

AutoPod+



User Manual

V3.2- 28th March 2023

For products ATP#610, ATP#620 and ATP#625



AutoPod+ wheeled protective transport case for both the Black and White variants. Controls, Cables and Accessories included inside (not shown)

Legs are available in either black with black metal work or white with silver metal work.



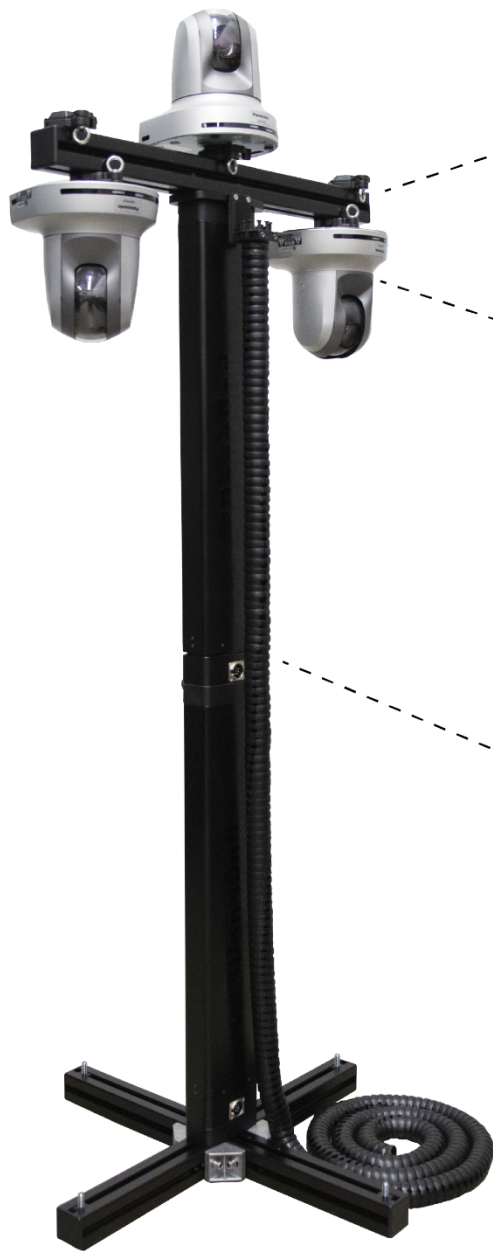
Single Leg #610



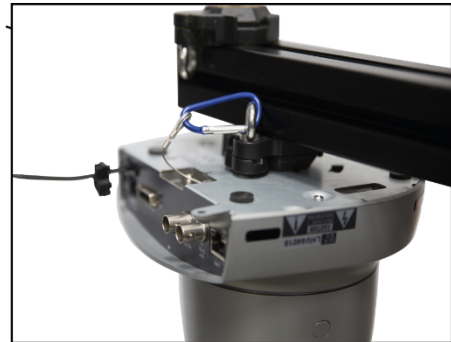
Dual Leg #620



Protective case open showing the top tray contents (left) and the bottom tray contents (right)



T Bar mount for multiple heads, and cable management



Safety chain mounting points



V Quick Lock base and leg connector



*Heavy Duty Base- Wheeled
Footprint- 600 mm diameter (12mm thick)
Height- 120 mm
Weight- 26 kg*



*Heavy Duty Base- Folding Dolly
Footprint- 800 mm
Height- 120 mm
Weight- 9 kg*

Safety



Water, Moisture and Dust

WARNING! The product is not intended to be used in wet or damp conditions. Protect against moisture and dust. The presence of electricity near water can be dangerous.



Ventilation

CAUTION! The product may get warm. Do not cover. Allow sufficient ventilation and airflow around the product to ensure reliable operation



Operating Environment

CAUTION! The product should not be used outside the operating limits. Refer to the product technical specifications for the product operating limits regarding temperature, weight etc.



Cleaning

WARNING! Risk of electric shock! Always disconnect and isolate the product from all sources of power before cleaning.



Caution

Do not use abrasives, wire brushes or chemicals to clean the product. Clean with a soft dry cloth.



Maintenance

WARNING! Apart from regular cleaning, the product has no user serviceable parts and should not be opened by anyone other than Polecam authorised technicians. Care should be taken to regularly inspect all cables and accessories for signs of damage, wear, and tear. Any damaged cables, connectors or accessories should be replaced with Polecam authorised replacements. If in doubt, contact service@polcam.com who will be able to advise you. The fitting of non-approved parts or accessories, or carrying out of non-approved alterations or servicing can be dangerous and could affect the safe operation of the product. It may also invalidate the terms and conditions of the product warranty.

Working with Robotic Equipment

The equipment is operated remotely and as such can move suddenly without warning. No audible warning will be given as it is counter-productive to the broadcast environment.

It is recommended that only trained personnel be allowed to enter or work within the active operating areas where remotely operated robotic equipment is located. The recommended safe operating distance is a minimum of 1M (3ft).

Operators Guide For Safe Use

All Operators must familiarise themselves with the operation and working footprint of the AutoPod+, ancillary equipment and payloads including but not limited to (Robotic Heads, Jibs, Cameras, Lenses, Tele-prompters and Zoom/Iris/Focus drives etc.) before operation commences to avoid inadvertent collisions or injury to personnel.

Care should be taken to note the safe working minimum and maximum height of the equipment.

Operation should not begin or if in progress should stop immediately if the operator feels personnel or other equipment are too close.

It is strongly recommended that the operator visually verifies that the active operating area is clear of personnel and other hazards before and during remote operation.

Using more than one AutoPod+ in series can be dangerous without sufficient planning. It is the operator's responsibility to check before operation begins that all equipment is securely fixed to level ground and each other and special care should be taken to check for overhead, cables, gantries, lighting rigs, sound equipment and any other hazard that may impede the safe operation of the AutoPod+ and cause damage to equipment or injury to personnel.

Make sure cables are safely routed and are long enough to avoid strain or entrapment.

Operator Notes

AutoPod+ is a very cost-effective portable turnkey (complete) system for elevating cameras, designed for, but not limited to, PTZ cameras.

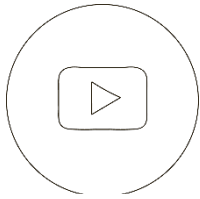
There are 3 models in the family.

AutoPod- The first generation and a hardwired (no serial or ethernet) system with fixed speed for Leg and soft stop/start. The foot pedal (3pin XLR - max extension 100m) is for stop/start for up/down only. The desk controller does the same as the foot pedal but also has 3 preset memory positions (5-pin XLR - max extension 50m). The ACU (AutoPod Control Unit) is AC powered and needs to be within 15m of the legs.

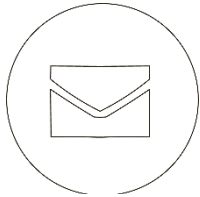
AutoPod+ - As above BUT with ethernet, serial data and varispeed foot pedals. Panasonic AW protocol allowing control through Panasonic PTZ control desks (RP-50/120/150 etc). Visca (Sony, Marshall, Bird Dog etc), coming soon.

