

HOW TO RETURN A HIRE

CABLES

WHEN CABLES ARE RETURNED TO US LIKE THIS IT CAUSES A SINKING FEELING AND WE HAVE TO RECOIL AND RETAPE THEM. THIS TAKES TIME AND COSTS MONEY. THEREFORE WE ASK THAT YOU COIL THE CABLES IN A NEAT WAY AS DESCRIBED BELOW.



TAKING THE SOCKET END IN ONE HAND, REACH OUT A COMFORTABLE ARMS LENGTH TO HOLD THE CABLE BETWEEN THUMB AND FOREFINGER. BRING IT TOWARDS YOU HAND TWISTING THE CABLE INWARDS TOWARDS THE CENTRE AND THEN GRIP THE CABLE NEXT TO THE SOCKET THIS ALLOWS THE NATURAL TWIST OF THE CABLE TO "FALL" INTO NICE COILS, REPEAT UNTIL THE CABLE IS FULLY WOUND. THEN WITH PVC TAPE SECURE IT FOR TRANSPORT.



**NEATLY COILED CABLES CAN THE BE SENT OUT STRAIGHTAWAY ON HIRE. PLEASE DO NOT USE GAFFA TAPE, MASKING TAPE AND.....
NEVER PARCEL TAPE FOR THIS PURPOSE! THE CUSTOMER IS RESPONSIBLE FOR REMOVING ANY GAFFA TAPE FROM THE CABLES BEFORE RETURNING THEM. PLEASE NEVER USE PARCEL TAPE AS IT LEAVES A STICKY RESIDUE ON THE CABLES FOR EVER! WE WOULD SUGGEST THAT YOU WOULD NOT LIKE TO RECEIVE THE CABLE IN SUCH A CONDITION AND NIETHER DO WE. WE RESERVE THE RIGHT TO CHARGE FOR RECOILING ETC.**

LANTERNS

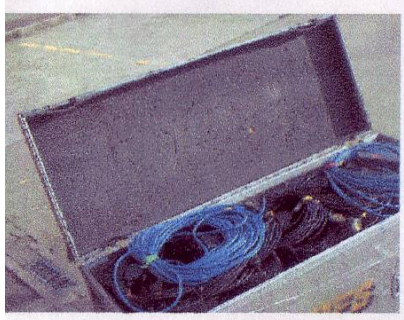
LANTERNS SHOULD BE RETURNED THUS:

FRESNELS AND PC'S SHOULD HAVE THE BARNDOORS AND COLOUR FRAMES ON. PROFILES SHOULD HAVE THE COLOUR FRAMES ON SHUTTERS IN BUT GOBOS AND HOLDERS (IF ANY) OUT. THEN ALL LANTERNS SHOULD HAVE THE TRUNNION VERTICAL AND LOCKED OFF THE SAFETY CHAIN WRAPPED AROUND THE HOOK CLAMP AND THEN THE CABLE LOSLEY KNOTTED WITH A SINGLE HALF-HITCH AFTER ONE OR TWO GENTLE COILS OF THE CABLE AROUND THE HOOK CLAMP. THIS PREVENTS LOOSE CABLES FALLING INTO A PILE OF EQUIPMENT IN THE FLIGHTCASE.



WE TRY TO FLIGHTCASE OUR STOCK WHEREVER POSSIBLE IN ORDER TO PROTECT IT AND MAKE IT EASY TO MOVE IT INTO YOUR VENUE. IT ALSO MAKES TRANSPORT EASIER BUT PLEASE ENQUIRE AS TO THE SIZE OF THE FLIGHTCASE AND..... PLEASE BRING AN APPROPRIATE VEHICLE!

WHEN YOU RECEIVE A HIRE PLEASE NOTE HOW IT WAS PACKED AND TRY TO REPACK IT THE SAME WAY. WE HAVE HAD SEVERAL CUSTOMERS LOAD A FLIGHTCASE WITH ALL OF THE CABLES IN ONE CASE, A SOLID BLOCK OF COPPER AND RUBBER. RESULT, YOU JUST CAN'T LIFT IT! WE MAY BE ABLE TO "BAG" THE EQUIPMENT TO GO IN A CAR, BUT..... PLEASE LET US KNOW IN ADVANCE!



PLEASE READ THE TERMS AND CONDITIONS PRINTED ON THE BACK OF YOUR DELIVERY NOTE. PLEASE READ THE INSTRUCTION SHEETS PROVIDED WITH THE EQUIPMENT.

THERE ARE SPARE LAMPS AND WHEN APPROPRIATE FUSES IN A BOX WITH THE HIRE. THE CUSTOMER MAY CHANGE THESE SHOULD ONE FAIL BUT PLEASE RETURN THE "DEAD" ONE FOR OUR INSPECTION. IN THE EVENT OF AN EMERGENCY CALL 01322 350 351 (OFFICE HOURS) OR DAVID ON 07860 233 771 FOR ASSISTANCE.

INFORMATION FACTS AND FAQ'S

HOW DOES THE SYSTEM WORK?

IN MOST SCHOOLS AND SMALLER VENUES THERE WILL BE A MAIN ISOLATOR, WHICH FEEDS THE STAGE LIGHTING SYSTEM. THIS WILL BE RATED AT PROBABLY 240 VOLT 60 AMP OR MAYBE 100 AMP. IF YOU ARE REALLY LUCKY, IT WILL SAY 415 VOLT 60 AMPS I.E. 60 AMP THREE PHASE.

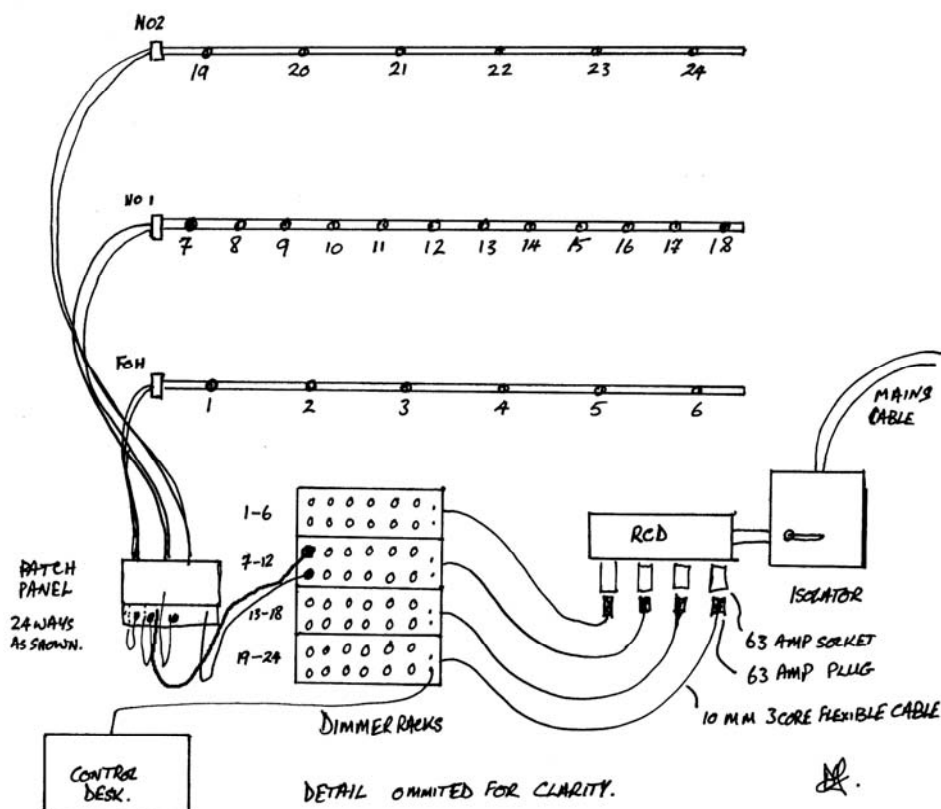
THIS WILL GIVE YOU THE TOTAL LOADING ON THE SYSTEM. 60 AMPS IS 14.4KW OR 28 LANTERNS AT 500 WATTS. IF YOU HAVE THREE PHASES OF 60 AMPS YOU CAN RUN 42KW OF LIGHT, ENOUGH FOR MOST PURPOSES.

THE ISOLATOR SHOULD FEED AN RCD DISTRIBUTION BOARD WHICH OFFERS PROTECTION AGAINST THE RISK OF ELECTRIC SHOCK (AN RCD IS A RESIDUAL CURRENT DEVICE AND USED TO BE CALLED AN EARTH LEAKAGE CIRCUIT BREAKER WHICH SEEMS TO ME TO BE FAR MORE DESCRIPTIVE). THIS SHOULD THEN FEED SOCKETS RATED AT 63 AMPS OR 32 AMPS AND THEN TO THE DIMMER RACKS VIA PLUG AND CABLE OF A SUITABLE SIZE.

