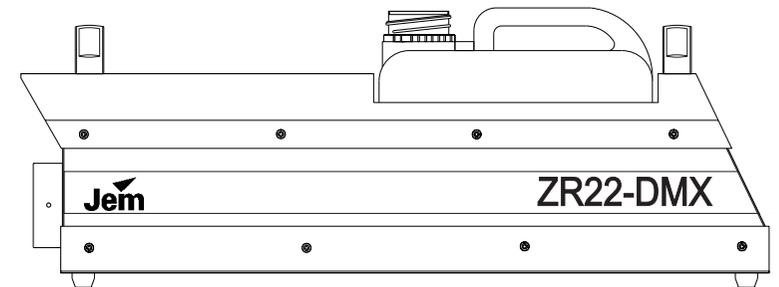


# *USER GUIDE*

VERSION 1.5

**Jem**



***ZR22-DMX***

**Jem**

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**Fluids suitable for this machine:**

**How To Contact Us**



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**Note:**

*The JEM warranty will be void if any fluid other than JEM approved fluid is used. If other fluids are used there could be serious damage to the machine and the fluid may not of been tested for use in public areas.*

**Trouble Shooting**

<b><u>SYMPTOM</u></b>	<b><u>CAUSE</u></b>	<b><u>CURE</u></b>
The mains switch does not light when I switch on.	Main fuse blown. No power connected.	Check main fuse. Check power is connected.
The power LED does not light on the remote control.	Fuse on main PCB blown. Remote control not connected.	Check fuse on Main PCB. Check connection of remote control.
The ready LED does not light even after 15 minutes.	Stand-by button is not on. Sensor fault	Check stand-by button Contact JEM or your Distributor.
No smoke output when fog button is pressed (ready LED is lit).	The output knob is not set correctly No fluid in fluid container.	Turn output knob fully clockwise. Replace fluid container.
The effect is not lasting long enough.	Fluid is the wrong grade.	Choose a longer lasting fluid (SP)

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- The ZR22-DMX Ducting Kit
- Trouble Shooting
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*Note:*

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**Introduction**

The ZR22-DMX is the first JEM machine to feature the “D-TECH” vaporizing block. This consists of a twin coil system, each supplied with fluid from a high pressure oscillating piston pump. This guarantees the maximum output from this size of vaporizing system. Most smoke machines have one vaporizing coil and one pump, the ZR22-DMX has two of each. JEM has also used the best possible overheat protection using our “DTP” safety device. This was first used on the JEM TECHNO-FOG with great success and we have incorporated it on the ZR22-DMX. There is also a 9.5 Litre (2.4 US gallons) fluid container to minimize the need to keep refilling.

As the name suggests the ZR22-DMX comes with DMX 512 as standard. This uses a single Channel and controls the output from a light haze to maximum output. The ZR22-DMX also has a new controller; this enables the user to operate the machine from manual control to fully controllable timer settings. The timer has a new feature called x8 mode that allows the timer values to be adjusted from x1 to x8. This gives the user greater variation in the timer settings.

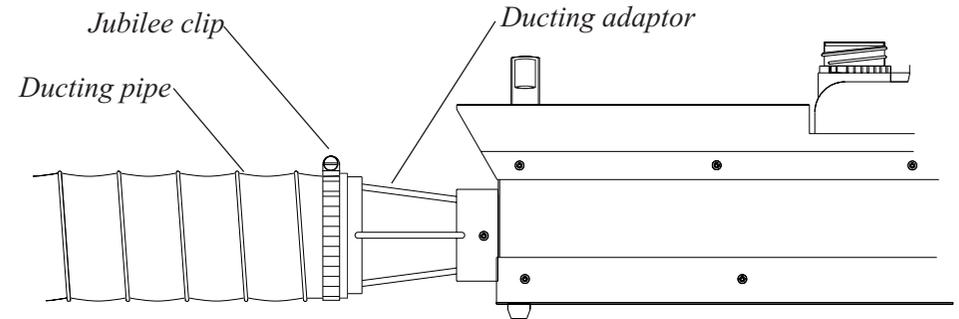
There is also the option to install the ZR22-DMX using the JEM flying kit. This consists of a heavy duty flying bracket, a drip pad and a safety chain. Once installed, DMX 512 or the remote can be used to control the output.