PanaPod – Similar to the AutoPod+ but bespoke for Panasonic and can only be bought and sold by Panasonic authorised dealers.

Tips and Tricks

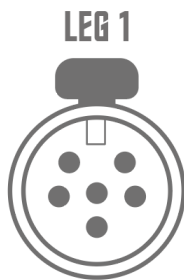


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www.youtube.com/polecamination



If in doubt, get in touch!

info@polecam.com
+44 (0) 1234 855 222



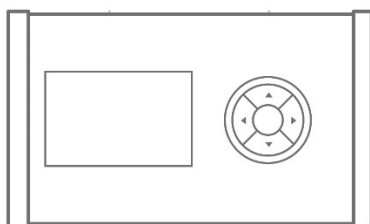
When only using a single leg system, ensure the data output cable is connected to the **Leg 1** port on the Leg Controller (Rx)

Running Calibration
Do Not Touch
"Rome Wasn't Built in A Day"

If in doubt, recalibrate your system!

IP: 172.16.1.200
NM: 255.255.0.0
GW: 172.16.1.1
OP: 172.16.1.199

IP addresses, make sure your Tx and Rx are both in the same IP range, and the target IP address on the Tx unit is set correctly.



In any menu, push and hold the **Ok** button for 2 seconds and it takes you to the status screen and quick access to the Up/ Down facility.

Basic Setup (Step by Step)

1. Connect the leg to the base using the “Quick release plate screw clamp. Ensure the thumbscrew is finger tight.
2. Connect the Leg Controller (Rx) to the leg using the 6 pin XLR cable.
3. Connect the Foot Controller/ Pedals to the Desk Controller (Tx) using the 2 x 3 Pin XLR cables.
4. Connect the Leg Controller (Rx) to the Desk Controller (Tx) using either ethernet, ethernet crossover or RS422. Follow the wiring diagrams at the rear of this manual for further guidance on connecting the two units. *Image shows serial connection method.*
5. Connect the 12Vdc 3A Switchmode PSU to the Desk Controller
6. Connect the 24Vdc 8A Switchmode PSU to the Leg Controller
7. Calibrate the System
8. Operate!

Specifications

Images not to scale

Tx Box (Desk)



Dimensions	165 x 105 x 55 mm
Weight	0.44 kg
Voltage In	110/230V AC via supplied switchmode PSU – 12Vdc @ 3 amp
Power Consumption (in standby)	Tx 2 W

Connections are made using high quality Neutrik industry standard XLR connectors.

Rx Box (Leg)



Dimensions	165 x 105 x 55
Weight	0.49 kg
Voltage In	110/20V AC via supplied switchmode PSU – 24Vdc @ 8 amp
Power Consumption (in standby)	Rx 1 W

Connections are made using high quality Neutrik industry standard XLR connectors.

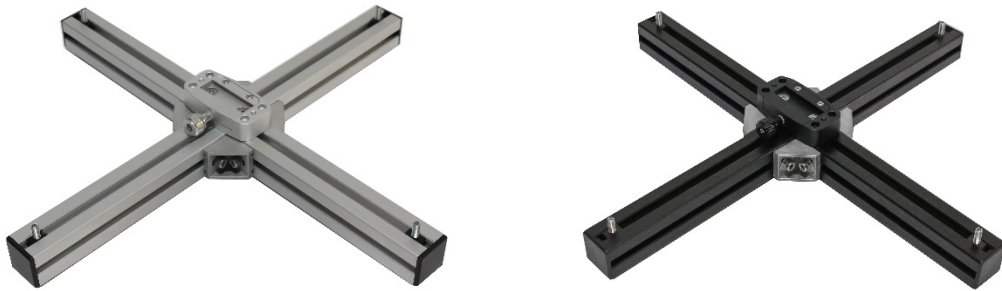
Leg Column



Design	3 stage Leg unit with built in motor and mechanism
Standard Installation Dimension (not including "V" plates or base)	560 mm
Standard Stroke	675 mm
Weight (without mounting plates)	8 kg
Noise Level	Low and Uniform
Speed	Variable speed via proportional control pedals
Thrust	700N
Max Payload	When used in single system- 35kg When used in double system- 25kg
Working Ambient Temperature	+5 to +40 °C
Storage and Transport Temperature	-10 to + 70 °C

Hall sensor to enable parallel drive

Lightweight Base



(Included in system as standard, available in all black or silver)

Footprint	650 x 650 mm
Height	70mm
Weight	2.5 kg

Adjustable feet

Operation

Getting Started

Before you start using your AutoPod+ system, you must familiarise yourself with the full list of components, their features, and functions.

Contents

The AutoPod+ is supplied and packaged in a protective roll-along case with foam inserts - one of which (top tray) is removable.

Lid Insert

- 1x Lightweight adjustable base
(fitted with 1 x Quick release plate screw clamp)
- 1x Operators manual

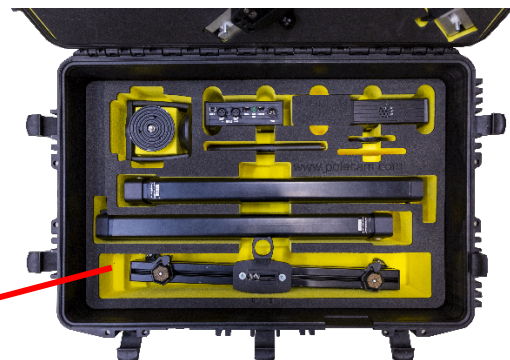
Top Tray

- 1x Tx 12V PSU (for Desk box) and mains lead
(UK & Euro)
- 1x Rx 24V PSU (for Leg box) and mains lead
(UK & Euro)
- 1x Foot Pedals
(proportional drive)
- 1x Leg unit cable
(2x if dual system is supplied)
- 1x Set of metric hex keys
- 1x Camera mounting plate with 2 screws



Bottom Tray

- 1x Tx Box (Desk)
 - 1x Rx Box (Leg)
 - 1x Leg Unit
(2 x if dual system is supplied. Each fitted with 1 x Quick release plate screw clamp and 1 x Quick release plate wired)
 - 2x Extension rods
(250mm long with fixings)
 - 1x 100mm riser
 - 1x Bowl adapter
- Slot available for optional T-bar



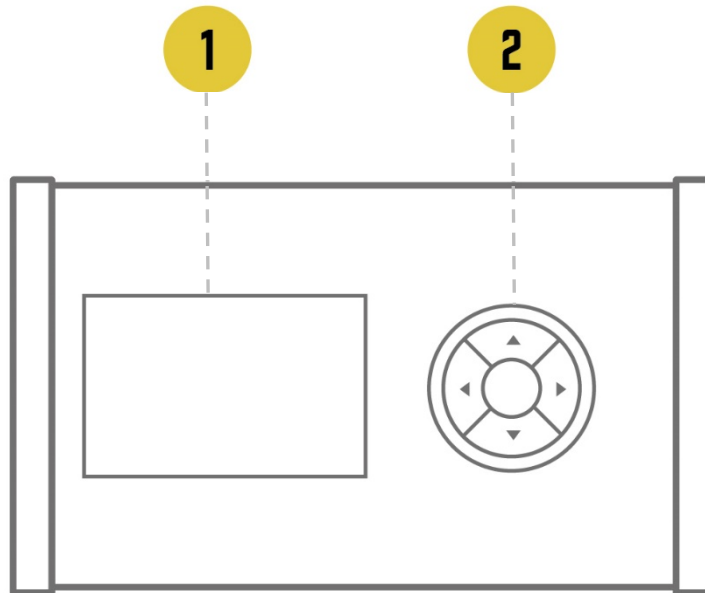
IMPORTANT

Ensure that all connections are made before switching on any power; failure to do so may result in the system needing to be re-booted and/or calibrated for effective and accurate operation. See connection set-up diagram on next page - do not apply power until configured.

