PIPER I.C.C.

PROFESSIONAL SHOW LIGHTING

INSTRUCTION MANUAL

IMPORTANT: **Read carefully. It is essential for the correct and safe use of the equipment that erectors and operators should be fully conversant with the information and instructions given in this manual.**
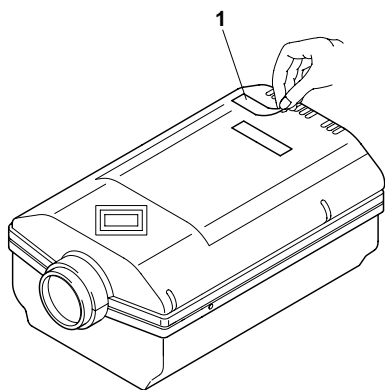
1   INSTALLING THE PROJECTOR

• Unpacking

Open the box, remove the projector from the packing and place it on a flat horizontal surface.
Unpack the standard accessories supplied with the fixture. Inspect the lamp change label (**1**) and replace it with one of the optional language versions if necessary.
Make certain that the label is never removed, as it displays important safety information.

• Initial assembly operations

Position the bracket (**2**) at the desired height and secure by tightening the knobs (**3**). The bracket can also be mounted on the underside of the projector.
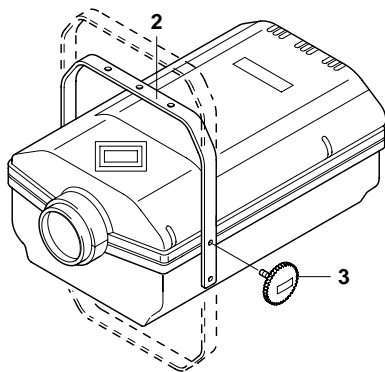
• Fitting the lamp

Refer to directions for replacement of the lamp given under heading 6 MAINTE-NANCE.

• Installing the projector

The projector can be mounted in any position without its operating characteristics being affected.

IMPORTANT: fix the projector in the desired position utilizing the holes in the bracket. Secure preferably using two ø10 mm bolts with nuts and lock washers.
Make certain that the anchorage is stable before positioning the projector.

• Minimum distance from target objects

The projector must be positioned in such a way that objects struck by the beam are separated from the lens by a distance of at least 0.5 m (1' 8").

(1' 8")
0.5 m   **HTI 150**
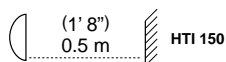
• Minimum distance of inflammable materials from any part of the equipment: m 0.05. (2")

F   **The fixture may be mounted on surfaces rated normally inflammable.**

IMPORTANT: For better and more reliable operation of the projector, the ambient temperature must not exceed 35° C (95° F).
*Protection factor IP 20: the fixture is protected against penetration of solid bodies more than 12mm (0.5") in diameter (first digit 2), but can be damaged by spray, jet, drip or rain water (second digit 0).*

2   POWER SUPPLY AND INTERFACE

• Connecting to the electrical power supply

The operations described in this heading must be carried out by a licensed electrician.
The projector must be wired up to the electrical power supply using the special socket connector provided. It is good policy to connect projectors to the power supply by way of dedicated switches, so that each can be turned on and off individually from a remote station.
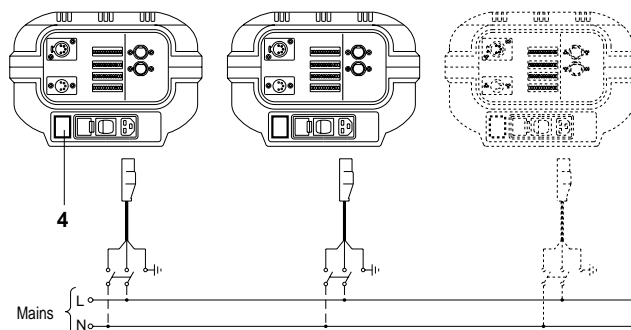

The projector is designed to operate at the voltage and frequency indicated on the electrical data plate (**4**) affixed to the rear end. Check that these two values correspond to the mains voltage and frequency.

