Manual Pyrocommander Show Generator

Version 1.0

By Digicon & De Koster Pyro

Product Description

Pyrocommander consists of 3 products. The Pyrocommander controller, Pyrocommander slaves and lastly, the Pyrocommander show generator. This manual focusses on the latter.

The Pyrocommander show generator is used to create, view or modify a show. The generator has the ability to import *.scx files to remain compatible with other fireworks filesystems. Pyrocommander extends existing firework systems with a wide variety of options and or modules. These options will be covered in this manual.

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3 Shortkeys

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1 General Information

1.1 Requirements

Though Pyrocommander intentionally was designed and developed to work on lower-end computers, the following (hardware) specifications are advised.

- 1.8 GHz or faster processor.
- 2 GB of RAM; 4 GB of RAM recommended
- Windows 7 or later

1.2 How to Install

We have created an installer that assures proper installation and configuration of Pyrocommander. Due to state-of-the-art virus scanners, we have compressed the installer into a ZIP file. You can download this file at: http://www.pyrocommander.com/downloads/. After downloading the file, you can unzip it. You can use winzip or winrar to unzip the downloaded file for you. After running the installer, you will have to accept the terms and conditions. Lastly, you can select the default language. Currently, you can choose between Dutch and English.

1.3 Activation

Though the Pyrocommander show generator is free to use, you have to activate it to use it. This is a one-time action but does require internet access. After starting the pyrocommander show generator a popup will show as figure 1a shows. Your browser should open and take you to our activation screen. After logging in or creating a new account your browser will show that it has successfully activated it. The popup showing in the Pyrocommander show generator should have changed to figure 1b. If you encounter any problems during registration, please reach out to contact us.

1.4 Acquiring and Enabling PRO Features

After registering your version of the Pyrocommander show generator you will receive a free trial to try out all the pro features. This trial lasts a month



Figure 1: Activation Steps

after which you can still use the free functionality of the software. The PRO features are listed in section 2.2 whereas the free features are listed in section 2.1.

If we have convinced you that the PRO features enables you to create more professional, faster, funner and more efficient shows, then we would love to provide these features to you. The PRO features are set up as Software as a Service (SaaS). This is a software licensing and delivery model in which software is licensed on a subscription basis. Future updates and upgrades are included in the licensing model. Lastly, a service-level-agreement (SLA) is included in the licensing model. This will give access to 24/7 support. As a PRO member, you can build upon our network by sharing ideas and features. If a feature is endorsed by us, it will be implemented free of charge!

1.5 Filetypes

The Pyrocommander show generator can open, create and save three types of files. These files are listed in figure 2. A project file contains all the cues and metadata for the project that you have prior created. A preset file contains DMX presets. Dmx presets are covered in section 2.2.5. If you open a preset file, all the presets will be added to your own - local - preset database. The last filetype is an effect file. Pyrocommander effects are covered in section 2.2.8. If you open an effect file, all the effects will be added to your own - local - effect database.



Figure 2: Pyrocommander File Types

1.6 Pyrocommander Menu

Figure 3 shows the menu of the Pyrocommander show generator. The large red "**Pyrocommander**" header on the top left side of the screen can be pressed at any time¹ to switch between the main menu and the show generator.

Pyrocommander			
Pyrocommander	Special Effects Chora	ography	863-883-883-886 _{Na} 344731 not N 20 0 No ANTC
			and the fit is
Weld	name to Evrocomme	mderl	
Click the "New p	roject", "Open project" or "Import SCX file" bi	utton to get started.	
	Recently opened projects		
New project	1: Sandstorm.pcp	Undo	
Open project	2: asdf.pcp	Redo	
Combine project			
Import SCX file		Midi Settings (31 Days left)	
		Preset Database (31 Days left)	
Save project		Effects Database (31 Days left)	
Save project as		Generate Reports (31 Days left)	
		Download Licences	
		Switch to Dutch/Nederlands	
Export Quelist		Help	
Version 1.6.1 Copyright © Digicon 2018	System ID: KRMBJ IT8X		www.pyrocommander.com

Figure 3: The Pyrocommander Menu

¹Only if a show currently is open. Otherwise it has nothing to swtich to

2 Pyrocommander Features

The Pyrocommander show generator provides a large suite of functionality that makes it easier, faster and more efficient to program a show. There are two versions of Pyrocommander. The free version provides basic features that enable a user to create, modify or view a show. The Pro version builds upon the free version by enabling several functionalities. In section 2.1 the free features are listed. Section 2.2 lists the features that are enabled in the Pro version. Lastly, section 2.3 will provide a side-by-side comparison of the free and pro version.

