



MANUAL ALPHA DOLLY SYSTEM



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Part I – The ALPHA DOLLY

General safety tips:



- 1) The ALPHA DOLLY should only be used on a stable, flat and horizontal underground.
- 2) At all times, the entire lift range of the ALPHA DOLLY column, jib-arms etc. must be kept clear and free from obstructions (0.5 m / 19.7 in clearance in all directions), whether switched on or off, at all times. When operating beware of pinch points.
- 3) Attention in automobiles or uneven surfaces. The ALPHA DOLLY must be secured so that it cannot move or roll.
- 4) In the electromechanical column, there are 3 pneumatic springs which are under constant high pressure. Should the column be damaged or the mechanics interfered with, it may eject with high speed and strength. The drive belt must be inspected and if necessary replaced after every 100 operational hours or at least every 12 months. The load carrying device must be inspected after every 100 operational hours. To inspect or repair the column, the column must be extended fully to relax the pneumatic springs.
- 5) Absolute attention to balance must be observed at all times especially during set-up and operation. Caution: Tipping danger!
- 6) When operating the dolly with a jib in open air, the maximum operational wind speed of 32 km/h (19 mph) may not be exceeded. This applies even in halls, where the gates are open more than 1/3 of the upstream wind of the hall walls. Analog DIN 1055, Part 4, Section 6.3.1.
- 7) When operating from mains, all usual guidelines for operating electrical equipment must be observed.

Technical Specifications

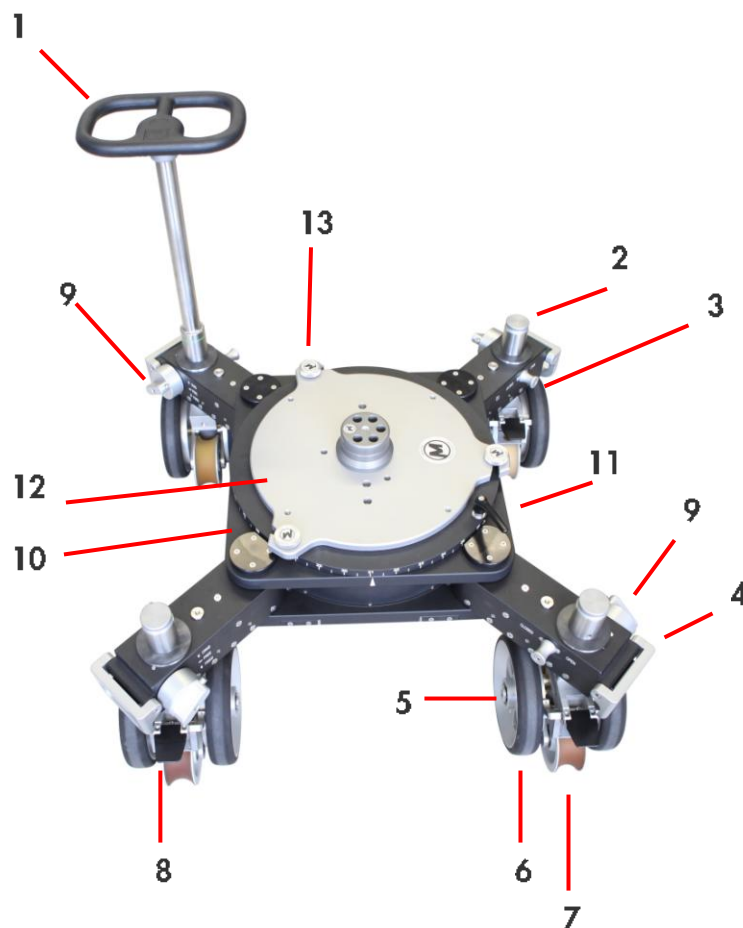
ALPHA Basic Dolly	
Weight:	61,8 kg / 136.24 lb
Minimum size for transport:	
Length:	64 cm / 25"
Width:	64 cm / 25"
Height:	35 cm / 13"
Max. Payload Capacity:	1000 kg / 2200lbs
Maximum track width:	62 cm / 24"
Minimum track width:	36 cm / 14"
ALPHA DOLLY with electromechanical column	
Weight of ALPHA Column:	71,2 kg / 171 lbs
Transport size, assembled:	
Length:	64 cm / 25"
Width:	64 cm / 25"
Height:	71cm/ 27.9"
Maximum Payload Capacity:	
Column extended:	100 kg / 220 lbs
Column retracted:	100 kg / 200 lbs
Max. height (euro-adapter):	139 cm / 54.72 "
Min. height (euro-adapter):	71 cm / 27.95"
Lift range:	68 cm / 28"
Battery performance when fully loaded:	150 column moves
Battery capacity:	10 Ah
Battery charge current:	14,4 VDC
Charge cycle with mains	approx. 8 hrs
Battery capacity:	10 Ah
Battery charge current:	14,4 VDC
Charge cycle with mains	See battery manual

The ALPHA Basic-Dolly

Picture 1: The ALPHA Basic-Dolly

Components Basic Dolly

- | | | |
|------------------------------|------------------------|---------------------------|
| 1. steering rod | 6. studio wheel | 11. bearing locking screw |
| 2. steering rod socket | 7. track wheel | 12. Euro adapter plate |
| 3. wheel arm lever | 8. wheel brake | |
| 4. carry grip | 9. wheel setting clamp | |
| 5. locking screw wheel axles | 10. totable bearing | |



The Basic Dolly is the basis of the ALPHA DOLLY System. It allows manoeuvrability in a number of ways.

The wheel arms may be set in 16 different positions (see next page).

Wheel Arm Positioning:

The wheel arms may be repositioned by pulling the Wheel Arm Lever (pos. 3, picture 1). After reaching the required position, the Wheel Arm Lever should be gently released allowing the locking pin to slip into place. Ensure that the wheel arm is fixed securely after every repositioning.

Combi-wheel Settings

The Basic Dolly has 4 combi-wheels. Each combi-wheel consists of 2 studio wheels and 1 or 2 track wheels. The studio wheels can be exchanged for pneumatic wheels. This is done by simply removing the locking screw (pos. 5, picture 1) and removing the studio wheel. The pneumatic wheel is mounted in the same manner and locked in position with the locking screw.

Note: The integrated Track Wheels allow smooth tracking movements without having to change the Combi-wheels.

For operating on track, the wheels should be set at the FREE position to enable them to compensate the tracks curve.

