

ptx Radio IC 48

Manual

Dear client

Thank you very much for buying the German engineered **ptx system**. We are very pleased you made the decision to use our products.

Pyrotronix Show Control Systems assures you state of the art equipment with components designed for reliable performance indoor and outdoor. The rugged components of the **ptx system** offers the firework-designer enormous set up possibilities as well as an easy and simple work flow from the show script till the set up.

Please note that all manual as well as all screen displays, keyboard layouts, hardware descriptions or software are subjects to copyrights and other intellectual property rights of PYROTRONIX Show Control Systems GmbH, Germany.

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2. GENERAL SAFETY INSTRUCTIONS

The correct order of setting up and connecting **ptx system** is mandatory for every user in order to achieve the highest degree of safety. At the beginning of the setting up process please ensure that the control panel key is with the responsible person.

ptx system must only be operated with original equipment and accessories manufactured by Pyrotronix Show Control Systems, Germany. The use of non-original equipment may result in the malfunction of the **ptx system**. Misuse of the **ptx system** may lead to property damage or personal injury. The **ptx system** is designed for professional use only.

Professional fireworks/pyrotechnic operators shall only use the system in a controlled professional environment permitted by the authority having jurisdiction. **ptx system** shall only be used to ignite pyrotechnics and fireworks. Connecting components or effects to the system is only allowed, when no power source is connected to the system whenever you are setting up, connecting or adding components or effects.

This also applies to every kind of work with fireworks/pyrotechnic devices.

Before using **ptx system** and effects in public places, the necessary notifications/ permissions must be obtained from the responsible authorities. When working in close proximity to people, staging, scenery or similar things it is very important that safety standards be closely followed. Familiarity with, staging, scenery, or similar things is necessary to maintain appropriate safety standards.

Smoking and open flames or lights shall be banned in the pyrotechnic/fireworks area. You shall be familiar with the fire alarm, detection and suppression systems.

Observe the safety instructions in this manual. Observe the safety instructions of the fireworks/pyrotechnic effects and respect the recommend safety distances. The operating technician must have an unrestricted view to the firing position as well as to the whole fireworks/pyrotechnic area. Never put your face or other parts of your body over fireworks/pyrotechnic effects with armed ignition boxes. Maintain the appropriate distance of separation for the effect or firework being used when **ptx Ignition System** gets powered.

The specific procedures pertaining to the use and operation of the **ptx Ignition System** are outlined in the user manual. Deviation from any of the procedures outlined in this manual are specifically forbidden and not recommended by Pyrotronix GmbH. Any deviations to the procedures as outlined in the user manual may result in property damage or personal injury.

Any deviations to the procedures as outlined in the user manual is considered a misuse of the system and done so at your own risk.

PYROTRONIX Show Control Systems GmbH Germany cannot be held responsible for any harm caused by the misuse, improper electrical connection, failure to properly maintain, improper handling of pyrotechnics and fireworks or deviation from the procedures outlined in **ptx system** user manual.

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3. DESCRIPTION OF PTX RADIO IC 48

ptx Radio IC 48 is a ignition box with 48 outputs, fielded in 3 parts of 16 outputs. Setting the address is possible with 3 turn switches above the outputs.



At the right side there is the main power switch ON/OFF, aside a green (battery capacity) and red LED (Armed), antenna socket, Data IN and Data OUT to connect ptx IC 48 with other ptx devices, main power (charger) and the turn switch to set the frequency.



A stepper function with 16 different intervals can be programmed.

ptx system is a bidirectional system, with a ptx Controller all outputs can be programmed, tested and ignited (s. manual of ptx Controller).

4. ADDRESSING OF PTX RADIO IC 48

There are three turn switches for each group of 16 outputs.

Setting the address is possible by 3 turn switches. Up to 200 different addresses are available.



Additional to the address the function of the box can set with the left turn switch.

2 different features are available:

- Ignition box, every single output can be programmed, adjustment IC.



- Stepper, started by one impulse and running in a definite interval, adjustment STEP.



5. ADDRESSING PTX RADIO IC 48 IN OPERATION MODE IC IGNITION BOX

With the turn switches, the address will be set, left turn switch is in zone IC.

* switch setting IC 001 = ptx IC 48 , address Nr. 1



* switch setting IC 011 = ptx IC 48, address Nr. 11



* switch setting IC 111 = ptx IC 48, address Nr. 111



(*left to the right)

Up to 200 different addresses are selectable. Programming of every single output is possible with any ptx Controller, description will be find into the respective manuals.

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6. ADDRESSING PTX IC 48 IN OPERATION MODE **STEP** STEPPER

With the turn switches, the address will be set, left turn switch is in zone **STEP**.

* switch setting **STEP** 001 = ptx Stepper address Nr. 1



* switch setting **STEP** 011 = ptx Stepper address Nr. 11



* switch setting **STEP** 111 = ptx Stepper address Nr. 111



(*left to the right)

Up to 200 different Stepper addresses are selectable.

16 different intervals can be programmed. Duration of the interval depends on the positioning of the cue No. (starting time).

Adjustable intervals:

1s	900ms	800ms	700ms	600ms	500ms	400ms	300ms
200ms	100ms	80ms	60ms	40ms	20ms	10ms	0ms

Different intervals are settable by positioning of the programmed cue No.

