheet to see your totals. Let's look at the total indicators at the bottom of the sheet.

Total Number of Points = 4	Total = 28(s) out of 28(s)	Total Steps Covered: 560

The first total on the left tells you how many points you have defined so far in your path. In the middle, you can see how much time you've used of the allocated time for the current Path. If you're using the "Percentage" Path time control method, it will show you what percentage of the allocated time you have

used so far. This indicator will also display errors if you exceed the allotted time. These Time indicators appear every 25 rows in Column A. The indicator at the far right will show you how many steps (or ticks) the current Path covers so far.

10. Clear Buttons

The Path Sheets in CutscenePRO have three buttons on the far right to help you reset data. The orange button will clear your Path points (this will clear Column C). The blue button will clear your point timings (this will clear Column D). The purple button will clear BOTH your Path points and timing data (this will clear both Columns C and D).

11. Path Sheet Error Codes

If there are any errors found on the currently selected Path Sheet, their error codes will be displayed in this cell. If there are no errors, this cell will tell you that "You're All Good to Go!" You cannot generate your Cutscene if there are any errors in a path.

A guide to CutscenePRO Error Codes can be found by clicking on the cell or by visiting this link: https://theredstonescientist.com/cutsceneerrors

12. Autofill Remaining Time/Percentages

Click here to see the feature explanation below.

13. Resync Path Data

Click here to see the feature explanation below.

Special Features

WAIT Command

In addition to typing in coordinates in the Points List, you can also type in the new “WAIT” command. By typing “WAIT” **instead** of a coordinate, the Path will automatically pause the target in place for the specified amount of time (in the corresponding cell in the Point Timings column). Note that the “WAIT” command cannot be used for your first point on a Path.

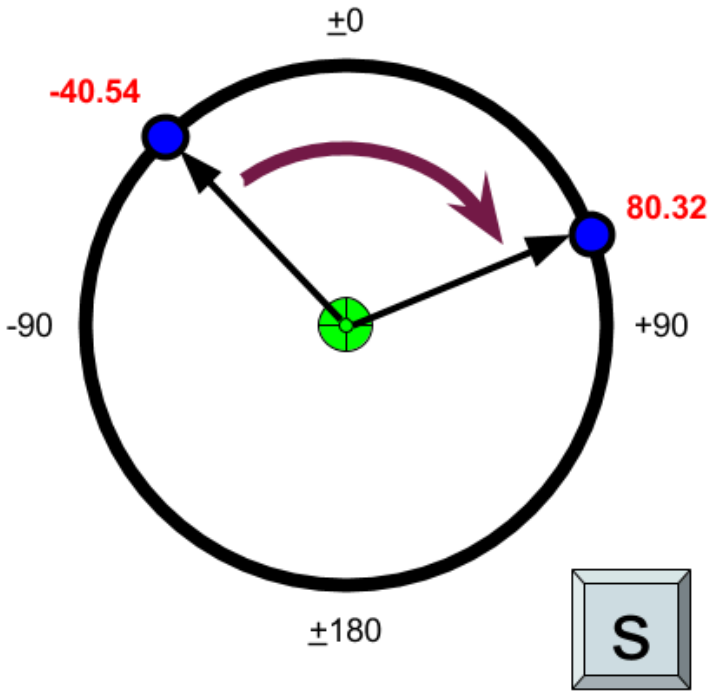
WARNING: DO NOT USE THE “WAIT” COMMAND FOR TWO POINTS IN A ROW!!

E.S.P.N.

E.S.P.N stands for “Extended, Shortened, Positive, Negative.” The E.S.P.N system is used to manually tell CutscenePRO in which direction you want your target to rotate in regards to the RX axis. ***You can specify your E.S.P.N value by typing one of the four lowercase letters (“e”, “s”, “p”, or “n”) directly after the RX value in your coordinates.*** Also note that you cannot specify an E.S.P.N value in Point #1. In order to understand what E.S.P.N does, we first need to understand what CutscenePRO will do by default.

