

ELECTRO KABUKI

The Electro Kabuki is a purpose designed system for the Events and Theatre Industry.

Electro Kabuki allows drops and releases to be made simply, safely and reliably.



ELECTRO KABUKI USER MANUAL

2020.1

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1. SAFETY

1.1 General

Basic safety precautions must be followed to ensure the safe operation of this equipment. This manual contains important safety information as well as general information pertaining to the safe operation of this equipment. It is the user/operator's responsibility to read this manual before using this system. The function of the Electro Kabuki is to suspend a load and release it on command from a remote location. The Electro Kabuki must therefore not be used in an application where an untimely release of the load might cause injury, death or damage to property.

The Electro Kabuki system should only be operated by persons who are conversant with the system and are in a position to prevent its' use if the system is in an unsafe condition (See 1.6).

1.2 Electrical safety checks

- a. Before use, examine all connected cables for insulation faults or damage. Note that the cables are colour coded for the link and supply side of the units. They are also keyed to fit, so a connection must never be forced or damage will be caused to the connectors. Use the nuts on the connectors when making connections to prevent them coming loose.
- b. Ensure that interconnecting cables are clipped into the cable strain relief clips on either side of each release unit
- c. Never dismantle interconnection cables.
- d. The supply cable which delivers power to the firing unit should be the last one fitted during installation, and the first removed during dismantling.
- e. Always ensure that the correct voltage is supplied to the firing box and that this voltage is the same as that required by the EK release units.
- f. Always replace the caps onto the LINK and SUPPLY connectors when not in use.
- g. Check the 8A slow blow fuse in the firing box. Do not use the system if the fuse has blown until the cause has been determined and has been corrected.
- h. Ensure that cables are adequately supported between, and to, the release unit.

1.3 Mechanical safety checks

- a. When mounting the units ensure that they are secured correctly and a suitable safety strap or wire is fitted.
- b. The unit is designed to hold and release a maximum of 50Kgs which must include all dynamic loads. Ensure the load limit is not exceeded. Take extra care where shock loading can occur.
- c. The EK2 Release Modules have a safety tab to prevent accidental load release, this can be locked into place through the tab and body until it is safe to release the load (see Section 6.1).
- d. Connecting and interlinking cables must be adequately supported along their length and strain relief should be provided at the points of connection. A strain relief point is provided just above the connector on the frame (see 1.2.b above).
- e. Ensure that all fastening screws and nuts are in position and are adequately tightened. This is particularly important in respect of the screws fixing the load release hook pivot shaft.
- f. Ensure that the EK magnet faces are undamaged.

Should there be any faults in or with the system it should be switched off and be attended to by trained personnel.

1.4 Intended use

The Kabuki release has been designed for the theatrical release of curtains or theatrical drops. Any other use beyond this does not qualify as intended use.

Magnet Schultz does not accept liability for any damages or injury resulting from incorrect use of this product.

Intended use also includes the observation of all guidelines in this manual as well as routine inspection and maintenance.

1.5 Incorrect use

Any use other than that defined in section 1.4

1.6 Competent persons

The equipment must only be operated and set up by persons who:

- Are aware of the potential hazards of restrained or suspended loads
- Know the set up and operation of the kabuki system and the firing unit
- Have authority to prevent its use if, in their opinion, the application is unsafe.

To prevent injury, the user or operator must ensure that no untrained personnel are located in the load release area during the release process.

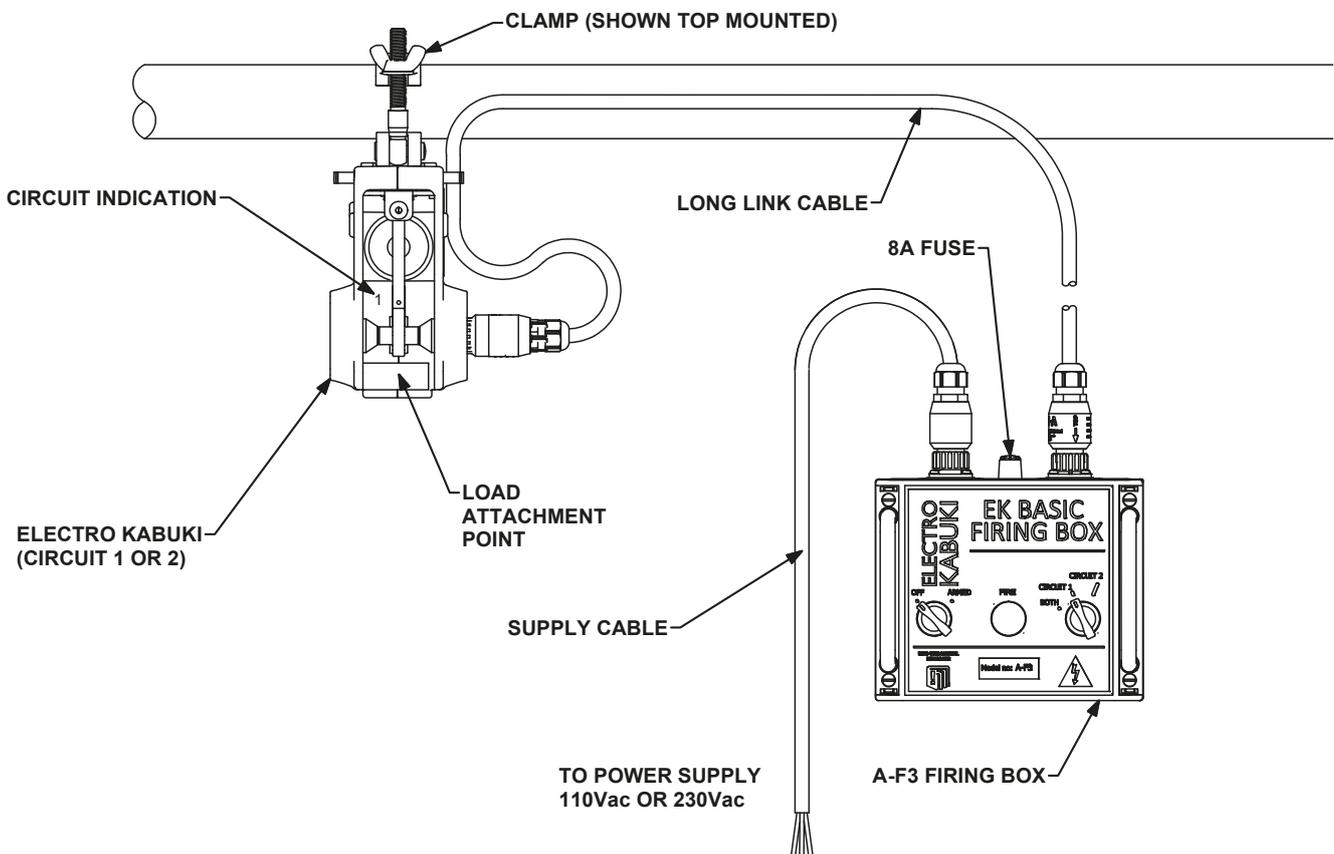
2. SYSTEM STRUCTURE

2.1 System Layouts

The most basic EK system consists of a firing box and a single release module and clamp with a cable connecting the two units, plus a supply cable connecting the firing box to a suitable power supply. The firing unit releases a short pulse of power to the release module when the firing button is pressed. This pulse of power just overcomes the attraction of the powerful magnet built into the release module and a spring pushes the load hook away to release the load.