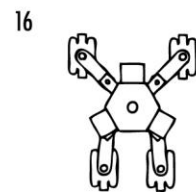
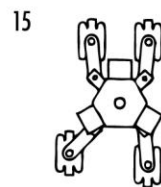
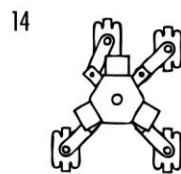
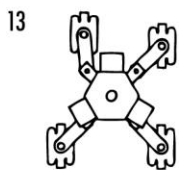
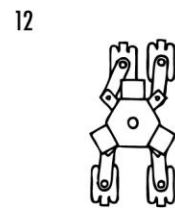
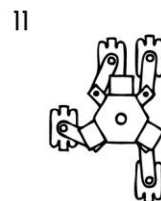
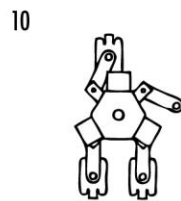
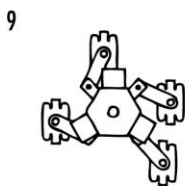
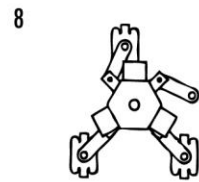
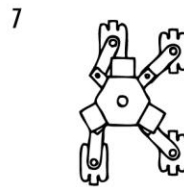
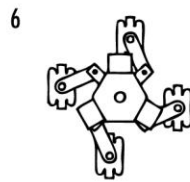
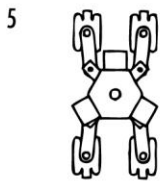
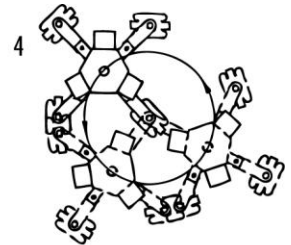
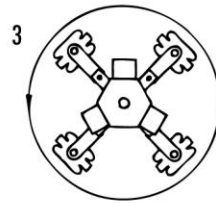
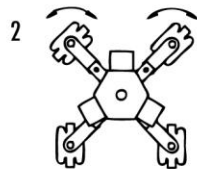
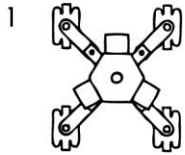
Ensure that the track is supported correctly and completely levelled!

The Wheel Setting Clamp (pos. 9, picture 1) has 3 settings:

- CRAB** -> Enables connected steering of the wheels.
- FREE** -> Enables the wheels to rotate freely (for use on track).
- FIXED** -> Allows the wheels to be locked at set angles of 45 degrees.

Examples for possible wheel settings on the next page.

ALPHA DOLLY wheel settings



Rotation around an off-set axis (fig. 14)

1. Extend all wheel arms fully.
2. Choose one of the combi wheels as rotation center
3. With the Wheel Setting Clamp (pos.11, picture 1) set this combi-wheel on FREE.
4. The combi-wheel on the opposite side (diagonally) should be set on FREE and then positioned at 90° to the wheel arm. By selecting FIXED, this combi-wheel position will be secured. This combi-wheel may be used as the steering point.
5. The remaining two combi-wheels should be set on FREE and positioned at 45° to each of their wheel arms. These wheel positions may be locked by selecting FIXED.

Rotation around own central axis (fig. 13)

1. Extend all wheel arms fully.
2. With the Wheel Setting Clamp (pos 11, picture 1) put all wheels on FREE
3. Set all four combi-wheels at 90° to each of their wheel arms.
4. With the Wheel Locking Clamp, set all wheels on FIXED.

Two wheel steering (fig. 12)

1. With the Wheel Setting Clamp (pos.11, picture 1) set all wheels on CRAB and set them in straight direction.
2. Select two of the combi-wheels that are parallel to each other and set them on FIXED.
3. Put the steering rod in the Steering Rod Socket (pos.2, picture 1) of either of the two wheels that are set on crab.

To return to 4 wheel steering set the wheel setting clamp on each of the wheels at CRAB. Turn the steering rod until all 4 wheels connect. The Basic Dolly can be steered from each of the 4 wheel arms provided the designated wheel arm is switched to Crab.

The Basic Dolly contains a rotatable bearing (pos. 10, picture 1) which allows to completely pan the columns etc mounted on it. The rotatable bearing may be locked with the rotatable Bearing Brake (pos. 11, picture 1).

Maximum payload on the Basic Dolly is 1000 kg.

The Basic Dolly accommodates 2 different fixtures:

1. Base Plate with Euro Adapter Mount
2. The ALPHA DOLLY Electromechanical Column

Base Plate with Euro Adapter Mount

The base Plate with Euro Adapter Mount (pos. 12, picture 1), as with both possible fixtures, is mounted on the Basic Dolly by simply positioning it on the dolly so that the 3 bayonet connections may be locked into position by the 3 Locking Screws (pos. 13, picture 1). Ensure that all 3 locking levers are tightened securely.

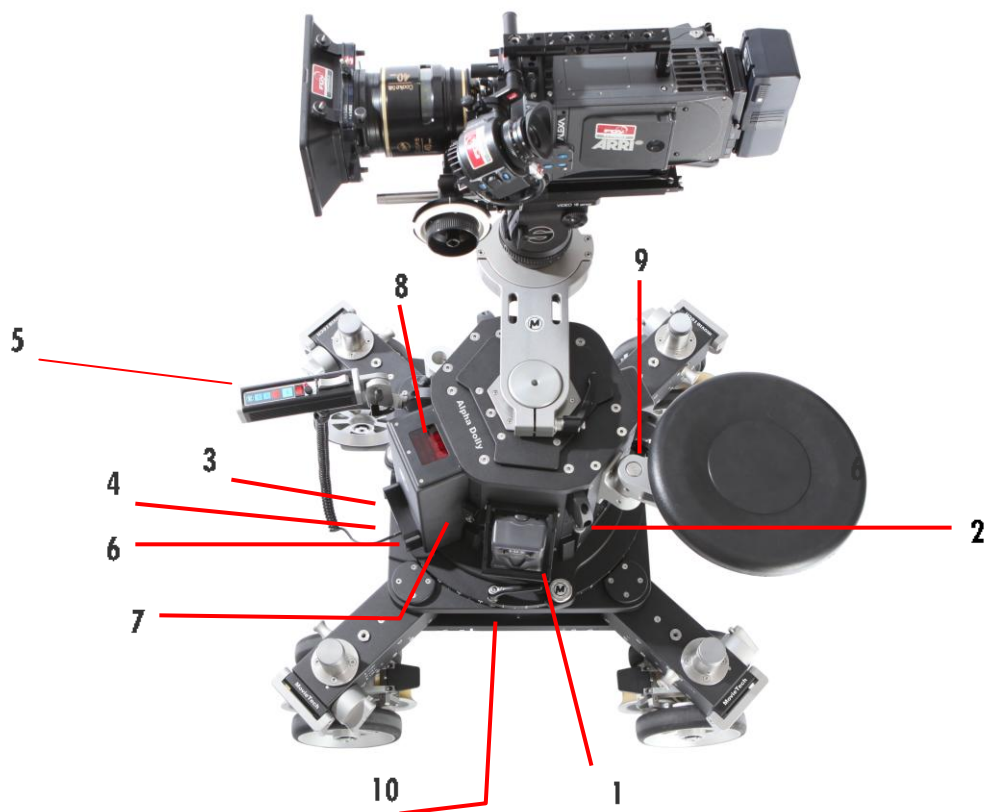
The Base Plate accommodates any accessory that connects to a Euro Adapter Mount.