1	200 456.2 789 90 10	*SMART Rounding*	Default Accuracy (See Note)
2	100 457 790 4 40	3	Point #1 to Point #2
3	123.23 456.2 789 -40.54 0	4	Point #2 to Point #3
4	153.23 480.2 789 80.32 0	10	Point #3 to Point #4
5	104.7899 470 750.3 0 23	3	Point #4 to Point #5

This is a normal path that does not manually specify an E.S.P.N value. Let’s focus in on Point #3 to Point #4. Now take a look at the RX values for those points *(remember, RX is the second to last value in coordinates [x y z **rx** ry])*. If we pressed the generate button right now, here’s how the player would rotate **from -40.54° to 80.32° over 4 seconds**:



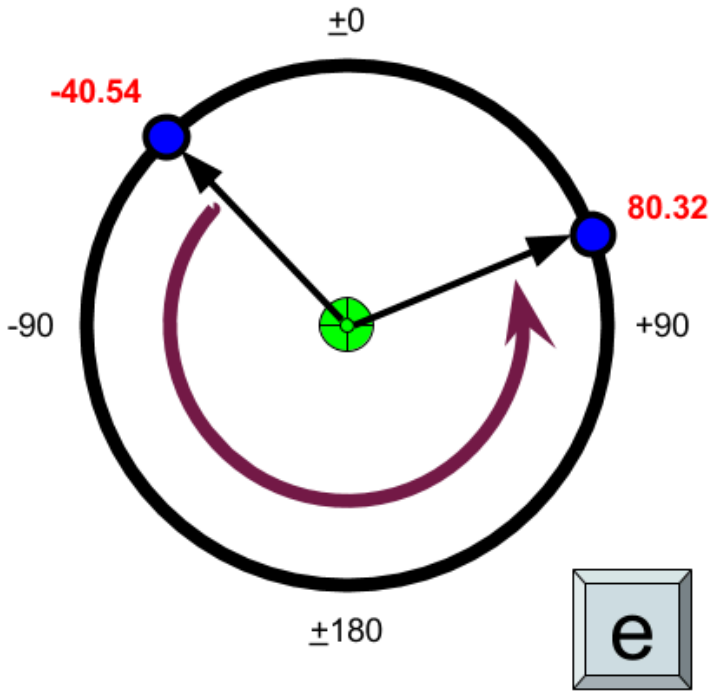
CutscenePRO will take the shortest path from RX1 to RX2 by **default.** As you can see in the above illustration, over 4 seconds, the player will turn from -40.54 degrees to 80.32 degrees following the path of the purple arrow. This is what happens when you **don't** specify an E.S.P.N value. However, it's also what happens when you specify an "**s**." Remember, "**s**" stands for "**shortened,**" and CutscenePRO takes the shortest path by default.

In other words, typing "153.23 480.2 789 80.32 0" will yield exactly the same result as typing "153.23 480.2 789 80.32**s** 0"

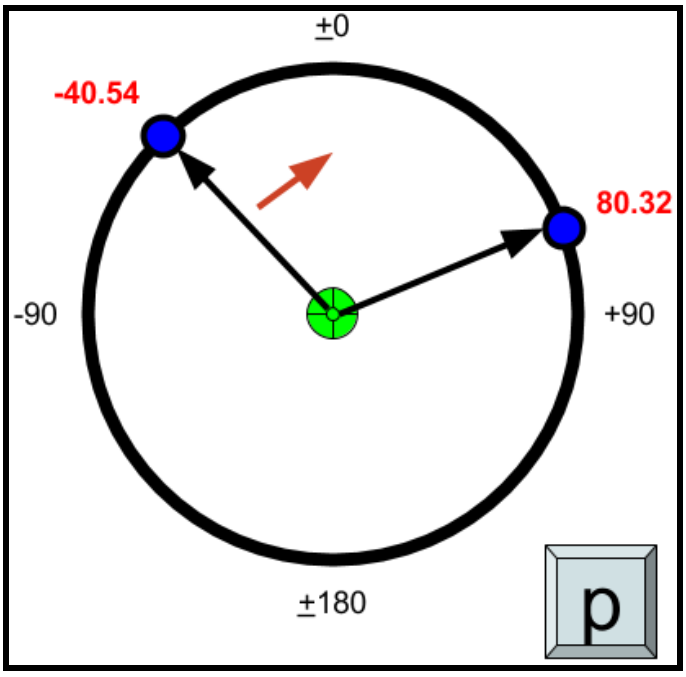
But what will happen in the scenario below? What happens if we type an "**e**" for "**extended**?"