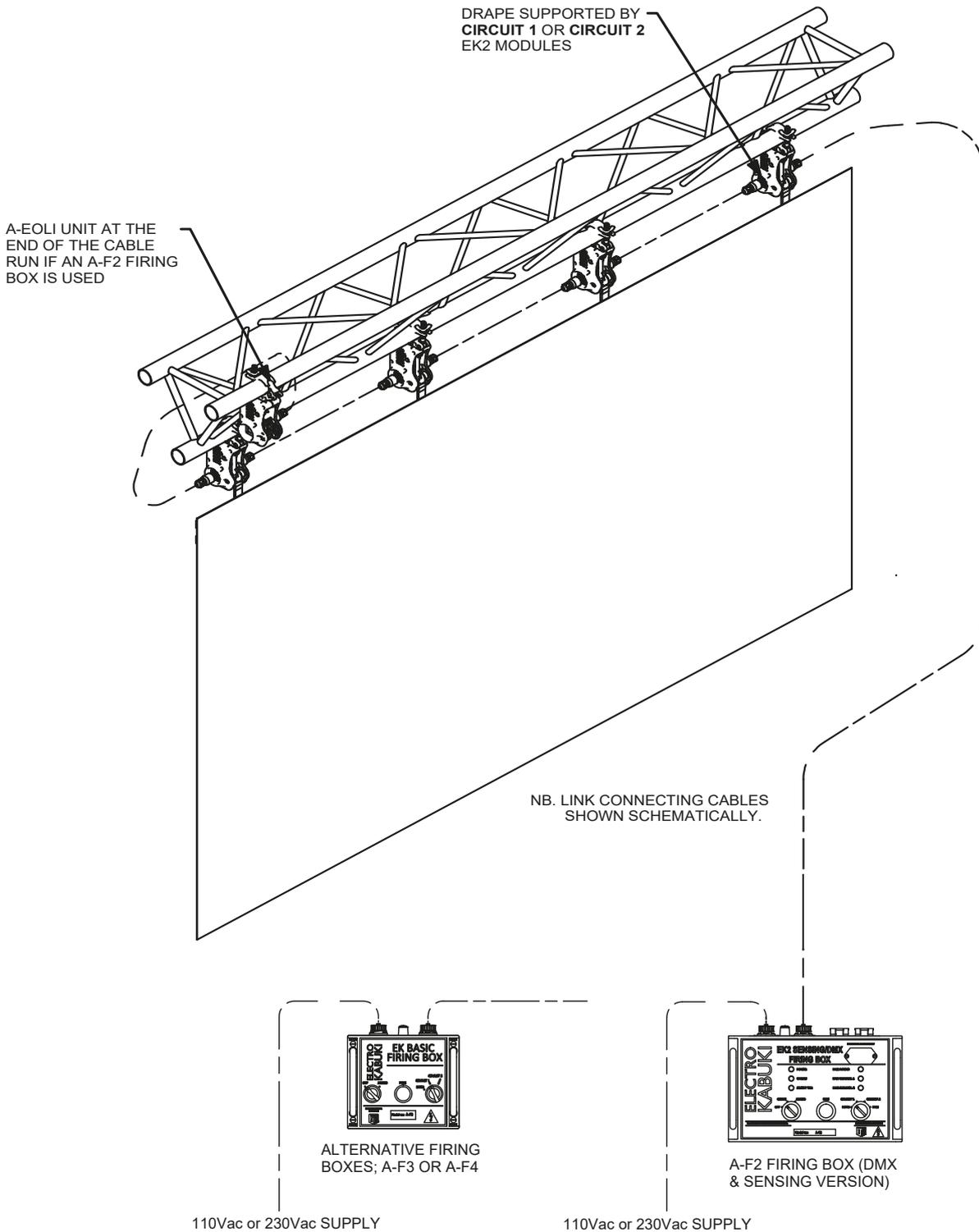
FIG. 1 SIMPLE SYSTEM

For up to 200 EK2 Release Units at 230Vac, or for up to 75 EK2 Release Units at 110Vac



More complex system can be created by adding further release units to the basic system together with interconnecting (LINK) cables.

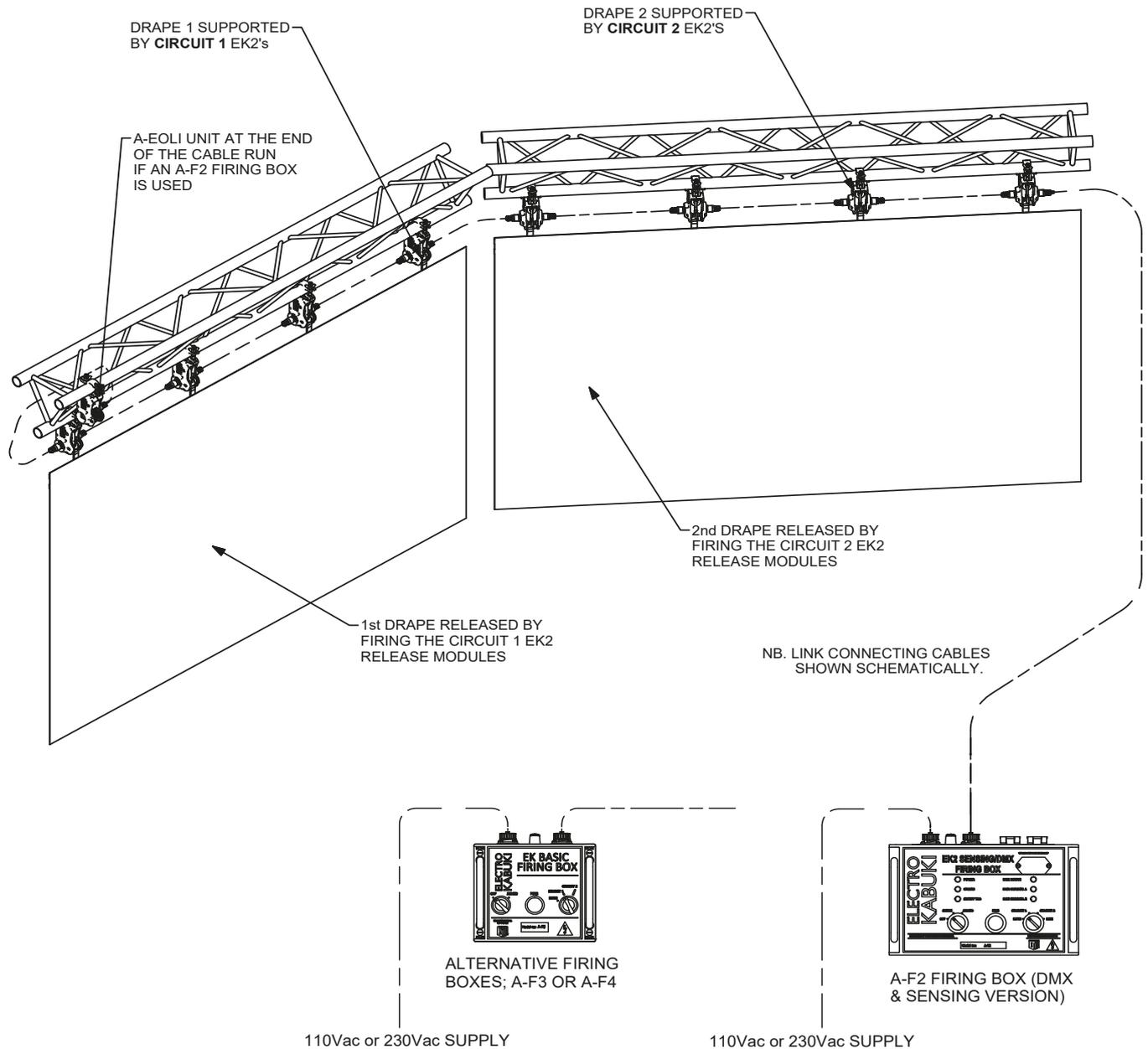
Fig. 2 SIMPLE SINGLE DRAPE SYSTEM



EK2 Release Module internal wiring circuits - Circuit 1 & Circuit 2 - provide for double firing from a single set-up. In addition, more sophisticated internal circuitry allows for set-up checking using the A-F2 DMX and Sensing Firing Box together with End-of-Line indicator units.

The following examples show some of the more sophisticated release configurations that are possible with the Electro Kabuki system.

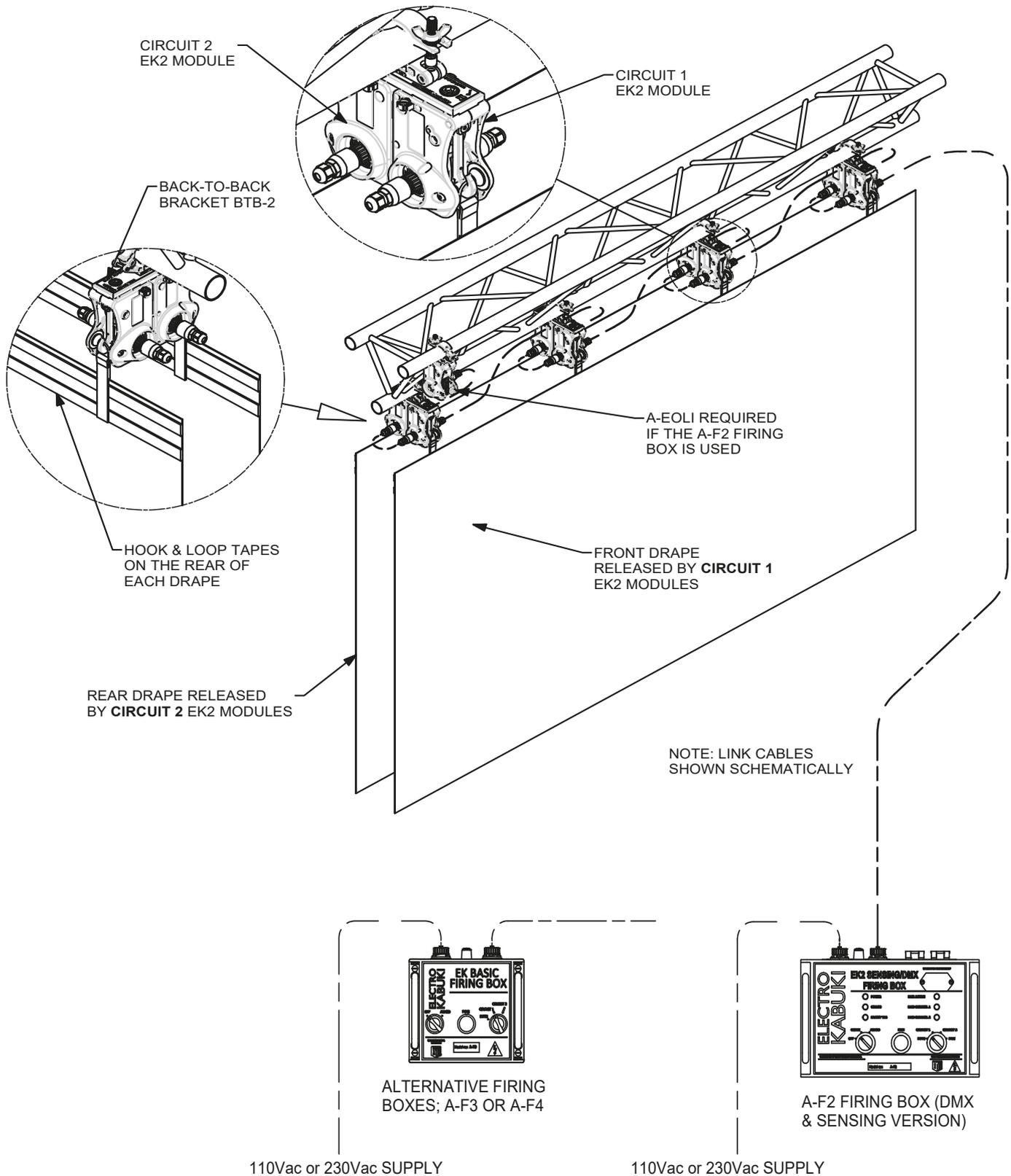
Fig. 3 SIMPLE DOUBLE DRAPE SYSTEM



Each drop can consist of up to 200 EK2 Release Modules at 230Vac or 75 EK2 Release Modules at 110Vac (provided that the 'BOTH' option on the firing box is not used). All release modules on the same system must be of the same voltage rating.