IMPORTANT: the projector must be connected to a power supply circuit having a proper earth system (Class I appliance).
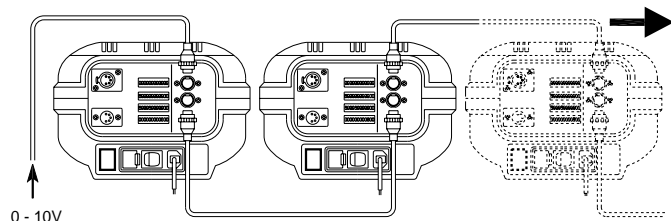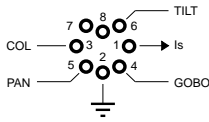
• Connecting the control signals

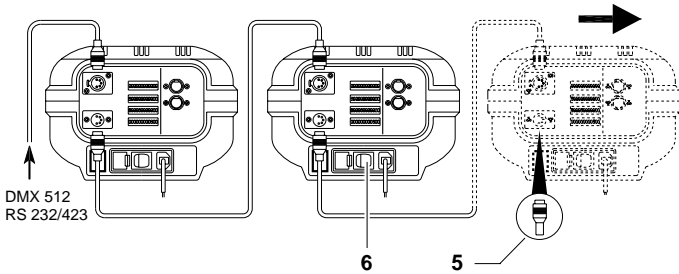0-10V CONNECTION

- Independent operation

0 - 10V   0 - 10V   0 - 10V
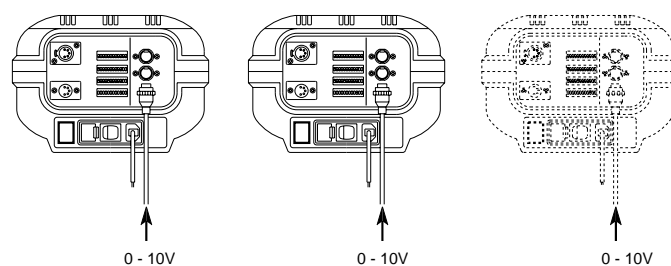
- Simultaneous and identical operation of several projectors


0 - 10V

Projectors are wired up to the controller and one to the next using a multicore cable with 8 wires of 0.25mm² section and a DIN 8 pin 45° plug/socket connector.

RS232/423(PMX) - DMX 512 CONNECTION

DMX 512
RS 232/423

6 **5**

Projectors are wired up to the controller and one to the next using two-core screened cable and Cannon 5 pin XLR type plug/socket connectors.
To connect a DMX line, a terminating plug (**5**) with a 100Ω resistor wired between pins 2 and 3 must be fitted to the last projector connected in series; the plug is not required when using an RS232/423(PMX) signal.

The wires must not come into contact with each other or with the metal casing of the plug.
The casing of the plug/socket must be connected to the screen and to pin 1 of the connectors.
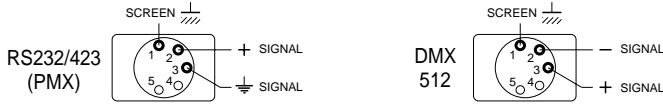
Having completed the operations described above, press the on/off switch (**6**). Check that the lamp comes on and that the auto-reset sequence starts.

• Projector address codes (for digital signals)

Each PIPER I.C.C. projector uses 1 control channel. To ensure that different projectors are addressed correctly by the controller, a code must be assigned to each one. This operation is carried out on each PIPER I.C.C. by setting the microswitches as indicated in the table below.

Projector selection
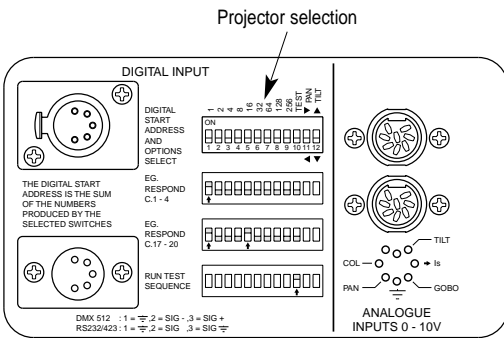
CODE		1	2	4	8	16	32	64	128	TEST
Projector 1 - Channels 1	ON/OFF	▲	▽	▽	▽	▽	▽	▽	▽	▽
Projector 2 - Channels 2	ON/OFF	▽	▲	▽	▽	▽	▽	▽	▽	▽
Projector 3 - Channels 3	ON/OFF	▲	▲	▽	▽	▽	▽	▽	▽	▽
Projector 4 - Channels 4	ON/OFF	▽	▽	▲	▽	▽	▽	▽	▽	▽
Projector 5 - Channels 5	ON/OFF	▲	▽	▲	▽	▽	▽	▽	▽	▽
Projector 6 - Channels 6	ON/OFF	▽	▲	▲	▽	▽	▽	▽	▽	▽
Projector 7 - Channels 7	ON/OFF	▲	▲	▲	▽	▽	▽	▽	▽	▽
Projector 8 - Channels 8	ON/OFF	▽	▽	▽	▲	▽	▽	▽	▽	▽
Projector 9 - Channels 9	ON/OFF	▲	▽	▽	▲	▽	▽	▽	▽	▽
Projector 10 - Channels 10	ON/OFF	▽	▲	▽	▲	▽	▽	▽	▽	▽
	ON/OFF									▲