2.1 Free Features

In this section, you will find the features that are enabled in the free version of Pyrocommander.

2.1.1 Ability to add Custom Columns

By default, the cue list contains the following columns: cue nr, status, timecode, prefire, duration, command, caliber, amount, type, article number, position, angle, price and a description of the cue. In some cases, it can be desired to add a custom column. Perhaps you want to add a distance or a safety distance. The free version gives you the ability to add as many custom columns as wanted. These columns can be extended by selecting a cue.

On the lower right side of the screen the effect details are shown. This id depicted in figure: 4. The last effect is indicated by "Enter a new name here...". Simply type the name of the new column here.

2.1.2 Auto-assign Slave Adresses

After creating a set of pyro cues, you need to address these cues. Pyrocommander provides an option to auto-assign addresses to these cues.

Effect	
Open Effect Library	
Description:	x
Articlenumber:	x
Туре:	x
Position:	x
Angle:	x
Unit Price:	x
Enter new key name here	

Figure 4: The Effect-detail Panel

After selecting a (sub) set of the cues that you want to auto-assign, you will see a button in the right panel stating "Auto-assign pyro addresses". The cues will be addressed accordingly to an entered location and firing time.

2.1.3 Audio Support for *.WAV

We have implemented and enabled the support for *.WAV audio files. These files have been tested for 16 and 32 bit 44.1 kHz files.

2.1.4 Beat Detection

Using several frequency analysis techniques Pyrocommander Software is able to provide a clear visual representation of the WAV file that you have selected. The audiospectrum is devided into several frequency components. Lower frequencies (bass sounds) are indicated by a dark blue color. Higher frequencies (high-hat) are indicated by a lighter blue color. These frequency indicators can be used to create a spot-on cue. Figure 5 shows a partial representation of a WAV file.



Figure 5: A Graphical Representation of the Frequencies in a *.WAV File

2.1.5 Create New Show

As its name states, the Pyrocommander show generator is used to create shows. When creating a new show, you can choose to set up the show as a 24/25/30 frame show. Higher framerates have higher precision. It,

however, is needless to say that you need to choose a framerate that remains compatible with other parties.

2.1.6 Export Show to Controller

The Pyrocommander Controller is the device that runs the cues that have been programmed on the Pyrocommander Show Generator. Therefore, it is necessary to export the created show. You can do this by going to the main menu. In the main menu, you will find an "Export Show" button. The button creates a Pyrocommander Show File (*.PSF). After saving this file to a USB storage device, it can be loaded into the Pyrocommander Controller.

2.1.7 Import *.SCX File

To remain compatible with existing firework show generators/frameworks, you can import an *.SCX file into Pyrocommander. Pyrocommander will - after it recognizes and determines the validity of the *.SCX file - import the cues into the existing project. If no project is currently open, it will create a new one.

2.1.8 Modify Existing Show

After saving a project you can re-open it and continue to work on it. The main menu lists 10 of the latest projects.

2.1.9 Pyro Cues

When the system is set up in record mode you can press the spacebar to set up a pyro cue. After creating a pyro cue you have to assign an address to it to make it a valid cue. Pyro cues are depicted by a triangle in the timeline. If a duration is set up for the cue, then the duration is depicted by a horizontal line. This line will become red when the cue is active and is gray otherwise.

2.2 Pro Features

By default, every new user is entitled to a trial of a month in which all the pro features are available. The pro features are listed in this chapter.