EACH STANDARD DIMMER RACK HAS 6 CIRCUITS NORMALLY RATED AT 10 AMPS, HENCE THE 60 AMP FEED. IF YOU ONLY HAVE 32 AMP SOCKETS THIS WILL ALLOW FOR A TOTAL LOAD OF 7.2KW PER RACK OR JUST 50% OF ITS CAPABILITY. EACH CIRCUIT SHOULD HAVE TWO 15 AMP SOCKETS TO ALLOW 2 LANTERNS TO BE PLUGGED TOGETHER. THERE SHOULD BE A PATCH PANEL LOCATED BY THE RACKS, WHICH HAS A NUMBER OF 15 AMP PLUGS ON CABLES WHICH THEN PLUG INTO THE DIMMER RACKS. EACH PATCH LEAD RELATES TO A SOCKET ON THE INTERNALLY WIRED BAR (IWB). YOU SELECT WHICH PATCH LEAD GOES INTO WHICH SOCKET, AS YOU MAY WANT TO LINK TWO LANTERNS TOGETHER. THIS MEANS YOU HAVE TOTAL FLEXIBILITY AS TO THE PLUGGING UP. WHICH MAY WELL VARY FROM SHOW TO SHOW. EACH CHANNEL OF DIMMING HAS ONE FUSE AT THE DIMMER RACK, SO IF A FUSE BLOWS WE CAN LOCATE IT AND REPLACE IT QUICKLY. SOME SYSTEMS ARE HARD WIRED SO THERE ARE NO ADJUSTMENTS AVAILABLE FOR PATCHING ETC, THIS PUTS LIMITATIONS ON THE SYSTEM.

THE PATCH PANEL LEADS AND THE SOCKETS ON THE INTERNALLY WIRED BARS (IWB) SHOULD BE CLEARLY MARKED (SO THAT YOU CAN READ IT FROM THE GROUND) THIS MAKES PATCHING UP A STRAIGHTFORWARD TASK AND NOT "A MISSION". FOR EXAMPLE YOU MAY FOR THIS SHOW WISH TO USE SAY 7 AND 18 AS A PAIR PLUGGED INTO AN APPROPRIATE CHANNEL, THE NEXT SHOW MAY BE ENTIRELY DIFFERENT.

SCHEMATIC LAYOUT OF A DIMMING SYSTEM



FAULT FINDING

FOLLOWING ON FROM HOW THE SYSTEM WORKS, WE OFTEN GET PHONE CALLS TO SAY, "THE SYSTEM DOESN'T WORK". MANY OF THE FAULTS ARE QUITE SIMPLE BUT IN THE PANIC OCCASIONALLY PEOPLE MISS THE OBVIOUS.

- **IS THE POWER SUPPLY SWITCHED ON? MOST DIMMER RACKS WILL HAVE A "MAINS ON" LIGHT OR SOME FORM OF INDICATOR.**
- **ARE ALL THE MAIN MCB'S ON? (MCB = MINIATURE CIRCUIT BREAKER), YOU MAY HAVE A FUSE FOR EACH RACK. MCB'S AND FUSES PROTECT AGAINST OVERLOAD.**
- **IF YOU HAVE RCD DISTRIBUTION, THE RCD MAY HAVE TRIPPED. THIS OFTEN HAPPENS IF A LAMP BLOWS MID PERFORMANCE. TRY RESETTING THE RCD. IF IT RESETS FINE, IT WAS JUST A TEMPORARY "FAULT" WHEN THE LAMP BLEW. IF IT DOESN'T RESET, THE FAULT STILL EXISTS. THIS MAY WELL BE TIME TO CALL US. AN RCD IS A SAFETY DEVICE TO PROTECT AGAINST ELECTRIC SHOCK.**
- **IF THE DESK REQUIRES POWER IS THAT SWITCHED ON?**
- **ARE THE DESK AND RACKS CONNECTED TOGETHER?**
- **IS THERE A FUSE BLOWN IN THE DIMMER RACK? IF YOU HAVE 5 AMP RACKS THERE SHOULD BE A 10 AMP FUSE FOR THE CHANNEL AND A 5 AMP FUSE FOR EACH SOCKET.**
- **IS THE LAMP BLOWN?**
- **DOES THE CONTROL CABLE LOOK SUSPECT? WELL THEN, IT PROBABLY IS THE PROBLEM. IT IS QUITE OFTEN CHEAPER TO REPLACE THE CABLE THAN REPAIR IT. ALSO IF ONE CORE IS BROKEN THE OTHERS WILL BE UNDER STRAIN AND JUST WAITING TO BREAK.**
- **IF THE FAULT IS ON ONE CONTROL CABLE, SWAP IT WITH ANOTHER TO SEE IF THE FAULT REMAINS OR MOVES WITH THE CABLE.**

THE LATTER IS ONE OF THE MOST COMMON FAULTS THAT WE DEAL WITH. IT IS QUITE OFTEN REPORTED AS "THE DESK HAS GONE WRONG" BUT NORMALLY THE CONTROL SOCKETS ARE PCB MOUNTED (PCB = PRINTED CIRCUIT BOARD) AND THEREFORE UNLIKELY TO COME LOOSE. THE MOST LIKELY PROBLEM IS THE CONTROL CABLE WHICH IF ANALOGUE HAS 8 WIRES SOLDERED ON AND IS NOT THE MOST ROBUST OF CONNECTORS. IT IS ALSO THE PART OF THE SYSTEM TO BE MOVED ABOUT, PULLED, TUGGED, SHOVED AND GENERALLY "KICKED ABOUT" THIS IS OFTEN QUITE OBVIOUS WITH WIRES HANGING OUT.

ANOTHER FAULT THAT WE SEE ON A DMX SYSTEM IS "I BRING UP CHANNEL NUMBER ONE AND CHANNEL NUMBER FIVE COMES UP" THIS IS DMX ADDRESSING AND BASICALLY SOMEONE HAS FIDDLED WITH THE DMX ADDRESSING. EITHER REFER TO THE MANUAL, OR, FOR SIRIUS, ALCORA OR XL DESKS FROM ZERO88, CALL US AND WE CAN FAX YOU DETAILS OR TALK YOU THROUGH THE ADJUSTMENTS.

IN THE SAME WAY IF YOU HAVE A ZERO 88 DESK AND PULSAR RACKS WE OFTEN HERE "NOTHING HAPPENS ON CHANNELS ONE AND TWO, THEN CHANNEL THREE BRINGS UP CHANNEL ONE" THIS IS THE ZERO - PULSAR CONVERSION LEAD ROUND THE WRONG WAY. I FOUND THIS ONE OUT SOME 20 YEARS AGO WHILST RIGGING A ONE-NIGHT CONCERT, UNTIL 2 AM AND GETTING NOWHERE, ANGLO-SAXON WORDS WERE MUTTERED!

TO SUMMARISE:

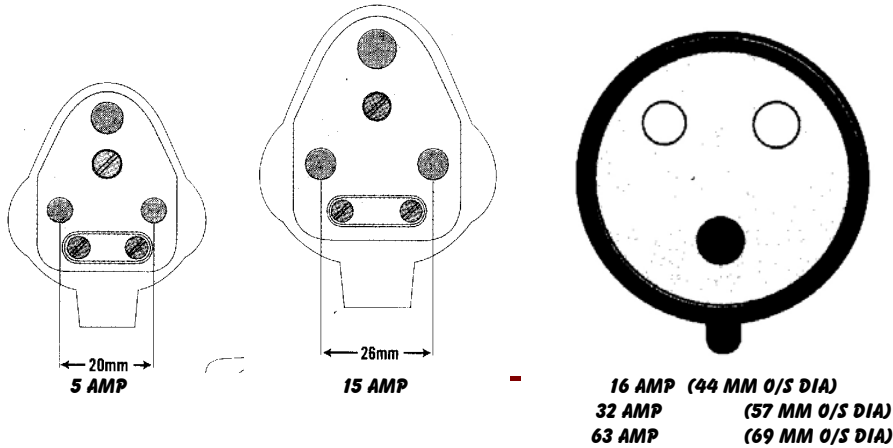
- **CHECK EACH PART OF THE SYSTEM ONE AT A TIME.**
- **ISOLATE WHAT YOU KNOW WORKS AND MARK THE TESTED ITEMS SO AS TO ELIMINATE THEM AND EVENTUALLY YOU WILL ARRIVE AT THE PROBLEM.**
- **WORK METHODICALLY.....OR YOU MAY MISS THE OBVIOUS.**
- **MANY FAULTS ON AN ANALOGUE SYSTEM ARE CONTROL CABLE FAULTS.**

NOW OF COURSE IF ALL THIS FAILS, WHY NOT GIVE US A CALL AND ASK FOR A SERVICE VISIT? BUT PLEASE TEST THE SYSTEM SOME TIME PRIOR TO THE SHOW AS FIXING IT WHILST THE AUDIENCE IS COMING IN, JUST ISN'T FUN!

TELEPHONE 01322 350 351 (8 AM- 6PM) OR 07860 233 771 (8 AM - 9PM)

WHICH SIZE PLUG?

ALL OF OUR THEATRE LIGHTING STOCK IS ON 15 AMP PLUGS WHICH ARE STANDARD FOR THE INDUSTRY BUT YOU MAY HAVE 5 AMP PLUGS AND SOCKETS. WE CAN SUPPLY ADAPTORS AT A COST. ADAPTORS ARE ALWAYS PLUG TO SOCKET. SO IF YOU HAVE 5 AMP SOCKETS AND ADD OUR EQUIPMENT TO YOUR RIG, YOU WILL NEED 5 AMP PLUG TO 15 AMP SOCKET, ABBREVIATED TO 5-15A. SHOWN HERE APPROXIMATELY HALF SIZE.