ALPHA Electromechanical Column

Picture 2: Manual Electromechanical Column

Components ALPHA-Column

- | | |
|------------------------------|--|
| 1. Battery { 3x V-Mount} | 6. Hand control connector |
| 2. Connection for carry bars | 7. Emergency switch at the electronic unit |
| 3. Program channel | 8. Digital display |
| 4. Ramp mode switch | 10. Height adjust seat arm |
| 5. Hand control with cable | 11. Brake for Turnstile |



To operate the ALPHA Dolly Column to its full potential it is important to understand the basic principles of how this column functions. We have endeavoured to explain this in simple terms.

The ALPHA Dolly's motor, which is connected to a central spindle by means of a drive belt, powers the column upwards or downwards. Three pneumatic springs exerting an upward pressure of 1200N and provide the extra strength necessary to carry a maximum payload of 100kg. It is important to remember that the motor uses the least amount of energy when the column is loaded with approx. 50kg. This point should be taken into consideration when operating with battery power. To achieve the longest consumption time with a battery, always load the column.

Therefore: Operate the column for a maximum battery operating time only in loaded condition!
Min. payload 10kg/ ideal payload 50kg / max. payload 100kg

The coordinating factor in the whole system is the ALPHA Electronic. The electronic provides the motor with the instructions needed to allow smooth coordinated movements of the column. These instructions are in turn transmitted to the electronic from the operator via the Hand Control Unit.

When the ALPHA DOLLY is switched on, the initial stage is "standby" i.e. the electronic system is activated. Within the first 1-2 seconds of activation the self diagnostic electronic makes an automatic system check to ensure that there are no faults present. In stand-by condition the column is held in position by an electromagnetic brake. By pressing the manual control switch the electromagnetic brake is deactivated and the motor moves the column up or down. When the column is no longer moving the motor holds the present position of the column automatically. After 8 seconds the brake closes again and holds the column in position. During this time the motor is moving or regulating the columns position, energy consumption is at its highest. After activation of the electromagnetic brake energy consumption drops dramatically to an absolute minimum.

Battery operated: Standard use with 3 x Lithium Ion battery à 14,4V = 43,3V

Three batteries V-Mount can be connected to the column by means of the socket flanges (pos. 1, picture 2). This is the recommended operation mode. It is also recommended to keep three fully charged batteries in reserve. When the battery reaches 34 V, an automatic shut-down will take place. The digital display on the electronic will show Err Nr. 6. The unloaded battery should be replaced by 3 fully charged batteries. See page 31 for information on correct use of batteries.

Once the power supply has been provided, the following procedure should be followed:

1. Ensure that the General Safety Tips have been followed
2. Connect the Hand Control Unit (pos. 5, picture 2) via the Hand Control Cable to the Control Cable Socket (pos. 6, picture 2) in the Electronic Unit Housing.
3. Select the required Drive Ramp (pos. 4, picture 2).
4. Activate the electronic by pressing the Main On / Off Switch integrated in the Hand Control Unit and wait until the self-test is finished (3 sec.)
5. Press the Manual Control Switch in the desired direction i.e. forwards to go up, press back to go down.

Note: After activation the column should be in a fully retracted or extended position. It is necessary to clear the two end switch areas. This simply means that the column should be driven, depending upon the activating position, either upwards or downwards approximately 110mm.

The column is now ready to use.

Part II – The control of the ALPHA DOLLY

Instruction Manual

Programming Overview

Software version: 1.6 / 01.08.2013

Mode 0 - storage of upper and lower position

This mode will allow you to limit the manual working range top/bottom of the dolly. In this mode there are no programmed moves possible, that is why it is originally named "0". There will be no reaction by pressing any keys. Therefore there is no reaction by accidental pressing of any key. The dolly will ramp down at the set limits.

Keypad layout:	
REC + F1	Actual position will be set as top limit
REC + F2	Actual position will be set as bottom limit
GO + F1	Top limit will be deleted, dolly extend to the fullest
GO + F2	Bottom limit will be deleted, dolly retract to the fullest
RESET	Allows you to make moves exceptionally outside the set limits

The 4 program possibilities can be used in any different sequences, as long as you pay attention to the following points:

- Programming a top limit below an already set limit is logically not possible, and vice versa.
- Position 000 mm cannot be set as top limit, at the same time the max position cannot be set as bottom limit.

The actual programmed status will be permanent shown on display (e.g. table display)

When the dolly is switched off, the values will be stored. When the dolly is switched on, or at change of any mode to mode „0“ and the column is positioned outside the limits, the user will be asked to move the column back into the range:

Go below high limit (XXX mm)! respectively Go above low limit (XXX mm)!

The opposite direction of the range limits will be initially blocked.

Display at switch on

After switch on or at change of any mode into **mode „0“**, the display will show one of the 4 following lines:

If **no limits** are set:

No limits stored, press REC+F1 for high, REC+F2 for low limit

If only **bottom limit** is set:

Low limit XXX mm, press REC+F1 for high limit or GO+F2 to delete low limit

If only **top limit** is set:

High limit XXX mm, press REC+F2 for low limit or GO+F1 to delete high limit

If **top and bottom** limits are set:

Low limit XXX mm, high limit XXX mm, GO+F1 to delete high limit, GO+F2 to delete low limit

Leaving the range of limits:

If it is required to leave the limited range during operation simply **press and hold the RESET-key**. As long as the reset key is pressed the limits are without function.

As soon as the reset key is released the column can be brought back in direction of the limit range set. Further you will see the following line in the display:

Go below high limit (XXX mm)! respectively Go above low limit (XXX mm)!

Mode „0“: Overlook display messages

OPERATION STATUS	DISPLAY "RUNNING" LINES
No limits stored	No limits stored, press REC+F1 for high, REC+F2 for low limit
Only top limit set	High limit XXX mm, press REC+F2 for low limit or GO+F1 to delete high limit
Only bottom limit set	Low limit XXX mm, press REC+F1 for high limit or GO+F2 to delete low limit
Both limits set	Low limit XXX mm, high limit XXX mm, GO+F1 to delete high limit, GO+F2 to delete low limit
Unit after switch on above top limit	Go below high limit (XXX mm)!
Unit after switch on below bottom limit	Go above low limit (XXX mm)!
By entering values no end switch passed yet	Pass upper or lower position indicator to enable programming!

Reason and position of proximity sensor:

Both proximity sensors (normally an absolute position indicator) will prevent the column to hit the mechanical limits (top or bottom) of the column (e.g. the initial switch on after changing the hand control) at all possible occasions.

In fact, the position of the column is stored after switch off, but the electronics will have no indication of using the emergency switch or exchange. In order to assure the proper operation, the control has to get a feedback right after switch on about the absolute position of the column.

That is why on each side there is a proximity sensor placed 11 cm before the mechanical stop.

Position bottom sensor: 110 mm from bottom end stop

Position top sensor: 566 mm from top end stop

Without passing one of these sensors there will be no retrieval of programming function!