2.2.1 Dmx Cues

Pyrocommander enables users to create cues that trigger DMX channels, scenes or chases. When the show is set in record mode, you can create a DMX cue by pressing (and holding) the enter key on your keyboard. The duration of the press determines the duration of the DMX effect. Figure 5 shows three DMX cues. The red line in figure 5 depicts the duration of the DMX cue. It currently is red because the effect is active. Figure 5 also shows two other DMX cues. As you can see, the duration is less and the color is gray. A gray color indicates that this cue is not active. When the current time (indicated by the yellow marker) reaches the gray DMX-cue line, the line becomes red. Lastly, you can see in figure 5 that not all lines are on the same height. This is due to the fact that the DMX value is mapped to the height. Therefore, a DMX-cue programmed at value 255 will be at its highest position, whereas a cue programmed at value 0 will be at the bottom of the figure.

2.2.2 Dmx Safety Channels

Prepending an 'S' to a DMX channel will define the channel as being a safety channel. The Pyrocommander Controller will patch all defined safety channels under the DMX arm key. If the user activates this key, all patched channels will be set to their corresponding value. E.g:

S100

creates a safety channel at address 100 and will be set to the value defined in the DMX value field. This can be overwritten by appending the channel with an '@'. E.g:

S100@200

creates a safety channel 100 and sets it to value 200.

2.2.3 Dmx Scenes

A DMX scene is a set of DXM channels that are controlled simultaneously. Scenes can be defined in the DMX address field of a cue using the '+' modifier. E.g:

21 + 31 + 41 + 51

will create a scene for the channels 21, 31, 41 and 51 and will set these channels to the value defined in the DMX Value field.

If you would want to set multiple values to channels in a scene, these can be defined using the '@' modifier. E.g:

$$21 + 31@200 + 41@128 + 51$$

will create a scene with the following DMX channels: 21 at the value programmed in the DMX value field, 31 on value 200, 41 on value 128 and lastly, channel 51 is set to the value programmed in the DMX value field as well.

Keep in mind that it is always possible to add a safety channel to a scene. This channel will however not be part of the scene as it will be patched to the key and not to the cue. Hence:

21 + 31 + 41 + S100@255

creates a scene of 3 channels (21, 31, 41) set to the value in the DMX value, and it will create a safety channel 100 set to value 255.

2.2.4 Dmx Chases

A DMX chase is a sequence of DMX scenes. A BPM can be defined in the BPM field and will determine the speed at which the scenes are switched. By default, scenes switch in a sinusoidal manner. A chase also can be set up as a block wave. This setting can be programmed as well in de DMX cue field.

If you would want to set a DMX cue up to contain a chase, you need to use a specific programming method.

(scene1) + (scene2) + (scene3)

is the way how to define a chase. Scenes are defined in section 2.2.3. An example scene could be:

$$(1+11) + (2+22@200) + (3+33+S100@255)$$

This would create a chase containing three scenes. The first scene would set channel 1 and 11 to the value programmed in the DMX value field. The second scene would set channel 2 to the programmed value in the DMX value field and will set channel 22 to value 200. Lastly, the third scene will set channel 3 and 33 to the DMX value field, and creates a safety channel 100 and sets it to value 255.

Keep in mind that successive scenes should never contain the same channels when they are operated in a sinusoidal manner. So never use: (1+11)+(2+11). The generator will start to fade out channel 11 while the second scene will try to fade in channel 11. As these processes work simultaneously, this might cause that channel to shutter.

2.2.5 DMX Preset Database

When programming effects finding the correct DMX channels and values can be a tiresome process. For instance, when controlling certain flames you sometimes need to program up to 5 (or more!) channels. Furthermore, users often need to refer to the manual to lookup which channels need to be controlled. The DMX preset database is used to store all the effects that you want to create. Figure 6 shows the DMX preset database. The database can be reached from the main menu. On the right-hand side of figure 6 you see

a list of all channels that are controlled when this effect is active. Please take notice that the preset channels listed are relative to the DMX start channel of the programmed cue. The selected effect in figure 6 controls two channels. Channel 1 and channel 4. Now let's say the user creates a new DMX cue in the show creator and sets the DMX start channel to value 200. After connecting the cue to the selected effect of figure 6, the controlled channels are calculated using equation 1. Users can assign an effect to a DMX cue by pressing on "Open Effect Library" as depicted in figure 4.