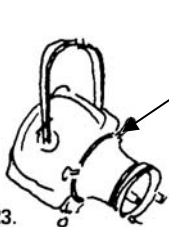


16 AMP PLUGS ARE FITTED TO ALL OF OUR OUTDOOR FITTINGS AND TO ALL OF OUR NON-DIM ITEMS SUCH AS STROBES. NON-DIM ITEMS WOULD CAUSE DAMAGE TO THE DIMMERS AND BE DAMAGED THEMSELVES IF THEY WERE TO BE SO CONNECTED. WE WILL SUPPLY 13 AMP TO 16 AMP ADAPTORS FREE OF CHARGE WHERE APPROPRIATE. 16AMP, 32AMP AND 63AMP, 240 VOLT PLUGS ARE ALL BLUE, RED ONES ARE THREE PHASE. (YELLOW ARE 110V, PURPLE, BLACK OR WHITE ARE LOW VOLTAGE). YOU MAY ALSO HEAR 16 AMP PLUGS REFERRED TO AS CEEFORM OR BS 4343 BUT THEY ARE NOT EURO-PLUGS! THEY DON'T EXIST.

GOBOS

A GOBO IS A CUT OUT METAL PLATE OF A SHAPE SUCH AS WINDOWS, CLOUDS ETC. IT FITS IN A PROFILE SPOT IN THE CENTRE OF THE LANTERN. THERE ARE HUNDREDS TO CHOOSE FROM, SO PLEASE ASK FOR FURTHER INFORMATION.

GOBO SLOT FOR HOLDER AND GOBO



Patt 23.
250/500W. First
and best-selling
UK profile.



ALL PROFILES HAVE THE SAME GENERAL LAYOUT; THE 'GATE' WILL BE JUST BY THE SHUTTERS. THERE ARE DOZENS OF GOBO HOLDERS, SO PLEASE TELL US WHICH LANTERN YOU HAVE AND WE CAN SUPPLY THE CORRECT HOLDER AND GOBO. PLEASE NOTE A GOBO DOES NOT GO IN A FRESNEL!

PROFILE SPOTS

PROFILE SPOTS GIVE A SHARP DEFINED BEAM AND ARE GENERALLY USED FRONT OF HOUSE OR TO PROJECT GOBOS. THE BEAM CROSSES AND WILL INVERT THE IMAGE, SO, WHEN USING A GOBO IT HAS TO BE UPSIDE DOWN AND BACK TO FRONT. THE BEAM IS SHAPED BY INTERNAL SHUTTERS. THE GOBO FITS IN THE CENTRE OF THE LANTERN, JUST IN FRONT OF THE SHUTTERS.

FRESNELS

FRESNELS GIVE A SOFT EDGED BEAM FAR LESS DEFINED THAN A PROFILE SPOT. THE BEAM DIVERGES FROM THE LANTERN SO IF YOU USE A SPLIT FILTER YOU GET TWO DISTINCT COLOURS. THE BEAM IS SHAPED BY BARNDOORS ON THE FRON.

PC'S

PEBBLE CONVEX OR PC LANTERNS ARE ROUGHLY A HALF WAY HOUSE BETWEEN A PROFILE AND A FRESNEL, LIKE A FRESNEL THE BEAM DIVERGES. THE BEAM IS SHAPED BY BARNDOORS ON THE FRONT.

PARCANS POLISHED ALUMINIUM REFLECTOR MEASURED IN 1/8TH INCHES, PAR 64 OR 64 X 1/8TH INCHES= 8 INCH DIAMETER, DAMN CONFUSING THESE AMERICANS! (THEY INVENTED IT) OVAL BEAM EITHER NARROW, MEDIUM OR WIDE SIMPLE "PUNCH" OF LIGHT. THERE IS A VERY WIDE VERSION OF THE PAR LAMP AVAILABLE WHICH IS GREAT FOR A WIDE SPREAD OF LIGHT. THE CAN IS THERE TO HOLD THE LAMP AND FILTER AWAY FROM EACH OTHER!

FLOODS

LAMP IN A TIN CAN REALLY! THERE ARE TWO TYPES, SYMMETRICAL WHICH GIVE A GENERAL FLOOD AND ASYMMETRICAL WHICH ARE POSITIONED AT THE TOP OF THE CYCLORAMA AND GIVE AN EVEN DISTRIBUTION OF LIGHT OVER THE WHOLE CYCLORAMA.

ASSYMETRICAL FLOOD



SYMMETRICAL FLOOD



A FEW EXAMPLES



PATT 23 500W PROFILE SPOT



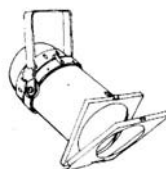
PATT 123 500W FRESNEL



PATT 743 1000W FRESNEL



PATT 60 500W FLOOD



PARCAN



PATT 252 2000W EFFECTS PROJECTOR

GRELCO'S

TRADE NAME FOR A 2 WAY 15 AMP ADAPTER, IT'S THE SAME AS CALLING A VACUUM CLEANER A "HOOVER" . A THREE WAY GRELCO IS OFTEN REFERRED TO AS A TRELCO.

FOLLOW SPOTS

(THE IRIS ALWAYS GOES IN THE MIDDLE OF THE LANTERN)

- **UNDER 40 FEET OR 12 METRES (THE LENGTH OF A BADMINTON COURT) A 1 KW 10° TUNGSTEN HALOGEN (T/H) OR A CANTO 250W WITH A SMALL LIGHTING RIG WILL PROBABLY BE ADEQUATE, EG PRIMARY SCHOOL SIZE.**
- **UNDER 50 FEET OR 15 METRES 2 KW T/H, 400W CSI OR CANTO 250W MSD WILL PROBABLY BE ADEQUATE IF THE RIG IS NOT TOO BRIGHT, OR THE FAL SPARK 575WATT HMI**
- **50 TO 80 FEET OR 15 TO 25 METRES (OR A SHORTER THROW BUT WITH A BRIGHT RIG) THEN 1200W HMI WILL BE CORRECT, E.G. LARGE SECONDARY SCHOOL AND MEDIUM SIZED THEATRES.**
- **100 FEET OR 30 METRE THROW AND A BRIGHT RIG, THE 400W ORBITOR IS REQUIRED, EG LARGE SCHOOL, THEATRE OR FOR MEDIUM THROW OUTDOOR THEATRE.**

HOWEVER IF IN DOUBT... GO BRIGHTER!

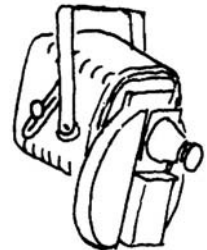
252 EFFECTS PROJECTION

WHICH LENS FOR A 252 ? HOW BIG WILL THE IMAGE BE ?

MULTIPLY THE THROW (DISTANCE FROM THE PROJECTOR TO THE SCREEN) BY THE MULTIPLYING FACTOR TO GIVE YOU THE SIZE OF THE IMAGE. ONCE YOU KNOW THE FINAL SIZE YOU CAN WORK OUT WHICH LENS IS BEST.

E.G. USING A 6" LENS AT 3M THROW X 0.65 = 1.95 M DIAMETER

2 1/2" LENS (WIDEST ANGLE) HAS A MULTIPLYING FACTOR OF	2.00
3" LENS HAS A MULTIPLYING FACTOR OF	1.60
4" LENS HAS A MULTIPLYING FACTOR OF	0.93
6" LENS HAS A MULTIPLYING FACTOR OF	0.65



EFFECTS AVAILABLE INCLUDE

FLEECY CLOUD, STORM CLOUDS, FLAMES, SNOW, RUNNING WATER, RAIN, BOX WAVE, SMALL TREES, CLOUDS ACROSS THE MOON, LIGHTNING (HAND OPERATED)

WHERE DO I POSITION THE STANDS AND LIGHTS ?

THE BEST POSITION FOR THE STANDS IS ABOUT 45° TO THE STAGE. YOU SHOULD RAISE THE STANDS TO THE HIGHEST POSSIBLE POINT TO GIVE THE BEST ANGLE TO LIGHT FROM ABOVE. IF YOU HAVE THEM TOO LOW IT CREATES SHADOWS AND SPOILS THE EFFECT, YOU WILL NEED A STEP LADDER TO ADJUST THE LIGHTS. PROFILE SPOTS ARE DESIGNED TO PRODUCE NARROWER BEAM ANGLES THAN FRESNELS. THIS MEANS THAT IF YOU HAVE A LONG THROW YOU NEED PROFILE SPOTS TO GET TO THE STAGE WITH ANY POWER. FRESNELS ARE DESIGNED TO BE USED CLOSER TO THE STAGE AND GIVE A WIDE BEAM SPREAD.

