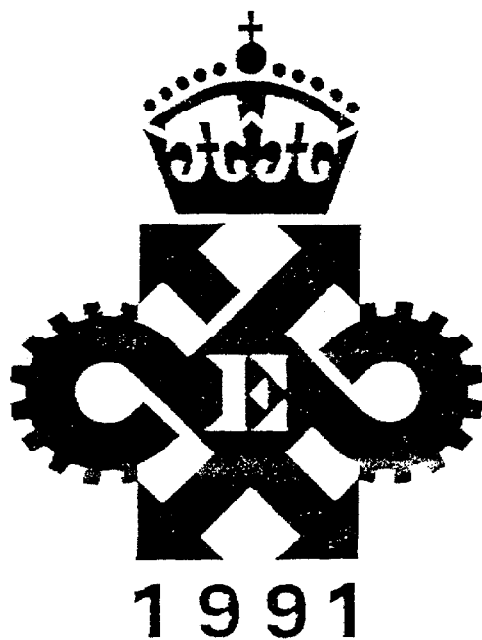
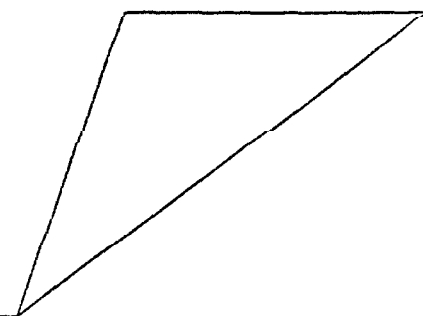


428 System
DMX option



INSTRUCTIONS FOR USE



INTRODUCTION

The **SERIES 428 MODULAR FOG SYSTEM** comprises an 8 channel computerized controller that is capable of controlling up to 8 separate fog modules (16 by special order via JEM factory).

As standard, the system is supplied with:-

- 1 8 Channel Controller
- 1 50 Litre Tank
- 1 Pumping System fitted with 4 pumps
- 4 8-way Dispersal Cones
- 4 20 Metres 6mm Fluid Line for connection of Head to Pump System
- 4 20 Metres 5 core Low Voltage Cable for connection of Head to Controller
- 1 5 Metres 5 core Low Voltage cable for connection of Controller to Pump System

The **SERIES 428** is ideal for venues with large areas to be covered or venues with multiple areas, e.g. clubs with 2, 3 or even 4 dance floors as each channel can be separately programmed. Dance floor #1 may, for example, only require a 1 second burst of smoke every 60 seconds, while dance floor #2 may require a 5 second burst of smoke every 40 seconds. An off-dance floor area may only require a 1 second burst every 3 minutes. The **SERIES 428** Controller is fitted with battery back-up so programmed information is retained in memory even when power is switched off.



Please ensure you read and understand these Instructions for Use before installing and operating this Smoke System

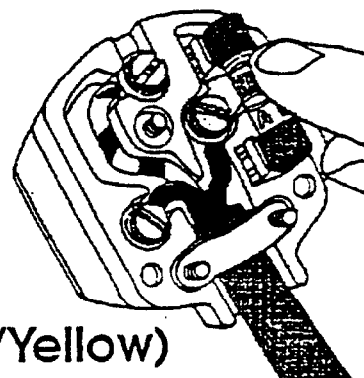
WIRING COLOUR CODE

(N. American conventions and terminology shown in brackets, e.g. Live {Hot})

N Neutral (Blue)

L Live {Hot} (Brown)

E Earth {Ground} (Green/Yellow)



IMPORTANT INSTALLATION NOTES

Although the SERIES 428 Controller has a Stand-by facility to turn the heaters off, we strongly recommend that the overall mains (A.C.) supply to the modules has a suitable switch or isolator within easy reach of the operator.

Each Fog Module has a tri-colour LED on the front right hand corner. This displays the status of each particular module, and provides useful information, should service work be needed. Often, it alleviates the need to dismount the head.

RED MODE - HEATERS ON - HEAD NOT READY

YELLOW MODE - HEATERS ON - HEAD READY

GREEN MODE - HEATERS OFF - HEAD READY

When installing the Fog Modules, be sure that the front of the module and an area of at least 6 metres (appx. 20 feet) to the front of the module is unobstructed.



Remember that the output nozzle reaches extremely high temperatures. These high temperatures sustain even after prolonged switch-off. Avoid the risk of burns.

SWITCH ON PROCEDURE

Once the SERIES 428 has been connected to the mains (A.C.) supply and fully installed, turn on the Mains supply. The module status LED on each head will light up and the fog modules will begin to heat. As the SERIES 428 is fully electronically controlled, it is quite normal for the modules to switch automatically between yellow and green mode as the temperature control circuits operate from time to time. The SERIES 428 can operate while heating at the same time (except when in red mode, signifying temperature is below minimum levels, e.g. at initial switch-on). If, for any reason, the vapourising chamber is not hot enough, the pump will be automatically shut down while the heaters bring temperatures up to the required level.