Pyrocommander Show Generator

Description	Manufacturer	Productname	Channels	Fixture (Options		Channel	Valu
Blue	Briteq	Mini Color 7TC	2	Cruste	Delete	5	1	VAR
Green	Briteq	Mini Color 7TC	2	Create	Delete		4	255
Orange	Briteq	Mini Color 7TC	3	Search	Export	J		
Party Mode	Briteq	Mini Color 7TC	3	Edit E	ixturo	5		
Purple	Briteq	Mini Color 7TC	3	D is	XIUIE	-		
Red (Strobe)	Briteq	Mini Color 7TC	3	Description				
Red	Briteq	Mini Color 7TC	2	Blue				
Violet	Briteq	Mini Color 7TC	3	Productname				
White (Strobe)	Briteq	Mini Color 7TC	5	Mini Color 7TC				
White	Briteq	Mini Color 7TC	4	Manufacturer		-1		
Yellow	Briteq	Mini Color 7TC	3	Britag				
				Dineq				
				Create C	Channel			
				DMX Channel (1-5	12)			
						-11		
				Static	Dynamic			
					annal.	51		
				Add Cr	nannei			

Figure 6: The DMX Preset Database

$$controlledChannel = (presetChannel - 1) + dmxStartChannel$$
 (1)

In the DMX preset library, users have the ability to search, create and delete certain effects. A channel/value combination is deleted by double-clicking the effect. A prompt is displayed asking the user for confirmation.

After finding the desired effect, the effect is assigned to the - prior selected - cue by double-clicking on the effect.

2.2.6 Merge Shows

In many cases, it is desired to create separate projects. Each project contains a different part of a show. Perhaps you want to create a project for each artist, or for each part of a show. In the end, you want to have a single file containing all the cues. This is necessary to create a clear overview of the all the cues in the show and to create a single *.PSF file that is uploaded to the Pyrocommander Controller.

You can merge your projects by going to the main menu and choosing for "Combine Project".

2.2.7 Parallel Fire - Pyro Cues

Legacy firework systems execute cues sequentially. Each cue requires a certain amount of execution and transmission time before it is fired. This means that there will always be a delay. Though this delay is hardly noticeable for small groups of pyro shots, this delay is unwanted in certain circumstances. Perhaps you want to fire a rooftop shot (like figure 7a shows) and want everything to go off at exactly the same time.





(a) Cues Fired without Delay

(b) Parallel Toggle

Figure 7: Activation Steps

In this case, you can change the type of a pyro cue to be show parallel. Figure 7b shows the toggle. Set this to "parallel". This does require the slaves to have knowledge when a certain channel has to be ignited. This is a pretty easy and straight-forward step. The manual for the Pyrocommander Controller explains how to do so.

2.2.8 Pyro Effect Database

When programming a show you usually want as much metadata of a cue as possible. Whether it is an effect height, duration, caliber, safety distance, color, quantity or an article number, you want to see this data in the cue list. After creating and selecting a pyro cue, you will see a panel as depicted in figure 4 on the right side of your screen. Manually entering all data is cumbersome and prone to introducing user errors or typos. The pyro effect database solves this issue. Instead of manually entering the data, you can click on the button "Open Effect Library" after which a screen is shown as figure 8 depicts.