IF YOU HAVE A LIGHT WHICH GIVES SAY, 1000 LUX AT 1 METRE THE AMOUNT OF LIGHT AT 2 METRES IS NOT HALF BUT ONLY A QUARTER! AT 20 METRES IT IS ONLY 1/400TH OF THE LIGHT THAT WAS AT 1 METRE. LIKEWISE, IF YOU USE PROFILE SPOTS TOO CLOSE TO THE STAGE YOU CANNOT NORMALLY MAKE THE BEAM WIDER THAN IT CAN PHYSICALLY BE. IF YOU LIGHT FROM STRAIGHT ON IT WILL TEND TO FLATTEN THE ACTORS AGAINST THE SET. IF YOU CAN LIGHT FROM THE SIDES YOU WILL ACHIEVE MORE SEPARATION OF THE ACTOR AND SET. CIRCUMSTANCES MAY NOT GIVE YOU THAT OPTION SO YOU MAY HAVE TO COMPROMISE. IN GENERAL FRESNELS AND PC'S WILL HAVE A LENS ADJUSTING KNOB, WHICH ALLOWS THE LAMP AND REFLECTOR TO BE MOVED CLOSER TO THE LENS TO MAKE THE BEAM WIDER, FURTHER AWAY THE NARROWER IT BECOMES. ONCE YOU HAVE THE CIRCLE OF LIGHT TO THE WIDEST IT NEEDS TO BE TO COVER ALL THE AREA DESIRED, YOU MOVE THE BARNDOORS IN TO CUT OFF THE UNWANTED AREAS. WITH PROFILES YOU MOVE THE LENS IN RELATION TO THE FIXED LAMP AND REFLECTOR. YOU MAY HAVE TWO LENSES WHICH GIVES A WIDE RANGE OF SAY 25°-50°. ONCE YOU HAVE THE LANTERN WIDE ENOUGH TO COVER THE DESIRED AREA YOU THEN BRING THE SHUTTERS IN TO CUT THE BEAM OFF TO THE DESIRED AREA, YOU DO NOT WANT TO HAVE LIGHT ON THE PROSCENIUM ARCH. THEN SOFTEN THE FOCUS OF THE BEAM SO THAT THE AUDIENCE IS NOT DISTRACTED BY A SHARP BEAM EDGE. YOU WILL SEE THAT THE BEAM CROSSES BECAUSE THE TOP SHUTTER ADJUSTS THE BOTTOM OF THE BEAM AND THE LEFT SHUTTER CONTROLS THE RIGHT SIDE OF THE BEAM ETC. FOR SIMPLICITY I HAVE IGNORED PROFILES FOR GOBOS ETC. THERE ARE MANY BOOKS ON STAGE LIGHTING AND A GOOD BASIC BOOK IS "A BEGINNERS GUIDE TO STAGE LIGHTING" BY PETER COLEMAN ISBN: 1 904031 20 X

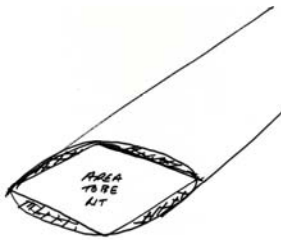
FOCUSSING SHUTTERS AND BARNDOORS



NARROWEST



WIDEST



SET THE LIGHT TO THE SMALLEST THE BEAM NEEDED TO BE TO COVER THE WHOLE OF THE REQUIRED AREA.

IF USING A PROFILE SPOT, USE THE SHUTTERS TO CUT OFF THE STRAY LIGHT. NOTE THE BEAM IS INVERTED.

(UPSIDE DOWN AND BACK TO FRONT)

IF USING A FRESNEL OR PC, USE THE BARNDOORS TO CUT OUT THE STRAY LIGHT.

NB. ALL LANTERNS GET HOT!



WIDEST



NARROWEST

LANTERN SHOWN QUARTET FRESNEL WITH BARNDOORS



WHAT ELSE DO WE DO?

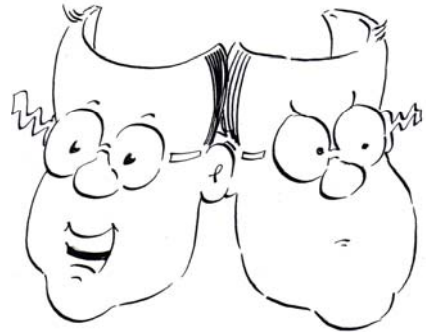
WE CAN SUPPLY FALLING SNOW (PAPER) AND THE MACHINE IS VIRTUALLY SILENT, AS WELL AS: SMOKE, HAZE AND HEAVY FOG. SILK FLAMES. STARCLOTHS. MIRROR BALLS. PYROTECHNICS. PROPS SUCH AS CANDLES CANDELABRA RAILWAY LANTERNS, FAKE FOOD PROPS FOR A BANQUET SCENE. CONFETTI GUNS, AND MUCH MORE.

**ASK FOR OUR CD ROM OR
VISIT OUR WEBSITE WWW.DAVIDFITCHSERVICES.COM
OR JUST GIVE US A CALL 01322 350 351**

ANALOGUE CONTROL

THIS IS A CONTROL SYSTEM BETWEEN THE DESK AND RACKS WHICH WORKS ON 10 VOLTS OR THEREABOUTS AND IS 1 WIRE TO EACH DIMMER. THE SCALE OF 0-10 IS EQUIVALENT TO PERCENTAGE BRIGHTNESS (0-100%). THE VARIOUS MANUFACTURERS HAVE DIFFERENT IDEAS AS TO HOW THIS SHOULD BE DONE AND THEREFORE THERE ARE SOME COMPATIBILITY PROBLEMS, PLEASE CONTACT US FOR FURTHER INFORMATION.

<u>PIN</u>	<u>PULSAR</u>	<u>STRAND -VE</u>	<u>ZERO88 AND OTHERS</u>
1	+VE	1	1
2	-VE	2	2
3	1	3	3
4	2	4	4
5	3	5	5
6	4	6	6
7	5	+VE	+VE
8	6	-VE	-VE



STRAND DIMMERS SUCH AS MINI II, TEMPUS AND ACT 6, WORK ON -10V. ACT 6 MARK2 ARE "AUTO SENSING" IF YOU HAVE A POWERED DESK I.E. IT DOES NOT PICK UP POWER FROM THE RACKS. EVERYONE ELSE WORKS ON +10V BUT THE PIN CONFIGURATION IS DIFFERENT FOR PULSAR. IF YOU HAVE PULSAR RACKS AND A ZERO88 DESK YOU WILL NEED A CONVERSION LEAD. IT MAY BE EASIER TO CALL US WITH THE RELEVANT INFORMATION AND WE WILL WORK IT OUT!

DMX CONTROL ADDRESSING AND WIRING

DMX 512 IS A DIGITAL CONTROL SIGNAL USED TO CONTROL DIMMERS, MOVING LIGHTS, SMOKE MACHINES, SCROLLERS ETC IT WILL CONTROL UP TO 512 ITEMS IF YOU DESK CAN HANDLE THIS. THE BEAUTY OF DMX 512 IS THAT IS UNIVERSAL SO ANY DMX512 DESK WILL CONTROL ANY DMX512 ITEM. WITH ITEMS SUCH AS A SCROLLER WHERE YOU HAVE SOME 16 FRAMES OF COLOUR THE SLIDER ON THE DESK IS NOT A BRIGHTNESS BUT A POSITION ALONG THE SCROLL. WITH INETLIGENT OR MOVING LIGHTS THE SLIDER IS USED FOR AN ATTRIBUTE SUCH AS PAN , WHERE 0= FULL LEFT, 10= FULL RIGHT AND 5= THE MIDDLE. THEATRE EFFECTS USE 5 PIN XLR CONNECTERS, DISCO LIGHTS USES 3 PIN XLR. BE CAREFUL NOT TO PUT A SOUND LEAD INTO THE 3 PIN PORT!

THE CABLE IS A 2 CORE CABLE WITH SCREEN SIMILAR TO A MICROPHONE CABLE BUT NORMALLY IN RED. PIN 1 SCREEN (5POLE XLR PINS 4+5 NOT USED)

PIN 2 COLD

PIN 3 HOT

ON A DMX ITEM THERE WILL BE A SET OF SWITCHES AND NUMBERED THUS

SWITCH	1	2	3	4	5	6	7	8	9	10
CHANNEL	1	2	4	8	16	32	64	128	256	SPECIAL

THIS MEANS BY USING SEVERAL SWITCHES THE ITEM IS ADDRESSED AS THE START ADDRESS. SAY CHANNEL 31 IS 16+8+4+2+1 = 31 CHANNEL 35 IS 32+2+1 = 35

WHAT IS A DEMUX? AND WHAT'S D54? AMX? AND PMX?

A DEMUX CONVERTS A DIGITAL SIGNAL TO ANALOGUE. THERE ARE SEVERAL VERSIONS AVAILABLE SO PLEASE CONTACT THE OFFICE FOR DETAILS. D54 WAS AN EARLY FORM OF CONTROL FROM STRAND BUT IS UNCOMMON THESE DAYS. AMX WAS THE AMERICAN STRAND VERSION. PMX WAS THE PULSAR EARLY DMX SIGNAL.

UNWINDING CABLE DRUMS – WHY?

A CABLE DRUM LEFT WOUND UP IS "AN ELECTRIC MOTOR GOING NOWHERE! IT WILL HEAT UP AND GO BANG! TECHNICALLY IT OVERHEATS AND MELTS DOWN THUS SHORTING OUT....UNWIND IT!

SOME FACTS

WATTS

----- = AMPS

E.G. 1000W @240V = 4.2 AMPS

VOLTS

NOTE THE SUPPLY WILL CHANGE TO 230VOLTS SHORTLY, ANY 240VOLT LAMPS WILL LAST A BIT LONGER (AT 90% LAMP LIFE INCREASES BY ABOUT 30%)

10 AMPS = 2.4KW
30 AMPS = 7.2KW
60 AMPS = 14.4KW



60 AMPS 3 PHASE = NOW WE ARE GETTING SOMEWHERE!

EACH CIRCUIT ON A DIMMER RACK IS RATED AT 10 AMPS. SO EACH RACK IS CAPABLE OF 60 AMPS SO 60 AMP 3 PHASE IS VERY DESIRABLE IF YOU HAVE 24 CHANNELS OF DIMMING! IF YOU HAVE GOT THE POWER SUPPLY YOU CAN TURN IT UP! UNDER DOING IT AND SAVING A FEW QUID IN THE FIRST PLACE IS A BIG MISTAKE.