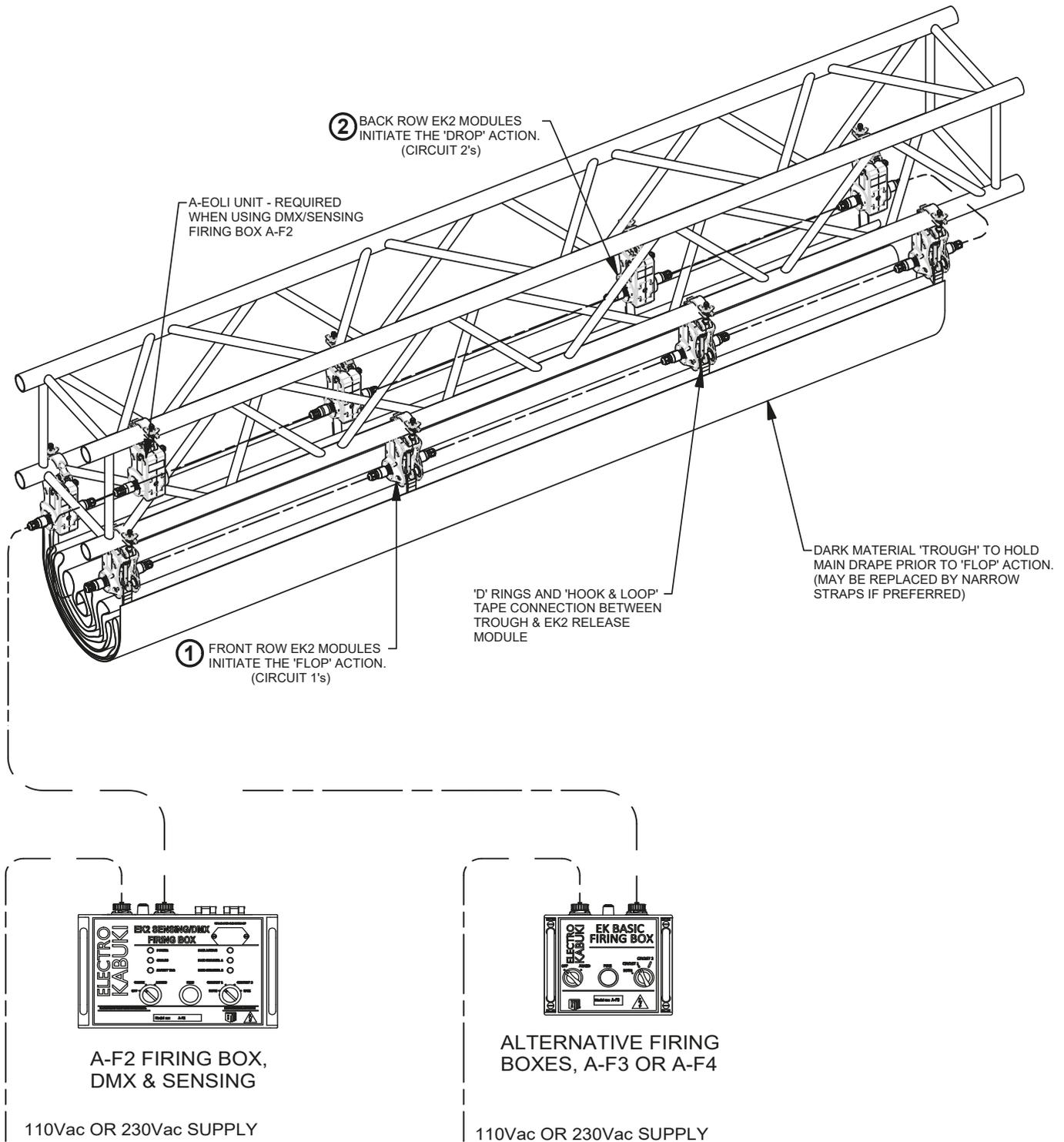
First and second release drapes can be physically separated by some distance via longer link cables or by using In-Line Couplings (A-IC) to join shorter cables together.

Fig. 4 DOUBLE DROP SYSTEMS USING BACK-TO-BACK BRACKETS



Back to back brackets allow very compact stage set-ups as two separate drapes can be supported and dropped from a single truss.

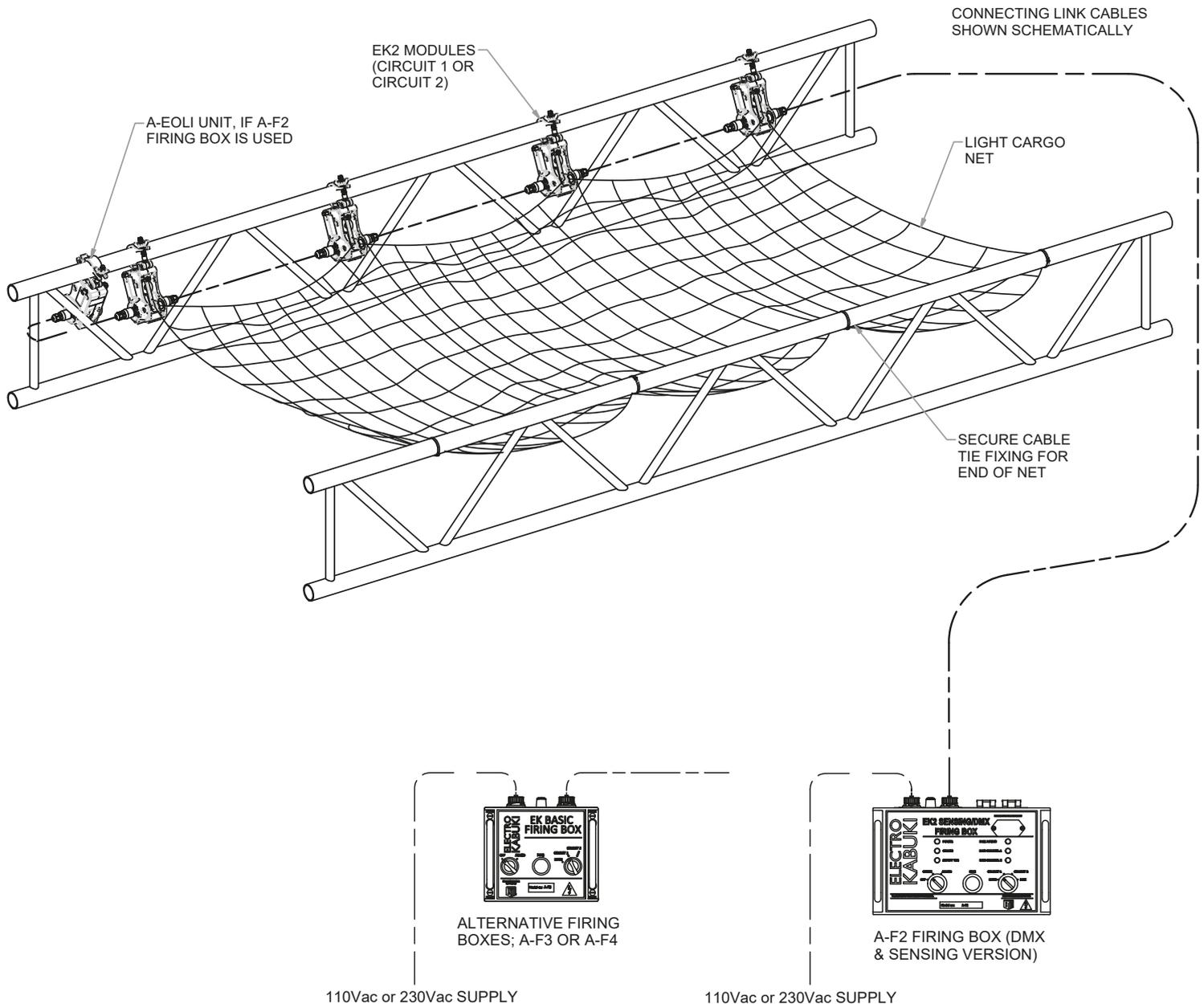
Fig. 5 'FLOP AND DROP' SYSTEMS



Firing the Circuit 1 modules releases the front of the 'trough' and allows the drape to drop into view. Subsequent firing of the Circuit 2 modules releases both the drape and the trough and drops both to the floor.

Given sufficient height to allow adequate dispersion, the trough system can also be used as a 'Confetti Drop'.

