

SLAVE 30CH-100V

User Manual



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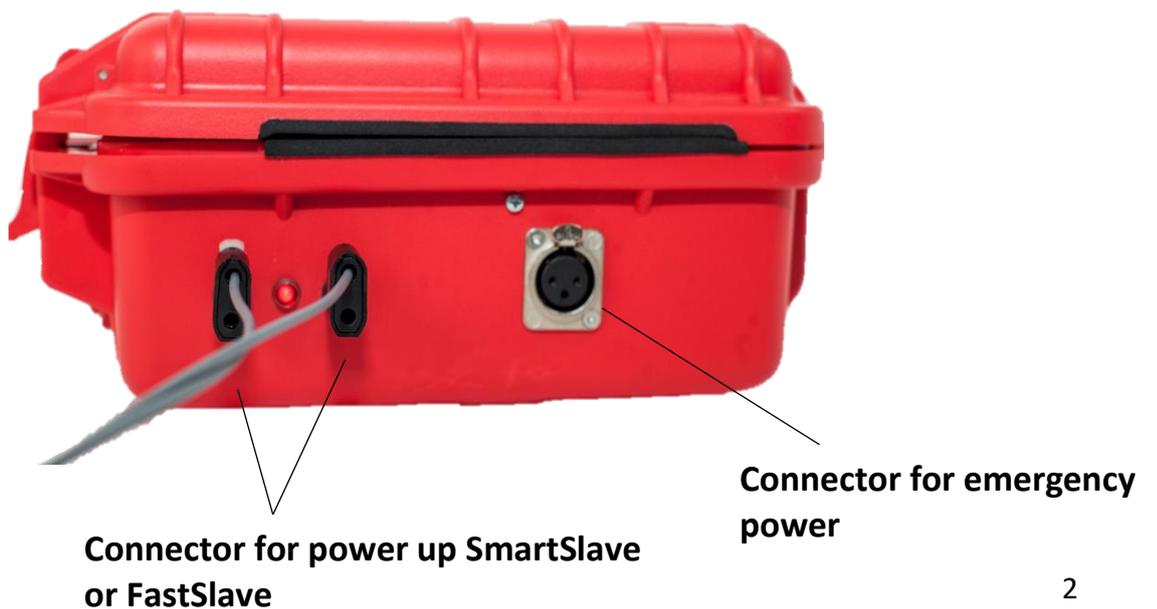
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**OPZIONE
SUPERSLAVE**



1 How to use

Slave 30 CH 100v is the module designed to ignite the fireworks connected through igniter. If you work with single ignitions, Slave 30CH 100 V have to receive a single impulse for every channel to execute; if you need sequential ignition you have only to send a unique fire-impulse to execute the entire ignitions sequence.

The ignition command can be send:

1. By one of the Master modules (**Master FullPower, Master Full or Master Manual**). In this case, ALL the ignition command (even the TRIGGER impulse) pass through the wire with **XLR connector** connected on the back side of the case, In case you have to perform a show in automatic o semi-automatic modality (through Master Full o FU.MU. Software) the planning of the ignitions in sequential modality have to be performed contextually to the planning of the entire show, by using the simulator or the interface of show creation you can find in the Master Full module. In case of a show that have to be executed in manual modality, through Master Full or Master Manual, the planning of the ignitions in sequential modality have to be done in Slave 30 Ch 100V. In this case you have to send a unique TRIGGER impulse to from the Master to execute the show.
2. As an alternative, the ignition command can be send through a TRIGGER impulse by:
 - a external battery
 - another Slave 30 C
 - an Easy Fire module

This TRIGGER impulse have to be send by using the two specific connectors on the left of the principal switch.

The 30CH 100V Slave therefore has a tremendous flexibility of use

2 TRIGGER

TRIGGER is the electronic/digital impulse that do the signal of a single ignition or a sequential ignition to the Slave 30 CH 100V.

By using this ignition modality, if you need a sequential ignition you have only to send one TRIGGER impulse to execute the show. In case of ignition of single channels, you need as TRIGGER impulses as the channel to ignite.

ATTENTION: in case of use through Masters, the transmission of TRIGGER through the frontal connector can compromise the mode of operation of the Slave Module!!!

In this case you have to remember that the TRIGGER impulse go through the XLR connectors.