BEAM ANGLES

19° MULTIPLIER 0.35
26° MULTIPLIER 0.50
30° MULTIPLIER 0.54 (BEAM ANGLE OF A PATT 23)
36° MULTIPLIER 0.65
40° MULTIPLIER 0.73
51° MULTIPLIER 0.95 (BEAM ANGLE OF PATT 123 AT WIDEST)
70° MULTIPLIER 1.40 (BEAM ANGLE OF PATT 743 AT WIDEST)

**IF WE HAVE A PATT 23 AND IT IS, SAY, 5M FROM THE STAGE THE BEAM WILL BE
5M X 0.54 = 2.7M DIAMETER. (ALLOW 1/3RD OVERLAP FOR FULL COVERAGE)**

F.A.Q'S

WHEN DO I NEED TO ORDER EQUIPMENT? WHY?

AS SOON AS POSSIBLE! EVEN IF IT IS JUST THE OUTLINE OF AN ORDER WITH DETAILS TO FOLLOW ON. 6- 8 WEEKS NOTICE IS GOOD! BECAUSE THERE ARE CERTAIN ITEMS THAT ARE BOOKED WELL IN ADVANCE, SUCH AS THE DNG100. WE HAVE JUST ONE, AS THEY COST SOME £2000, AND THE NEXT NEAREST ONE IS IN MANCHESTER! DELIVERY AND COLLECTION IS EXPENSIVE.

NO, NOT REALLY COMPARED TO OTHER COMPANIES. WE TRY TO BE REASONABLE ABOUT THE COSTS BUT THE VANS DO COST A LOT TO RUN, THE CHANCELLOR SEES TO THAT.

CAN YOU DELIVER BETWEEN 1.10 PM AND 1.15 PM?

DELIVERY TIMES CANNOT BE GUARANTEED DUE TO TRAFFIC CONDITIONS. OUR NORMAL WORKING DAY IS 8AM TO 6PM. PLEASE SEE TERMS ON PAGE48.

DO I HAVE TO SEND AN ORDER?

YES PLEASE. WE INSIST ON THIS TO ENSURE YOU GET THE GOODS AND YOUR FINANCE DEPARTMENT WILL NOT REJECT THE INVOICE. UNCONFIRMED REQUESTS ARE NOT ACTED UPON, AS THEY ARE NOT ORDERS!

THE SCHOOL DOESN'T PAY VAT.

SORRY WRONG, THE SCHOOL HAS TO PAY THE VAT THAT WE HAVE TO CHARGE, BUT THEN MAY CLAIM IT BACK.

PLEASE NOTE

- **UNSOCIAL HOURS, FOR COLLECTIONS SUCH AS 3 AM ON A WET SUNDAY MORNING AT THE VENUE AMONGST THE DEBRIS OF A SATURDAY NIGHT'S REVELRIES, ATTRACTS A SURCHARGE.**
- **CUSTOMER: " YOU DELIVER, WE WILL RETURN" THEN.... YOU MUST COLLECT IT TODAY! ATTRACTS A SURCHARGE IF WE HAVE TO RE-ARRANGE OUR SCHEDULE FOR THE DAY!**
- **PLEASE BE DE-RIGGED AND PACKED UP IN TIME FOR OUR COLLECTION. WAITING TIME OR ABORTED JOURNEYS ARE CHARGEABLE! NORMAL HOURS ARE 8AM TO 6PM BUT TIMES CANNOT BE GUARANTEED DUE TO ROAD CONDITIONS.**

CALENDAR 2008

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2009 CALENDAR

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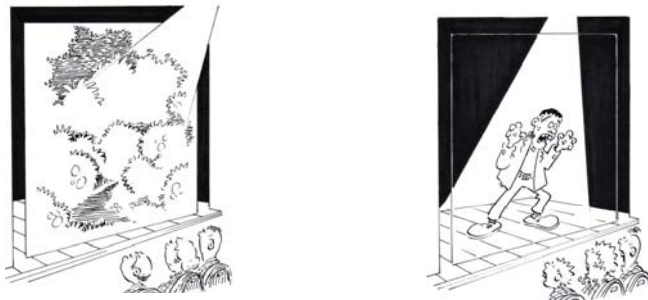


WOULD THE RIGHT HAND TELL THE LEFT HAND WHAT IT IS DOING!

BOOK EARLY TO AVOID DISAPPOINTMENT!
WE OFTEN GET BOOKINGS UP TO 18 MONTHS IN ADVANCE

HOW TO USE A GAUZE

WE ARE OFTEN ASKED FOR A GAUZE BUT UNFORTUNATLY NOT EVERYONE HAS HAD THE CHANCE TO SEE IT WORK. ONE USE IS TO REVEAL A SCENE TAKING PLACE AS A FLASHBACK OR AS AN IMAGE BEHIND THE GAUZE WHICH COMES TO LIFE. AN EARLY EXAMPLE OF THIS TECHNIQUE IS GILBERT AND SULLIVAN'S "RUDDIGORE" WHERE THE GHOSTS OF THE ANCESTORS COME TO LIFE. THE GAUZE IS PAINTED (USING SCENIC PAINT, PAGE 24) WITH A PICTURE OF THE ANCESTOR, WHEN LIGHT IS SHONE FROM HIGH ABOVE AND IN FRONT OF THE GAUZE A PAINTING IS SEEN. THE ACTOR IS BEHIND THE GAUZE IS IN DARKNESS AND WHEN THE LIGHT AT THE FRONT GOES OFF AND THE LIGHT BEHIND COMES ON, THE GAUZE "DISAPPEARS" AND THE ACTOR IS SEEN THROUGH THE HOLES IN THE GAUZE. THIS "REVEAL" EFFECT REQUIRES A BLACK, OR AT LEAST DARK, BACKING/SURROUND AS ANY STRAY LIGHT WILL REVEAL THE ACTOR TOO SOON. THEN, MUCH FLASHING OF LIGHTNING AND THEN THE GAUZE CAN BE REMOVED TO ALLOW THE GHOST TO STEP DOWN FROM HIS "PAINTING" AND BECOME PART OF THE ACTION. RUDDIGORE WAS FIRST PRODUCED IN JANUARY 1887, SO THE EFFECT HAS BEEN AROUND FOR A WHILE. HERE IS AN EXAMPLE...



IT IS ALSO POSSIBLE TO HIDE THE BAND BEHIND THE SET, SOME WOULD SAY THIS IS DESIRABLE! YOU MIGHT THINK THAT, BUT I COULD NOT POSSIBLY COMMENT. YOU MAY WISH TO STAGE "A MIDSUMMER NIGHT'S DREAM" AND USE SEVERAL GAUZES ALLOWING YOUR ACTORS TO WALK ACROSS STAGE SEVERAL TIMES GIVING THE IMPRESSION OF THEM WALKING THROUGH THE WOODS AND YET ONLY COMING DOWN STAGE BY A FEW FEET. THIS CAN ALSO BE ACCOMPLISHED WITH CAMOUFLAGE NET IN A SIMILAR WAY. ANOTHER EXAMPLE WOULD BE TO HAVE HANSEL AND GRETEL IN THE MOUNTAIN CREATED BY A GAUZE, THE POSSIBILITIES ARE ENDLESS.

SMOKE HAZE AND HEAVY FOG

SMOKE MACHINES WORK BY HEATING THE SMOKE FLUID AND THEN PASSING THE HOT FLUID THROUGH THE SMALL NOZZLE AT THE FRONT OF THE MACHINE AND AS IT COMES OUT THE PRESURE DROPS AND IT IS ATOMISED TO GIVE "SMOKE". THE PARTICLES ARE ABOUT 5 MICRONS DIAMETER AND HANG IN THE AIR SO THAT WE SEE SMOKE OR A FOG. THE PARTICLES RISE TO ALL LEVELS AND CAN BE QUITE DENSE (DEPENDING HOW LONG YOU PRESS THE BUTTON). HAZE MACHINES GIVE A FINER PARTICULATE AND WILL SHOW THE BEAMS OF LIGHT WITHOUT FOGGING THE STAGE. THIS EFFECT IS USED IN TELEVISION AND ROCK CONCERTS A LOT, BUT IS ALSO USEFUL FOR STAGE WORK. DRY ICE GIVES LOW LEVEL FOG BUT WE HAVE FOUND THAT THE MACHINES ARE HIGH MAINTAINCE AND TEND TO LEAK. DRY ICE (SOLID CARBON DIOXIDE) IS AT -78°C AND BOILING WATER IS OF COURSE AT +100°C, PUT THEM TOGETHER AND THE CO2 CONVERTS TO A GAS MIXTURE AND COMES OUT AT THE FRONT. WONDERFUL, BUT THE RISKS ARE SCALDING, FROSTBITE AND ASPHYXIATION (SUCH A STUFFY DEATH) YOU CAN'T KEEP DRY ICE FOR MORE THAN 2 DAYS, IT'S EXPENSIVE AND VERY FEW COMPANIES STOCK IT! (OUR NEAREST IS HEATHROW) HOWEVER HELP IS AT HAND! WE STOCK THE DNG100 HEAVY FOG MACHINE WHICH HAS A SMOKE MACHINE WITH A SPECIAL FLUID CONNECTED BY HOSE TO THE CHILLER UNIT. THE FLUID IS HEATED IN THE SAME WAY AND THEN COOLED DOWN TO FORM A LOW LEVEL FOG WHICH IS SAFE TO USE AND BEHAVES JUST LIKE DRY ICE! WHEN YOU USE THIS EFFECT DO NOT BLOCK THE OPEN NOZZLE ON THE HOSE AS YOU MUST HAVE A CHIMNEY EFFECT OR THE SMOKE WILL JUST STOP.