Effect Selector	Part of Laboration and											
Article #	Description	Manufacturer	Price	Prefire (ms)	Duration (s)	Height	Color	Туре	Caliber	Angle	*	Effect Options
	Brocade crown/ coconu	-	0.00	0	0	0	-	Zena cake	0.0			Add Delete
pp534	Mine Orange 30	1/1	16.00	0	0	0	-	Mine oran	30.0	-		Add Delete
pp533	Mine Yellow	1/1	16.00	0	0	0	-	Mine Yell	30.0	-		Search Select
pp531	Mine blue 30	-	16.00	0	0	0	-	Mine blue	30.0	-		Export Import (*.efx)
pp533	Yellow mine 30ft	1/1	16.00	0	0	0	-	yellow	20.0			
osko30crbl	crackling komeet 30mm	-	15.00	0	0	0	-	crackling	30.0	-		Search Effect
osko30crrt	crackling komeet 30mm	-	15.00	0	0	0	-	crackling	30.0			Article #
osko30ggbl	glitter komeet 30mm mi	-	15.00	0	0	0	-	glitter ko	30.0	-	=	
osko30ggge	glitter komeet 30mm mi	-	15.00	0	0	0	-	glitter ko	30.0			Description
osko30ggor	glitter komeet 30mm mi	-	15.00	0	0	0	-	glitter ko	30.0	-		mine
osko30ggrt	glitter komeet 30mm mi	-	15.00	0	0	0	-	glitter ko	30.0			
osko30ggvi	glitter komeet 30mm mi	-	15.00	0	0	0	-	glitter ko	30.0	-		Manufacturer
pp519	gold glitter mine 25	-	16.00	0	0	0	-	mine gold	25.0			
osko30goaq	goud komeet 30mm mi	-	15.00	0	0	0	-	goud ko	30.0	-		Price (<=less, >=larger)
osko30goge	goud komeet 30mm mi	-	15.00	0	0	0	-	goud ko	30.0			<20
osko30gogr	goud komeet 30mm mi	-	15.00	0	0	0	-	goud ko	30.0	-		Profire (ms) (<=less >=larger)
osko30gomg	goud komeet 30mm mi	-	15.00	0	0	0	-	goud ko	30.0			Tenre (ma) (< 1655, > 101ger)
osko30gomt	goud komeet 30mm mi	-	15.00	0	0	0	-	komeet 3	30.0	-		
osko30brmi	goud komeet 30mm mi	-	15.00	0	0	0	-	goud ko	30.0	-		Duration (s) (<=less, >=larger)
osko30goor	goud komeet 30mm mi	-	15.00	0	0	0	-	goud ko	30.0			
osko30gort	goud komeet 30mm mi	-	15.00	0	0	0	-	goud ko	30.0			Height (<=less, >=larger)
osko30brtu	goud komeet 30mm mi	-	15.00	0	0	0	-	goud ko	30.0			
osko30govi	goud komeet 30mm mi	-	15.00	0	0	0	-	violet ko	30.0	-		Turne
osft30fraq	mine 30 mm aqua	-	15.00	0	0	0	-	mine 30	30.0	-		туре
osft30frge	mine 30 mm geel	-	15.00	0	0	0	-	mine 30	30.0	-		
osft30frmt	mine 30 mm mint	-	15.00	0	0	0	-	mine 30	30.0			Color
osft30frsi	mine 30 mm zilver	-	15.00	0	0	0	-	mine 30	30.0	-		
osft30frbl	mine 30mm blauw	-	15.00	0	0	0	-	mine 30m	30.0	-		Caliber (<=less. >=larger)
osft30frbr	mine 30mm brocade	-	15.00	0	0	0	-	mine 30m	30.0	-		(isos, i laiger,
osft30brbl	mine 30mm brocat naar	-	15.00	0	0	0	-	mine 30m	30.0			
osft30brrt	mine 30mm brocat naar	-	15.00	0	0	0	-	mine 30m	30.0	-		Angle
osft30frgr	mine 30mm groen	-	15.00	0	0	0	-	mine 30m	30.0			
osft30frmg	mine 30mm magenta	-	15.00	0	0	0	-	mine 30m	30.0	-		
orft30fror	mine 30mm oranie		15.00	0	0	0		mine 30m	30.0		*	

Figure 8: The Effect Database

In this screen, you have the ability to search for certain effects. You can search for effects with - for instance - a height lower than 10 mt with a red color. You can use '<' and '>' operators to filter a range less than or larger than a certain amount. If you want to filter the effects less than 10 mt you define a filter '<10'.

Please note that there are two ways of opening the effect database. You can open it from the main menu, and you can open it by clicking "Open Effect Library" form the effect detail panel. The first does not allow you to select effects as no cue is selected.