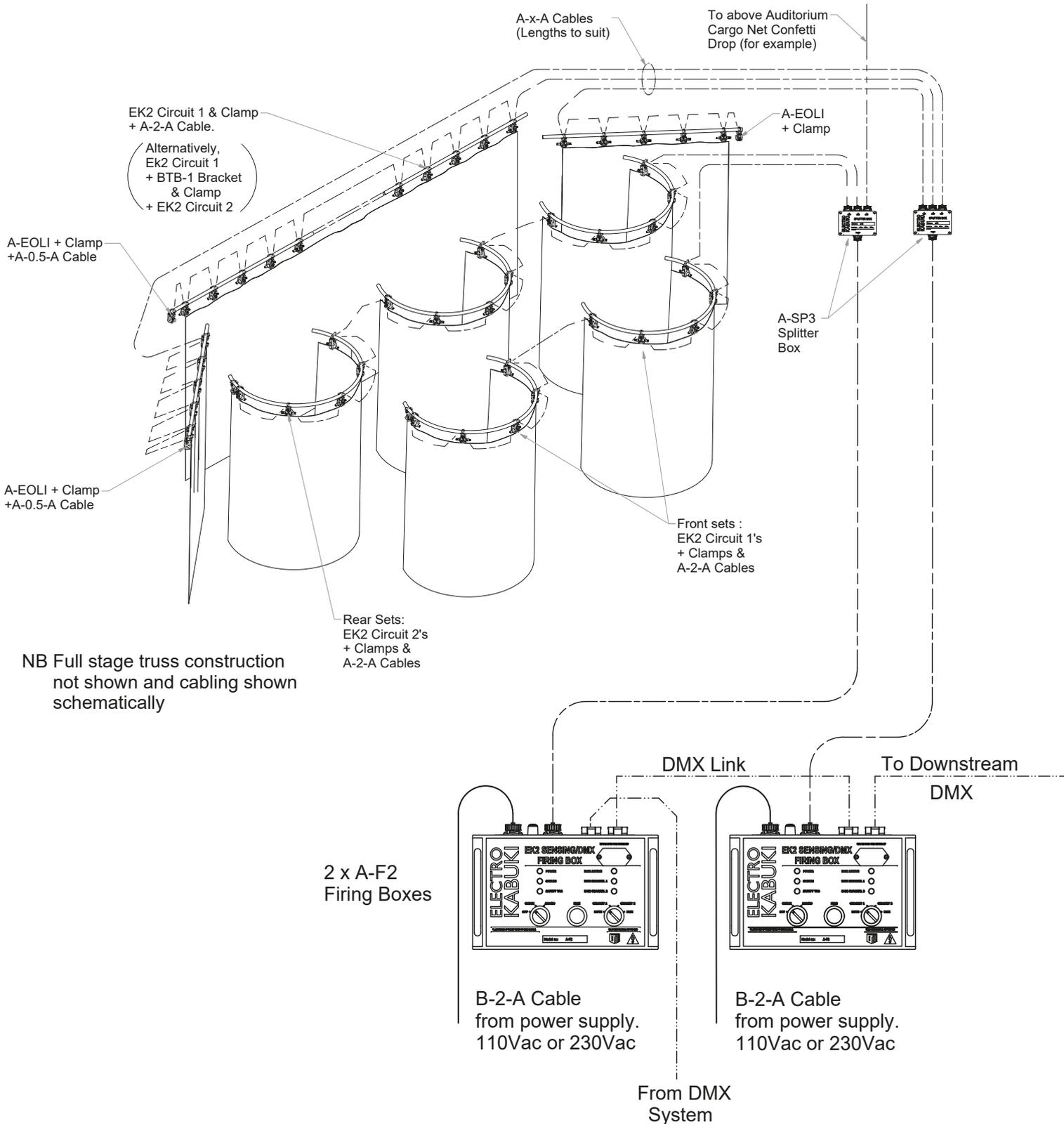
Fig. 6 CARGO NET SYSTEMS



Cargo net releases are generally used for balloon drops. They can be scaled up by using two nets, centrally released, by means of EK2 modules mounted on BTB-2 Back to Back brackets on a central truss. This reduces the amount of net hanging down after the drop as well as providing a more dispersed release. Other variations of this versatile system use a central hanging support line and EK2 Release Modules on either side of the net. This method also halves the length of net hanging down after the drop.

Fig. 7 COMPLEX AND DMX INTEGRATED SYSTEMS

Splitter units may be added, which allow for multiple lines of release units, and the entire firing sequence may be actioned using DMX addressing allowing multiple drupe releases to be integrated into the performance lighting and audio control system.



2.2 System Flexibility

Because the elements of the system have been designed for maximum flexibility, almost every possible kabuki release situation can be catered for. Release Modules may be arranged on curved trusses, providing artistic possibilities beyond the simple flat drape configuration. Further examples of typical Kabuki set ups can be seen on the EK website <https://electrokabuki.com/news/>

2.3 System Elements

2.3.1 Release Module (EK2)

Available in two release versions - Circuit 1 and Circuit 2 - allows for two separate release actions from units on the same cabling run. Which units are released is controlled from the Firing Box (see below). Available for 110Vac or 230Vac operation. Fitted with a safety tab to stop accidental release or for check firing (without release). Note that Release Modules should all be of the same voltage in a single installation. Each Module has the capability of holding a load of 50kg and releasing this on command.

2.3.2 Truss Clamps (CLA-2)

Suitable for use on nominal 50mm diameter truss sections. Fastens to the top or rear of the Release Module and may be supplied fitted or as a loose item. Ensure that the correct size of bolt is used for mounting to the Release Module - an M8 Allen Key will be required.

2.3.3 End-of-Line Indicator (A-EOLI)

This unit is used to inform the A-F2 firing box that all cabling connections are correctly made and that all safety tabs are positioned correctly so that a successful release may be made. Note that this requires setting correctly (see section 6.3)

2.3.4 Back to Back Bracket

Provides the ability to connect two Release Modules to the same point on a rigging truss – typically used in ‘Flop and Drop’ situations

2.3.5 Link Cables (A-x-A)

Mounted between individual Release Modules and between the firing box and the first module in the line. Available in various lengths to suit individual staging requirements. Standard lengths are: 0.5, 2, 5, 10, 20, and 30 metres. Other lengths are available on request. The connectors on the ends of the cables are colour coded and should be mated to the correct colour coded socket on the connected units.

2.3.6 Supply Cables (B-x-A)

Provides power to the various Firing Boxes. One end is left bare to allow the user to fit his own power plug/connector. The other end is colour coded to match the ‘Supply’ socket of the firing box. Standard supplied length is 2 metres but other lengths are available on request.

2.3.7 In-Line Coupling (A-IC)

Allows two link cables to be joined to extend the distance between Release Modules or increase the length of cabling between the Firing Box and the first Release Module. Colour coded to ensure correct connection.

2.3.8 Splitter Box (A-SP3)

Provides 3 output cable runs for each input. Allows for more simple cabling arrangements when several drapes are to be used. Input and output connections are colour coded.

2.3.9 Basic Firing Box Non-Sensing (A-F3 and A-F4)

Provides simple circuit selection and release control for the Electro Kabuki system. The A-F3 unit has a single output, switchable for circuit 1 firing, circuit 2 firing or firing both circuit 1 and circuit 2 together.

The A-F4 Firing Box has two separate outputs each capable of being switched between circuit 1 or circuit 2 thus providing 4 possible release functions from one firing location.

The 'Both' feature is not available on the A-F4 Firing Box. Both units are suitable for 110Vac or 230Vac operation.

2.3.10 DMX Sensing Firing Box (A-F2)

Provides sophisticated system checking and release control when used with the EK2 Release modules, as well as DMX controlled release.

The unit sensing functions require the inclusion of End-of-Line Indicators (see 2.3.3. above) on each run of Release Modules. When these are fitted it will provide a check of the firing circuit continuity and will signal the status of the safety tabs on the Release Modules. Suitable for 110Vac and 230Vac operation. Refer section 3.3

3. SYSTEM TESTING

3.1 General

Regardless of the complexity or not of the assembled Kabuki system, it is recommended that it be constructed on trussing sections that can be lowered to eye level both for ease of construction and to simplify resetting during testing or between performances. Initial testing can best be carried out without the drape or load being attached. Once correct operation is assured, the drape or load can be attached and the truss raised to operating height.

3.2 Basic Firing systems (A-F3 and A-F4 Firing Boxes)

- Set the safety tabs on all Release Modules to the 'safe' position (i.e. with the tab in front of the load hook arm).
- Plug the firing box supply cable into the system supply (normally the mains supply).
- Switch the leftmost rotary switch from 'OFF' to 'ARMED' – The central 'FIRE' button will illuminate.
- Select 'Circuit 1' or '1-1' or '2-1' on the right-hand rotary switch
- Press the 'FIRE' button.
- Check the Release Modules and see which load arms have moved and are resting against the safety tabs. The only ones that should have moved are the circuit 1 units.
- Reset these and repeat the firing with 'Circuit 2' or '1-2' or '2-2' selected on the right-hand switch. Again, check which units have operated.
- Finally reset the load arms and repeat the firing with the right-hand switch set to 'Both' (Note that the 'Both' feature is not available on the A-F4 Firing Box).

If any single Release Module fails to fire it should be considered to be faulty and should not be used.

If several units in a line fail to fire it is probable that there is a fault in the connecting cable which should be investigated and the cable replaced.

If all units operate successfully, attach the drape or drapes to the load hooks, set the safety tabs to the off position and raise the truss section to working height. Carry out a test firing as would be used during the planned performance.

3.3 Sensing/DMX Firing systems (A-F2 Firing Box)

EK release systems that use the A-F2 firing box require that each 'string' of Release Modules is terminated with an End-of-Line Indicator (A-EOLI) in order to access the sensing and checking features. The Indicator will send a low voltage signal back to the firing box with the status of the cabling and safety tabs. The A-F2 Firing Box can be used without this feature if necessary.

- Set the right-hand rotary switch to 'BOTH'.
- With the left-hand rotary switch set to 'Check EK' a low voltage signal is sent through the connecting cables to the End-of-Line Indicators and returned back to the A-F2 unit. The status of the Release modules and cables is shown on the lower two LED lights above the rotary switch. The power status is indicated on the top LED.
- A flashing 'Cables Good' LED shows that the cables are not connected properly and all of the Release Modules are not receiving the signal. The blue LED on the bottom of the Release Module shows which Modules are correctly connected. If there is a damaged cable or broken connection the LED's on the units from that point on will not be illuminated.