NOTE

When operating the AutoPod+ with a single Leg unit, the unit should be plugged into "LEG1". Leg 2 is not active when running a single Leg unit.

Tx Box (Desk) – Top Panel



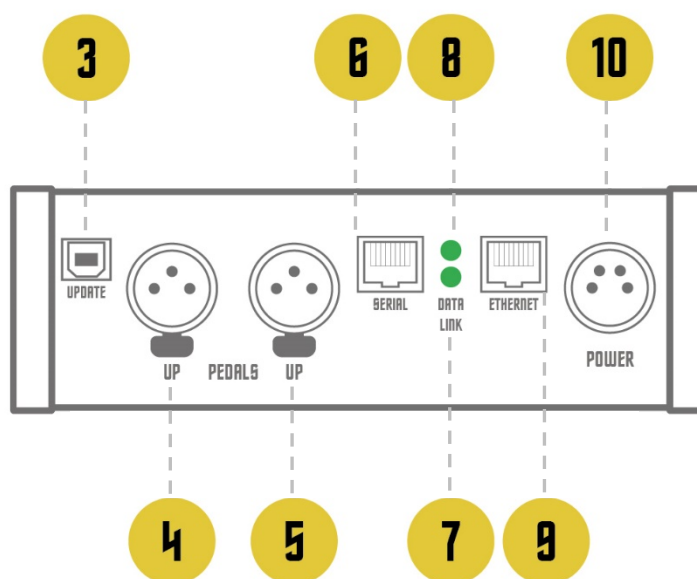
1 Display Screen

- 1** *This provides the operator with system version, status and current settings as set using the Navigation keypad menu structure as shown.*

2 Navigation Keypad

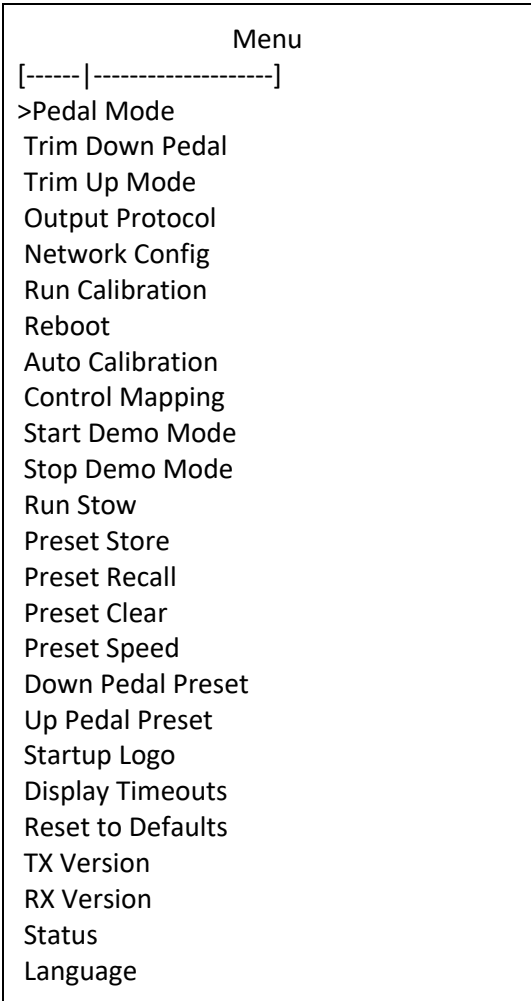
- 2** *Enables the operator to select the required system features and functions.*

Tx Box (Desk) – Rear Panel

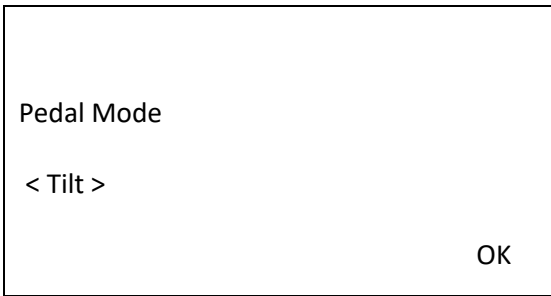
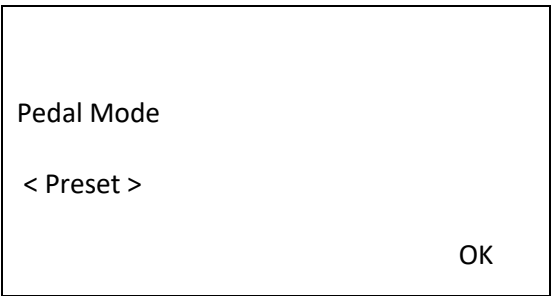


- 3** **Update**
USB type B Port enables future system updates to be loaded to the box.
- 4** **Pedal Up**
3 Pin locking XLR enables the Leg unit(s) to be raised using the proportional variable speed pedals.
- 5** **Pedal Down**
3 Pin locking XLR enables the Leg unit(s) to be lowered using the proportional variable speed pedals.
- 6** **Serial**
RJ45 Cat 5 Port used when operating the system in Serial mode.
- 7** **Link**
Green LED illuminates when a confirmed connection between the Tx and Rx units (ethernet only).
- 8** **Data**
Green LED illuminates/flashes only when data is sent between the Tx and Rx units (ethernet only).
- 9** **Ethernet**
RJ45 Cat 5 Port used when operating the system in Network mode.
- 10** **Power**
4 Pin XLR power input using the supplied 12Vdc 3amp switch mode PSU.

Tx Box (Desk) Menu Structure



> Pedal Mode



Select between:

< Preset >

In this mode, the pedals will recall the presets determined under the **Up Pedal Preset** and **Down Pedal Preset** selected in the lower section of the menu.

< Tilt >

Allows the proportional variable speed control pedals to elevate and lower the Leg unit(s). The Leg units will adjust Leg according to the pressure applied to the pedals.