The display will show:

Pass upper or lower position indicator to enable programming!

Until one of the sensors will be passed!

A passing move of the sensor will basically happen when moving the column down passing 110mm, or moving the column up passing 566 mm (see mm value in display).

Mode 1 - storage of max. 30 positions

This mode will allow the user to program up to 30 fix positions in sequences.

These programmed positions can be called up always in the same sequence (forward and reverse). With each programmed position, the individual speed and ramp will be stored.

Up to 30 positions can be stored.

By changing into a different mode the whole setting will be stored and will be always available.

Keypad layout:	
REC for min. 3 sec	Setting reference point (starting point) of the position sequence. At the same time all prior stored positions will be deleted
F1	Setting a target point after manual move
F2	Ending the setting procedure after entering 1 -30 target points
GO	Start move to reference point, or next target point
GO + F2	Start move to previous target point (sequence in return)
RESET	Immediate abortion of a programmed move (Emergency stop!!!)

Display after switch on:

After switch on or change into mode 1 the display will show one of the following messages:

If no target points are stored:

NO TARGET POINTS STORED, 30 FREE, PRESS REC 3S TO STORE REFERENCE POINT.

If target points are stored (e.g. 4):

04 target points stored, 26 free, move to next target, press F1 to store, F2 to terminate programming

Program can be used, see program call up, point 2

Programming procedure (example for 4 target positions):

1. Initially, the column has to be moved into the desired reference/starting position. This position will be stored if the REC key is pressed for min 3 sec. This action is confirmed in the display.
Reference point stored, 30 target points free, move to target and press F1 to store .
2. Now move the column to the first target point and choose at the same time the desired speed. In order to keep the move easy the highest reached speed for the move will be stored. To store the first target point press the F1 key. The display will show now:
01 target points stored, 29 free, move to next target, press F1 to store, F2 to terminate programming
3. The procedure from No. 2 can be repeated up to 29 times, after storing 4 positions the display will show:
04 target points stored, 26 free, move to next target, press F1 to store, F2 to terminate programming
4. To end the storing procedures please press the F2 key.
The display will show now:
Programming completed, 04 target points stored, press GO to move to reference point
5. The programming procedure is finalized.

To call up the program simply press the GO key to move the column to the reference point, please see program procedure no 2.

Program call up (e.g. 4 target points):

1. After switching on respectively choosing mode 1 the following message will be shown in the display:
04 target points stored, press GO to move to reference point
2. By pressing the GO key, the column will move to the reference/starting point, the display shows:
Approaching Reference Point (XXX mm) press RES to stop
3. After reaching the reference point the display shows:
Reference point reached, press GO to start 1st target move
4. By pressing the GO key again, the move to the first target point will be initiated, the display shows now:
Approaching Target #01 (XXX mm) press RES to stop
5. After reaching the first target point the display will show now::
Target point # 01 reached, press GO to move to next target or GO+F2 to go to last target
6. By pressing repeatedly the GO key, the column now to the next target points (repeat point 4-5). Should the column be moved to a previous target point simply press the GO + F2 Keys. This may be helpful in order to reach a previous camera position. In this example with 4 target points, after reaching all points the display will show the following message:
Final target point # 04 reached, press GO to return to reference point or GO+F2 to go to last target
7. The program has now reached the end, and by pressing the GO key once again the column will go back to the reference/starting point. By pressing GO+F2 the column will move back to the last target point. (in the example at point 3).

PLEASE NOTE: In order to assure the correct function you have to pass an end switch prior to programming or call up a program (please see mode 1, proximity sensor). If that is not the case the display will show the following message accordingly:

Pass upper or lower position indicator to enable programming!

Mode 1: Overlook display messages

OPERATION STATUS	Display "running" lines
No positions entered	No target points stored, NN free, press REC 3s to store reference point.
Reference point stored	Reference point stored, 30 target points free, move to target and press F1 to store
1-29 positions stored, not yet pressed F2	NN target points stored, NN free, move to next target, press F1 to store, F2 to terminate programming
1-30 positions stored, F2 pressed	Programming completed, NN target points stored, press GO to move to reference point
Column moves to reference point	Approaching Reference Point (XXX mm) press RES to stop
Reference point reached	Reference point reached, press GO to start 1st target move
Column moves to target point	Approaching target # NN, XXX mm), press RES to stop.
First until next to last target point reached	Target point # NN reached, press GO to move to next target or GO+F2 to go to last target.
Last target point reached	Final target point # NN reached , press GO to return to reference point or GO+F2 to go to last target
Move abortion thru Reset key	MOVE STOPPED!!
Program try without passing the proximity switch	Pass upper or lower position indicator to enable programming!

Mode 2 - storage complete drive up to 4 Min. 20 Sec.

This mode allows you to record and store complete moves up to 4m20s in length incl. all speed changes and pause times. The position of the column will be captured and stored each millisecond. The therefore required storage space will limit the time frame to 260 seconds.

By changing into a different mode or turning off the electronic, the whole setting will be stored and will be always available.

Keypad layout:	
REC for min. 3 sec	Setting reference point (starting point) of the position sequence.
1. move the zoom switch after REC 3 sec.	Start to record the move
F2	Stop record, column must stand still
REC + F2 min. 3 sec.	Delete a stored move
GO	Start move to reference point, or next target point
RESET	Immediate abortion of a programmed move (Emergency stop!!!)

Display after switch on:

After switching on or change into "mode 2" the display will show one of the following 2 messages:

If no move is stored:

NO MOVE RECORDED, PRESS REC 3SEC TO START RECORDING

If move is stored:

Move stored, XXXs , press GO to go back to reference point or 3 sec REC+F2 to delete move

A stored move can be initiated (e.g. program call up) or can be deleted by pressing REC + F2 for 3 sec.

Programming procedure:

- Initially the column has to be moved into the desired reference/starting position. This position will be stored if the REC key is pressed for min 3 sec. This action is confirmed in the display.

Reference Point stored, press zoom switch to start recording!

- To start recording, simply move the zoom switch to initiate the move. As soon as the recording started, the display shows continuously the stored time as well as the left over recording time (example for 12 sec.):

Recording move, 012 sec, time left 248 sec, press F2 to terminate!

3. To end recording, the F2 key must be pressed while column stands still (stored move must end with a stop).

The display will show then (account move time 1 min 35 sec.):

Move stored, 095 sec, press GO to go back to reference point

4. The programming procedure is now finalized.

To call up the program, simply press the GO key to move the column to the reference point, please see program procedure no 2.

Program call up (e.g. for move 1 min 35 sec):

1. After switching on respectively selecting the mode 1 it will display the following message:

Move stored, 095 sec, press GO to go back to reference point

2. By pressing the GO key a move to the reference point will be started.
The display shows:

Approaching Reference Point (XXX mm) press RES to stop

3. After reaching the reference point the display shows:

Reference point reached, press GO to start recorded move

4. By pressing the GO key once again the recorded move will be started.
The display shows:

Playback running, time left, 092 sec, press RESET to abort

As long as the column is in motion, the running time left will be displayed. At this point, the user basically has no need to interfere, but for safety reasons he should not leave the hand control un-attended. The move can be aborted at any time by pressing the RESET key.