A ducting kit is available for applications where the effect is needed in an area away from the ZR22-DMX.

**FEATURES**

D-TECH Vaporizing System	Two High Power Piston Pumps
DMX 512 As Standard	Multifunction Remote Controller
“DTP” Safety System	Pump Ramping For Continuous Output
9.5 Litre Fluid Capacity	SMD Electronics
Low Noise Soft Start Pumping	Heavy Duty Construction

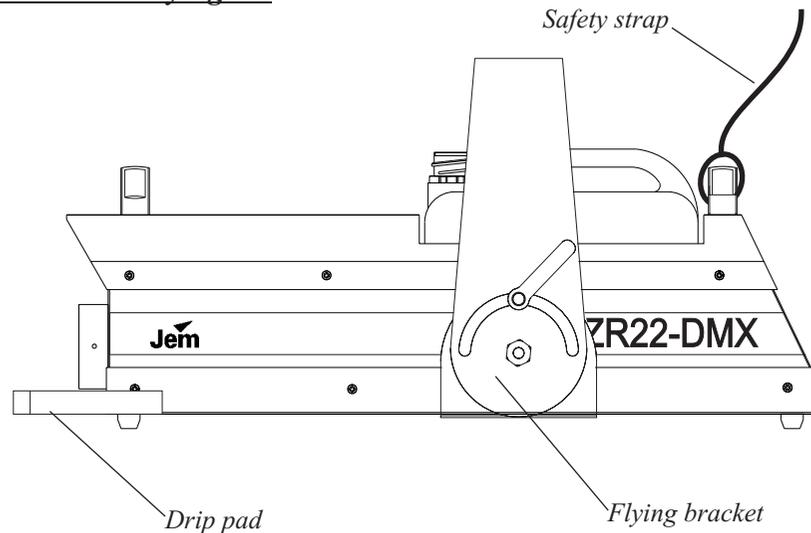
**ZR22-DMX Ducting Kit**



The JEM ZR22-DMX ducting kit enables the user to duct the smoke from the machine to an area where the effect is required. This is done by using the JEM ducting adaptor and a length of 100 mm (4”) ducting pipe. The length can be anything from a couple of metres up to 20 metres or further. There are one or two things to beware of when using smoke machines with ducting, firstly if there are bends to redirect the smoke they could cause condensation to form also an air space must be provided between the output of the machine and the ducting adaptor.

***NOTE! Always use the recommended ducting adaptor and ducting pipe, others may cause damage to the machine.***

### ZR22-DMX Flying Kit



The ZR22-DMX flying kit enables the machine to be fixed to rigging and ceilings for use where the ZR22-DMX is best situated in a flying position. The Kit has everything you need to give maximum safety and reliability when fixing to rigging etc. The kit comes with full fixing instructions. The kit even includes a drip pad for catching unwanted drips that can occur when smoke machines are angled down.

**NOTE!** Always follow instructions when installing smoke machines. The safety strap must be fixed from the rigging to the handle incase of accidents.

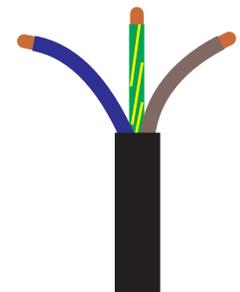
### Safety

- Always use a JEM approved fluid, other fluids could be dangerous and could cause damage to the machine.
- Always check the voltage is correct for use with the machine, the voltage setting is printed on the serial label.
- Always read the user guide before operating the machine, smoke machines need to be operated carefully to avoid risk.
- Never touch the nozzle at the front of the machine, the nozzle can stay hot for up to 10 hours.
- Do not remove the cover or attempt to repair a faulty machine, an authorized JEM dealer should be contacted in the event of a faulty machine.
- Always use smoke machines in well ventilated areas, over use could affect sufferers of asthma or other chest conditions.
- Do not use the machine if there is a faulty mains lead or plug this could be dangerous.
- Never point the output directly at peoples heads, this is a high powered smoke machine.
- Always use approved accessories with this machine.
- Do not spill fluid over the machine, if fluid is spilt clean with clean water and contact an approved JEM dealer for advice.