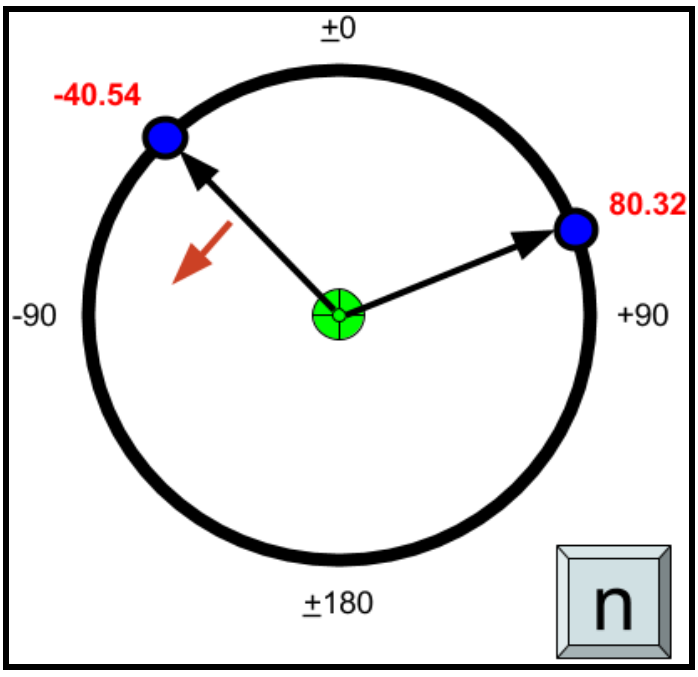
1	200 456.2 789 90 10	*SMART Rounding*	Default Accuracy (See Note)
2	100 457 790 4 40	3	Point #1 to Point #2
3	123.23 456.2 789 -40.54 0	4	Point #2 to Point #3
4	153.23 480.2 789 80.32e 0	10	Point #3 to Point #4
5	104.7899 470 750.3 0 23	3	Point #4 to Point #5

As you can see, directly following the RX value in Point #4, with no spaces, the letter "**e**" has been typed. **This means that when rotating from the RX in Point #3 to the RX in Point #4, the player will take the longer path just like in the illustration below. It's still going to take the same amount of time to get there, it's just going to cover more space:**



Finally, if you don't care whether the direction in which the target rotates is the longer path or the shorter path, you can specify "**p**" or "**n**." These stand for "**positive**" and "**negative**" respectively. **Typing a "p" following the RX value will cause the player to rotate in the positive direction (to the right) and an "n" will cause the target to rotate in the negative direction (to the left).**





Autofill Remaining Time/Percentages

TRS's Personal Favorite Feature of CutscenePRO

This is perhaps one of the most useful features of CutscenePRO. By pressing the red plus sign you can auto-fill the remaining empty cells for times or percentages. Let's look at an example. Let's say that Path1 is allotted 45 seconds and we have specified 11 points [Figure A]. Let's also assume that we are using the "Seconds" mode of Path time control (this also works for percentage mode).

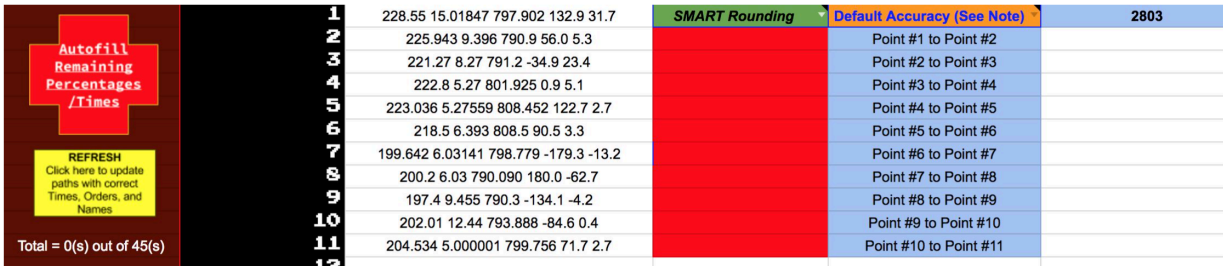


Figure A

In my Path, I already know that I want the travel time from Point #4 to Point #5 to be exactly 4.5 seconds. I also know that I want the travel time from Point #8 to Point #9 to be exactly 20 seconds. So I'll fill in those values [Figure B].