- If a steady illumination of the 'Cables Good' LED is obtained, all connections to the Release Modules are acceptable.
- The units will signal back to the firing box the status of the safety tabs. A flashing LED indicates that at least one of the safety tabs is in the 'safe' position and a successful release would not occur if fired.
- A solid 'on' LED on the Safety Tab LED indicates that all of the safety tabs are off and the unit is ready to release. This status on the Firing box is replicated on the blue indicating LED on the underside of each Release Module.
- Replace any cables that are indicated to be faulty, and check the status of the safety tabs on any Release Module indicating a setting fault.
- Set the left-hand rotary switch to the 'Armed EK' position. Note that the 'Cables Good' and 'Safety Tabs' LED's are now extinguished and the 'Fire EK' push button will be illuminated.
- Carry out a test firing as would be used during the planned performance.
- If the DMX feature is to be used ensure that the correct channels are set on the setting wheels on the top right-hand corner of the Firing Box, and carry out a DMX firing. See section 4 below regarding using DMX.

If all units operate successfully, attach the drape or drapes to the load hooks, set the safety tabs to the off position and raise the truss section to working height. Carry out a test firing as would be used during the planned performance.

4. DMX CONTROLLED FIRING

4.1 General

Firing can be initiated by using a connection to a DMX-512 controller. On the rear panel are two connectors for Kabuki and two connectors for DMX (DMX In and DMX Out). If the right-hand rotary switch on the A-F2 Firing Box is turned to DMX, the Firing Box is no longer set up for manual firing. Even when armed, pressing the white firing button has no effect. Circuits 1 and 2 will be fired by DMX signals only.

If DMX control is to be used, fit the DMX cable(s) into the rear panel XLR connectors. The Firing Box provides 5-pin XLR connectors, and will need adaptors (not supplied) if used with 3-pin DMX cables.

There is a DMX address setting on the front of the Firing Box. The Firing Box uses two DMX channels with the following two channels reserved (Hard Off). Circuit 1 fires at the address corresponding to the address setting, and Circuit 2 fires at the next consecutive address. For details on how to set the DMX address, please see section 4.3 below. When initially supplied, the firing box DMX setting is Circuit 1 - DMX channel 009, and Circuit 2 - DMX channel 010

4.2 DMX Indications

The top right indicator LED is 'DMX ACTIVE'. This is on steady when the firing box is connected to an active DMX controller. The other two indicators are 'DMX CHANNEL 1' and 'DMX CHANNEL 2'. When DMX is connected, these two indicators only react to the commands coming in on the two DMX channels corresponding to the address set on the Firing Box and the subsequent one. The LED's will only illuminate and DMX control will only occur when the DMX signal level is greater than 224.

When the rotary switches are set to 'ARMED EK' and 'DMX', the DMX channel indicators show when the firing signals are being sent to the connected EKs.

Note that the DMX also acts as a throughput, so additional A-F2 firing boxes or lighting or A/V units may be connected in series. With the firing box switched off it will still allow DMX signals to pass through.

4.3 DMX Channel Setting

- Firstly, disconnect the mains supply to the firing box.
- Remove the clear plastic cover over the DMX channel setting wheels on the top right-hand corner of the firing box. See Fig. 7 below.
- Set the address number of the first channel to be addressed by the controlling DMX-512 system using the rotary switches (a small flat blade screwdriver will be required). For example, to set circuit 1 firing to Channel 9, turn on the switches to 009. Circuit 2 will then Fire on DMX channel 10 i.e. at DMX address 010.
- Replace the clear plastic cover over the setting wheels.

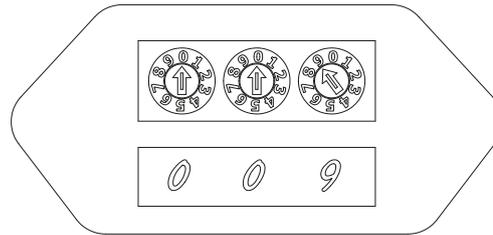


Fig. 8

- Note that the two following DMX addresses must also be reserved for the EK system use and should not be used within the DMX universe – in this example DMX addresses 011 and 012. (Hard Off).

5. TECHNICAL SPECIFICATIONS

5.1 Masses and overall dimensions (mm)

EK2 Kabuki Release Module	1.30kg	92 wide x 159 high x 105 deep.
CLA-2 Clamp:	0.20kg	34 wide x 93 high x 113 deep.
A-BTB Bracket	0.30kg	190 wide x 12 high x 50 deep.
A-F3 and A-F4 Firing boxes:	1.50kg	180 wide x 170 high x 121 deep.
A-F2 Firing box:	2.70kg	280 wide x 190 high x 110 deep.
A-SP Splitter box:	0.90kg	125 wide x 120 high x 57 deep.
A-EOLI End of Line Indicator	0.65kg	92 wide x 159 high x 105 deep.
In-Line Connector:	0.06kg	93 long x 24 diameter
Link & Supply Cables:	Various	-

Dimensioned drawings of all elements of the system are available from sales@electrokabuki.com
Overall dimensions are shown in section 6 below.

5.2 Environmental

Temperature (operating):	-5°C to + 45°C
Temperature (storage):	-25°C to + 60°C
Humidity	80% max. Non-Condensing
Ingress Protection	EK2 Modules, Cables & Connectors – weatherproof

5.3 Electrical

Voltage options:	230Vac or 110V (50 or 60 Hz) (Other voltages available on request)
EK2 Power consumption:	8.3W (impulse) at 20°C magnet coil temperature

5.4 Firing Box Capacities

A-F2, A-F3, A-F4	110Vac Systems - 75 Electro Kabuki's 230Vac Systems - 200 Electro Kabuki's
Fuse rating	8 A (slow blow) 5mm diameter X 20mm long

5.5 Cabling

Type & Size	HO5RR-F 4 core 1.5sqmm
Connectors	Standard 4-Pin Circular Plastic Connector
Standard cable sizes available	Link Cables: 0.5, 1, 2, 5, 10, 20, and 30 metres* Supply Cables: 2 metres* (*other lengths available on request)

5.6 Load Capacity

All EK2 Release Modules (Circuit 1 & Circuit 2)	50kg Max (Static + Dynamic)
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6. FEATURES

6.1 EK2 Release Modules

Overall Height (Excluding Clamp)	159mm
Overall Depth (Excluding Clamp)	105mm
Overall Width	92mm

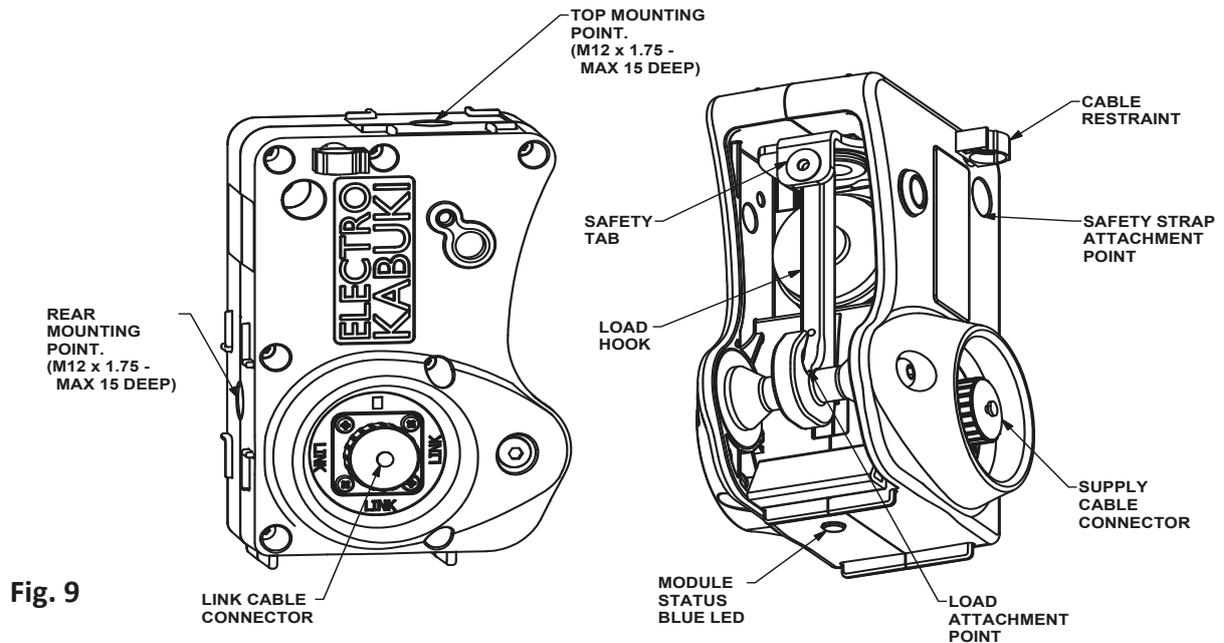


Fig. 9

MODEL	PART NUMBER
110Vac Circuit 1	A0900113
110Vac Circuit 2	A0900125
230Vac Circuit 1	A0900112
230Vac Circuit 2	A0900124

6.2 CLA-2 Clamps (A0900031)

Truss Diameter Capacity	40 – 50mm Diameter
Maximum Load Capacity	300kg

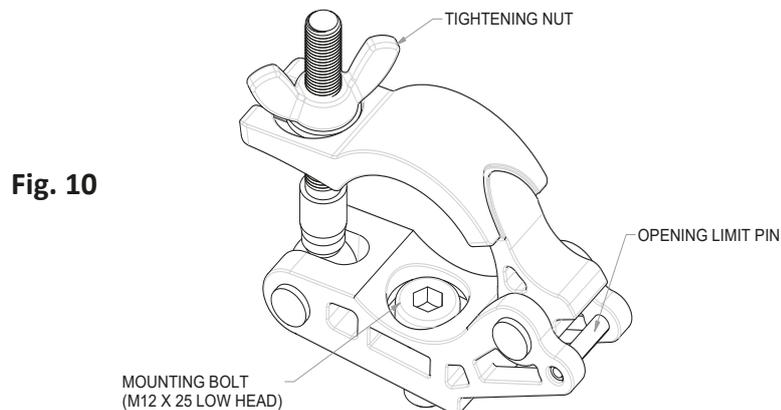


Fig. 10

6.3 A-EOLI End of Line Indicator Units (A0900127)

Dimensions are as for the EK2 release Modules.