SMOKE MACHINES WILL PROBABLY SET OFF THE FIRE ALARM SO ISOLATE THE ZONE BEFORE THE SHOW AND DO NOT RESET UNTIL THE SMOKE HAS GONE!

WHY NOT ASK FOR OUR CD ROM WHICH HAS NOT ONLY THE BROCHURE BUT ALSO PHOTOS, GOBO CATALOGUES AND SOME VIDEO CLIPS OF THE "HARD TO EXPLAIN ITEMS" WE HAVE FOR HIRE.....OR VISIT THE

WEBSITE WWW.DAVIDFITCHSERVICES.COM

DFS LANTERN GUIDE

<u>LANTERN</u>	<u>BEAM ANGLE</u>	<u>LAMP</u>	<u>WATTAGE</u>	<u>COLOUR SIZE (MM)</u>	<u>PER SHEET LEE</u>
PATT 23	30	T24	500	100	60
PATT 123	16/51	T24	500	160	21
PATT 264	20	T15	1000	160	21
PATT137	105	200W GLS	200	235 x 205	10
PATT 743	8/70	T11/T19	1000	210	8
S63/ S 64	105	200W GLS	200	235 x 205	10
MINUETTE P	21/35	T25/T27	500/650	125	36
MINUETTE F	18/57	T25/T27	500/650	125	36
MINIM F	12/55	T25/T27	500/650	100	60
MINIM 23	30	T25/T27	500/650	100	60
SOURCE FOURS					
JNR ZOOM	25/50	HPL	575	160	21
19, 26, 36, 50	19/26/36/50	HPL	750	160	21
ZOOM 15/32	15/32	HPL	750	190	21
PAR	VNN/M/W	HPL	575	190	12
PARNEL	25/47	HPL	575	190	12
PARCAN60	12x6	CP60	1000	254	8
PARCAN61	13x10	CP61	1000	254	8
PARCAN62	25x14	CP62	1000	254	8
PRELUDE P	16/30	T25/T27	500/650	150	24
PRELUDE P	28/40	T25/T27	500/650	150	24
PRELUDE F	9/40	T25/T27	500/650	150	24
QUARTET P	22/40	T25/T27	500/650	150	24
QUARTET F	10./40	T25/T27	500/650	150	24
QUARTET PC	10./55	T25/T27	500/650	150	24
CODA 1	66	K1	500	245 x 215	10
PAR 30	10	PAR 30	75	SPECIAL	60

BURNING ANGLES OF LAMPS

THIS IS IMPORTANT, AS HAVING THE LANTERN UPSIDE DOWN WILL SHORTEN THE LAMP LIFE, CONSIDERABLY. IF THE COLOUR FRAME OR BARNDORR WANT TO FALL OUT OF THE LANTERN, IT IS PROBABLY UPSIDE DOWN. OTHER WAYS OF TELLING IS THAT MOST CABLES WILL COME OUT OF THE BOTTOM OF THE LANTERN AND MOST LENS KNOBS WILL ALSO BE UNDERNEATH. ALTERNATIVELY, IF THE WRITING ON THE SIDE IS UPSIDE DOWN..... ALSO YOU MUST NOT RIG A LAMP ON ITS SIDE, AS THIS WILL ALSO CAUSE IT TO FAIL. EXCEPTIONS TO THIS ARE ALL AXIAL LAMPS, PAR LAMPS AND GLS. IF IN DOUBT GIVE US A RING

TELEPHONE 01322 350 351

GOBOS AND SPLIT FILTERS

THE QUICKEST WAY TO CUT A FILTER IS LAY A COLOUR FRAME ON THE FILTER ON TOP OF A CUTTING BOARD AND MOVE THE FRAME BY 5MM IN BOTH DIRECTIONS TO MAKE THE CUT FILTER SMALLER THAN THE FRAME AND THEN USE A "STANLEY" KNIFE TO CAREFULLY CUT ALONG THE EDGE OF THE FRAME, KEEPING YOUR FINGERS OUT OF THE WAY AND DO NOT USE A BLUNT KNIFE. THIS THEN MEANS THE FILTER WILL FIT FIRST TIME! IF YOU HAVE TO USE SCISSORS MARK OUT THE SIZE AS ABOVE, WITH A CHINAGRAPH PENCIL (WHICH WE SELL) AND CUT ALONG THE LINES. WE ALSO MAKE FILTER CUTTING GUIDES FOR THE MOST COMMON SIZES. VARIOUS GOBO EFFECTS ARE AVAILABLE, FOR INSTANCE IF YOU WOULD LIKE TO ACHIEVE A WOODLAND EFFECT, A BREAK-UP GOBO (DHA 119) WITH A SPLIT FILTER IN A PROFILE SPOT WILL GIVE "DAPPLED LIGHT COMING THROUGH TREES". THE BEST WAY TO MAKE A SPLIT FILTER IS TO CUT A FULL SIZE FRAME OF EACH COLOUR AND THEN CUT EACH PIECE IN HALF DIAGONALLY. THEN, USING SCROLLER TAPE, WHICH IS HEAT RESISTING, JOIN THE 2 HALVES TOGETHER ALONG THE DIAGONAL SIDE, ON BOTH SIDES OF THE SPLIT FILTER. DARK GREEN AND DEEP STRAW (124/015) WOULD GIVE A FOREST DAYLIGHT AND SLATE BLUE AND DARK GREEN (161/124) WOULD GIVE THE NIGHT TIME EFFECT. PLEASE ASK FOR OUR CD ROM FOR PICTURES. IN A DANCE SHOW THERE IS OFTEN NEED FOR MORE COLOURS THAN THE LANTERNS AVAILABLE. ONE SOLUTION IS TO USE SCROLLERS, WHICH ALLOW YOU TO GET 16 COLOURS FROM ONE LANTERN. WE SUPPLY SCROLLERS ON SOURCE 4 PARS BECAUSE OF THE BRIGHT LIGHT OUTPUT, COMBINED WITH COOL RUNNING OF THE LANTERN AND THE FACT THAT IT IS ONLY 575WATTS. THESE CAN BE HIRED FROM US. YOU WILL NEED A CHANNEL OF DMX FOR EACH SCROLLER OR HIRE A SMALL DESK FROM US. A SIMPLE WAY OF GETTING MORE COLOURS IS TO USE SPLIT FILTERS AS EXPLAINED ABOVE, BUT IN YOUR FRESNEL LANTERNS. THIS WILL GIVE YOU HALF OF EACH BEAM AS A DIFFERENT COLOUR. SOME GOOD COMBINATIONS ARE 015/124, 113/124, 046/767 BUT THEN COLOUR IS SUBJECTIVE! WHY NOT ASK FOR A SWATCH BOOK AND START EXPERIMENTING! WHEN SELECTING A COLOUR, LOOK AT DAYLIGHT OR TUNGSTEN LIGHT BUT NOT FLUORESCENT LIGHT, THE COLOUR RENDITION IS HORRIBLE, NOT LIKE TUNGSTEN LIGHT YOU WILL BE USING.

TUNGSTEN HALOGEN LAMP (NOT A 'BULB'!)

THE TUNGSTEN HALOGEN LAMP IS A VERY EFFICIENT COMPACT LAMP, WHICH WORKS BY THE FILAMENT GIVING OFF TUNGSTEN ATOMS WHEN HEATED AND ALLOWS THEM TO REMAIN FREE IN A HALOGEN GAS, SUCH AS IODINE OR BROMINE. THE OUTER GLASS HAS A HIGH QUARTZ CONTENT. AS THE TUNGSTEN ATOMS COOL DOWN THEY ARE ATTRACTED BACK TO THE FILAMENT. THIS IS AN ONGOING PROCESS AND GIVES INCREASED LAMP LIFE OVER THE MORE BASIC TUNGSTEN FILAMENT LAMP. THE QUARTZ GLASS OUTER IS SUSCEPTIBLE TO GREASE AND THUS SHOULD NOT BE HANDLED WITH BARE HANDS. FINGERPRINTS WILL SHORTEN THE LAMP LIFE. IF YOU DO TOUCH THE LAMP, CLEAN IT WITH METHYLATED SPIRIT OR OTHER ALCOHOL! LAMP LIFE IS ALSO SHORTENED IF THE LANTERN IS USED AT A STEEPER ANGLE THAN IT IS DESIGNED FOR! A TUNGSTEN FILAMENT LAMP (OLDER TYPE SUCH AS T1) STARTS TO DECAY AND DARKEN FROM THE MOMENT IT SWITCHED ON. A TUNGSTEN HALOGEN LAMP MAINTAINS ITS BRIGHTNESS FOR MOST OF ITS LIFE AND THEN DECAYS RAPIDLY IN THE LAST FEW HOURS.