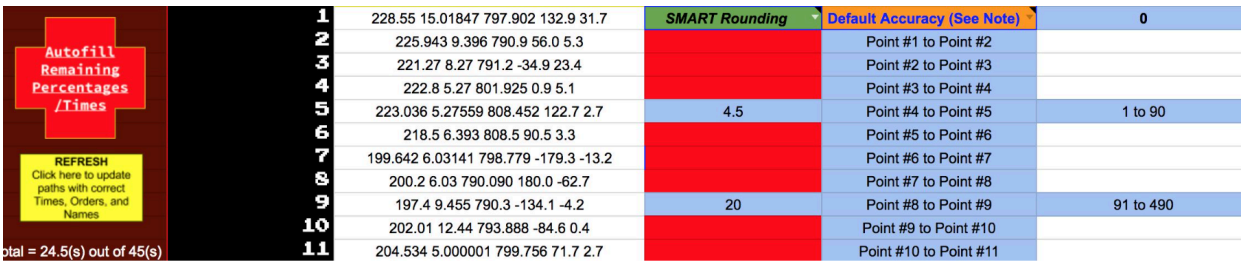
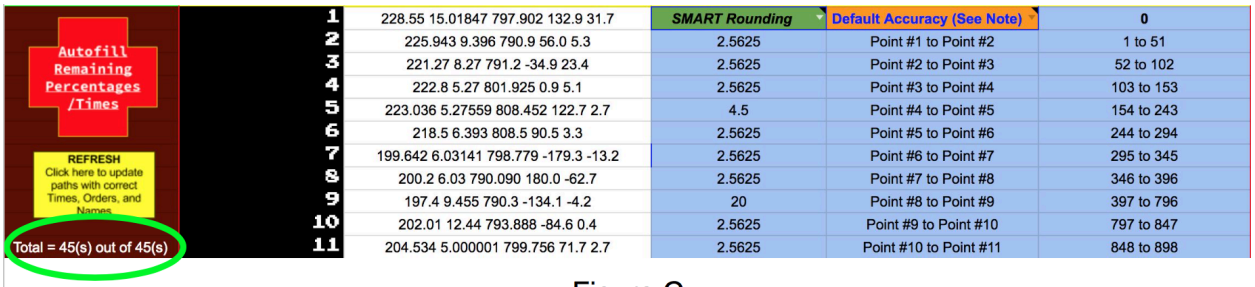


Figure B

I don't really care what those other values are as long as my Path takes a total of 45 seconds (remember that's the amount of time I allocated to this Path). So instead of having to calculate how much time the rest of my points should take in order to sum up to 45 seconds, I can just press the "Autofill" button (the red cross on the far left) and CutscenePRO will automatically fill in the rest of the data for me [Figure C]. *As you can see, we can reach the Path's total time by giving the rest of the points 2.5625 seconds each.* **This works in "Percentage" mode as well; instead of autofilling to reach the allotted Path time, CutscenePRO will autofill to reach 100%.**



1	228.55 15.01847 797.902 132.9 31.7	*SMART Rounding*	Default Accuracy (See Note)	0
2	225.943 9.396 790.9 56.0 5.3	2.5625	Point #1 to Point #2	1 to 51
3	221.27 8.27 791.2 -34.9 23.4	2.5625	Point #2 to Point #3	52 to 102
4	222.8 5.27 801.925 0.9 5.1	2.5625	Point #3 to Point #4	103 to 153
5	223.036 5.27559 808.452 122.7 2.7	4.5	Point #4 to Point #5	154 to 243
6	218.5 6.393 808.5 90.5 3.3	2.5625	Point #5 to Point #6	244 to 294
7	199.642 6.03141 798.779 -179.3 -13.2	2.5625	Point #6 to Point #7	295 to 345
8	200.2 6.03 790.090 180.0 -62.7	2.5625	Point #7 to Point #8	346 to 396
9	197.4 9.455 790.3 -134.1 -4.2	20	Point #8 to Point #9	397 to 796
10	202.01 12.44 793.888 -84.6 0.4	2.5625	Point #9 to Point #10	797 to 847
11	204.534 5.000001 799.756 71.7 2.7	2.5625	Point #10 to Point #11	848 to 898

Figure C

Resync Path Data

CutscenePRO being on Google Sheets has both advantages and disadvantages. One of the disadvantages is that it's difficult to get a dynamically expanding system for sheets to interact with each other. Long story short: the way the Path Sheets figure out what to do with all your timing data requires them to be updated with new information from the MCP. Every time you edit the Path List and/or the Individual Time Settings on the MCP, all the Path Sheets you've listed will be automatically updated with the latest data from the MCP. Usually this function running automatically on every edit works perfectly. However, sometimes, for whatever reason, the data gets out of sync. If that happens, you can manually ***force*** the "update function" to run by pressing this yellow button.