2.2.9 Reading Timecode from a Midi Device

The Pyrocommander show generator has the ability to read midi timecode from USB devices attached to the computer². You can use your computer as a monitor to see how long you have to wait for the next cue. You can set up the Pyrocommander show generator to read timecode by connecting the

 $^{^2\}mathrm{Supported}$ interfaces such as the MIF4

source to the computer. After setting up a connection go to the main menu and choose for "Midi Settings".

Pyrocommander - MIDI Setup
MIDI Configuration
Please select a desired MIDI configuration
Read Timecode From USB
Write Timecode To USB
Cancel Next

Figure 9: Midi Configuration Screen

Figure 9 shows the screen that is displayed after clicking on "Midi Settings". Now choose "Read Timecode From USB" and press "Next". The following screen lists the possible midi devices. Choose the desired device. Now you can return back to the show generator and it should receive timecode.

2.2.10 Reminder Cue

To provide a clear overview of certain slots or important moments in a show you can use reminders. Select a moment using your mouse and click "Add Reminder". In the edit box, you can define a description. The reminder is highlighted in orange in the timeline as well in the cue list as figure 10 shows.



Figure 10: A Reminder Cue

2.2.11 Report: Showscript

The show script contains a list of all the moment that require your attention during a show. The report is ordered timewise.

Timecode	Cue type	Duration	Location	Туре	Description
00:01:32:22	PYRO	0 sec		mine 30mm	mine 30mm rood
00:01:34:16	PYRO	0 sec		mine 30mm	mine 30mm blauw
00:01:35:08	PYRO	0 sec		mine 30 mm	mine 30 mm zilver
00:01:36:00	PYRO	0 sec		mine 30mm or	mine 30mm oranje
00:01:36:12	PYRO	0 sec		multi color	30sec romeins multi color
00:01:39:24	DMX	13 sec	Front of House		CO2
00:01:53:07	NOTE	0 sec			Second Part
00:01:53:15	DMX	0 sec	Left of House		Flame
00:01:54:02	DMX	0 sec	Left of House		Flame
00:01:54:04	DMX	0 sec	Left of House		Flame
00:01:54:07	DMX	0 sec	Left of House		Flame
00:01:54:10	DMX	0 sec	Left of House		Flame
00:01:54:12	DMX	0 sec	Left of House		Flame

Show Script

Figure 11: Report: Showscript

2.2.12 Report: Loading

It is very important to fire the correct effects at the programmed times. Therefore, you need a clear overview which effects need to be set up at certain channels. In certain cases, you want to fire certain effects that need to be set up in series. The loading report provides a clear overview how to connect effects and is depicted in figure 12.



Figure 12: Report: Loading

2.2.13 Report: Pyro

When designing a show you want a clear overview of the net costs of the effects. Furthermore, before a show you need to be sure you have all the required effects with you and that you did not forget anything in one of your firework bunkers. The pyro reports lists all the pyrotechnics. You can choose to list or omit the net prices. Figure 13 gives an example of the pyro report.

Pyrotechnics Over

Qty	Article nr.	Туре	Description	Unit price	Subtotal
1	230	multi color 940104	30sec romeins multi color	15.00	15.00
1	osft30frbl	mine 30mm blauw	mine 30mm blauw	15.00	15.00
1	osft30fror	mine 30mm oranje	mine 30mm oranje	15.00	15.00
1	osft30frrt	mine 30mm rood	mine 30mm rood	15.00	15.00
1	osft30frsi	mine 30 mm zilver	mine 30 mm zilver	15.00	15.00
	•			Total Price	: 75.00

Figure	13:	Report:	Pyro
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2.2.14 Report: Location

It is very important to set the right equipment and slaves at the locations that you intended them to be. The location report of figure 14 shows which products you have to set up at the particular locations.

Location Overview Front of House

Product	Channel
CO2	100

Left of House

Product	Channel	
Flame	101	

Unknown Location

Product	Channel
Pyrocommander Slave	01

Figure 14: Report: Location

2.2.15 Report: Inventory

Imagine that you have created an amazing show full of all sorts of effects. After arriving at the location you notice that you forgot a CO2 jet and another effect. The inventory report gives a clear overview of all the products that are required to carry out the show.