5. After the stored move has ended or abortion of the move the display shows:

Playback over, press GO to return to reference point

6. The programmed move ended now. To repeat simply move press the GO key again (to return to the reference point).

PLEASE NOTE: In order to assure the correct function you have to pass an end switch prior to programming or calling up a program (please see mode 1, proximity sensor). If that is not the case the display will show the following message accordingly:

Pass upper or lower position indicator to enable programming

Mode 2: Overlook display messages

OPERATION STATUS	Display "running" lines
No moves entered	No move recorded, press REC 3s to start recording
Reference point set, column stands still	Reference Point stored, press zoom switch to start recording
Record started, column still stands	Recording move " XXX s, time left XXX s, press F2 to terminate!
Record started, column moves	Recording, time left XXX s, press F2 to terminate!
Record stopped, respectively status after switch on	Move stored, XXX s, press GO to go back to reference point
Column moves to reference point	Approaching Reference Point (XXX mm) press RES to stop
Column stand on reference point	On Reference Point, press GO to start recorded move
Play move	Playback running, time left , XXX s, press RES to abort
Stop or aborted move	Playback over, press GO to return to reference point
Abortion with the RESET key	MOVE STOPPED!!
Program try without passing the proximity switch	Pass upper or lower position indicator to enable programming!

Mode 3 - operation via serial interface

This operation mode is intended for external control possibilities of the ALPHA DOLLY via an external system (e.g. PC or Motion control system).

This operation mode is not implemented yet, therefore the display shows:

No serial connection!

However, manual moves without limitation are possible.

Display of operation hours:

By pressing the F2 key during the boot of the system the display will show the following:

Running Time: XXXXX h

Motor Time: XXXXX h

Press GO to continue

The first information on the display is the sum-up of the running time of the control electronics since the dolly was first built.

The second information shows the sum-up of the hours the column actually has been moved. This helps to determine the operational time of electronics and mechanics. The counter only shows full hours in max of 5 digits, but internally the time will be stored up to seconds and this will be stored at every switch off of the system. After pressing the GO key, the hours will disappear in the display. The column will go into operational mode and to the display accordingly.

Error messages scheme and error correction

<u>Error message</u>	<u>What needs to be checked and done?</u>
No.1	<ul style="list-style-type: none"> - Let the motor cool down, and/or remove the damping cover of the motor to let the motor cool down faster. <u>Error prevention:</u> please note and follow the payload advices: <ul style="list-style-type: none"> Minimum 10 kg Optimum 50 kg Maximum 100 kg Check for possible contact thermo resistor interruption. Check the connections from motor cable to socket board at tightening plate (plate will be visible when electronic module is removed) for proper connection and for possible damages. Connectors have to be clicked solid in position.
No.2	<ul style="list-style-type: none"> - Electronic module exchange. Error in system can only be rectified by the manufacturer
No.3	<ul style="list-style-type: none"> - Function control of proximity switch via LED display on electronic board. The LED display control is right below the electronic display on the top board. It is a row of 6x SMD- LED's. For that purpose please remove the electronic cover. LED No. 5 – lights up (red) if top proximity switch is activated. <ul style="list-style-type: none"> Position of column from 683 to 566 mm, Watch the information on display. LED No. 6 – lights up (red) if bottom proximity switch is activated <ul style="list-style-type: none"> Position of column from 000 up to 110 mm. Watch the information on display. In case the LED stays turned off in the proximity switch range, a defect is confirmed. A picture of board with LED can be found on page 29. - Check proximity switch, possibly the proximity switch is defective or the socket board is disconnected respectively the contact proximity switch cable is interrupted. Check contacts respectively exchange proximity switch.
No.4	<ul style="list-style-type: none"> - Please do not move the zoom switch of hand control right after switching on the system. Electronic will perform a self diagnostic for approx. 2 sec. A definitive clicking sound will appear when self diagnostic is finalized. - Potentiometer of zoom switch not in the center spot. Spring of zoom switch maybe misaligned or broken. Adjust center spot or exchange spring. - Possible break in cable of hand control, exchange cable

- No.5** - No error code, number not in use!!!
- No.6** - Batteries discharged, currently below 11V. Exchange all three batteries for fully charged batteries (re-charged discharged immediately)
- Do not use flat batteries at all, otherwise you risk the damage of the cells (exhaustive discharge).
- No.7** - After reconnecting the electronic this error may not occur anymore
- If error repeatedly occurs then the electronic module needs to be replaced, defect in unit.
- No.8** - possible interruption of contact in brake cable,
check connector on motor cable and socket board for proper connection.
Fix possible loose contact.
- Otherwise like error code no.7
The electronic module needs to be replaced, defect in unit.
- No.9** - Check all three batteries for discharge and exchange accordingly for new ones.
- Check the encoder, maybe loose on shaft. Encoder does not turn, tighten screws on shaft.
- Possibly defective encoder or connector on encoder cable wrong positioned.
Re-position, re-connect connector properly (at the last 2 points when operating the zoom switch moves without control) then the electronic will stop the system and show error code no.9.
- Column hit an obstacle and electronic stops the system.
Remove obstacle and possibly exchange the 15A fuse.
- Drive belt tension not enough. Belt slips, readjust belt tension.
- Possible error in electronic unit itself. Error code will appear right away after touching the zoom switch, even though column is not moving, electronic module needs to be replaced.
- No.10** - Main fuse 15A exchange, possibly defective fuse.
Exchange, if error occurs again then electronic module needs to be exchanged, error in electronic.
- No.11** - Check motor, possibly defect.
Motor exchange
- Column blocks, possibly hit an obstacle.
Please ensure free motion on top and bottom track
- No.12** - Check hand control, error in hand control or hand control cable.
Possibly exchange hand control or cable.
- No.13** - Check hand control potentiometer.
Possibly readjust or exchange potentiometer