INTERCONNECTIONS AND LOW VOLTAGE CABLES

The standard lengths of fluid line supplied are 20 metres (65 feet). These can be extended up to 100 metres (325 feet) from the fluid tank. The electronic cables from the controller can also be extended up to 100 metres (325 feet).

DMX-512 CONTROL OPTION

If your 428 system is fitted with the optional DMX 512 control cards then the following changes apply:-

1. The heads will start to heat as soon as their control cable is connected to the pump unit.
2. All control is via a standard 5 pin XLR DMX 512 input
3. The DMX address is factory pre-set to channels 505 - 512 inclusive
4. The address may be changed by altering the DIP switches inside the pump unit.



It is very important that before making the final fluid line connection to each head that the line is fully primed and that no air bubbles are present. We suggest pumping through 1/2 litre of JEM fluid through the line before making the final connection. The fluid can be pumped back into the bottle for subsequent re-use.

TEMPERATURE LIMITERS

The fog modules are thermally protected by a temperature limiter. In the unlikely event of a failure causing the heaters to jam on, the limiter will shut the power off to the heater. The limiters used are approved by VDE, DEMCO, KEMA, SEMCO, SEV, BSI, NEMKO, UL, VTE and OVE.



Excessive prolonged use or allowing the machine to run dry are the only events likely to cause a pump to overheat. Allowing the pump to run dry continuously, however, may also damage the pump.



Always ensure that there is plenty of JEM Fog Fluid in the machine. Do not allow foreign bodies to contaminate the fluid and never dilute the fluid with tap water. Use only genuine JEM fluid. Some cheap imitations on the market are

known to cause serious damage to machines and their use will void all warranties.

QUICK-RELEASE PIPE FITTINGS

The SERIES 428 system uses some push-in compression fittings that can be easily pulled apart by hand. To release a nylon pipe, simply press the brass ring at the base of the pipe inwards with your thumbnail and pull the nylon pipe out. To re-assemble, simply push the pipe firmly back into the fitting. The joint automatically seals itself. Other compression joints use a brass nut and olive joint, and should be dismantled by an engineer. A sealing compound will be needed to properly re-seal these types of joints.

PLATINUM FILM SENSOR

The platinum film sensor is extremely fragile and so great care must be taken when replacing this piece of equipment. It is located under an aluminium plate on the top of the heater block. There is a 20 micron film of glass covering the platinum in the sensor. Be very careful not to scratch the glass and also make sure the small strip of mica is fitted over the glass screen. This protects the glass from being scratched by the aluminium protective plate. Once replaced and before re-connecting the wires, use a suitable test meter and check for a resistance of 100 ohms across the wires, with the aluminium block at room temperature. Also check to see that there is no reading between either sensor wire and the chassis. A reading between wire and chassis is a fault condition and indicates an insulation breakdown or possibly a broken sensor.

ROUTINE MAINTENANCE

The external case of the machine should be wiped occasionally with a damp cloth and some mild washing-up liquid. Do not use abrasive cleaners or any form of spray cleaners, which can penetrate the grilles. Polishes harden or burn if they come into contact with hot parts. Allow machine to cool before attempting to wipe clean to avoid accidental burns from the nozzle.

DUCTING

The SERIES 428 heads can be fitted with the JEM ducting system consisting of a 5 merer (16.25 feet) x 4" diameter trunking and an adaptor to fit onto the front cowling of one Head. It must be noted that when ducting is used a proportion of the smoke will condense back into fluid in the ducting. A "U" bend can be formed with a suitable container to catch the droplets. Ducting is not recommended for installations where the machine is mounted in the ceiling. For alternative methods

of ducting, please ring our technical department.

SERVICING THE MACHINE

In the event of having to do any servicing on the machine, use a JEM authorised dealer who will be qualified to work on this equipment. A preliminary inspection may be carried out by first disconnecting the machine from the mains (A.C.) supply before any attempt is made to gain access to the machine's interior. Remember to carefully retain all screws etc. Do not dismantle pipework joints unless there is a clear need to do so. Problems can arise from air-leaks in the fluid line due to badly re-assembled joints or damaged pipes causing the pump to not prime properly. Look out for tell-tale signs of air bubbles or for signs of escaping fluid if this is suspected. It may be necessary to bleed the system if excess air is trapped in the line.