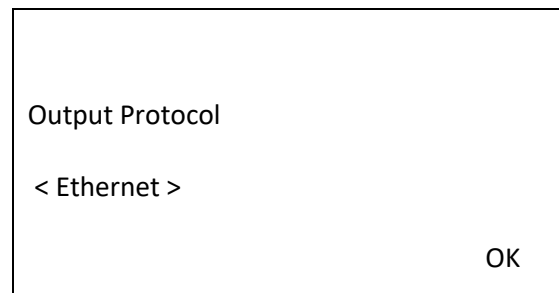
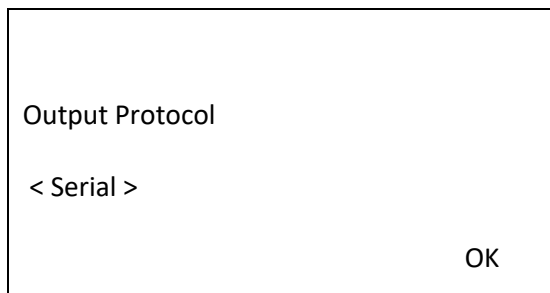
> Trim Down Pedal

Used to calibrate the down pedal. To use this function, first release your foot from the down pedal and then press **OK**. The OLED screen will display 'Release Pedal Up' and dots below the message will increase. Once completed the message will change to 'Depress Pedal Down', depress the up pedal fully. When complete, the OLED display will display the calibrated **zero** and **maximum** levels of the down pedal until you press **OK** button.

> Trim Up Pedal

Used to calibrate the up pedal. To use this function, first release your foot from the up pedal and then press **OK**. The OLED screen will display 'Release Pedal Up' and dots below the message will increase. Once completed the message will change to 'Depress Pedal Up', depress the up pedal fully. When complete, the OLED display will display the calibrated **zero** and **maximum** levels of the up pedal until you press **OK** button.

> Output Protocol



Select between:

< Ethernet >

This mode enables an indirect cable/ "IP" link between the Tx and Rx units using RJ45 and Cat5 Cable. This enables an infinite operating range, dependant only on the size of the deployed IP network you are connecting to.

< Serial >

This mode enables a direct cable link between the Tx and Rx units using an RJ45 and Cat5 cable. Serial is 422 and (subject to cable quality) has a suggested operating range of 200m.

> Network Config

```
Network Config
IP : 172.16.1.200
NM : 255.255.0.0
GW : 172.16.1.1
OP : 172.16.1.199
```

When using the system in Ethernet mode, this allows you to configure the following settings:

- IP (IP Address of the Tx Box (Desk))
- NM (Net Mask, should match other devices on your network, generally this should be set to 255.255.0.0)
- GW (Gateway, the IP address of your networks router)
- OP (IP Address of the RX Box (Leg))

The system default values for this are as displayed above.

Please note that you must navigate first to the first character in the left hand column (IP,NM,GW,OP), then scroll right to the desired address change, then use the **Up** and **Down** keys to adjust the digit count. Once completed, exit the menu with **OK**.

> Run Calibration

This action ensures that the Leg unit(s) are reset to a known position and factory setting. Subject to where the Leg unit(s) are within their stroke cycle, this command will lower the units to their lowest cycle point, then raises the unit(s) to the know factory calibration level. Whilst the Legs are calibrating the system will display the following:

```
Running Calibration
Do Not Touch
"Rome Wasn't Built in
A Day"
```

Wait until the menu screen displays normally, and the system is then fully calibrated.

> Reboot

Select this option and then press **Ok** to reboot the system.

> Auto Calibration (Default setting for this is **OFF**)

Configure whether the system automatically calibrates when it boots up.

When **Enabled** the system will auto calibrate when it boots up.

WARNING:
Automatic motion will
Occur.
This may present a
Hazard!

When **Disabled** the system will require manual calibration before it can be operated correctly.

IMPORTANT

Automatic robotic movement can be dangerous. We strongly recommend this option is disabled unless you require it for a specific purpose.

> Control Mapping

Select between:

< Single Unit >

Only the leg one port will output control data, the leg two port will not work.

< Dual Unit Combined >

Both legs operate at the same time. The pedals or the PTZ joystick tilt axis will control both leg one and leg two with the same Leg adjustment.

< Dual Unit Split >

The first Leg is controlled by the 'Tilt' axis, whilst the second Leg is controlled by the 'Pan' axis. In this mode the pedals will only control Leg one, as they are mapped to control the 'Tilt' axis. When using a PTZ controller, you can use the 'Tilt' or 'Y' axis to adjust the Leg of 1, and the 'Pan' or 'X' axis to adjust the Leg of 2.

> Start Demo Mode (This turns off after 180 minutes)

This initiates the factory set pre-programmed "Show Mode" which raises and lowers the Leg unit/s at 1/3 speed with a 30 second delay at the top of its stroke before it lowers with a 30 second delay at the bottom of its stroke before raising again.

> Stop Demo Mode

Ends the 'demo mode' as outlined previously.

> Run Stow

This command "Stows" the Leg unit/s to their lowest position. Please note that the Leg units must be correctly "Stowed" to enable them to be stored in the protective foam inside the case.

> Preset Store

The Rx Unit / Leg Controller unit implements 20 presets numbered from #1 to #20, which can be recalled from Panasonic RP50/ 60/ 120/ 150 panels. However, only presets #1 to #10 are available for preset store and recall of the Leg unit positions. The other 10 presets are mapped to special functions which are triggered on preset recall thus:

- | | |
|------------------|--|
| Preset 11 | Set control mapping to Dual Leg Split Mode |
| Preset 12 | Set control mapping to Single Leg Split Mode |
| Preset 13 | Set control mapping to Dual Leg Combined Mode |
| Preset 14 | No function. Reserved for future use. |
| Preset 15 | Show Mode - 1/3 speed with a 30 second delay between Leg and lowering cycle and runs continuously until cancelled. |
| Preset 16 | Stops Show Mode. |
| Preset 17 | Show Mode - 1/3 speed with a 45 second delay between Leg and lowering cycle and runs continuously until cancelled. |
| Preset 18 | Show Mode - 1/3 speed with a 60 second delay between Leg and lowering cycle and runs continuously until cancelled. |
| Preset 19 | Performs Factory Calibration. |
| Preset 20 | Stows Leg unit/s at the lowest point in cycle. |

> Preset Recall

Select the desired preset number and press **Ok** to select directly recall that preset.

> Preset Clear

Select the desired preset number and press **Ok** to clear the preset memory position for the leg.

> Preset Speed

Select the speed at which all presets are recalled. This determines leg movement speed when travelling to a recalled preset. Value from 0% to 100% can be selected in increments of 1%.

> Down Pedal Preset

When the **Pedal Mode** is set to **Preset** (as outlined above), this can be adjusted to select which preset the Down pedal recalls.

> Up Pedal Preset

When the **Pedal Mode** is set to **Preset** (as outlined above), this can be adjusted to select which preset the Up pedal recalls.

> Startup Logo

Select between:

< Animated >

Logo animates on screen briefly following boot of the Desk Controller (Tx).

< Static >

Logo displays static on screen briefly following boot of the Desk Controller (Tx).

< Disabled >

Polecam does not display on screen following boot of the Desk Controller (Tx).

> Display Timeout

Set the amount of time before the display 'times out' or turns off. Value between 0 seconds and 240 seconds can be selected. Factory default for this setting is 60 seconds, and we recommend this duration to ensure display longevity and quality.

> Reset To Defaults

This command returns the system back to known factory settings, the user will need to reset any previously stored settings.

> Tx Version

Displays the version of firmware the Desk Controller (Tx) unit is currently running.