Movie Tech ALPHA DOLLY control unit – overview error messages

error No.	Control display			Error description	Reaction of the dolly
	Code	Line 1	Line 2		
1	ERR	No. 1: Hot	Motor too hot, try again later (10 min.)!	Motor temperature to high or cable link to thermo sensor broken	stop with ramp
2	ERR	No. 2: 12 Volt	Supply 12V defective, device must be changed	Supply 12V defective	abrupt emergency stop
3	ERR	No.3: EndSw	Both Position indicators active, check indicators and column wiring	Both Position indicators active at the same time	stop with ramp
4	ERR	No.4: Accel	Don't touch zoom switch during self test/ check hand control	Hand control has been used during set up	no power-up
5	Free, no use				
6	ERR	No.6: LoBatt	Battery voltage too low, please recharge batteries	Battery voltage too low	stop with ramp
7	ERR	No.7: Brake	Brake supply out of control, device must be changed	By mistake, voltage on brake despite missing control signal	abrupt emergency stop
8	ERR	No. 8: Brake	Brake supply voltage low or brake not connected	Brake supply voltage low or brake not connected	abrupt emergency stop
9	ERR	No. 9: PosERR	Excessive Position Error, column mechanically blocked, digital encoder or device defective. Check drive belt and batteries!	Deviation from normal condition	abrupt emergency stop
10	ERR	No. 10: Power	Power Stage Supply Voltage too low, check 30A Fuse! If fuse OK, device must be changed	Power Stage Supply Voltage too low at end position; fuse or end position defect	abrupt emergency stop
11	ERR	No. 11: Motor	Excessive Motor current, column blocked or motor defective	Motor current too high	abrupt emergency stop
12	ERR	No. 12: Cable	Hand control buttons out of order, check cable! Press zoom switch to start	Hand control buttons out of order	Note only, moving via tippler possible
13	ERR	No.13: Cable	Zoom switch value out of limits, check cable or change hand control	Zoom switch value out of limits	stop with ramp

Arrangement of controls on the electronic front

**Emergency switch
behind the cover**
To be used only in
case of hand control
emergency

**Control for top
speed pos. „4“**
„UP-movement“
max. speed in
combination
with hand
control

Ramp control

- 1: Standard use 1 (Speed 100%)
- 2: Standard use 2 (Speed 80%)
- 3: Jib-application 1 (Speed 70%)
- 4: Jib-application 2 (Speed 60%)

Speed control
„UP-movement“

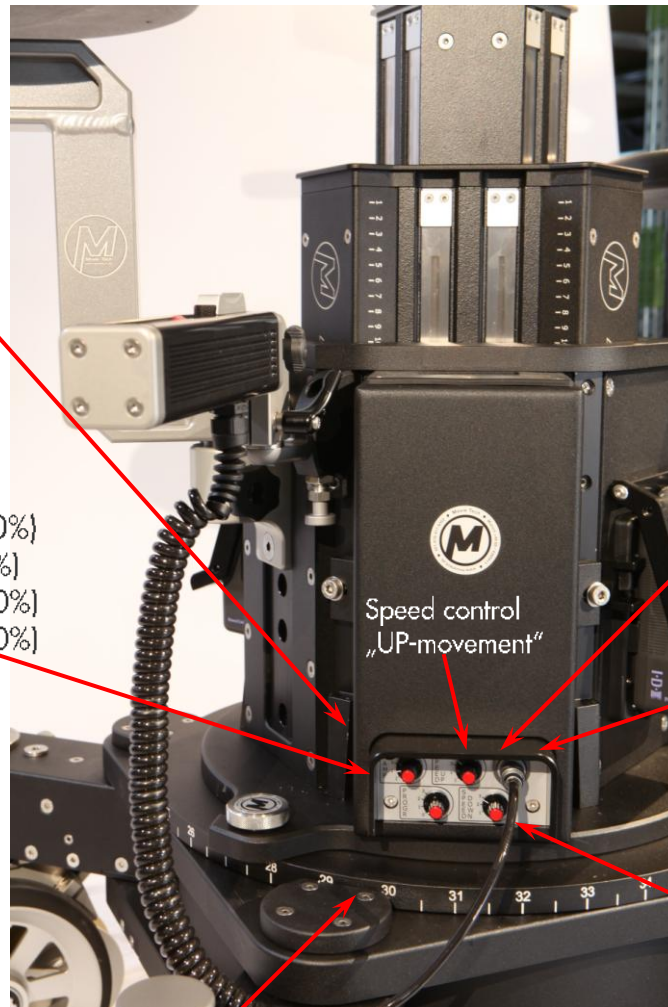
**Hand control
connector**

**Speed control
„Down-
movement“**

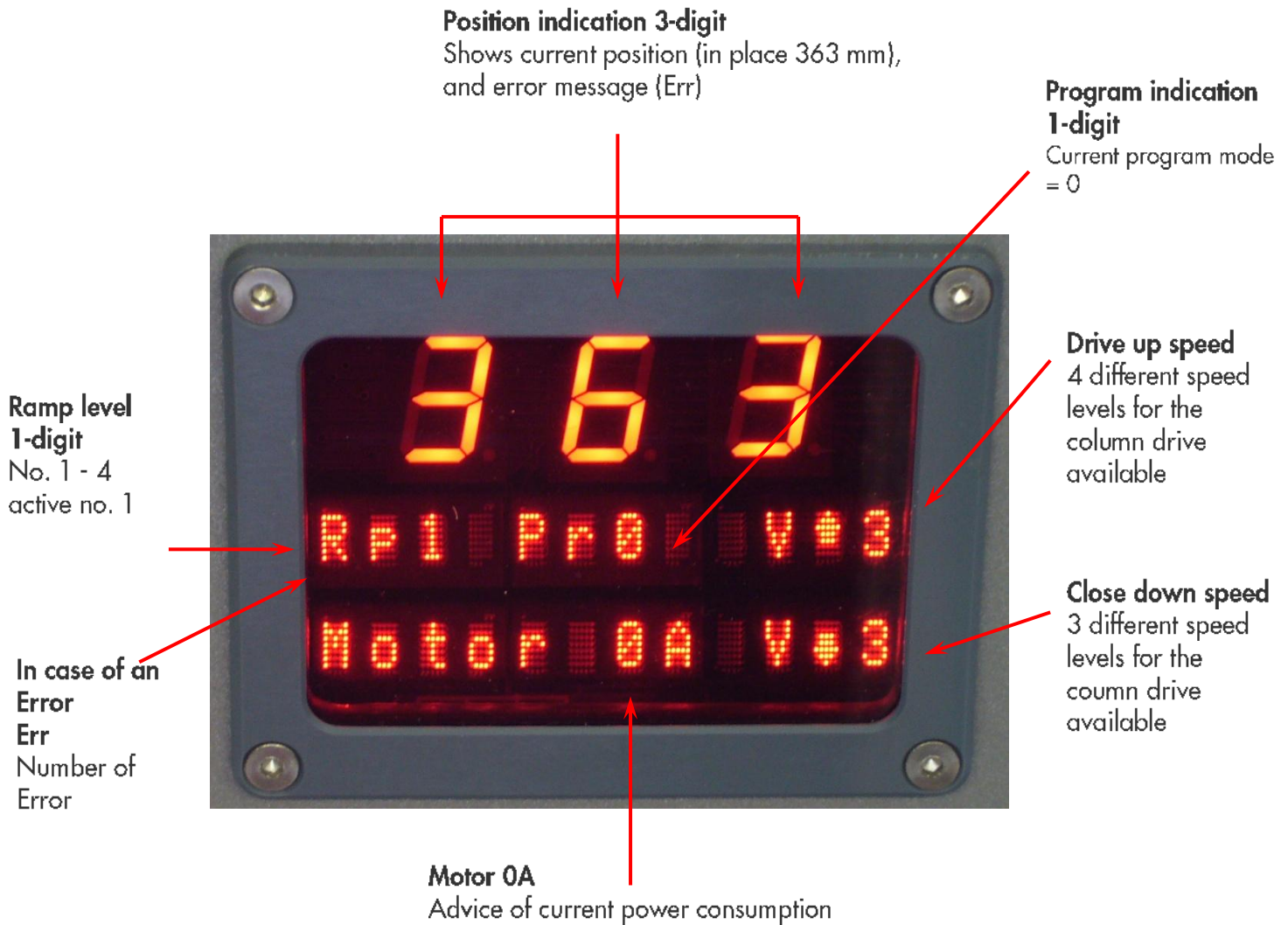
Programming control

Mode

- 0: Storage of position/ Indication of operating hours
- 1: Storage of max. 30 single positions
- 2: Storage of a complete drive. Max. drive time 4 min. 20 sec.
- 3: No configuration