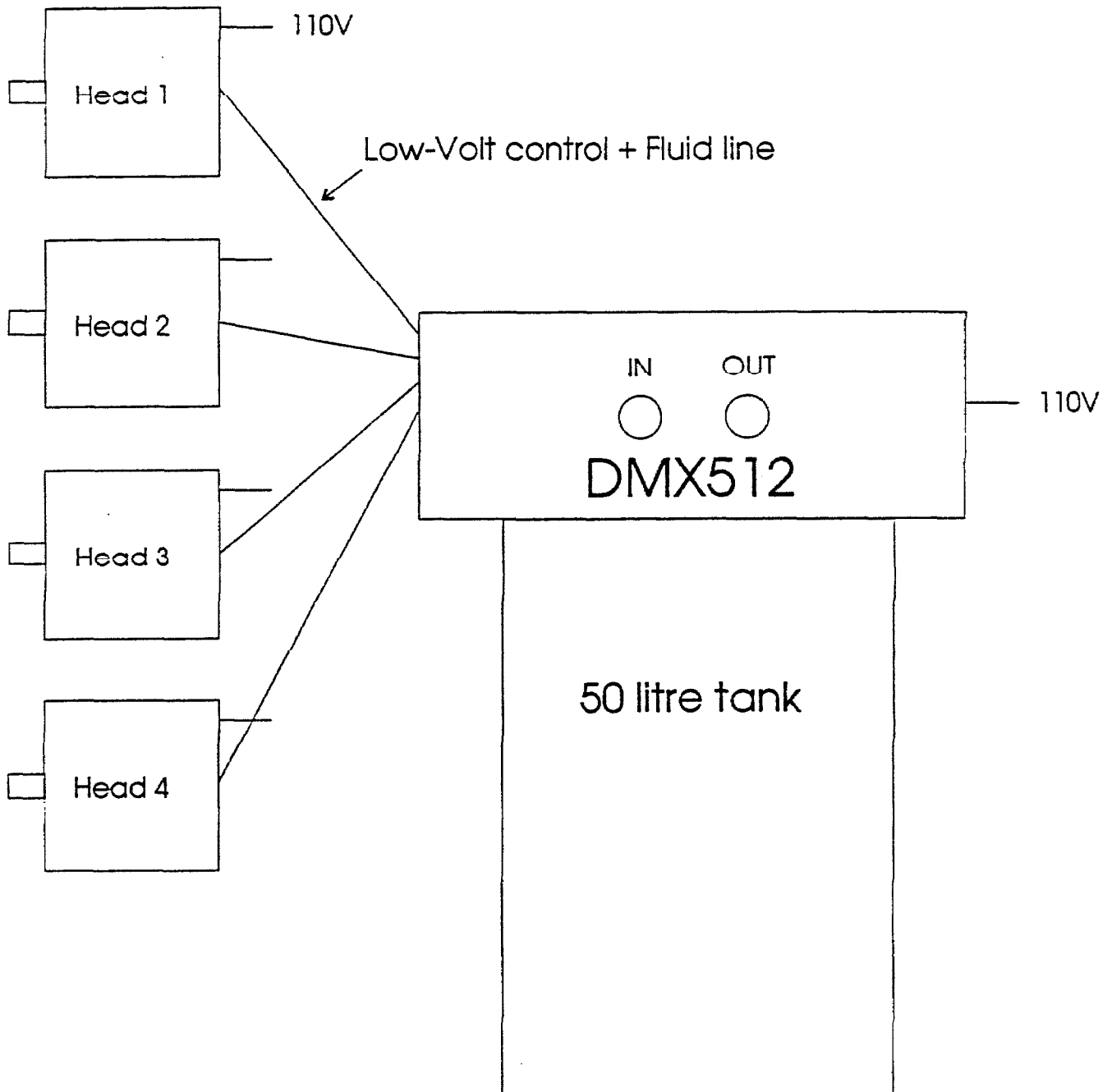
PARTS AND LABOUR GUARANTEE

The SERIES 428 has a 5 year guarantee:- 1 year parts and labour plus an additional 4 year parts guarantee. To qualify for the additional 4 year guarantee, your SERIES 428 must be checked over annually by JEM Smoke Machine Co. Ltd., or an authorised JEM dealer, JEM distributor or JEM qualified personnel. Machines produced from May 1986 are all fitted with fluid filters which can be found on the inlet to the non-return valve. We recommend these are replaced or cleaned once a year by qualified service personnel. ***This guarantee is void if the SERIES 428 is tampered with, misused, repaired by unauthorised personnel, suffers accidental damage or is modified in any way. JEM Smoke Machine Co. Ltd reserve the right to change or alter specifications without notice. JEM Smoke Machine Co. Ltd will not accept liability for freight, carriage, packing or any ancillary charges.***

OPTIONAL EXTRAS

Complete Ducting System inc. Adaptor * Additional pump kits * Ext. cable kits
Interface for additional Heads * Additional Fog Modules * Ext. fluid line kits

4 Head DMX512 Control 428 System



DMX & Head connections 428 System pump Unit.