Setting the TEST switch to the ON position for a few seconds with the projector powered-up, an auto-reset routine is carried out. Leaving the TEST switch at the ON position for a longer period, a full self-test program will be completed; once the operation has terminated, return the switch to the OFF position.

• Alignment procedure
Loosen the knobs (**3**) and manoeuvre the projector on the bracket (**2**) until the beam is directed at centre stage and then retighten the knobs (**3**).
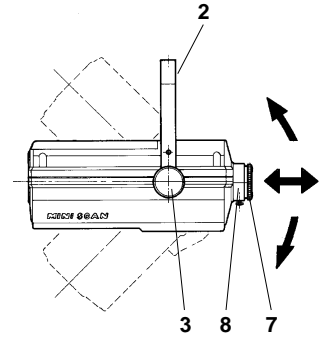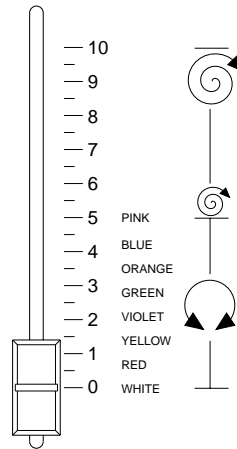
• Adjusting the lens
Move the lens (**7**) back and forward until the projected image is satisfactorily focused, then tighten knob (**8**).

3 8 7

4   **CHANNEL FUNCTION**

CHANNEL	FUNCTION
1	COLOUR WHEEL

• COLOUR WHEEL - channel 1

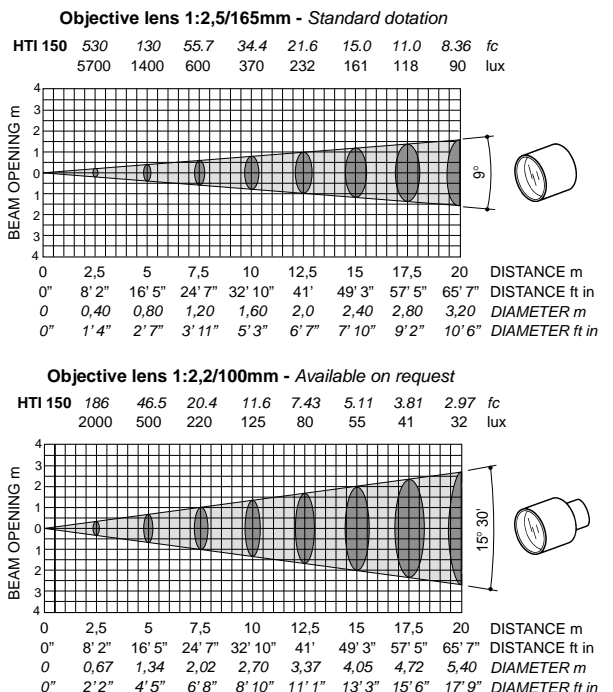|	
10	
9	
8	
7	
6	
5	PINK
4	BLUE
	ORANGE
3	GREEN
2	VIOLET
	YELLOW
1	RED
0	WHITE

In the 0% to 50% range of adjustment, the change of colour in response to the movement of the potentiometer is linear and continuous, so that the slider can be stopped in intermediate positions to obtain a two colour beam..

From 50% to 100% the wheel rotates continuously with speed increasing steadily from 0 to 300 rpm.