DISCHARGE LAMPS

THESE LAMPS HAVE NO FILAMENT! THEY WORK BY CREATING A SPARK WHICH JUMPS THE GAP BETWEEN THE PINS WITHIN THE LAMP AND PRODUCES A MUCH BRIGHTER WHITER LIGHT THAN A TUNGSTEN HALOGEN LAMP OF THE SAME WATTAGE. DO NOT DIM THESE AS IT WILL DAMAGE THE LAMP AND DIMMER! THEY ARE FITTED TO MANY INTELLIGENT LIGHTS AND FOLLOW SPOTS



MIRROR BALLS AND SCULPTURES

WHEN USING A MIRROR BALL, CHOOSE ONE WHICH IS IN PROPORTION TO YOUR VENUE. AN 8" MIRROR BALL IN THE ALBERT HALL WOULD LOOK SILLY, LIKewise A 54" WOULD BE SILLY IN A SMALL HALL, THE AUDIENCE MAY HAVE TO DUCK TO GET UNDER IT! ALSO PLEASE NOTE YOU MUST USE THE PROPER RIGGING EQUIPMENT WHICH IS TESTED EVERY 6 MONTHS, A " LUMP OF SAFETY CHAIN" WILL NOT DO! THE BEST LANTERN TO SHINE ON A MIRROR BALL IS A NARROW ANGLE PROFILE WITH AN INTENSE LAMP AND SMALL LENS. YOU MAY NEED AN IRIS TO REDUCE THE BEAM. A STANDARD 10° OR 5° LENS ON SAY A SOURCE FOUR PROFILE WILL GIVE "DINNER PLATE" SIZED DOTS, SO NOT MUCH USE. FRESNELS OR FLOODS ARE ABSOLUTELY USELESS FOR THIS PURPOSE. PERSONALLY, I WOULD USE A SOURCE FOUR 19° WITH IRIS DIAPHRAM.

NON-DIM ITEMS ARE DEFINITELY NON-DIM

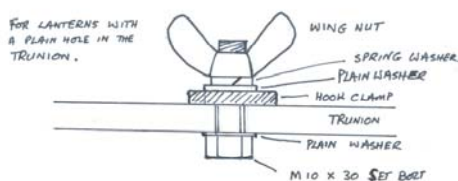
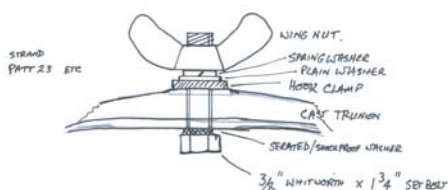
THESE ARE ITEMS THAT MUST HAVE PURE RAW MAINS OTHERWISE; THEY COULD BE DAMAGED BY A DIMMER OR MAY WELL BLOW UP THE DIMMER! SOME MANUFACTURERS SAY THAT THEIR DIMMERS CAN BE OVERRIDDEN BUT I HAVE SEEN THE CONSEQUENCES FOR A CUSTOMER AT £100 A TIME (THREE OF THEM) SO, PURE RAW MAINS PLEASE. MOST NON-DIM ITEMS (EXCEPT SMOKE MACHINES WHICH ARE ON 13 AMP) HAVE 16 AMP PLUGS AND WE ALWAYS SUPPLY APPROPRIATE ADAPTERS. THESE INCLUDE ALL MOVING LIGHTS, SMOKE MACHINES, HAZE MACHINES, MIRROR BALL ROTATORS, STROBES, FLAMES AND FLAMBEAUX AND ANY DISCHARGE FITTING OR MOTORISED FITTING.

MECHANICAL, BOLT ASSEMBLY

THERE ARE TWO CORRECT ASSEMBLIES OF BOLTS TO USE:

- OLDER STRAND LANTERNS ARE 3/8" WHITWORTH X 1 3/4" SET BOLTS (THREADED ALL THE WAY UP) SHAKEPROOF WASHER BETWEEN THE HEAD OF THE BOLT AND THE TRUNION (TO STOP THE BOLT COMING UNDONE). HOOK CLAMP, PLAIN WASHER, SPRING WASHER AND WING NUT.
- NEWER LANTERNS WITH A PLAIN HOLE IN THE TRUNION (SOURCE FOUR, PARCANS ETC) M10 X 30 SET BOLT, PLAIN WASHER, TRUNION, HOOK CLAMP, PLAIN WASHER, SPRING WASHER AND WING NUT.

THE PURPOSE OF THE PLAIN WASHER IS TO SPREAD THE LOAD, WHICH IS A POINT LOADING IS EITHER TIGHT OR LOOSE, THE SPRING WASHER EXERTS A FORCE WHICH HOLDS THE LANTERN STILL WHEN AT REST BUT ALLOWS YOU TO MOVE THE LANTERN TO TURN IT SLIGHTLY AND WHEN YOU STOP THE WASHER OPENS UP TO HOLD THE LANTERN STILL. THIS IS IMPERCEPTIBLE BUT IT IS HAPPENING. M10 AND 3/8" WHITWORTH ARE NOT INTERCHANGEABLE.



THE PROBLEM WITH POINT LOADING IS EITHER, THE THING IS TIGHT OR IT IS LOOSE, THERE IS NO HALF WAY POINT. SHAKEPROOF WASHERS ARE OF NO USE WITHOUT A THREADED HOLE AS IT WILL NOT "BITE" ON A "PLAIN HOLE" ASSEMBLY AND IF IT DID IT WOULD RENDER THE SPRING WASHER USELESS.

HOW OFTEN SHOULD I CHANGE THE FILTER ?

WE OFTEN FIND THAT CUSTOMERS ARE STILL USING "CINEMOID" (AN EARLY PRODUCT FROM STRAND LIGHTING) THAT THEY PUT IN "JUST A WHILE BACK" AND HAROLD WILSON WAS PRIME MINISTER (FOR YOUNGER READERS THAT WAS 1964). IT CERTAINLY WILL NOT BE THE SAME COLOUR TODAY! IF YOU NOTICE THAT THE COLOUR IS FADING, IT IS TIME TO CHANGE THE FILTER. THE DARKER THE COLOUR, THE QUICKER IT WILL FADE. THERE ARE HUNDREDS OF COLOURS AVAILABLE AND IT IS REALLY QUITE CHEAP, PLEASE ASK FOR A SWATCH BOOK TO MAKE YOUR CHOICE.

NOTES TERMS AND CONDITIONS OF HIRE AND SALES

ALL ORDERS MUST BE CONFIRMED IN WRITING, WITHOUT THIS NO ORDER EXISTS AND REQUESTS WILL NOT BE ACTED UPON. WHEN ORDERING PLEASE LET US KNOW THE DATE YOU REQUIRE THE GOODS, THE DATES OF THE PERFORMANCES, THE EXPECTED FINISHING TIME OF THE LAST PERFORMANCE AND THE TIME AT WHICH THE GOODS WILL BE RETURNED OR COLLECTED. PLEASE LET US KNOW OF ANY IMPORTANT INFORMATION SUCH AS THE VENUE WILL SHUT FOR 3 WEEKS! "LOCKED IN" EQUIPMENT REMAINS ON HIRE TO YOU! IF THERE IS SOMETHING YOU DO NOT UNDERSTAND PLEASE ASK. ADVICE IS FREE AND WE WILL AT LEAST EXPLAIN THE JARGON. WE WILL SEND AN INSTRUCTION SHEET WITH MORE TECHNICAL ITEMS. HIRE CHARGES ARE PER WEEK (OR 50% OF THE WEEKLY RATE FOR 24 HOURS, DAY RATE). DISCOUNT IS AVAILABLE ON 4 WEEKS OR MORE HIRE. ITEMS MARKED * DO NOT COME INTO THE DAY RATE SCHEME. INVOICES ARE ALL DUE 10 DAYS FROM THE DATE OF INVOICE (NORMALLY THE DATE ON WHICH THE GOODS ARE DESPATCHED). PRICES QUOTED IN OUR BROCHURES ARE CORRECT AT TIME OF GOING TO PRESS. PLEASE CONFIRM THE PRICE WHEN ORDERING. TRANSPORT IS NOT DISCOUNTED. PRICES ARE ALWAYS SUBJECT TO VAT. SHOULD YOU NEED TO HAVE THE INVOICE DETAILS CHANGED IT SHALL HAVE NO EFFECT ON THE INVOICE DATE OR DATE BY WHICH THE INVOICE MUST BE PAID AND THE ORIGINATOR OF THE ORDER WILL STILL BE RESPONSIBLE FOR THE DEBT UNTIL PAID. WE MAY LEVY A CHARGE FOR THIS. ALL PAYMENTS MUST BE SENT WITH A REMITTANCE ADVICE NOTE, BACS PAYMENTS MUST BE ADVISED IN THE SAME WAY. IF WE ARE UNABLE TO TIE UP A PAYMENT WITH AN INVOICE YOU MAY GET A CALL TO SAY, PAY US! WE RESERVE THE RIGHT TO CHARGE 4% ABOVE BASE RATE FOR LATE PAYMENT OF INVOICES CALCULATED ON A DAILY BASIS FROM THE DUE DATE UNTIL PAID. SHOULD YOU WISH TO CHANGE THE DATES FOR A HIRE YOU MUST NOTIFY US AS SOON AS POSSIBLE AS WE MAY NOT BE ABLE TO ASSIST DUE TO OTHER BOOKINGS. LIKewise, IF YOU DECIDE TO RETURN EARLY, OR CANCEL AT SHORT NOTICE, WE MAY NOT CREDIT YOU, IF WE ARE UNABLE TO RE-LET THE EQUIPMENT. ONCE YOU HAVE ORDERED AND RECEIVED GOODS THEY WILL BE CHARGED TO YOU, WHETHER THEY ARE USED OR NOT. IF YOU WISH TO CANCEL A BOOKING YOU MUST DO SO IN WRITING AT LEAST 7 DAYS BEFORE THE HIRE. WE WILL NOT CREDIT SUCH EQUIPMENT AT LESS THAN 7 DAYS WRITTEN NOTICE.