> Rx Version

Displays the version of firmware the Leg Controller (Rx) unit is currently running.

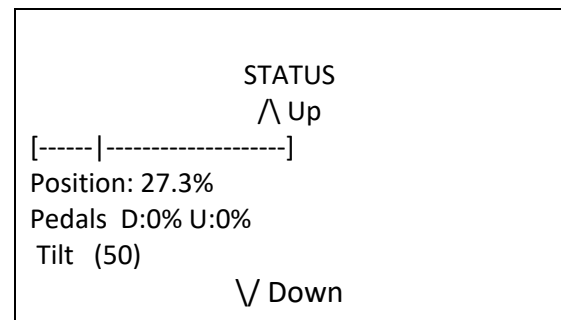
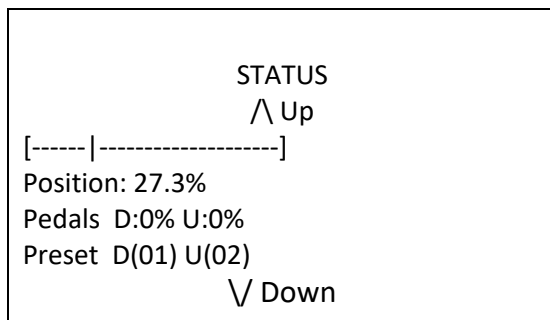
> Status

Displays information on the device including Current Leg Position (%) and the state of the pedals.

The indicator line shows where the leg is in its stroke length. On the left, is at the bottom and on the right, is at the top.

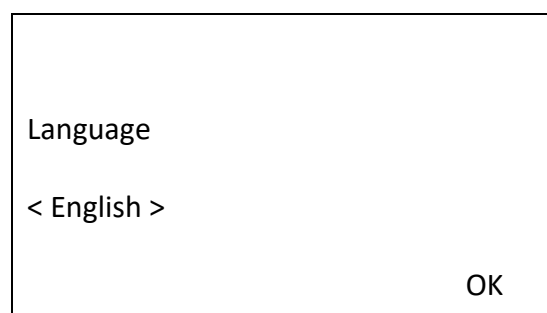
Select **Left** and **Right** to toggle the bottom line of the status screen between the current Tilt input value (50 is neutral, 0 is 100% down speed and 100 is 100% up speed), and the presets that the Up and Down pedal are currently set to recall.

Using the **Up** and **Down** buttons will drive the Leg up and down, mimicking the **Up** and **Down** buttons on the Rx (Leg) box. These buttons are programmed to include soft stops and starts, as well as at the stroke end stops.



In any menu, you can press and hold the **Ok** button for two seconds and you will be taken directly to the status screen.

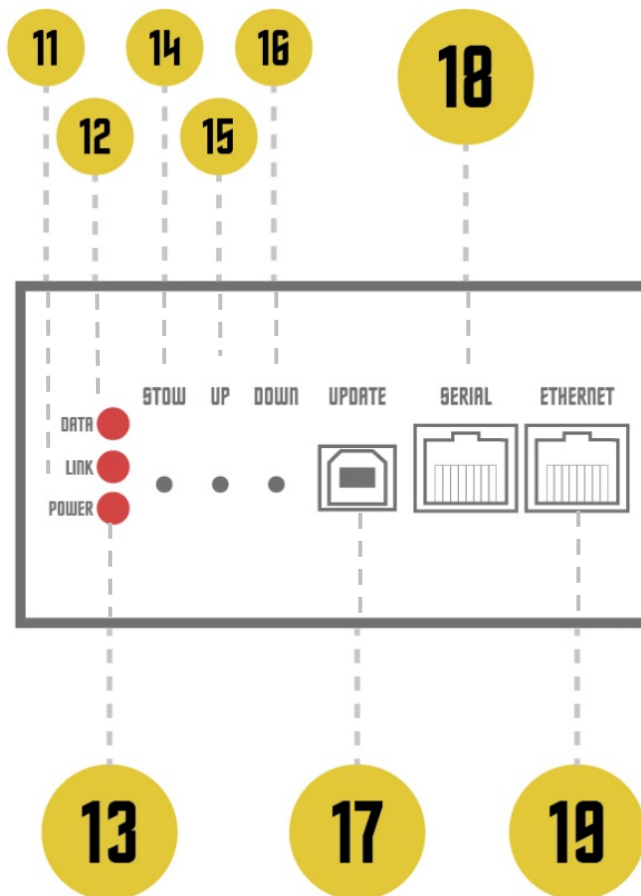
> Language



Select language that the menu system displays in. Currently you can select between:

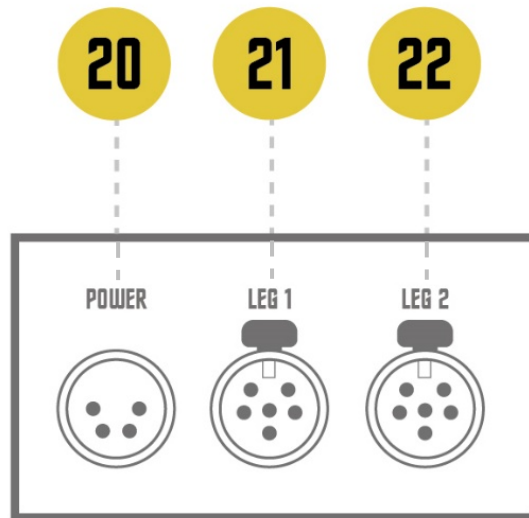
- English
- French
- German
- Spanish
- Italian
- Dutch
- Swedish
- Norwegian

Leg Controller (Rx) – Front Panel



- | | |
|--|--|
| <p>11 Link
<i>Red LED illuminates when a confirmed connection between the Tx and Rx units (ethernet only)</i></p> <p>12 Data
<i>Red LED illuminates/flashes only when data is sent between the Tx and Rx units (ethernet only)</i></p> <p>13 Power
<i>Red LED illuminates when power is supplied to the system</i></p> <p>14 Stow
<i>When button is pushed it overrides all controls and lowers the Leg unit/s to their lowest position. Leg units must be "stowed" before removing power and prior to packing so they fit inside the supplied protective foam and carry case correctly</i></p> <p><i>Note:</i>
*1 x Single short push automatically lowers Leg unit(s) to a "stowed" position
*1 x 2 second (or more) push "calibrates" the Leg unit(s)</p> | <p>15 Up
<i>Push button to elevate the Leg unit/s to the required height at a fixed speed – these heights may be "stored" and "recalled" in the "presets" menu in the Tx controller</i></p> <p>16 Down
<i>Push button to lower the Leg unit/s to the required height at a fixed speed – these heights may be "stored" and "recalled" in the "presets" menu in the Tx controller</i></p> <p>17 Update
<i>USB type B Port enables future system updates to be loaded to the controller</i></p> <p>18 Serial
<i>RJ45 Cat 5 Port used when operating the system in Serial mode</i></p> <p>19 Ethernet
<i>RJ45 Cat 5 Port used when operating the system in Network mode</i></p> |
|--|--|