TL;DR Press this button if your Path sheets think that they have a different amount of time allocated than they are supposed to.

In the entire testing process of CutscenePRO Alpha, I've only ever had to press this button twice. So, for the most part, just think of this as a bug-fix button.

Rounding Options [ADVANCED]

Without getting too much into the math of CutscenePRO, because there is a limited amount of time that you allocate to any given Path, and because you split up that time into travel time between points, there end up occasionally being some **unintended decimals,** meaning that sometimes the numbers "just don't come out pretty."

In order to give you as much control as possible, I've provided a few different methods of rounding to handle situations such as these. "Round Up," "Round Down," and "Standard Rounding" are the types of rounding you are used to. **I would ALWAYS recommend using**

“SMART Rounding” which picks the most appropriate option for your path to automatically get as close as mathematically possible to your allocated Path time.

Why would you want to edit this? This allows you to fine tune in extreme detail very precisely timed Cutscenes. This can be useful if your Cutscene is tied to very particular musical cues.

Accuracy Settings

Auto-Alignment

“Auto-Align” will automatically add an exact teleport command to realign you perfectly with your specified point, this will add "X" number of commands to your structure (where X is the number of specified points).

Default accuracy will allow for minutely small rounding errors.

Why would you want to use “Auto-Align?” Sometimes in Cutscenes it’s extremely important to get the target to hit the points with immense accuracy down to 5 or 6 decimal places. Sometimes it’s because of a hazard in the environment or a cinematic reason. Honestly, you usually won’t notice the difference between an Auto-Aligned Path and a Default Accuracy Path, but sometimes it’s useful to have the option for extreme accuracy. This can also be useful if, for whatever reason, the targets in a cutscene have the ability to move of their own accord or external commands are moving them off of the path of the Cutscene. The auto-alignment system will ensure they get right back on track every time they hit a new point.

Relative Mode

“Relative Mode” will disable the initial absolute teleport and will allow you to start an entity on a path anywhere in the world. All of your X Y Z coordinates will be relative to the entity's current position. Note that RX and RY are still absolute. **When “Relative Mode” is enabled, the first point on your path will be blacked out. Any input in that cell will be ignored while using “Relative Mode.”**

Here’s an example:

Point Number	Points: "x y z rx ry" (In Relative Mode, Rotations are Still Absolute)	Time Between Points (seconds)
1		SMART Rounding
2	0 3 0	5
3	5 10 -4	20
4		

Every point can be thought of as relative to 0 0 0. In the above example, in the first 5 seconds of the path, the Cutscene's target will move up by 3 blocks from wherever they currently happen to be. Then, over the next 20 seconds, from the NEW current position of the entity, it will move +5 in the X axis, up 10 in the Y axis, and -4 in the Z axis.

Why would you want to use "Relative Mode?" It can be very useful for when an entity has actions that it needs to repeat at different points in your map. For example, you can make a path for your villager named Bob that will have him jump up in the air and do a little spin in celebration. Putting this in "Relative Mode" means that no matter where Bob is in your map, you can trigger the "celebration animation" anywhere at any time.

Menus

At the top of the Google Sheets interface is a menu bar with things like "File," "Edit," "View," etc. At the far right are two **new** menus called "Repair" and "Special."

Repair Menu

The "Repair Menu" contains functions that can repair your spreadsheets and generator if something goes awry. Let's walk through the different functions that are available and if and when you should use them.

Repair MCP

What it does:

Clears and refreshes the data on the Master Control-Panel in cells D18:D501 as well as hidden values.

When to use it:

- The MCP is reporting errors on a path that doesn't have any errors

- The MCP is reporting a path doesn't exist when it actually does
- Your generated Cutscene skips over large sections of your points

Repair Split Data on Selected-Path

What it does:

Recalculates the generator's interpretation of your coordinates on the CURRENTLY ACTIVE Path Sheet.