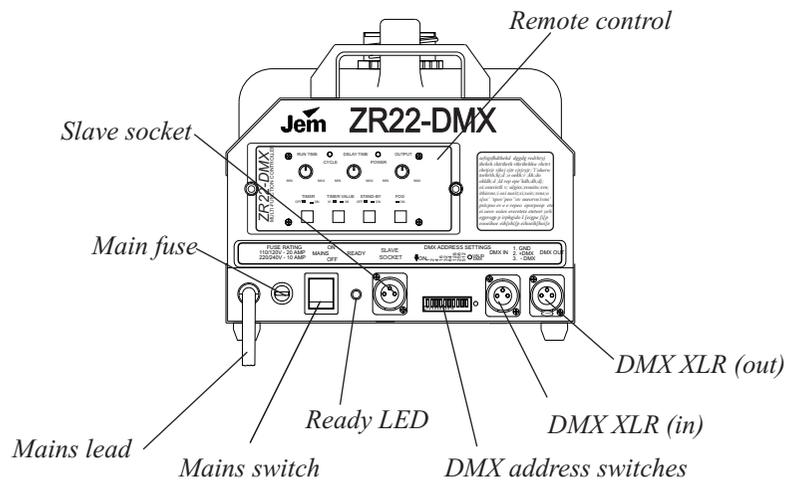
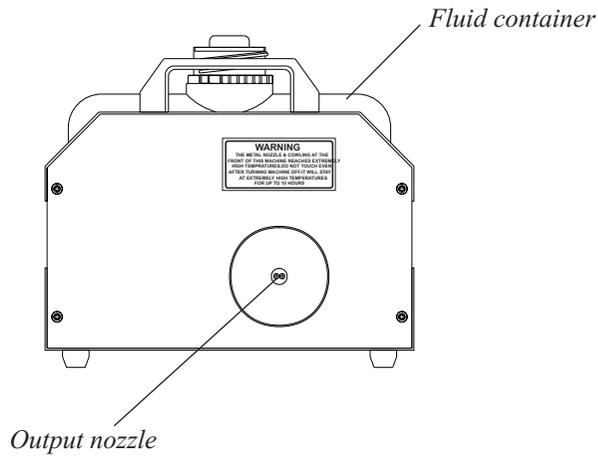
### Mains Lead Wiring Instructions

Brown = Live  
 Blue = Neutral  
 Green/Yellow = Earth

**Note!** This Appliance must be earthed



**Machine Layout**



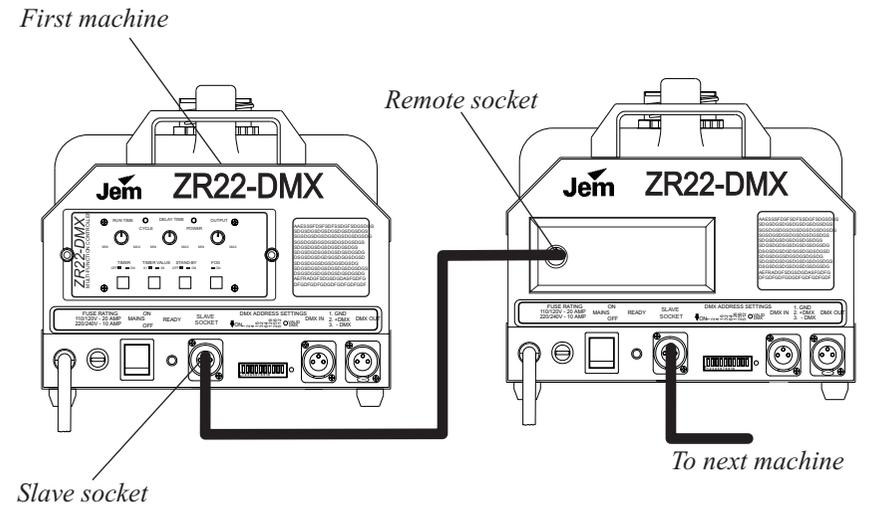
**Using The Slave Socket**

The ZR22-DMX has the ability to connect machines together using a XLR lead and then operating all of the machines with one controller. This is ideal when there is a need for lots of smoke and there is no DMX to operate the machines.