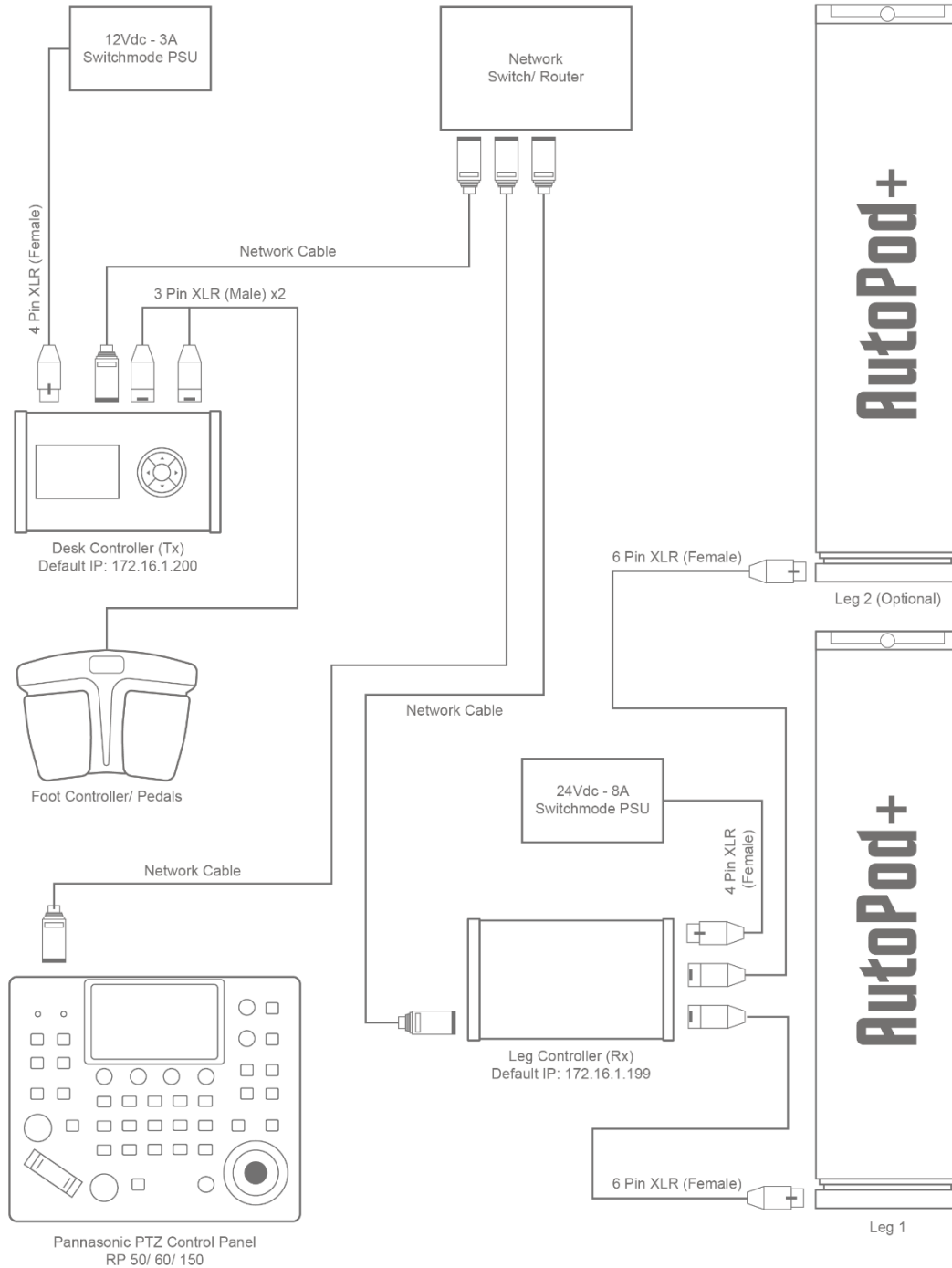
Leg Controller (Rx) – Rear Panel



- 20** Power
4 Pin XLR power input used with the supplied 24Vdc 8amp switchmode PSU
- 21** Leg 1
6 Pin locking XLR for connecting the Rx controller to Leg unit number 1
- 22** Leg 2
6 Pin locking XLR for connecting the Rx controller to Leg unit number 2. This only functions when the unit is in dual mode and leg 1 is also connected.

Set Up Diagram (Ethernet)

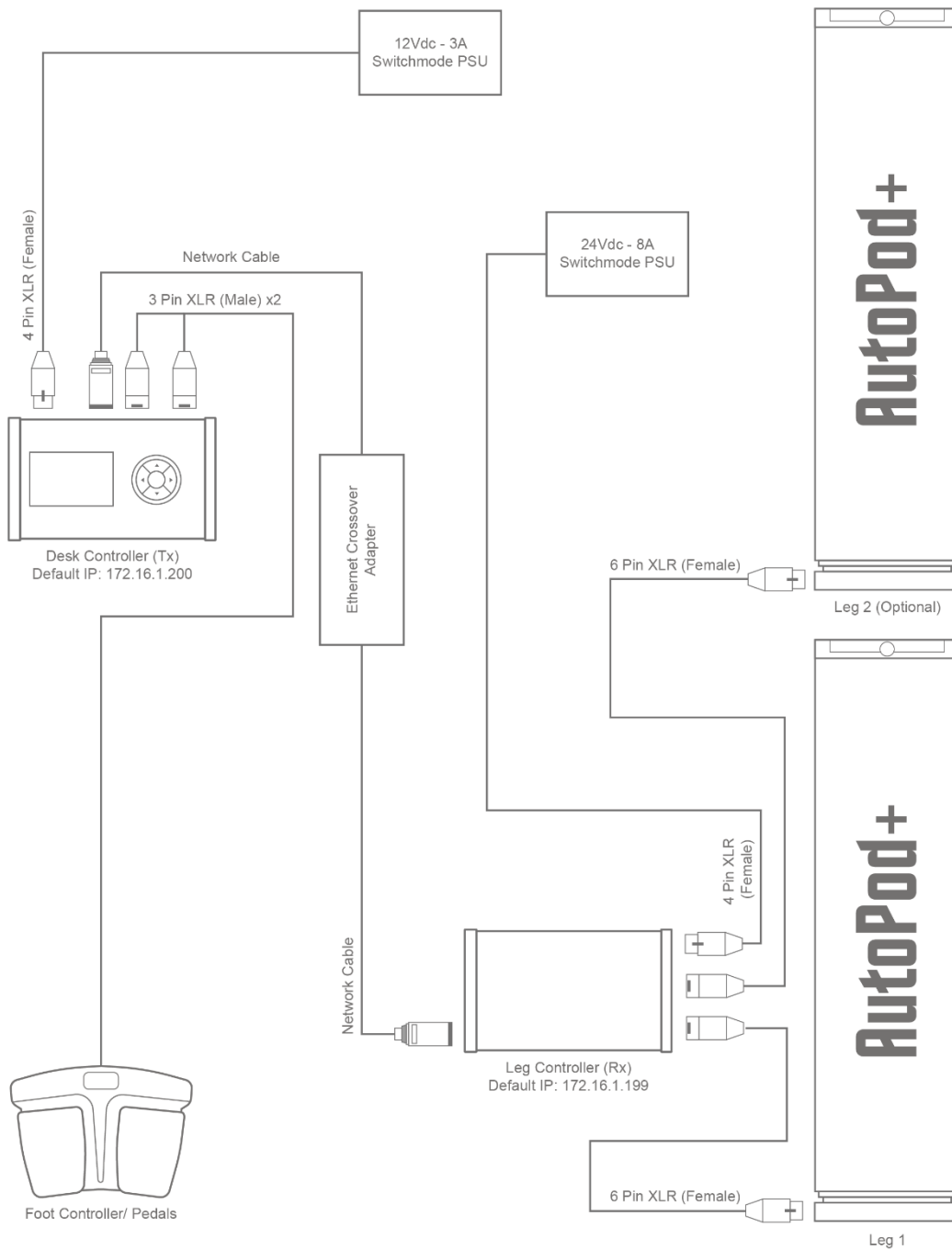
The below diagram outlines how set up your system for control over Ethernet.