3 Placement of the igniters

That igniters have to be connected by moving the lever of the unbreakable terminals, by get in position every head of the connection wire in one of the two terminals (red and black) you can find in every ignition channel.

Piroshow guarantee always an ignition voltage of 100v: so it is possible to connect even 50 igniters for every channel!

Obviously, in case of series connection, all the igniters will go in execution at the same time.

Piroshow invite the pyrotechnicians to insert the igniters with the Slave 30 CH module off.

4 Module start

Turn the switch ON. A green led confirm the starting of the Slave, the LCD monitor display the software system of the module after a welcome message, then the screen "WAIT PRIMER" (ATTESA INNESCO) with the preliminary message to the main menu "PUSH OK TO PROGR." (PREMI OG X PROG.)



Push



The main menu is neat in the following functions:

1. **CONSTANT SEQUENCE:** allows the setting of a Constant series
2. **ACCELERATED SEQUENCE:** allows the setting of a fast series
3. **DECELERATED SEQUENCE:** allows the setting of a slow series
4. **PROGRAMMED SEQUENCE:** allows the setting of a planned series
5. **SIMULATED SEQUENCE:** allows the setting of a simulated series
6. **TIMING INFORMATION:** display the summary of the last series

5 How to access to the functions

To access to this functions you have to be in the page "WAIT PRIMER".

1. **Display and modification ID of the Slave:** push the arrow up and immediately, keeping the pressure, the arrow left.



The screen display the current ID of the Slave. If it is confirmed push ok to go to screen "WAIT PRIMER" (ATTESA INNESCO), if not use the two arrow to scroll the possible numerical sizes forward and back until you find the right one.

Push OK to go back to the "WAIT PRIMER" screen.

2. **Test linea:** push the left arrow



The LCD screen display the line test for every channel of the Slave. Line test key:

* : the igniter is present and working.

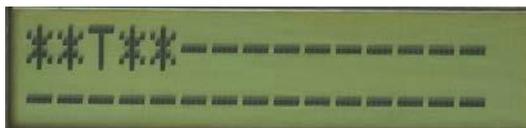
- : absent or not working igniter. Causes:

The igniter is not accurately connected, control the connection.

The igniter is in short circuit, substitute the igniter.

T : presence of a TRIGGER or a problem of impedance (the number of connected igniter in that channel is too high)

ESEMPIO TEST CANALE



Once finished the check of line test with the list of ignition, push OK.

The next screen show the battery charge state and the exit voltage for every single channel.



T = internal temperature, expressed in Celsius degrees.

H = internal humidity, expressed as a percentage.

In = Entry voltage, state of charge (alike all the modules with 12V standard battery):

- 12V or higher = optimal voltage.
- Until 11,7V = warning! The state of charge could be insufficient to finish the a big or medium show.
- 11,6V or lower = charge immediately! Battery insufficient.

Vout = Exit voltage:

100V standard – it guarantees 50 igniter in series.

The exit voltage depends on the right operation of the internal circuits and on the state of the battery.

- The indication of the exit voltage with values between 120V and 90V guarantee the perfect operation of the module.
- The indication of the exit voltage with values lower than 90V can depend on a low level of charge of the battery or on a bad operation of the internal circuits. In this case send to the customer assistance.

Push OK to go back to the “WAIT PRIMER” screen.

3. **SuperSlave option.** To activate the **SmartSlave** power output: press the dart with the tip up and immediately and keeping the pressure OK.



The SuperSlave comes from a simple modification to the 30CH Slave, to which a new output is added that allows you to power up to 15 SmartSlave at the same time. The change can also be made to a Slave that you already own, in which case contact the assistance.

The connection between SuperSlave and SmartSlave is very simple: the SmartSlaves must be connected in parallel with a simple telephone pair or a normal electric cable, after the connections, the last SmartSlave cable is connected to the Super Slave through the two connectors to be inserted into the side holes. This option will allow you to have 480 channels available!

Note: from the SuperSlave it is not possible to test or change the ID of the connected SmartSlave, in this case, it is necessary to use the ID Programmer or the Master.

Note: it is important to make sure that the identity of the SuperSlave does not coincide with any of the identities assigned to the SmartSlave.

Push OK to go back to the "WAIT PRIMER" screen.