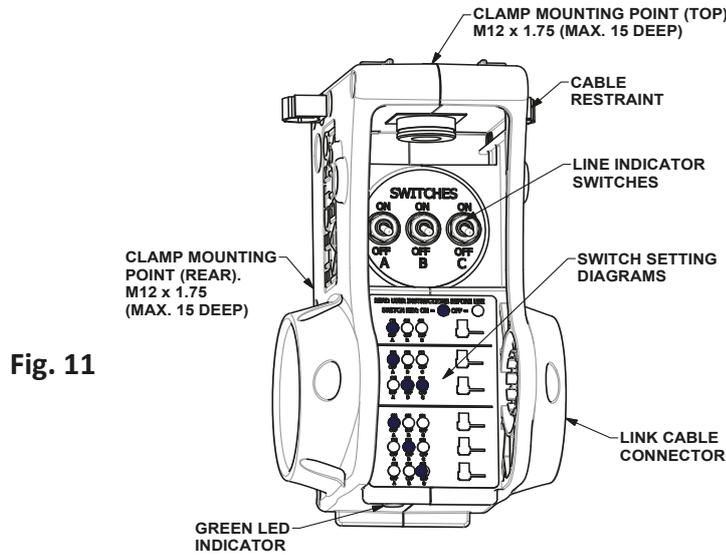


Fig. 11

When used with multiple lines of EK release modules the EOLI switches on the front face should be set to provide the necessary 3 return signals to the A-F2 firing box as in the table below:

System Set-Up	First End-of-line Indicator			Second End-of-line Indicator			Third End-of-line Indicator		
	Switch A	Switch B	Switch C	Switch A	Switch B	Switch C	Switch A	Switch B	Switch C
Single line of EK2 Modules	ON	ON	ON						
2 Lines of EK2 Modules (Splitter + 2 lines of EK2's)	ON	OFF	OFF	OFF	ON	ON			
3 Lines of EK2 Modules (Splitter + 3 lines of EK2's)	ON	OFF	OFF	OFF	ON	OFF	OFF	OFF	ON