When to use it:

- The first point on your path won't generate correctly in game.
- If your path won't stop loading its values after ***5 minutes***

Repair Selected-Path Point-Validation

What it does:

Resets the data validation and formatting on all the CURRENTLY ACTIVE Path Sheet's coordinate cells (i.e. Column C)

When to use it:

- You are getting incorrect errors in Column B.
- Google is automatically formatting your points as a date.
- You accidentally messed up the formatting of a cell and you want to reset it.

SELECTED-PATH FULL REPAIR

What it does:

Saves ALL of your data on the CURRENTLY ACTIVE Path Sheet internally. Then migrates all of your data onto a brand new and **fresh** Path Sheet. ***You won't lose any data*** but all the values will be recalculated from your given settings and points.

When to use it:

- When the repair functions above don't fix your issue.
- Formatting issues
- Throwing false errors
- Any other problem with a Path that has not been listed.

If this function still doesn't fix the problem with your Path Sheet, contact TRS for help.

Special Menu

The “Special Menu” contains functions that do not fit anywhere else and are for specialized use. Currently, this menu’s only functions are “**Reverse Updates**.”

What is a **Reverse Update**? Ordinarily, the update propagation of CutscenePRO is to go from the MCP to the Path Sheets. In other words, (when using Individual Time Settings), CutscenePRO will look at how much time you allotted to “*Path A*” on the MCP Path List. Then it will go and tell the “Path A” Sheet, *“Hey! This is how much time the user is allowed to have on this path! Don’t let them go over it!”*

But, a **Reverse Update**, which can only be triggered by these special functions, does the opposite. Namely, it looks at how much your total time settings on a path add up to *currently* and THEN tells the MCP “*Hey! Make sure to update the allotted time for this path!*”

Let me give an example to make it clear why this is quite useful. Let’s say you are making a cutscene and you just *don’t know* how much time you want each path to have. No problem! Just put in your timing settings on your path sheets and then give it a **Reverse Update**. Now, the MCP’s Path List will update to reflect the total time you’ve set for each path.

Here’s another more likely example: You have a totally finished cutscene, but you’d like to adjust one or two values on one of your many paths. Rather than going and changing those values on the path and then having to manually update the MCP to reflect the new total time, just give it a **Reverse Update** and your new adjustments will automatically be reflected on the MCP.

Remember, **Reverse Updates** only work (and are only useful) if the Path Sheet which is updating the MCP is using “Time in Seconds” point control and **NOT** “Percentage of Total Time” point control.

Reverse Update Selected-Path

What it does:

Gives a *Reverse Update* to the MCP from only the currently active Path Sheet.

NOTE: This function will automatically set your MCP setting in Cell C3 to “Individual Settings” if it wasn’t already.

Reverse Update ALL Paths

What it does:

Gives a *Reverse Update* to the MCP from all paths that are listed on the MCP's Path List AND are using "Time in Seconds" point control.

NOTE: This function will automatically set your MCP setting in Cell C3 to "Individual Settings" if it wasn't already.

Troubleshooting

NOTE: Most issues can be fixed by running functions in the "Repair Menu."

Click here to see more information.

"Hmmm... wait a few seconds and then try again" Message

If you get this message thrown as an error after pressing the "Generate" button on the MCP, it probably means that another script is still running. Make sure that you don't see the loading bar at the top right of the spreadsheet (more clearly discussed in "Generation").

If you don't see the loading bar, then just press the "Resync" button found to the left of the "Generate" button. That should fix the generation.

The values on my Path Sheets and/or Master Control-Panel are incorrect.

Press the "RESYNC" button on either the MCP or a Path Sheet.

In-Game Problems

Having problems with your Cutscene in-game? Make sure that you generate the command blocks either in your spawn chunks or that they stay loaded from the time you

activate it to the time the Cutscene ends. If you're still having problems, take a look at the F.A.Q for some other bug fixes.

F.A.Q.

Q: Can I use CutscenePRO for my map/video/other Minecraft project?

A: Of course! But you MUST provide a link to the Official Trailer which can be found here: INSERT LINK, as well as my name (The Redstone Scientist).

You MAY NOT directly link to the Spreadsheet. If you are making a video, please provide the required info in the video description. If you are making a map, please have the required info clearly displayed in the credits section of the map.

Q: This manual is too lonnnnnnnggggggg… can you just read it to me?