6

Costant series



In constant series modality the pyrotechnician insert a time interval that the Master will extend to all the channel involved in the execution of the series.

The pyrotechnician will have to insert the constant **time interval** he chooses and how many of the 30 channel will be involved in the series. For the software settings, the Slave consider the involved channel always starting from the channel number 1, so if the pyrotechnician want to set a series of 15 ignition, the channel involved will be from number 1 to number 15, if the series expect 27 channels they will be from 1 to 27 (never from 3 to 30!)

To set two constant, fast and low series in the same unit will not be possible even if the sum of the involved channel would be lower than 30 (both the series will start from number 1 so the second series will cancel the first in the memory of the Slave).

Note 1: despite to insert more than 30 involved channel is possible (possibility allowed and functional in the hypothesis of fast and low series) the series will stop at channel number 30.

Note 2: to insert a constant series with a number of ignitions higher than 30 is however very simple. It is sufficient to set a constant series with the same interval between the ignitions in all the necessary Slave for the definite number of ignitions. Then connect the number 30 channel to the TRIGGER entry of the next Slave and so on. Once the number 1 channel of the first Slave is executed the series will go on automatically until the end.

➡ Hot to set a costant series:

You have to choose a time interval between the ignitions (**max 59,99 sec.**) and the number of channels (**max 30**).

The pointer will flash on the second tens corresponding number at the beginning.

Use the up arrow to set the number you desire and push OK.

The pointer will flash now on the seconds number, use up arrow again to set the number you desire and push OK.



SEQ.: COSTANTE
T: 00.00s CH:030

Do the same process for tenth and hundredth of seconds.



SEQ.: COSTANTE
T: 00.20s CH:030

The pointer will flash on the number of channels now.

NOTE: even if the number you can select are three, the maximum number of channels is **30** and so the first number must be **0** always. Set the number of channels in the same modality used for the time interval.

The system will ask if you want to set a TRIGGER impulse between the ignitions at the end, choose YES or NO by using the up arrow than push OK..



TRIGGER?
NO SI

7 Fast and low series

In the fast series modality the pyrotechnician will have to set the number of involved channels and the **total duration** of the series. The software of the Slave 30 CH unit will elaborate a series of time interval shorter and shorter (or higher and higher for the low series) depending on the number of ignitions set.

The sum of the time intervals will be exactly equal to the time set by the pyrotechnician in the setting phase. the pyrotechnician will have available 30 channels in the standard modality. (as many as the ones of the Slave 30 CH).

The Slave considers the involved channels in the series always starting from channel number one, by software settings.

The internal software of every Slave 30 CH is able to elaborate a Fast or Low **Super Series**: a series with the number of ignition higher than 30, with hundreds of ignition, until max 999. A really amazing number. Once the number of ignitions is set, the pyrotechnician will have to divide the number by 30 (the maximum number of every single Slave 30 CH) to define how many Slave will have to use for the series. For example a fast series of 280 ignitions will require of 10 Slave 30 CH ($280/30=9$ with the rest of 10; the first 9 will be completely used and the last one will be used for the last 10 ignitions).

Since the portions of the Super Series, on every Slave and for the complete execution, will have different times everyone, you need to set for every Slave a number of order depending on the position of ignition in the context of the series.

► How to set the fast or low series:

You will need to choose the total duration of the series (**max 59,99 sec.**) and the number of channels.

The pointer will flash on the number corresponding to tens of seconds at the beginning. Use the up arrow to set the number you desire and push OK.

The pointer will flash on the number of seconds, use the up arrow again to set the number you desire and push OK.

Do the same process for tenth and hundredth of seconds.

The pointer will flash on the number of channels now.

Set the number of channels in the same way of the duration.



SEQ.: ACCELERATA
TT: 10.00s CH: 030

Note: if the number of used channels is higher than 30 the **Super Series** modality will start automatically (in this case you will need a number of Slave equal at the total ignitions' number divided by 30). In this case, to complete the Super Series, you will have to indicate the order of ignition of the Slave you are working on complying with the others.



ORDINE DI SPARO
NUMERO: 01

Do the same process to the other Slaves you need to complete the Super Series, always setting a different number of order of ignition.