6.4 A-F2 Firing Boxes (A1100011)

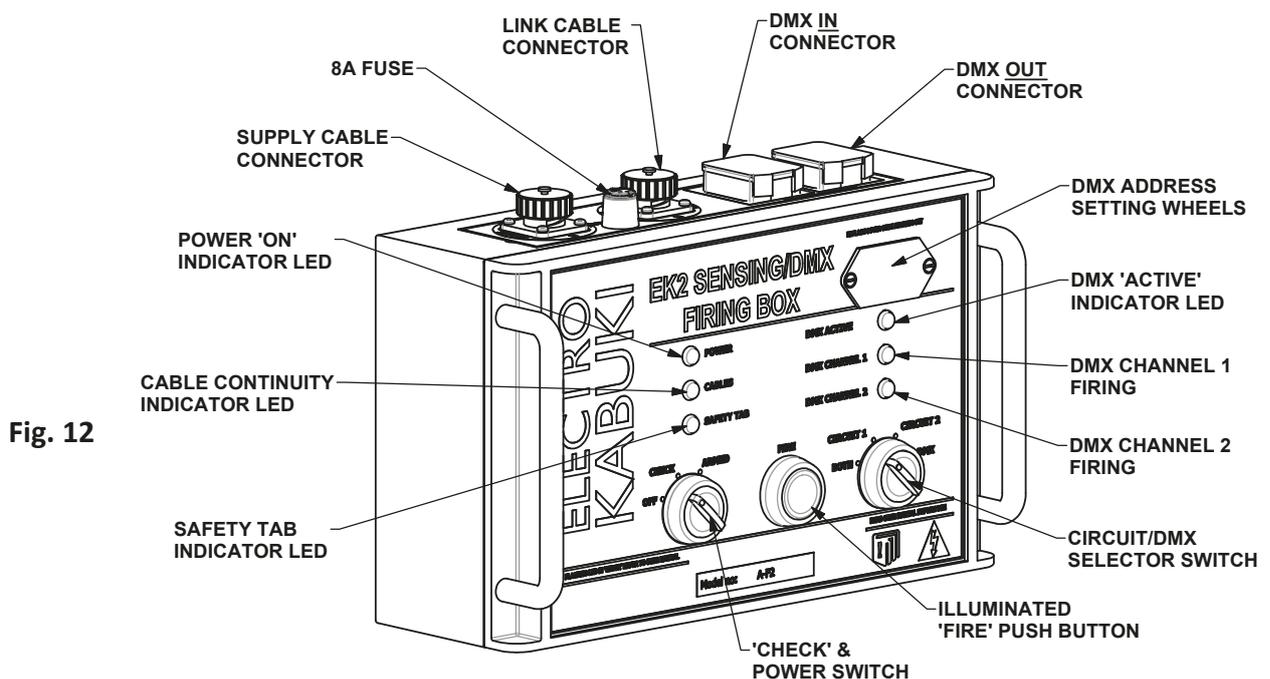


Fig. 12

6.5 A-F3 Firing Boxes (A1100013)

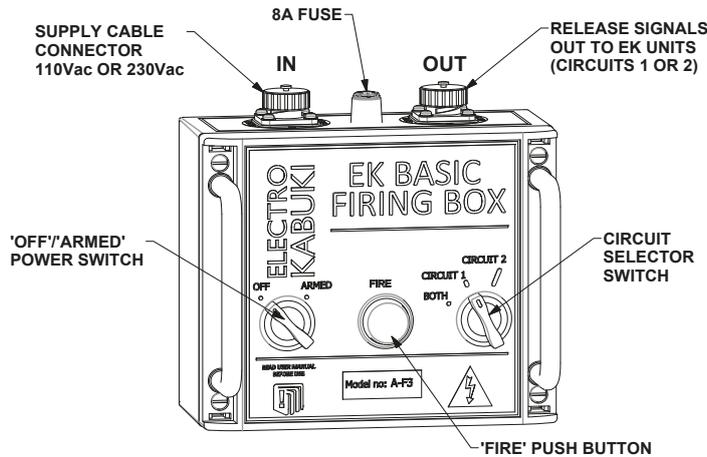


Fig.13

6.6 A-F4 Firing Boxes (A1100020)

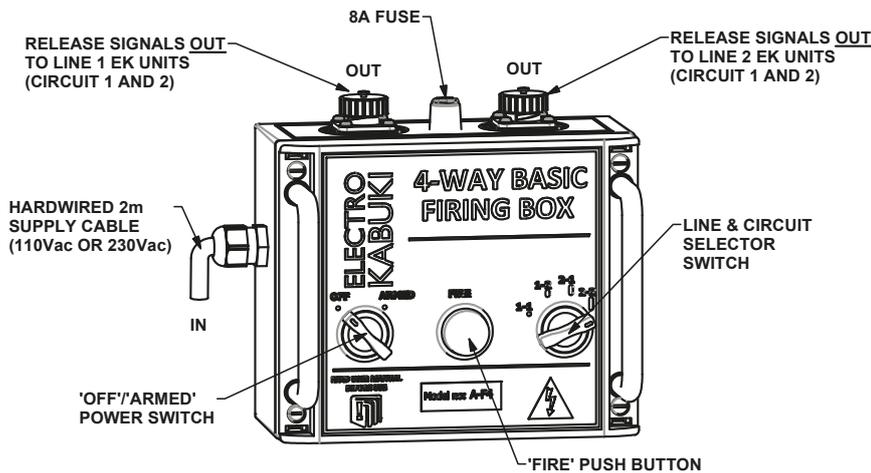


Fig.14

6.7 A-SP3 Splitter Boxes (A1200075)

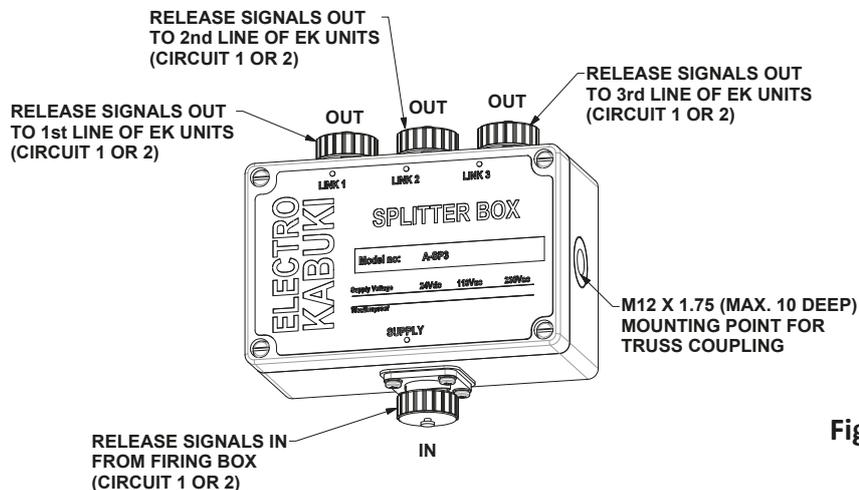


Fig.15

6.8 A-IC In-Line Coupling (A1200076)

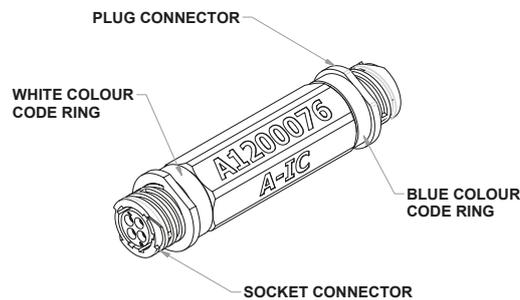


Fig.16

6.9 A-x-A Link Cable

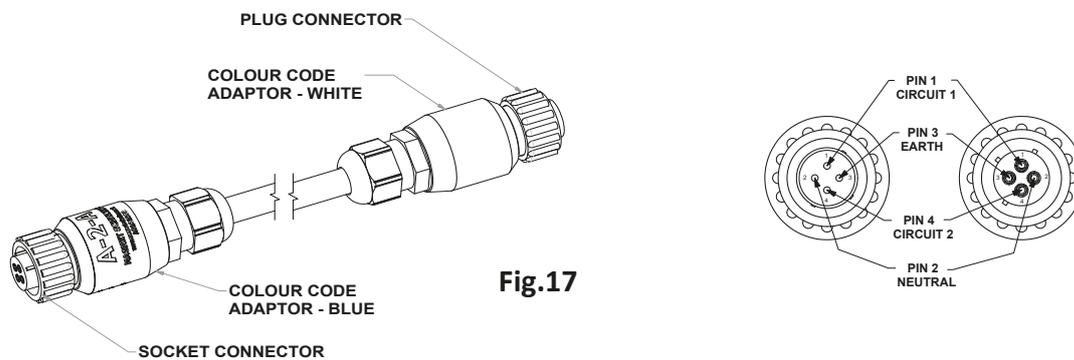


Fig.17

Standard Length X	Designation	Part Number
0.5 metres	A - 0.5 - A	A1200103
1.0 metres	A - 1 - A	A1200104
2 metres	A - 2 - A	A1200099
5 metres	A - 5 - A	A1200090
10 metres	A - 10 - A	A1200091
20 metres	A - 20 - A	A1200092
30 metres	A - 30 - A	A1200101

6.10 B-x-A Supply Cable

As 2 metre link cable but without plug connector

Special lengths of both **Link** and **Supply** cables can be supplied
- contact us at sales@electrokabuki.com

7. ATTACHMENT METHODS

7.1 General

Attachment methods should take into account the mass of the item being released, the need for silence or not as the released item is dropped, the ease by which adjustments can be made and the risk of 'hang-ups' of the attachment on the load hook. Other requirements, specific to the item, net, curtain or drape may also affect the decision on the means of attachment. It is important when considering attachment methods to take into account dynamic as well as static loading. Dynamic loads can be greater than static loads depending on the source of the load.

The following outlines some of the methods that may be used.

7.2 Light weight curtains, drapes or items.

With lightweight drapes, curtains or items, the weight of the attachment can be of overriding importance, otherwise the attachment can cause an unnatural release effect. For example, a feather should not be released or dropped with a metal 'D' ring or shackle attached.

Electro Kabuki modules are designed to release regardless of load and so weight is not required to achieve separation. Looped small plastic cable ties, nylon fishing line loops, or similar methods of attachment are suitable attachment methods for lightweight items.

7.3 Medium weight curtains, drapes or drops.

Several methods have been successfully used, for example, eyelets with 'D' shackles, sewn-in fabric loops, Velcro tabs with attached 'D' rings, etc. This last method gives particular flexibility when the mating part of the Velcro strip is sewn across the width of the drape or curtain, thereby allowing last minute changes to the position of the EK unit and attachment.

7.4 Heavy curtains, drapes or items.

With heavy curtains and drapes it may be necessary to include some form of light spreader bar in the top seam in order to prevent creases forming at the point of attachment. 'D' shackles or carabiners can make use of such spreader bars to attach the curtain or drape to the EK modules.

8. MAINTENANCE & STORAGE

- Kabuki firing units are very robust devices and require minimal attention. The units should be stored in a cool dry place with the armatures on the magnets to protect the magnet and armature faces from damage.
- Under no circumstances should the release modules be carried using the interconnecting cables. Damage to the connectors on both cable and module will result.
- The frame should be inspected periodically. The IP rating of the unit will be compromised if the unit is damaged and this could potentially be hazardous. If the unit is damaged it should not be used and should be sent back to Magnet Schultz Ltd for evaluation and possible repair.
- The armature and the pole face of the magnet should also be inspected regularly to ensure they are clean and undamaged, as any damage to either can seriously affect the holding force of the release module.
- The sealing caps on the firing box and splitter box connectors should always be used to retain the IP rating when the units are not connected to cables.
- The load arms must move freely and if there are signs of damage or stiffness, the load arms and their pivot pins should be replaced.
- The safety tab is retained in position with a detent spring. If the safety tab does not stay in position, safe operation may be compromised. Faulty or broken springs should be replaced.
- Replacement of the load arms, pivot pins, safety tab springs is ideally carried out by Magnet Schultz Ltd.
- After use, the connectors of both cables, release modules, splitter boxes and firing boxes should be inspected for damage to the housings and pins.
- If the release modules are to be placed in storage for some time it is advisable to lightly smear the mating faces of the magnet and the release arm armature with a light oil to prevent corrosion taking place.
- Customised flight cases with shaped foam linings are available for storage and transportation suitable for either 15 or 30 release modules and their ancillaries. These are of particular use for touring productions, etc.

9. FAULT FINDING

System Component	Problem Indication	Possible Cause	Fix
Connectors	Cable connectors don't fit.	Trying to connect 'Link' plug into 'Supply' socket or vice versa.	Swap cable ends.
Connectors	Cable connectors don't fit.	Pins not aligned.	Rotate cable connector until connector keying is correctly aligned
Connectors	Cable connector doesn't lock on.	Broken locking ring on connector.	Fit new locking ring ¹ to connector.
Connectors	Connector Caps missing.	Rough handling or damaged in storage.	Replace missing caps ¹
Clamp	Release Module clamp not tight on module.	Clamp fixing bolt is loose.	Tighten fixing bolt with supplied Allen key (8mm)
Clamp	Release Module clamp not tight on module.	Threads are damaged.	Fit new bolt and washer ¹ if bolt thread damaged. If thread in Release Module is damaged - DO NOT USE - return to Magnet Schultz Ltd for repair ² .
Clamp	Release Module clamp mounted in wrong position.	New set up or supplied in wrong position.	Loosen and remove fixing bolt and washer using supplied Allen key, reposition clamp, replace bolt and washer and retighten bolt.
Clamp	Release Module clamp facing the wrong way.	Supplied fitted facing wrong direction or previously used facing a different way.	Loosen fixing bolt using supplied Allen key, rotate clamp to preferred direction and retighten bolt.
Release Module	Cable clips on module broken	Rough handling or damaged in storage	Replace broken clips ¹
Release Module	Load hook does not move/ release load	Stiff pivot pin/load hook or broken release spring.	Lightly lubricate pivot/load hook. Replace spring ¹ . If hook is still stiff, return to Magnet Schultz for repair.
Release Module	Release Module case cracked or broken	Rough handling or damaged in storage	DO NOT USE ²
Release Module	Firing button on Firing Box does not activate modules (fails to release)	Faulty link cable or connector (A-F3 or A-F4 firing boxes)	Replace faulty cable ¹ or replace connector ² .
Release Module	Firing button on Firing Box does not activate modules (fails to release)	Faulty Release Module PCB	Return to Magnet Schultz Ltd ² for repair.

System Component	Problem Indication	Possible Cause	Fix
Release Module	Blue LED does not indicate status or firing	Faulty LED or Release Module PCB	Return to Magnet Schultz Ltd ² for repair.
Firing Box	No power indication on firing box (box 'dead')	Supply cable not plugged into power supply socket or not switched on	Plug into supply and switch on
Firing Box	No power indication on firing box (box 'dead')	Blown fuse	Replace fuse ¹ (after correcting cause of blown fuse).
Firing Box	No power indication on firing box	LED failure or push button switch illuminator failure	Return to Magnet Schultz Ltd ² for repair.
Firing Box (A-F2)	No power indication on firing box	LED failure or controlling PCB fault	Return to Magnet Schultz Ltd ² for repair.
Firing Box (A-F3 or A-F4)	Firing button does not activate Modules (fails to release).	Faulty push button switch or faulty Off/Armed switch	Return to Magnet Schultz Ltd ² for repair.
Firing Box (A-F3 or A-F4)	Firing button does not activate Modules (fails to release).	Wrong 'Circuit' selected on right hand rotary switch	Select correct circuit or 'Both'
Firing Box (A-F2)	Cable status and safety clip check LED's do not operate	LED failure or controlling PCB fault	Return to Magnet Schultz Ltd ² for repair.
Firing Box (A-F2)	Firing button does not activate Modules (fails to release).	Faulty push button switch or faulty Off/Check/Armed switch or controlling PCB fault	Return to Magnet Schultz Ltd ² for repair.
Firing Box (A-F2)	Release by DMX does not occur.	Incorrect setting of channels	Set DMX channels to match DMX controller.
Firing Box (A-F2)	Release by DMX does not occur.	DMX cable fault	Replace cable(s)
Firing Box (A-F2)	Release by DMX does not occur.	Firing box PCB faulty	Return to Magnet Schultz Ltd ² for repair.