Set Up Diagram (Ethernet Crossover/ Point to Point)

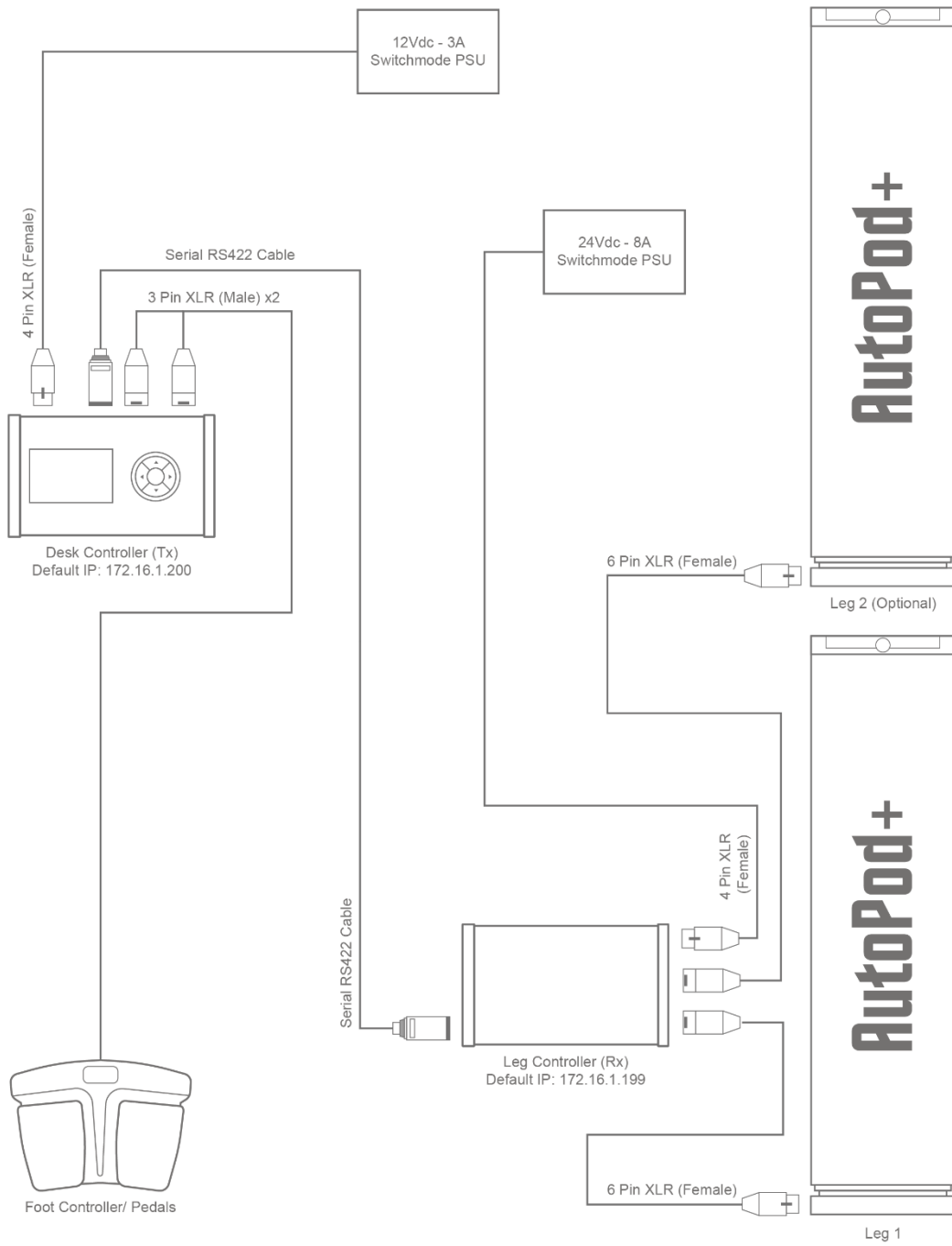
The below diagram outlines how set up your system for control over Ethernet when using the system in a 'Point to Point' mode to directly connect the Tx and Rx without a network switch or router in between the two units.

An example of a 'Crossover' adapter can be found [here](#).