Example: the series have 75 ignition so you need 3 Slaves. Set the super series on every Slave, set the order = 01 for the one that will execute the first 30 ignition, order=02 on the one that will execute the ignitions between 31 and 60 and order =03 on the last one.

Note: the system visualize the request of order even if you set less than 30 ignition. In this case confirm 01.



In the planned series modality, the pyrotechnician can choose the duration of the time interval between every channel of the Slave. Contrary to the constant series where the time intervals are equal, or to the fast and low series where the intervals follow the logic of a progressive reduction or prolongation, in the planned series the pyrotechnician have the freedom to define the time intervals between the ignitions, even different each one. This creativity freedom give the possibility to set series that fit with music or other external events and the possibility to use the Slave to the automatic execution of portions of the show.

Note: a planned series, contrary to the other, can follow a constant, fast or low series that doesn't use all the 30 channels in the same Slave.

➡ How to set a planned serie:

Contrary to the other ones in precedence, with this modality you will need to specify the parameter for every single interval.

At the beginning the system will show the screen to set the interval between the channel 00 and the channel 01.



Use to up arrow to change the interval, then push ok.



Ex. interval channels 01 - 02

Piroshow Slave 30 CH - 100V

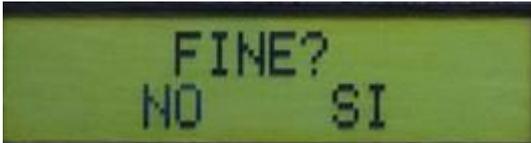
The pointer will flash on the number of the tens of seconds.

Use the up arrow to set the number you desire and push OK.

The pointer will flash on the number of seconds now, use the up arrow again and push ok. Do the same process for tenth and hundredth of seconds. (see Constant series)

Once you have set the hundredth of seconds, choose if you want to insert a TRIGGER impulse or not for the interval, choose TR:NO or TR:YES.

The system will ask if the settings for the intervals are closed or if you want to continue with other intervals. The message END? Will be shown.



If you choose to continue the display will show the screen for the next interval.

Proceed for all the intervals and select YES when the message END? Is shown.

Now, the series is set and memorized by the Slave.

When the setting of a constant, fast or slow series is finished it is possible to simulate the effect through the voice Simulated Series (number 5) or to verify the times with Times Information (number 6).

You can switch the module off and insert the igniters you desire.

Note: even if the Piroshow system is guaranteed by fortuitous ignitions is better to insert the igniters with the module off.

9 Simulated series



When you enter this voice in the menu of the Slave you can simulate the final effect through the light of the led near every channel e with the emission of beeps. The possibility to simulate the series is a big opportunity for the pyrotechnician because it allows to made corrections if the effect doesn't fit with his desire or to correct the mistake made in setting operations.

Note: in case of a Super Series, obviously, the start of the series will execute only the portion of the Super Series following the order of ignition set by the pyrotechnician in setting operations.

10 Times information



Times information is the voice of the menu that visualize the summary of the settings made by the pyrotechnician. In case of a constant, fast or slow series, the screen of times information indicate the type of series set, the time interval between the ignitions or the total duration of the series an in addition the number of ignitions of the series.

Warranty conditions

All the Piroshow product are covered by international warranty for flaws, bugs or malfunctions following the European Directive 1999/44/CE and the Italian D.Lgs. 206/2005.

If the product you receive is not functioning or bad functioning the customer has the right to the substitution or the right of withdrawal, after the immediate communication following the laws.

All the Piroshow products are high tech condensate, the warranty on the right function extend for two years from the date of purchase and depends on the right use of the product, on the right maintenance and on the lack of alteration.

Norms of validity of the warranty:

- Each module have to be used after the reading of the user manual and the instructions it contains.
- Be always sure that not authorized people will not go on the field of the show and interfere with the ignition system.
- The Piroshow modules are appointed to the ignition of fireworks so the their safety and the safety of the show **depends even** on the right execution of the norms of the single fireworks. Be sure to have a special regard to the ones that are sensible to electromagnetic fields.
- The Piroshow products that are indicated as resistant to atmospheric agents have to be used with the case hermetically closed. In case this is not possible, the pyrotechnician have to cover the modules to protect them with an adequate covering.
- Where expressly indicated, the Piroshow products are resistant to heat and to the ashes produced during the execution of the show. Anyway do not position the module too near the fireworks. In any case, the Piroshow module are not resistant to flames.
- The exits, the doors, and the entries that allow the communication e the wiring between the Piroshow modules are guaranteed in their impermeability only trough a correct use. The hermetic top have to be **perfectly closed**, in exception of the time you need to connect the wires for the show execution.
- Use only intact product for the show. If you think there is any problem, do not use the module and do not try to reparations. The use of a not intact module put at risk the health of the pyrotechnician, of his assistants and to public of the show! The inspection and the test of the module is basic in case of rent from other fireworks companies!
- All the connectors and the entries have to be cleaned after the shoe.
- Piroshow is the only company that can repair and do the maintenance service. Considering the assembly method and the internal technology, the opening of the module is not authorized and is cause of decline of the warranty

Safety regulations

The following rules have to be followed to better understand the more relevant safety regulations. The safety regulations were born from our experience and from the daily contact with our customers and permit the safe application of all the components of our of remote-controlled ignition systems. Piroshow is happy to receive further suggestions from the pyrotechnicians to improve the indications that regard the safety in the execution of the shows.

The following safety regulations are part of the instructions of all our systems.

The instructions have to be made available for all the people that are in contact with this aspect of your company.

Every technical system can potentially cause errors.

An erroneous use, damages, usury an ageing advance the introduction of errors.

The Piroshow electronic system of ignition is the most valid support for the pyrotechnician for the electronic ignition of the show and to exalt his artistic creativity, but is in relation with materials, firework, that are dangerous.

This is the motivation that made this rules.

1. Smoking and keeping tools that can make sparks is always forbidden in the zone of the show.
2. Implement all the anti-fire actions and aid actions you need based on the fireworks you use.
3. Respect the National rules, the technical rules and the user instructions of the fireworks and their clauses.
4. Be sure that unauthorized people can't access to the fireworks and ignition systems.
5. Respect the safety zones following the laws and the producer norms. Maintain the extraneous at the right distance from the barriers.
6. The instructions of the producer of the fireworks have to be respected.
7. The use of the installation of ignition have to be done after the right preventative measures.
8. The Piroshow products that are indicated as resistant to the atmospheric agents have to be use with the case with the case hermetically closed. In case this is not possible, the pyrotechnician have to cover the modules to protect them with an adequate covering.
9. Where expressly indicated, the Piroshow products are resistant to heat and to the ashes produced during the execution of the show. Anyway do not position the module too near the fireworks. In any case, the Piroshow module are not resistant to flames.
10. Use only intact product for the show. If you think there is any problem, do not use the module and do not try to reparations. The use of a not intact module put at risk the health of the pyrotechnician, of his assistants and to public of the show! The inspection and the test of the module is basic in case of rent from other fireworks companies!
11. Storms or electrostatic fields that take place before the storm can make chance ignitions. When you notice a storm is arriving, Piroshow suggest to stop the execution of your work for the show and to put in safety the materials you have already put in.
12. The igniters have to be connected in the specific terminal or quick clips, have the cure that the Slave 30 CH 100V, Easy Fire, SmartSlave modules are off or without connections that provide alimentation. Every pyrotechnic effect is anyway to be consider active in the moment the wires are connected to the unit of ignition regardless the system is set On or Off.
13. Always control the integrity of the electric wire you connect to the igniters.
14. Avoid that the fuse and the respective wire have contact with material than can conduct electricity if there is any risk of electrostatic charges.
15. Always control the integrity of the electric system wires.
16. Avoid all the sources of early ignition, alike high voltage of electric, magnetic and electromagnetic fields and sources of voltage.
17. Mobile phones, radio transmitters and all the instrument with internal batteries are a underestimate danger: if used at the same time of the use of the igniters can be cause of chance ignitions. BE CAREFUL!

18. Fireworks, depending on their composition, can produce ionized gas. These gas made the air conductor of electricity. Ionizing processes, if are near the wires of high voltage can made deadly overlaps for the people in the vicinity. Consider that air currents on the field can be different from the ones that are in the height of some meters.
19. Use wires long enough for your safety and for the safety of the system.
20. During the test or the simulation of the show is better that no pyrotechnician and no person is near the position of the fireworks, even if the testing process of Piroshow systems are extremely safe.