A: I'll do you one better! Here's a link to the comprehensive manual VIDEO version which contains about 90% of the information in the written manual:

https://youtu.be/fOTOV5gYi3U

Q: I saw you advertise "Entity Pathing" by putting entities through cutscenes. How do I do that?

A: Yes! That's one of the best things about CutscenePRO! Note that you can't do entity pathing with CutscenePRO in MC1.9. You must use at least MC1.10. All you have to do is use the "@e" selector in the "Edit Selector" option on the MCP (Cell C6). This will enable "Entity Pathing" mode on your cutscene. Make sure to set the newly available option in Cell F6 (Entity Invulnerability).

Q: Why can't I edit any of the values? It says I don't have permission.

A: You're on the official "master copy." Make sure to make your own copy of the generator for personal use as explained in the section linked here. Please DO NOT request access to the "master copy"; it will be ignored.

Q: Can I have cutscenes from the original Cutscene Generator and CutscenePRO in the same world?

A: Yes. Provided you don't reuse CameraIDs on the same objective. Also you can't have any cutscenes without a CameraID.

Q: Can I run multiple cutscenes at once?

A: Yes *(if they were all made using CutscenePRO)*! Provided you don't have overlapping targets. For example, if you have a pig named "Bob" going through CameraID 1, you can't ALSO have him go through CameraID 2 at the same time. However, you can have "Bob" go through CameraID 1 while "Jim" is going through CameraID 2.

Q: Why can't I run the same path more than once in a single cutscene?

A: You just can't :P It's seriously quite difficult to do the way I've coded it. Sorry, it's not going to be coming anytime soon. A work-around for this is just to duplicate the path you want to run again and name it something else. Then, just to be safe, on that new path, run the "SELECTED-PATH FULL REPAIR" function found under the "Repair" menu.

Q: Does it work on Spigot/Bukkit/Other Type of Plugin-type-thing?

A: No. No. No. And double no. COMMANDS DO NOT WORK THE SAME ON SERVERS WITH PLUGINS! Now I'm not saying you can't try (occasionally I've heard people report rare successes) but it is 100% definitely not supported.

Q: I'm having a weird issue with my step score not increasing **OR** my cutscene inexplicably loops itself **OR** my cutscene stops in the middle. What's going on?

A: Have you tried setting the "Generate MC-92916 Bug Fix?" to "Yes"? It's located in *Cell F11* on the Master Control-Panel. If it still doesn't work, check out the other troubleshooting tips first and then contact me for more direct technical support.

But what exactly is going on? Well, most of the time these behaviors are caused by issues with chunk loading and MC-92916. Unfortunately, other than using the Bug Fix mentioned above, there isn't much we can do about it. If you contact me for direct technical support we can work together to try and find a solution in your particular case.

Q: How can I run more than just two POST-Cutscene commands?

A: I get this question a lot. I would recommend making one or both of those two POST-Cutscene commands into a "setblock" or "blockdata" command to activate some command blocks elsewhere.

For example, you could set up a line of command blocks with all the commands you want to run and set your POST-Cutscene commands to:

#1: /blockdata X Y Z {auto:1}

#2: /blockdata X Y Z {auto:0}

By replacing X Y Z with the coordinates of the impulse command block you want to activate, you can very quickly turn it ON and then immediately back OFF again to run as many commands as you want and automatically reset itself.

Q: How can I time events to happen during a cutscene?

A: See #8 on the Path Sheet Interface section of the manual. The section describing that column is reproduced here:

> *Recall that a Cutscene's progress and the progress of its targets is tracked through an objective called "step." This column provides reference for you to activate and time external events during the Cutscene. For example, let's say that the travel time of Point #7 to Point #8 is 6.45 seconds. Let's also say that, according to this column, the steps covered for these points' travel time is "402 to 531." We can time command blocks to go off precisely during this time of the Cutscene by using the following target selector:* **@e[score_step_min=402,score_step=531]**

Additional Technical Support

Have a question that isn't covered here? Having a bug I'm not aware of? Please contact me for additional technical support.

PLEASE READ THE OTHER TROUBLESHOOTING TIPS AND REVIEW THE MANUAL BEFORE CONTACTING ME FOR TECH SUPPORT!

Report Bugs and Get Technical Support with more immediacy by creating an account at https://theredstonescientist.com/bugs

The Redstone Scientist (TRS)

Discord Tag: TheRedstoneScientist#2370

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