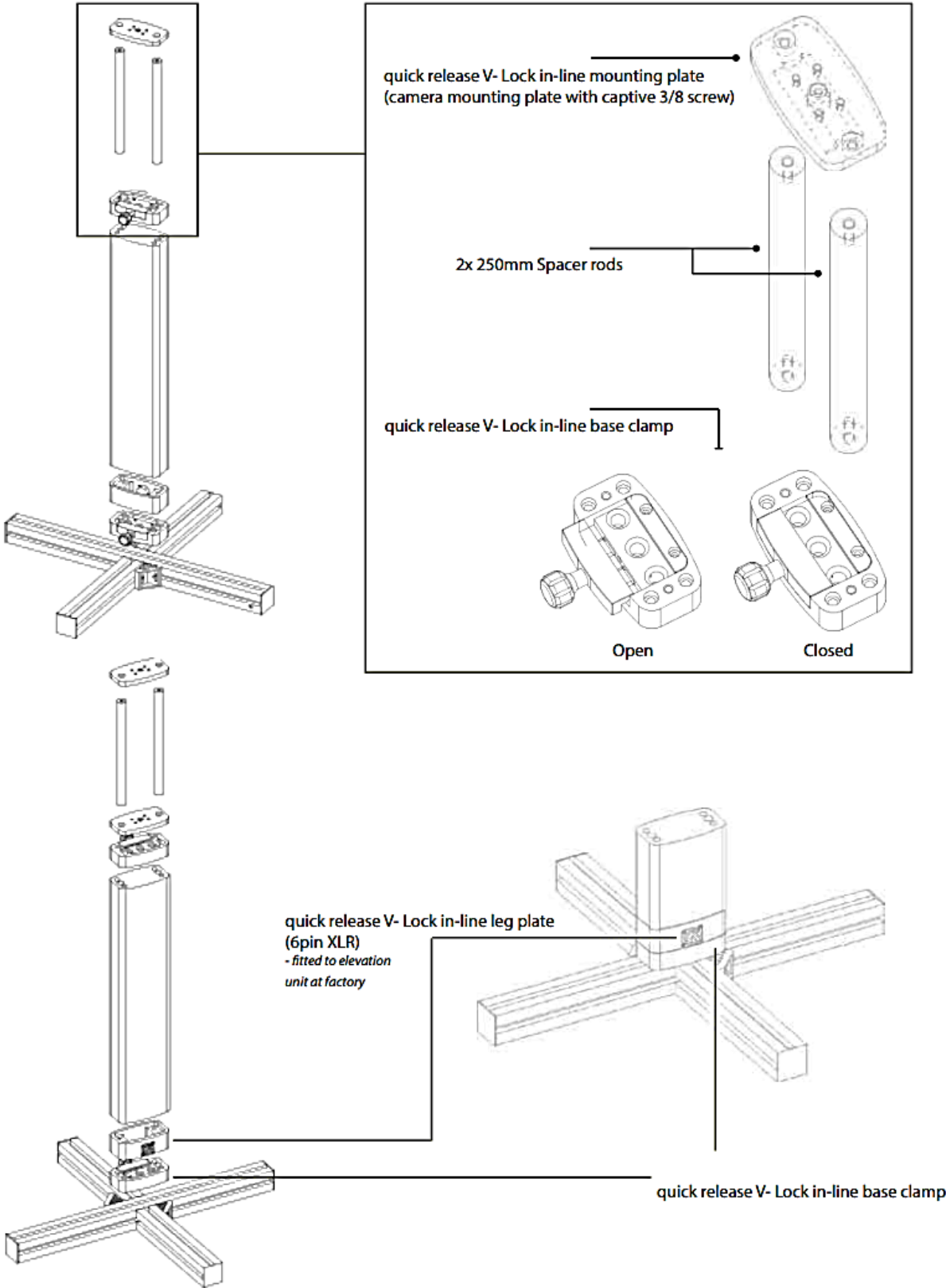


Set Up Diagram (Serial)

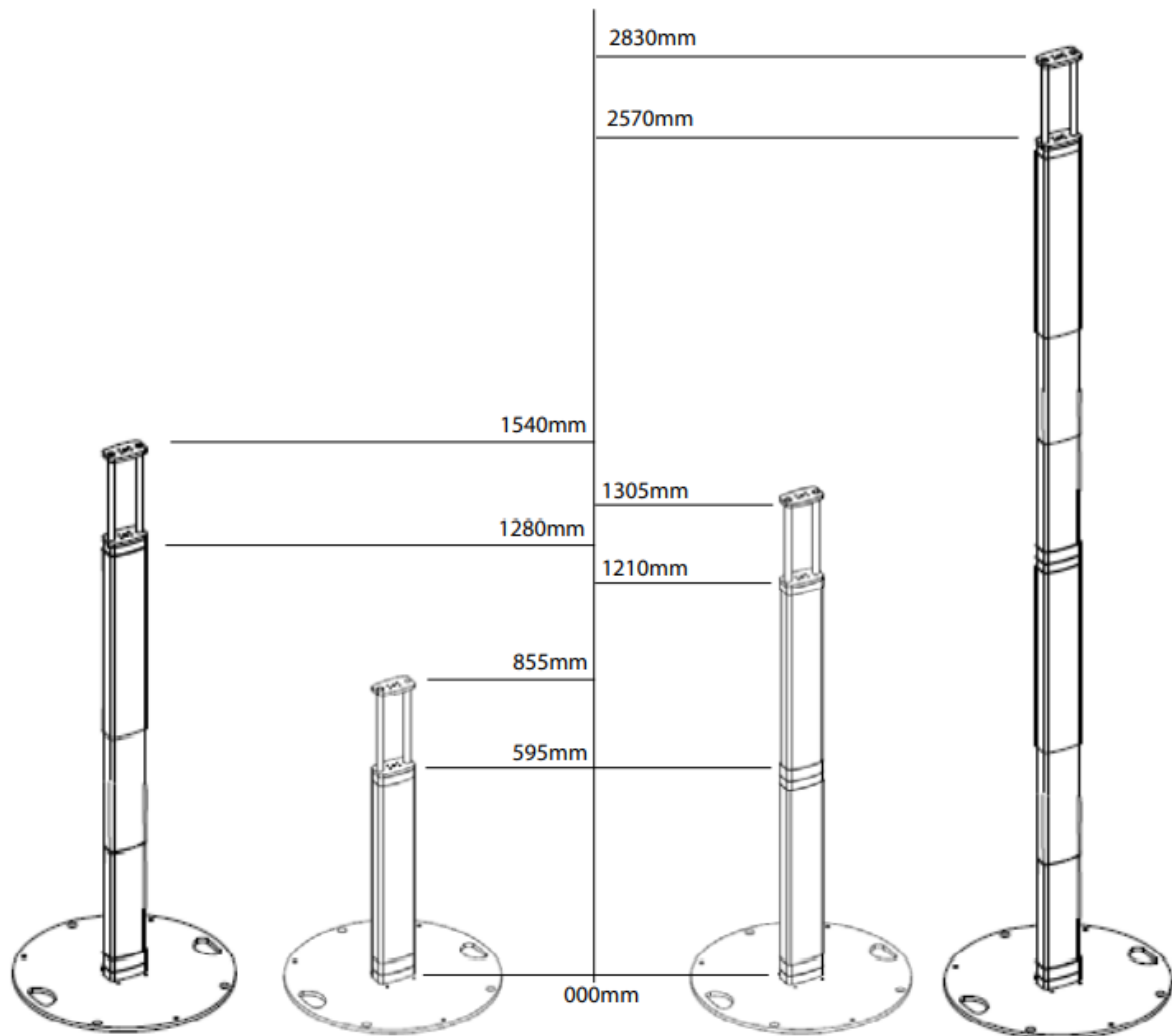
The below diagram outlines how set up your system for direct Serial RS422 control between the two units.



Component Diagram



Leg Diagram



[Single kit]

*on optional Heavy Duty base Single system
stowed and extended*

[Double kit]

*on optional Heavy Duty Base Dual system
stowed and extended*

Declaration of Conformity

Polecam Limited
4 Kenneth Way, Bedford, MK45 3PD



Hereby declares that the product know as AutoPod+ which is manufactured, assembled and marketed by Polecam Limited in the United Kingdom, conforms with the essential requirements of the:

EU Machinery Directive (2006/42/EU)
EMC Directive (2014/30/EU)
Low Voltage Directive (2014/35/EU)
RoHS2 (2011/65/EU)

Environmental considerations

This product must not be disposed of with general household waste.

In some countries or European Community Member States, separate collection systems have been set up to handle the recycling of electrical and electronic waste products. By ensuring this product is disposed of correctly, you will help prevent potentially negative consequences for the environment and human health.

Recycle where possible.

In countries outside the EU:

Dispose of this product at a collection point for the recycling of electrical and electronic equipment according to your local government regulations.

RIG DETAILS HERE



Polecam Limited
4 Kenneth Way, Bedford, MK45 3PD

www.polecam.com
info@polecam.com
+44 (0) 1234 855 222