Explanation multifunctional display



Start up

To switch on the dolly, use the ON/OFF switch on the hand control. The red control light lights up.

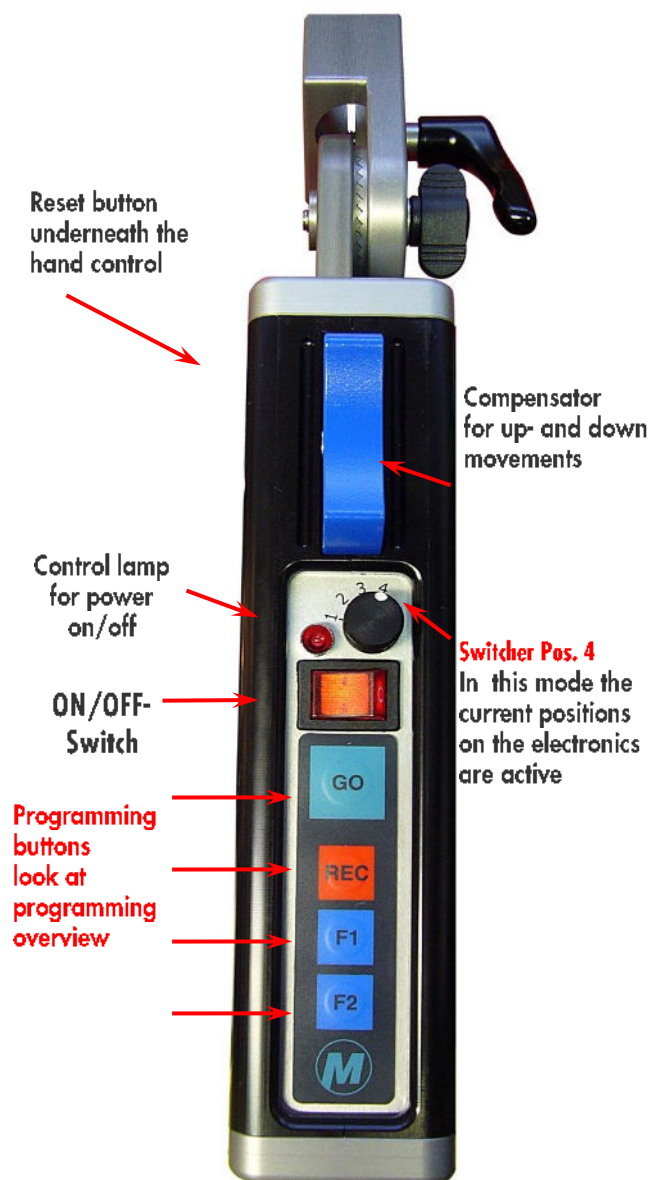
After switching on wait 2 seconds as the system performs a self-test. During this time you should not depress any of the buttons. If you do, the system will consider this an error and will show "ERR Nr. 4" (see similar errors on page 30) on the display. Switch the dolly off again and switch on, do not touch the buttons during the self check time (2 sec.).

Manually operated drive

The speed of the column can be varied with the hand control zoom switch. You can further control speed by use of the following 4 speed selections (see picture):

- 1: Slow drive (30%)
- 2: Medium drive (60%)
- 3: Fast drive (100%)
- 4: Adjustment on the electronic unit for separate up and down speed selection is active!
(Control for Speed up and down on page 27)

Picture 3: Hand control



Ramp switch

The ALPHA DOLLY has a 4 level ramp switch for changing the acceleration and braking behaviour of the column allowing to adapt the movement as closely as possible to the shooting requirements and different dolly setups.

You can select the following 4 operation ramps:

1. Standard 1 (speed-up 100%)

Very hard acceleration and abrupt stopping when you let go the zoom switch on the hand control. A smooth acceleration is only possible if you use the zoom switch on the hand control very delicately. This ramp is good for use with camera without an operator on the column.
Use with Duo Jib is not allowed!

2. Standard 2 (speed-up 80%)

Soft acceleration and braking for smoother starting and stopping.

3. Jib 1 (speed-up 70%)

For use with jib arm. Acceleration is softer than in position 2. Absolutely smooth stop, especially useful for higher payload, requires a well trained operator to use the hand control.

4. Jib 2 (speed-up 60%)

Softest possible acceleration and deceleration. Even when you let go the hand control zoom switch suddenly, the column will stop smoothly. Best ramp selection for higher payload with jib arm. It is not advised to use this ramp with a standard configuration as retardation of the starting and stopping do not allow direct control of the movement of the camera.

The 4 ramps can also be applied to the programmable modes. The ramps also affect the way the column stops when reaching the top end and lower end of column movement, not only the way it reacts when pressing and releasing the hand control zoom switch.

IMPORTANT: Switching the ramp is possible only when the dolly is switched off!

For technical reasons the ramp selector is recorded by the system only once when switched on, it is not possible to change ramps during operation, you must first switch the dolly off, change ramp and then switch the dolly on again.

Function of proximity switch

The ALPHA DOLLY has two end of range switches, positioned about 11 cm before the top limit and bottom limit of the column. If when you switch on the dolly, the column is close to one of the switches, then the column will be able to move initially only till it reaches the switch (please see pict. of LED on next page). This way the column cannot be driven over the top or lower limit when the recorded position at switching off does not correspond to the position of the column when switching on (e.g. after use of the emergency switch). Programmed sequences are also only possible when the column is within the end switch range.

Emergency override switch

The ALPHA DOLLY has an emergency override switch below the cover of the electronic unit. This allows moving the column up and down when there is a fault in the control system. The emergency switch connects the motor with current from the batteries releasing the electromagnetic brake when depressing the switch. It moves the column at high speed without the possibility of slowing down or acceleration.

IMPORTANT: THERE IS NO AUTOMATIC DECELERATION OF COLUMN MOVEMENT AT TOP AND LOWER END POSITION

If the column is moved with the override switch over the end position (out of higher or lower range) a fuse will burn (see pict. on page 34) and the dolly will stop working. Out of this reason MovieTech strongly recommends to use the emergency override switch only in real cases of emergency.