Ausgang 1	Ausgang 2	Ausgang 3	Ausgang 4	Ausgang 5	Ausgang 6	Ausgang 7	Ausgang 8
1s	900ms	800ms	700ms	600ms	500ms	400ms	300ms
Ausgang 9	Ausgang 10	Ausgang 11	Ausgang 12	Ausgang 13	Ausgang 14	Ausgang 15	Ausgang 16
200ms	100ms	80ms	60ms	40ms	20ms	10ms	0ms

Ignition starts always from output 1 and is running to output 16.

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The picture below shows a ptx IC 16, every interval is assigned to an output.

Cue No. 1, dedicated to output 5, means: Stepper starts at cue No. 1, the interval between the single outputs is 600ms (0,6s).

300 ms		8	0 ms		16
400 ms		7	10 ms		15
500 ms		6	20 ms		14
600 ms	1	5	40 ms		13
700 ms		4	60 ms		12
800 ms		3	80 ms		11
900 ms		2	100 ms		10
1 Sec		1	200 ms		9

Next example: Cue No. 1, dedicated to output 11, means: Stepper starts at cue No. 1, the interval between the single outputs is 80ms (0,08s).

300 ms		8	0 ms		16
400 ms		7	10 ms		15
500 ms		6	20 ms		14
600 ms		5	40 ms		13
700 ms		4	60 ms		12
800 ms		3	80 ms	1	11
900 ms		2	100 ms		10
1 Sec		1	200 ms		9

Cue No. 5, dedicated to output 5, means: Stepper starts at cue No. 5, the interval between the single outputs is 20ms (0,02s).

300 ms		8	0 ms		16
400 ms		7	10 ms		15
500 ms		6	20 ms	5	14
600 ms		5	40 ms		13
700 ms		4	60 ms		12
800 ms		3	80 ms		11
900 ms		2	100 ms		10
1 Sec		1	200 ms		9

Cue No. 24, dedicated to output 16, means: Stepper starts at cue No. 24, the interval between the single outputs is 0ms (0,00s), all 16 outputs ignite at the same time.

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300 ms		8	0 ms	24	16
400 ms		7	10 ms		15
500 ms		6	20 ms		14
600 ms		5	40 ms		13
700 ms		4	60 ms		12
800 ms		3	80 ms		11
900 ms		2	100 ms		10
1 Sec		1	200 ms		9

Are there several cues dedicated to one stepper, the first programming cue (output 1- 16) is valid.

Allocating safety zones to a stepper is possible (s. Manual ptx Controller). Activated safety zones prevent the start time of the stepper. The ignition can't stop by activating the safety zone, if the stepper is already started. At this moment a break- off is only possible by a ptx Controller (s. Manual ptx Controller).

7. ADDRESSING PTX IC 48 IN OPERATION MODE IGNITING CONFETTI LAUNCHER

With ptx Radio IC 48 it is possible to ignite Confetti Launcher. Igniting Confetti Launcher is only possible with the middle module. To provide the necessary power the right address switch has to be set on position **9**.

Position No. **9** extends the time frame to provide ignition power for a longer period. Because of this setting shooting of Confetti Launcher is only possible with address 1 to 99.

*switch setting Confettilauncher **01** = ptx address No. **01**



*switch setting Confettilauncher **99** = ptx address Nr. **99**



8. BATTERY

ptx Radio IC 48 is equipped with a powerful Li- Ionic Battery.
Green LED shows the capacity LED of the battery.

LED green	=	100% - 51%
LED green flashing	=	50%- please Charge battery

**Please notice the advice for charging the battery. As soon as the green LED is flashing, battery has to be charged. Please connect MAIN POWER with main power supply.
!!! Complete discharging of the battery can destroy the battery !!!**

Stand By Time of ptx Radio IC is 70 Std. For charging please connect the original charging cable with main power supply.

9. SETTING FREQUENCY

Setting frequency is possible with the frequency switch at the side of the case. There are 16 different frequency channel (1 – F).



Transmitter and receiver must be set on the same frequency.

10. IGNITION

Red LED at the side of the box shows the status of Radio IC 48.

Red LED ON	=	ARMED
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11. TECHNICAL DATA

Outputs/Outgoing channel	48
Battery	Li-Ion
Ignition power	70V
Ignition capacity	40 igniter per output, 30Ω
Stepper function	integrated
Interval	16
Range	1000m
Frequency	0- E 869MHz, F 915MHz
Radio channel	16
Connected ptx boxes (Data Out)	max. 20 ptx IC 16 or 6 ptx IC 48
Stand by time	70h
Charging Voltage	110/230V AC
Dimension (L x H x B)	406 x 330 x 174mm
Weight	6,56kg

**To shoot confetti launcher the left address switch of ptx IC Box has to set on position No.9. Shooting confetti launcher with ptx IC 48 and ptx radio IC 48 is only possible with the middle module
Position No. 9 extends the time frame to provide ignition power for a longer period.**

**Please notice the advice for charging the battery. As soon as the green LED is flashing, battery has to be charged. Please connect MAIN POWER with main power supply.
!!! Complete discharging of the battery can destroy the battery !!!**