1. Replacement parts are available from sales@magnetschultz.co.uk or see website <https://electrokabuki.com/get-a-quote/>
2. On site repair is NOT recommended - please return to Magnet Schultz Ltd for evaluation and repair.

10. DECLARATION OF CONFORMITY

No. DC1005

MAGNETSCHULTZ
EC Declaration of Conformity

We: Magnet Schultz Ltd

Of: 3-4 Capital Park Old Woking Surrey GU22 9LD

declare that:

Equipment: Electro Kabuki (EK1.5, EK2, associated firing boxes, EOLI and cabling)

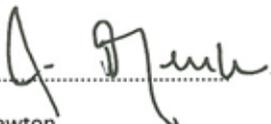
Model name/number: EK1.5 & EK2 (Circuit 1 & Circuit 2 in 12v 24v 110v 230v)

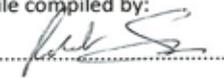
A0900112	A0900113	A0900122	A1100011	A1100020
A0900124	A0900125	A0900147	A1100013	A0900127

in accordance with the following Directive(s):

2006/42/EC	Conforms with the relevant essential health and safety requirements of the Machinery Directive and its amending directive.
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I hereby declare that the equipment named above has been tested and found to comply with the relevant sections of the above referenced specifications. The unit complies with all essential requirements of the Directives.

D of C Signed by: 
Name: Andrew Newton
Position: Managing Director

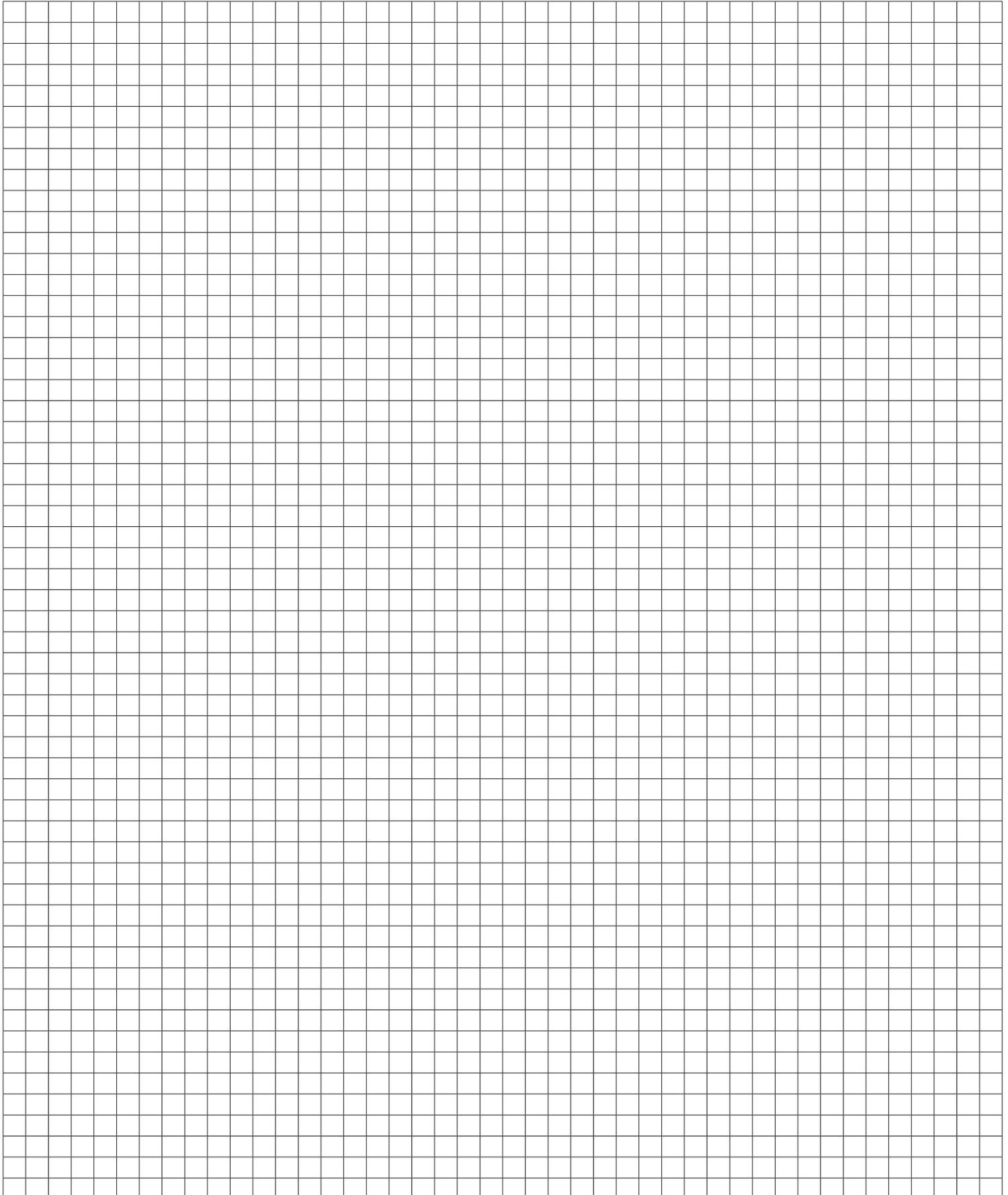
Technical file compiled by:
Signed by: 
Name: Robert Sam
Position: Technical Manager



Magnet Schultz Ltd 3-4 Capital Park Old Woking Surrey GU22 9LD

.....12/10/17.....(date)

11. LAYOUT SHEET



12. LIST OF PARTS

Quantity	Description	Short Code	Part Number
Release Modules (Dropper Units)			
	EK2 Circuit 1 110Vac	EK2 P110 C1	A0900113
	EK2 Circuit 2 110Vac	EK2 P110 C2	A0900125
	EK2 Circuit 1 230Vac	EK2 P230 C1	A0900112
	EK2 Circuit 2 230Vac	EK2 P230 C2	A0900124
Mounting Accessories			
	Mounting Clamp (42 to 52mm diameter)	CLA-2	A0900031
Firing Boxes			
	DMX / Sensing Firing Box 110Vac/230Vac	A-F2	A1100011
	Basic Firing Box - Manual (single output) - 110Vac/230Vac	A-F3	A1100013
	Basic Firing Box - Manual (double output) - 110Vac/230Vac	A-F4	A1100020
Circuit Elements			
	End of Line Indicator (for use with DMX/Sensing Firing Box)	A-EOLI	A0900127
	3-way Splitter Box (without mounting clamp)	A-SP3	A1200075
	Back to Back Bracket (Kit - includes Bolts & washers)	BTB-1	A1200151
	In-Line Coupler	A-IC	A1200076
Cabling			
	Supply Cable - 2m long	B - 2 - A	A1200089
	Link Cable - 0.5m long	A - 0.5 - A	A1200103
	Link Cable - 1m long	A - 1 - A	A1200104
	Link Cable - 2m long	A - 2 - A	A1200099
	Link Cable - 5m long	A - 5 - A	A1200090
	Link Cable - 10m long	A - 10 - A	A1200091
	Link Cable - 20m long	A - 20 - A	A1200092
	Link Cable - 30m long	A - 30 - A	A1200101

Quantity	Description	Short Code	Part Number
Storage & Transportation Options			
	Flight case for 15 EK2 Units and Accessories	A-FC15	P0100902
	Flight case for 30 EK2 Units and Accessories	A-FC30	P0100928
Starter Packs			
	110Vac BASIC FIRING - (2 x EK2 P110 C1, 2 x EK2 P110V C2, 1 x A-F3 Firing Box, 1 x B-2-A Cable, 1 x A-20-A Cable, 3 x A-2-A Cables, 4 x CLA-2 Clamps, Allen Key 8mm)		A0900146
	230Vac BASIC FIRING - (2 x EK2 P230 C1, 2 x EK2 P230V C2, 1 x A-F3 Firing Box, 1 x B-2-A Cable, 1 x A-20-A Cable, 3 x A-2-A Cables, 4 x CLA-2 Clamps, Allen Key 8mm)		A0900145
	110Vac DMX SENSING FIRING - (2 x EK2 P110 C1, 2 x EK2 P110V C2, 1 x A-EOLI Indicator, 1 x A-F2 Firing Box, 1 x B-2-A Cable, 1 x A-20-A Cable, 3 x A-2-A Cables, 1 x A-0.5-A Cable, 5 x CLA-2 Clamps, Allen Key 8mm)		A0900150
	230Vac DMX SENSING FIRING - (2 x EK2 P230 C1, 2 x EK2 P230V C2, 1 x A-EOLI Indicator, 1 x A-F2 Firing Box, 1 x B-2-A Cable, 1 x A-20-A Cable, 3 x A-2-A Cables, 1 x A-0.5-A Cable, 5 x CLA-2 Clamps, Allen Key 8mm)		A0900149
General Accessories & Spares			
	D-Ring & Hook/Loop Tape Kit	DRVEL-1	A1200145
	Replacement Sealing Cap Kit (10 off)	CCAPS	A1200146
	Replacement Cable Strain Relief Kit (20 off)	SRC-20	A1200147
	Replacement Coupling Ring Kit & tool (10 off)	CRINGS-10	A1200148
Special Requirements			

Need more information or advice?

Email on of our technical experts at sales@electrokubuki.com or call +44(0)1483 794700 now