Simply remove the controllers from all but one of the machines and then connect an XLR lead (3 pin) from the slave socket of the first machine (the one with the controller) to the next machine's remote socket, and then from that machine's slave to the next machine's remote socket. This can be done from two up to ten machines maximum. All of the machines will operate with the same output and timer settings as the first machine.

**Wiring of XLR**

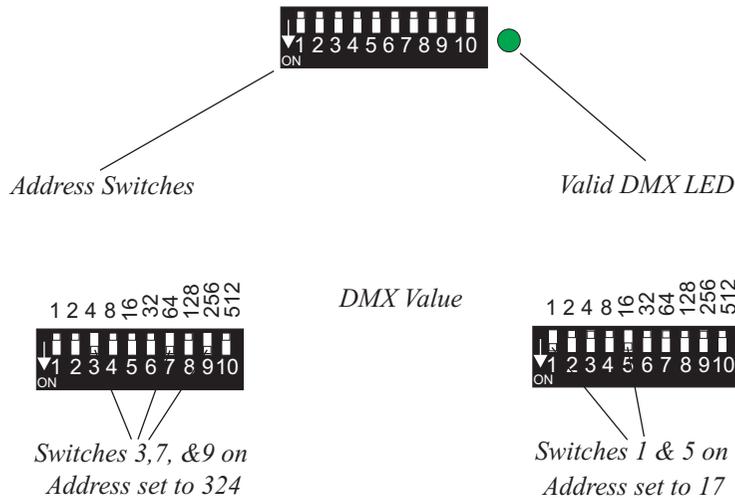
- Pin 1 - GND
- Pin 2 - NA
- Pin 3 - 0-10V signal



**Using DMX 512**

DMX 512 is an industry standard and the ZR22-DMX is fitted with an interface as standard. This gives the user the option of linking the smoke machines into the lighting chain and controlling them from a single source. The ZR22-DMX uses a single channel to fire and control the output level, the interface can be addressed from channel 1 up to channel 512. The address is set using the 10 way dip switch at the rear of the machine. To address the channel, convert the channel number to binary and set this number on the switches (on is down).

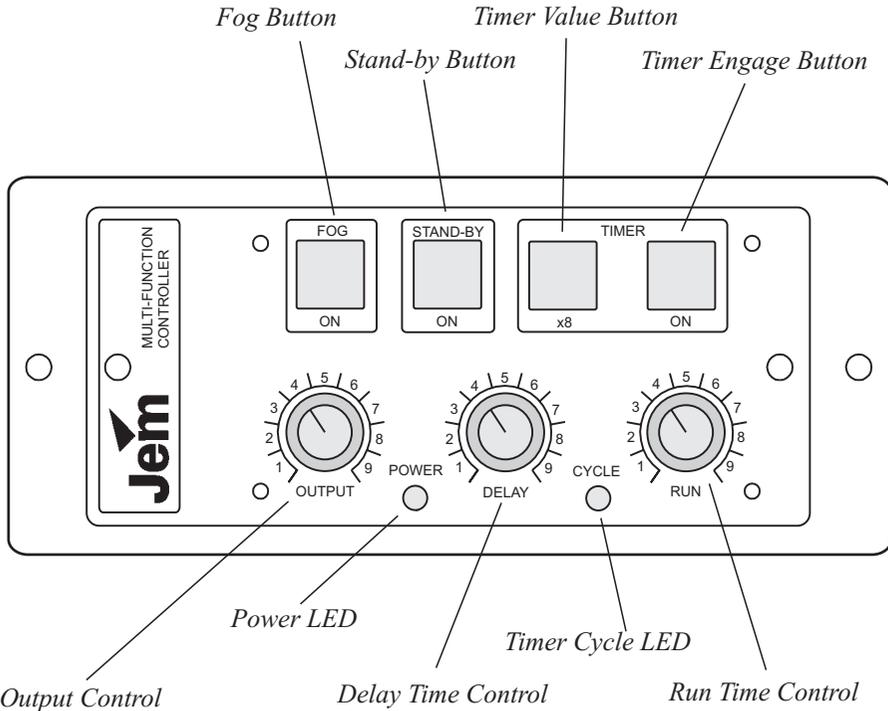
The ZR22-DMX is fitted with two XLR sockets for DMX, one is for DMX IN & one is for DMX OUT; this enables the ZR22-DMX to be used in a chain. When there is valid DMX, i.e. the XLR is connected and the desk is powered, the small green LED will light indicating there is DMX connected to the machine. However, if there is no address set, the LED will not light and DMX will be disabled. If an address is set and DMX is present the machine will automatically start to heat up and after 10 - 12 minutes you will be able to operate the machine using DMX. Increasing the DMX level will increase the smoke output level.