2.2.16 Slow-motion Mode

The best pyrotechnical shows contain effects that are programmed to certain sound elements or beats. Though the free version already contains frequency analysis tools that allow you to visually detect beats, you sometimes want to program the cues by ear. For beats exceeding 168 BPM, this can be quite difficult. Now you can use the slow-motion mode. This decreases the play rate of a track up to 900%.

Table 1:	: Shortkeys	to change	playrate
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Shortkey	Speed
0	100%
1	100%
$\operatorname{ctrl} + 0$	100%
$\operatorname{ctrl} + 1$	100%
$\operatorname{ctrl} + 2$	50%
$\operatorname{ctrl} + 3$	33%
$\operatorname{ctrl} + 4$	25%
$\operatorname{ctrl} + 5$	20%
$\operatorname{ctrl} + 6$	17%
$\operatorname{ctrl} + 7$	14%
$\operatorname{ctrl} + 8$	12.5%
$\operatorname{ctrl} + 9$	11%

2.2.17 Total Export (*.CSV)

The reports described in sections 2.2.11, 2.2.12, 2.2.13, 2.2.14, and 2.2.15 are frequently used reports. In many cases you want a different setup or look. Or perhaps you are missing certain crucial information. In that case you can choose to export the cues as a *.CSV file.

2.2.18 Writing Timecode to a Midi Device

As section 2.2.9 described you can read midi timecode from a USB device. In some cases, it can be desirable that you are the master generator for the

audio as well as the timecode. You can use your computer to output sound and use your computer to create a timecode signal that the Pyrocommander controller uses to fire a show. Now you are in control of your own show and do not depend on third parties.

2.3 Comparison

Though sections 2.1 and 2.2 clearly stated the features for both versions, table 2 lists the features for the free version and the features for the PRO version.

Feature	Free	PRO
Custom columns	\checkmark	\checkmark
Auto-assign addresses	\checkmark	\checkmark
WAV support	\checkmark	\checkmark
Visual beat detection	\checkmark	\checkmark
Create show	\checkmark	\checkmark
DMX cue support	\checkmark	\checkmark
Export show to controller	\checkmark	\checkmark
Import *.SCX files	\checkmark	\checkmark
Modify existing shows	\checkmark	\checkmark
Pyro cue support	\checkmark	\checkmark
DMX preset databaes	×	\checkmark
Merge shows	×	\checkmark
Parallel fire	×	\checkmark
Pyro effect database	×	\checkmark
Reading MTC	×	\checkmark
Reminder cue support	×	\checkmark
Report: Showscript	×	\checkmark
Report: Loading	×	\checkmark
Report: Pyro	×	\checkmark
Report: Location	×	\checkmark
Report: Inventory	X	\checkmark
Slomotion mode	X	\checkmark
Total export to *.CSV	X	\checkmark
Generating & Writing MTC	×	\checkmark

Table :	2:	Com	parison	Free	V.S.	PRO
Table 7	∠.	COm	parison	TICC	v	1 100

3 Shortkeys

Shortkey	Function
$\operatorname{ctrl} + a$	select all cues
$\operatorname{ctrl} + n$	create new project
$\operatorname{ctrl} + \mathrm{o}$	open project
$\operatorname{ctrl} + \mathrm{s}$	save project
$\operatorname{ctrl} + z$	undo
$\operatorname{ctrl} + \operatorname{shift} + z$	redo
F5	play
F6	pause
F7	stop
F8	record
del	delete (selection) cue
space	add pyro cue
enter	add dmx cue
'+'	add 1 frame to cue (selection)
shift + +'	add 1 second to cue (selection)
$\operatorname{ctrl} + +'$	add 1 minute to cue (selection)
alt + '+'	add 1 hour to cue (selection)
·_'	remove 1 frame to cue(selection)
shift + '-'	remove 1 second from cue (selection)
ctrl + '-'	remove 1 minute from cue (selection)
alt + '-'	remove 1 hour from cue (selection)

Table 3: Shortkeys