5   **LENS UNITS**

GRAPHS SHOWING BEAM DATA AND ILLUMINATION VALUES

Objective lens 1:2,5/165mm - *Standard dotation*

HTI 150	530	130	55.7	34.4	21.6	15.0	11.0	8.36	fc
	5700	1400	600	370	232	161	118	90	lux

	0	2,5	5	7,5	10	12,5	15	17,5	20	DISTANCE m
	0"	8' 2"	16' 5"	24' 7"	32'10"	41'	49' 3"	57' 5"	65' 7"	DISTANCE ft in
	0	0,40	0,80	1,20	1,60	2,0	2,40	2,80	3,20	DIAMETER m
	0"	1' 4"	2' 7"	3' 11"	5' 3"	6' 7"	7' 10"	9' 2"	10' 6"	DIAMETER ft in

Objective lens 1:2,2/100mm - *Available on request*

HTI 150	186	46.5	20.4	11.6	7.43	5.11	3.81	2.97	fc
	2000	500	220	125	80	55	41	32	lux

	0	2,5	5	7,5	10	12,5	15	17,5	20	DISTANCE m
	0"	8' 2"	16' 5"	24' 7"	32'10"	41'	49' 3"	57' 5"	65' 7"	DISTANCE ft in
	0	0,67	1,34	2,02	2,70	3,37	4,05	4,72	5,40	DIAMETER m
	0"	2' 2"	4' 5"	6' 8"	8' 10"	11' 1"	13' 3"	15' 6"	17' 9"	DIAMETER ft in

6   MAINTENANCE

IMPORTANT: isolate the projector from the electrical power supply before commencing maintenance work of any description.
The maximum temperature on the outer surface of the projector under normal operating conditions is 60°C (140° F).
*After switching off, do not remove any part of the projector for at least 2 minutes, as indicated on the lamp change label (1). Once this time has elapsed, the risk of a lamp exploding is practically zero. If the lamp needs changing, wait a further 15 minutes to avoid the risk of burns.*
In the event of a lamp exploding, the projector is designed to prevent fragments of glass from being scattered. The lenses supplied with the projector must be fitted at all times, and if visibly damaged, must be replaced with genuine spares.
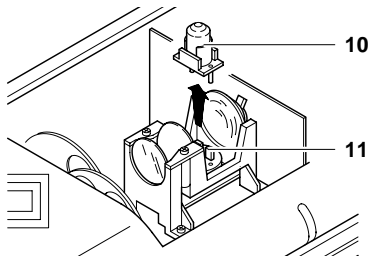
• Opening the projector

Remove the lamp access cover (**9**) from the projector by pushing in the direction of the arrow.
Once the necessary work has been completed, refit the cover (**9**).
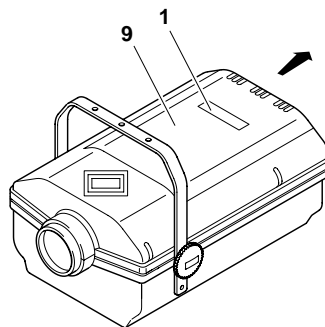
• Changing the lamp

Remove the lamp (**10**) from its fitting (**11**) withdrawing in the vertical direction. Locate the new lamp in the fitting, ensuring that the pins are positioned correctly.

⚠ E *CAUTION: The projector uses a high pressure lamp with external starter.*

- *When fitting a new lamp, read the manufacturer's instructions carefully.*

- *The lamp must always be changed without delay if damaged or deformed by heat.*

• Replacing fuses

To change the fuses, press the tab (**12**) and pull out the fuse holder (**13**). Replace any blown fuse with one of the same type and rating as indicated on the label (**14**) attached to the holder (**13**).
Insert the fuse holder and push in to engage the tab (**12**).
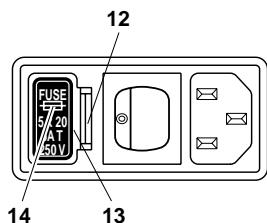
• Routine cleaning

To maintain the light output of the projector undiminished, parts that tend to accumulate dust and grease must be cleaned periodically.
The projector will give long and trouble-free service if these simple guidelines are followed.
To remove dirt from the lenses and filters, use a soft cloth moistened with any liquid detergent suitable for cleaning glass.
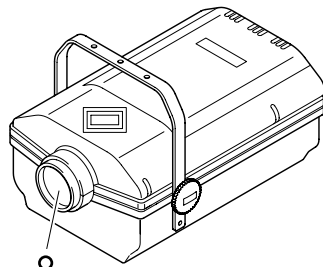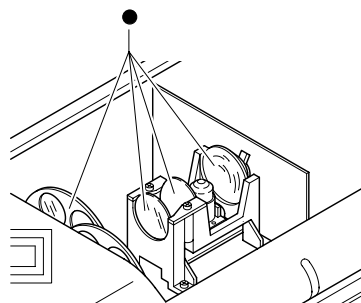
IMPORTANT: do not use solvents or alcohol.

○ Parts that need cleaning frequently.
● Parts that need cleaning monthly.