**Getting Started**

- Once you have selected the best position for the ZR22-DMX you can begin to use the machine. First check the power supply you have is correct for the machine, if it is you can connect to the power supply and switch the mains switch on at the rear of the machine. This will light when switched on, now de-press the grey “stand-by” button, the machine will now heat up which takes around 10 -12 minutes. While it heats up you should check the level in the fluid container, the container can hold up to 9.5 litres of fluid.
- NOTE! Do not allow the ZR22-DMX to run out of fluid. Serious damage may occur if the machine is operated when no fluid is connected.
- When the machine has reached working temperature the green “ready” LED will light on the rear of the machine and the machine can now be operated. Check the “output” knob is turned fully clockwise (maximum) then press and hold the red “fog” button. The fluid pumps will start operating; if the machine has a new container of fluid it will take a few seconds for the pumps to prime. When the pump has primed smoke will be visible. The output can now be set to the desired level by turning the “output” knob. The timer may be activated or you can simply use the “fog” button when smoke is required, Alternately you may wish to use DMX to operate the ZR22-DMX. For further information on using the controller and DMX see the relevant pages in this user guide.
- Once You have finished using the machine you should de-press the “stand-by” button and then turn the mains switch off. if any problems occur when

**Using The Remote Control**



The ZR22-DMX comes with a comprehensive controller that allows the user to manually fire the machine or set a well featured timer to operate the machine. When the “ready” LED is lit at the rear of the machine the remote becomes functional and the “fog” button will operate the machine when pressed. Sometimes a pre-determined amount of smoke is needed and the ZR22-DMX remote has a timer that will operate over a wide range or varying times. The x8 timer value gives even greater flexibility when a longer delay and run time are needed.

**Functions**

**FOG BUTTON:** Will when the machine has reached operating temperature fire the machine when pressed and held.  
**STAND-BY BUTTON:** This turns the machines electronics on and off.  
**TIMER VALUE BUTTON:** When the timer is being used, the timer values can be adjusted by a factor of 8, i.e. a 5 second minimum run time becomes 40 seconds & a 10 second delay time becomes 1 minute 20 seconds.  
**TIMER ENGAGE:** This will engage the timer to fire the machine according to the present settings.  
**OUTPUT CONTROL:** Turning this knob clockwise will increase the output of the machine, if turned fully anti-clockwise there will be no output.  
**DELAY TIME CONTROL:** This will adjust the amount of time the machine waits between operating when the timer is engaged.  
**RUN TIME CONTROL:** This will adjust the time the machine will operate for when the timer is engaged.  
**POWER LED:** This LED will light when the machine is switched on  
**CYCLE LED:** This LED will light when the timer is engaged and the machine is operating.

**Timer Values**

**Run Time: X1 mode**

Minimum = 2 seconds  
 Maximum = 18 seconds

**Run Time: X8 mode**

Minimum = 16 seconds  
 Maximum = 2 minutes 24 seconds

**Delay Time: X1 mode**

Minimum = 2 seconds  
 Maximum = 18 seconds

**Delay Time: X8 mode**

Minimum = 16 seconds  
 Maximum = 2 minutes 24 seconds

An extension lead is available from JEM for using the controller out of the machine.