IF AN ITEM OF OUR EQUIPMENT GOES WRONG PLEASE CHECK FOR THE OBVIOUS SUCH AS A BLOWN FUSE, A FLAT BATTERY ETC. IF IT IS MORE SERIOUS WE WILL RECTIFY THE FAULT AS QUICKLY AS POSSIBLE. PLEASE RETURN THE ITEM TO US FOR INSPECTION. IF WE HAVE DELIVERED IT, WE WILL COLLECT AND RETURN. PLEASE REPORT ALL FAULTS AT ONCE, AS NO ALLOWANCE CAN BE MADE IF THE FAULT IS REPORTED TO US AT THE RETURN OF THE EQUIPMENT. IF THERE IS AN ITEM MISSING PLEASE CALL AND TELL US SO THAT WE CAN DISPATCH SAID ITEM AS SOON AS POSSIBLE. BATTERIES AND FILTER ARE THE CUSTOMER'S RESPONSIBILITY. DAVID'S MOBILE 07860 233 771

SMOKE MACHINES GET VERY HOT AND MAY WELL SET OFF THE FIRE ALARM; ALSO PYROTECHNICS WILL SET OFF THE FIRE ALARM. THEREFORE, PLEASE ISOLATE THE ZONE. WE WILL NOT ACCEPT ANY RESPONSIBILITY FOR SUCH AN EVENT. PYROTECHNICS CAN BE VERY DANGEROUS IF ABUSED. PLEASE TREAT THEM EXACTLY LIKE FIREWORKS - WITH GREAT CARE - AND FOLLOW THE INSTRUCTIONS PROVIDED. WHEREVER POSSIBLE KEEP LIGHTING AND SOUND CABLES APART, THIS WILL HELP TO AVOID INTERFERENCE. OUR DIMMER RACKS ARE SUPPLIED WITH 1.5 METRES OF CABLE AND A 63 AMP PLUG. LANTERNS ARE FITTED WITH 1.5 METRES OF SILICON FLEX AND A 15 AMP PLUG OR 16 AMP ON OUTDOOR FITTINGS AND NONDIM ITEMS. ADAPTORS CAN BE SUPPLIED AT EXTRA COST. PLEASE DO NOT CHANGE ANY PLUG OR SOCKET, AS WE WILL MAKE A CHARGE FOR REPAIRS AND RE-TESTING. NON-DIMMING ITEMS WILL BE SUPPLIED WITH A SUITABLE 13 – 16 AMP ADAPTOR FREE OF CHARGE. WE WILL INFORM YOU OF THE DETAILS. DO NOT PUT A NON-DIM ITEM ON A DIMMER. DO NOT ALTER ANY OF OUR EQUIPMENT, AS YOU WILL BE CHARGED FOR ITS REPAIR OR REPLACEMENT.

PLEASE DO NOT USE PARCEL TAPE OR MASKING TAPE, AS IT IS NOT SUITABLE FOR TAPING DOWN CABLES. THESE TAPES ARE VIRTUALLY IMPOSSIBLE TO CLEAN OFF. WE SELL GAFFA TAPE WHICH IS REALLY VERY CHEAP, AND FAR MORE SUITABLE. THE CUSTOMER IS RESPONSIBLE FOR CLEANING OFF GAFFA TAPE OR OTHER TAPES USED ON YOUR PRODUCTION. WHEN RECOILING CABLES PLEASE USE THE CORRECT METHOD AND USE RESEALABLE CABLE TIES, WHICH WE CAN SUPPLY, OR PVC TAPE BUT NOT MASKING TAPE, GAFFA TAPE OR SELLOTAPE. POORLY COILED CABLES, OR CABLES NOT COILED AND SECURED, WILL BE CHARGED, AS THIS TAKES TIME TO CORRECT. THERE IS A LEAFLET SUPPLIED BY US WITH EACH HIRE TO HELP YOU. BARNDOORS SHOULD ALSO BE CLOSED AND LEFT ON THE LANTERN. ON PROFILES, SHUTTERS SHOULD BE IN. LOST EQUIPMENT SUCH AS HOOK CLAMPS, COLOUR FRAMES, SAFETY CHAINS OR BARN DOORS WILL BE CHARGED IN FULL. SHOULD A LAMP "BLOW" PLEASE RETURN THE LAMP FOR INSPECTION. NON-RETURNS WILL BE INVOICED.

THE CUSTOMER IS RESPONSIBLE FOR INSURANCE OF THE EQUIPMENT WHILST IN THEIR POSSESSION. PLEASE ENSURE YOU HAVE ADEQUATE COVER! IF DAMAGE OCCURS, THE CUSTOMER WILL BE CHARGED FOR REPAIRS AT COST (REPLACEMENT IF NECESSARY) AND MAY BE CHARGED FOR CONSEQUENTIAL LOSS DURING REPAIRS. ALL HIRE EQUIPMENT REMAINS THE PROPERTY OF DAVID FITCH SERVICES LTD AND WE RESERVE THE RIGHT TO INSPECT THE EQUIPMENT AT THE CUSTOMERS PREMISES AT A REASONABLE TIME AND NOTICE. WE WILL TRY TO SUPPLY EQUIPMENT AS ORDERED BUT RESERVE THE RIGHT TO SUBSTITUTE SIMILAR EQUIPMENT SHOULD THE SAID GOODS BE UNAVAILABLE. IF WE HAVE TO SUBSTITUTE SUPERIOR OR MORE EXPENSIVE EQUIPMENT YOU WILL BE CHARGED AT THE LOWER RATE. WE CANNOT BE HELD LIABLE FOR CONSEQUENTIAL LOSS IN RELATION TO LATE RETURN OF GOODS OR IN REHEARSAL PERIOD WHILST WE ARE RECTIFYING ANY PROBLEM. LATE RETURN OF GOODS WILL BE CHARGED FOR IN FULL AT THE PUBLISHED RATES.

DELIVERY AND COLLECTION IS AVAILABLE ON ALL EQUIPMENT, BUT IS A CHARGEABLE SERVICE. THIS WILL BE BETWEEN 8AM AND 6PM OR BY ARRANGEMENT. NB WE CANNOT GUARANTEE TIMES DUE TO TRAFFIC CONDITIONS. OCCASIONALLY, WE MAY HAVE TO DELIVER AT AN EARLIER TIME OR COLLECT GOODS AT THE NEXT OPPORTUNITY DUE TO COMMITMENTS, YOU WILL NOT BE CHARGED EXTRA FOR THIS. CERTAIN GOODS CANNOT BE SENT BY POST OR CARRIER, GOODS SUCH AS: PYROTECHNICS, FLUIDS, PAINT OR LARGE FRAGILE ITEMS. WE WILL ADVISE YOU AT THE TIME OF ORDERING OF SUCH ITEMS.

PLEASE BE DE-RIGGED IN TIME, AS WASTED JOURNEYS WILL BE CHARGED AT CURRENT RATES. WE TRY TO FLIGHTCASE EQUIPMENT WHEREVER POSSIBLE TO PROTECT IT AND MAKE TRANSPORT EASIER, PLEASE USE THE CASES WHICH ARE LEFT ON SITE FOR

RETURNING THE EQUIPMENT. THERE IS A LEAFLET SUPPLIED WITH EACH HIRE TO ASSIST YOU IN PACKING THE CASES. PLEASE ASK FOR THE FLIGHTCASE SIZES AND IF COLLECTING PLEASE BRING AN APPROPRIATE VEHICLE. WITH STAGEBASE OR STEELDECK, WHEN WE DELIVER OR COLLECT, THE DRIVER WILL GET THE VEHICLE AS CLOSE AS PRACTICAL. YOU WILL BE EXPECTED TO SUPPLY FIT PEOPLE TO MOVE THE DECK, TO AND FROM ITS PLACE OF USE. IF YOU WOULD LIKE US TO FIT OR REMOVE THE DECK WE WILL SEND A SECOND PERSON. THIS MUST BE ARRANGED AT TIME OF ORDER AND IS CHARGED FOR ACCORDINGLY. STAIRS WILL INVOLVE EXTRA COSTS AND YOU MUST ADVISE US OF THE ACCESS ROUTE AND SITE CONDITIONS.

THESE TERMS AND CONDITIONS WILL APPLY WHETHER YOU HAVE READ THEM OR NOT. TITLE OF SALES ITEMS REMAINS WITH DAVID FITCH SERVICES LTD UNTIL THE INVOICE IS PAID CLEARED FUNDS. GOODS CORRECTLY SUPPLIED BUT SUBSEQUENTLY RETURNED ARE SUBJECT TO A RE-STOCKING CHARGE. SPECIALIST ITEMS CANNOT BE RETURNED.

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