Internal components should be cleaned once a year by dislodging dust and dirt with a brush and removing it simultaneously with a vacuum cleaner.

7   TROUBLESHOOTING

THE PROJECTOR DOES NOT LIGHT UP				*FAULTS*	
ELECTRONICS NOT WORKING					
PROJECTION FAULTY					
REDUCED BRIGHTNESS					
				POSSIBLE CAUSES	*CHECKS AND REMEDIES*
●				No electrical power supply.	Check that the power supply is available at the mains socket and/or that the fuses are intact.
●		●		Lamp expended or faulty.	Change lamp (see instructions).
	●			Signal transmission cable short-circuiting or disconnected.	Change cables.
	●			Address codes incorrect.	See projector coding instructions.
	●			Defect in electronic circuits.	Contact an authorized technician.
		●		Lenses broken.	Contact an authorized technician.
		●	●	Deposit of dust or grease.	Clean (see instructions).

8   TECHNICAL DATA

ELECTRICAL / MECHANICAL SPECIFICATIONS

Power supplies available
• 220 - 240V 50Hz
• 200V 50 Hz - 230V 60 Hz
• 200V 60 Hz

The projector is designed to operate at the mains frequency and voltage given on the electrical data label on the base of the appliance.

Lamp
Metal halide type with special built-in power supply unit:
• Type HTI 150
  – Cap GY 9.5
  – Colour temperature 6900 K
  – Luminous flux 9500 lm
  – Average life 750 h

Power consumption
500 VA at 230V 50Hz

Motors
N. 1 microstepping motor with full microprocessor control.

OPTICAL SYSTEM

Optical unit
• Base in diecast aluminium.
• Twin lens condenser.
• High luminous efficiency spherical reflector.

Lens units
• Standard: 1:2,5 / 165mm
• Optional: 1:2,2 / 100mm

CONTROL SYSTEM

Channels
N. 1 control channel.

Inputs
PIPER I.C.C. is set up to accept analog and digital signals from controllers   or computers.
• Digital serial input RS232/423(PMX) or DMX 512
• 0-10V analog input

CONSTRUCTION FEATURES

Safety devices
Power supply shuts off automatically in the event of overheating or cooling system failure.

Cooling
Forced ventilation cooling system using axial flow fan.

Housing
In extruded diecast aluminium with epoxy powder coated finish.
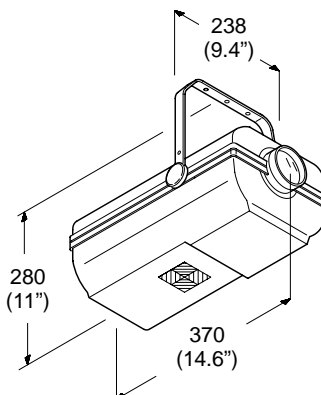
Mounting
• Steel bracket with epoxy powder coated finish.
• Two installation positions 50 mm (2") apart.
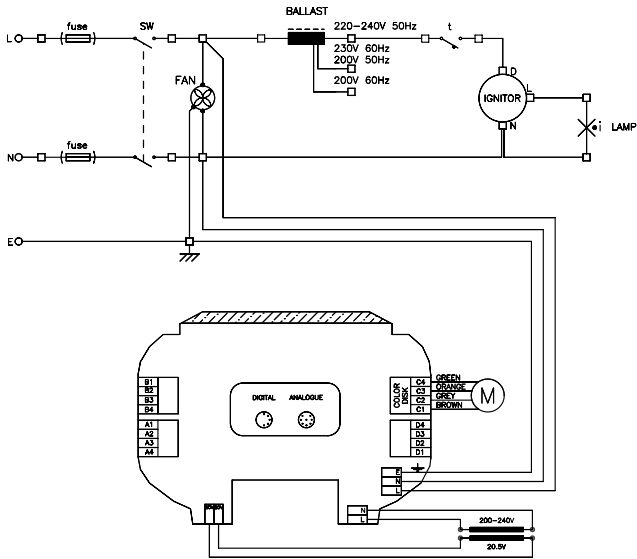• Bracket adjustable through 110°.

Operating position
Will function in any position.

Weights and dimensions
Weight: 5.4 kg (11 lbs 14 ozs)

238 (9.4")
280 (11")
370 (14.6")

The specifications published in this manual are not binding, and may be revised or updated at any time by Clay Paky without notice in the interests of improving product quality.

The products referred to in this manual comply with EC Directives on:

• **Low Voltage 73/23**

• **Electromagnetic Compatibility 89/336**