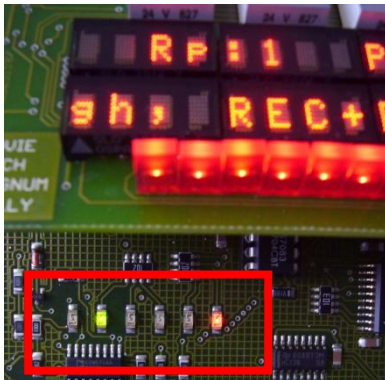
SMD – LED advice on the board and function

SMD – LED on the main board underneath the display, to be seen when the cover for the electronic unit is detached.

Examples of information on LED

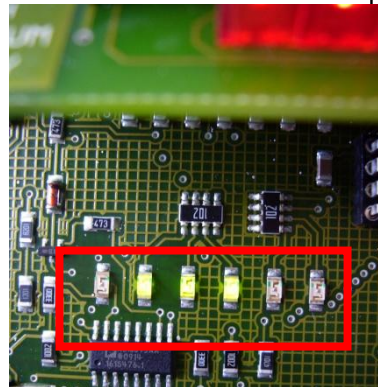
Picture 1

Green: Selftest has successfully been performed
Red: Lower end switch is active



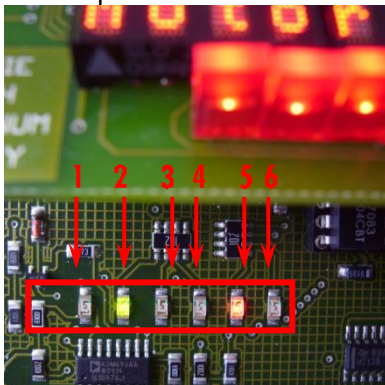
Picture 2

Green 1: Selftest has successfully been performed
Green 2+3 : Motorbrake is open



Picture 3

Green: Selftest has successfully been performed
Red: Top end switch is active



LED1 - lights up shortly when dolly is switched on

LED2 - self test of the electronic unit has been performed, after about 2 seconds it lights up and remains on.

LED3 - lights up green when the zoom control switch is depressed, the motor brake is open / switches off after about 3 seconds without any movement, the motor brake is on.

LED4 - lights up green when you depress the zoom switch, motor brake is open, switches off after about 4 seconds without movement.

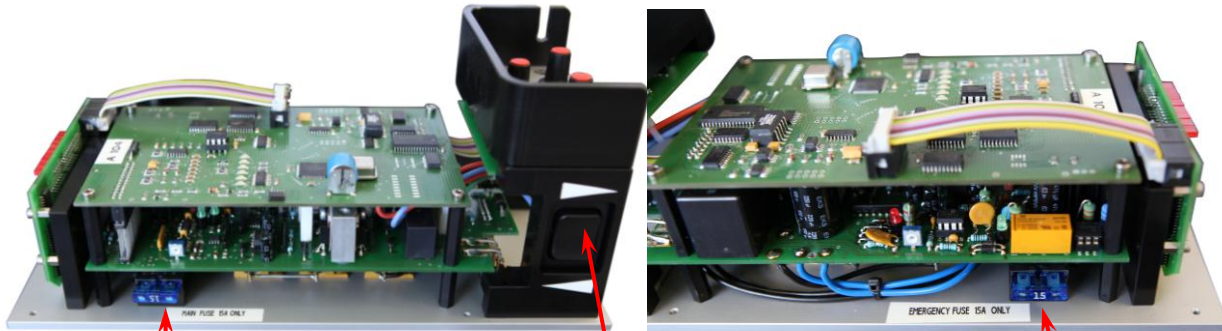
LED5 - lights up red – top end switch is active – column within 683 - 566mm range (LED 6 is off)

LED6 - lights up red– lower end switch is active – column within 0-110 mm range (LED 5 is off)

Layout fuse

for version 1.6.

Picture 4 View of lower electronic control board



Main fuse 30 A

The fuse will burn out if the column hits an obstacle or if there is a short circuit in the system.

Emergency switch

Emergency fuse 25 A

The fuse will burn out if the column hits an obstacle during operation with the emergency override switch.

Correct use of lithium-ion batteries

The MovieTech ALPHA DOLLY comes without batteries. For operation, three Lithium-Ion 14,4 V batteries are necessary. The better the battery performance, the more lifts can be achieved. The dolly works even with three batteries with 10Ah.

For handling and care advices of the batteries, please consult their manufacturer. MovieTech will not assume liability for damages of the batteries owing to their employment for the ALPHA DOLLY.

Under normal conditions (with a payload of 50kg) more than 150 up and down lifts can be made with one set of fully charged batteries.

For trouble-free operation please consider:

1. Do not dump, throw or hit the batteries; move them with caution
2. Always change all three batteries and use identically charged ones; do not insert batteries with less than 60% capacity (push test button and read "xx%")
3. In case the electronic shuts off during operation and displays „E06“, the batteries are discharged: Change both against fresh ones, don't continue to operate. Re-charge removed batteries and store them in charged condition and according to the manufacturer's manual.
4. Remove the batteries from the dolly when the dolly is not used to interrupt the power cycle. Otherwise the control pulls always a little power and unloads the batteries.

Trouble shooting tips:

When the dolly stops and displays (--), the voltage is low. Test the battery capacity; remove batteries with less than 60% charge against fresh ones. Always use batteries with similar charging percentage.

The emergency switch on the electronic front panel (saw switch with arrows) may only be used only in case the control stops because of empty batteries and the column is still extended („E06“). As it is hidden behind the cover of the electronic used, the cover has to be removed first.

Never use the emergency switch to operate the column! This can cause damage to electronic and batteries! Retracting the column completely requires a load of minimum 25 kg (=55 lbs) on it! Never retract the column completely without additional load (it has to move extremely hard against 3 strong gas springs inside the column)! Damages caused by faulty operation or disregard of these instructions are out of warranty!

MovieTech

www.movietech.de

Die MovieTech AG mit Hauptsitz in München und Tochtergesellschaften in Mailand und Prag produziert und vermarktet als einer der führenden Hersteller Produkte und Lösungen für die Film- und Fernsehindustrie.

Die Produktpalette von MovieTech konzentriert sich auf die Bereiche: Kamerakräne, Dollys, Lichtsysteme, Remote Heads und entsprechendes Zubehör.

Ziel der Movie Tech AG ist die Herstellung von professionellem Filmequipment, das die Arbeit der Anwender am Set oder im Studio wesentlich erleichtert und die Umsetzung der kreativen Ideen ermöglicht.

The MovieTech AG is based in Munich with subsidiaries in Milan and Prague. As one of the leading manufacturers in its field, it produces and markets products and solutions for the film industry.

The MovieTech product range concentrates on the areas of: Camera cranes, dollies, remote heads and corresponding accessories, as well as studio and stage techniques.

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