

User Manual

Operating the LogicSP Control Box

LOG-PRT-RFS-4-LD
LOGICDATA Operating Mode



LOGICDATA Electronic & Software Entwicklungs GmbH
Hinterleitenstrasse 22a
A 8523 Frauental / Austria

Rev. 2

Availability and specifications are subject to change without prior notice. **LOGICDATA** assumes no liability for damage caused by improper use of the products described herein. **LOGICDATA** will at point of delivery replace/repair defective products covered by the warranty. No liability is assumed beyond such replacement/repair. Please contact **LOGICDATA** directly on inquiries or custom requirements.

© 2006 **LOGICDATA**

Operating the LogicSP Control Box

To ensure safe operation of the LogicSP control box, obey the following safety instructions:



Caution: Keep children away from height-adjustable TV-Set Carriers, control boxes and handsets! Risk of electric shock may be present.
Do not allow children to play with the height-adjustable TV-Set Carrier! Bruise hazard may be present.



Caution: It is strongly recommended to unplug the power cord during lightning storms or if the device is not used for a long period of time!
If this recommendation is ignored, shock hazard due to power-line surges may be present. The device may be damaged.

1. Basic Functionality



Note: The LogicSP-2-2 control offers a wider range of features than the LogicSP-2-1 control. Also, the availability of some features depends on the firmware revision of your control box.
This chapter describes the basic functionality shared by the LogicSP-2-1 and the LogicSP-2-2. These features can be accessed with any **LOGICDATA** cable-handset or remote control utilizable with the LogicSP control box.

As mentioned above, the functionality described in this section can be accessed with any LOGICDATA handset compatible with the LogicSP control box. The icons used here for illustration purposes are taken from a standard **LOGICDATA** cable handset (with up and down buttons for 2 motor groups + 4 memory positions).

1.1. TV-Set Carrier Upwards



Press this key (or the UP button on your remote control) for upwards movement:

- If you hold this key for less than 2 seconds, the carrier will drive to the upper end position.
- If you hold this key for more than 2 seconds, the carrier will stop when you release the button.

1.2. TV-Set Carrier Downwards



Press this key (or the DOWN button on your remote control) for downwards movement:

- If you hold this key for less than 2 seconds, the carrier will drive to the lower end position.
- If you hold this key for more than 2 seconds, the carrier will stop when you release the button.

1.3. TV-Overheating Protection

The control box will measure the power-consumption of your TV-Set. If that value is above a certain threshold, the carrier will stop at approximately 30 cm / drive upwards to about 30 cm to keep it from overheating inside a closed piece of furniture.



Danger: In order to use this function, the TV-Set **must** be connected to the TV power cable built into the LogicSP control box.
LOGICDATA cannot be held liable for any damages and/or injuries that are direct or indirect results of the user disregarding this warning.



Note: The threshold triggering the TV-Overheating Protection varies depending on the specifications of the carrier manufacturer and the version of your control box. Refer to the LogicSP-2-1 / LogicSP-2-2 datasheet for details.

2. Advanced Functionality



Note: Accessibility/applicability of the functionality described in this section depends on the type of control box you purchased and the handset you are using. Accessibility of some of these functions via remote control depends on the remote control you are using.

2.1. Saving a Viewing Position



To store a new viewing position:

- Move to the desired viewing position.
- Press the UP and DOWN buttons for Motor Group 1 and hold them for 10 seconds. (Alternatively: Up and Down on your Remote Control.)
- If your cable handset has an integrated display, you will see '002' for about 2 seconds for confirmation.



The new viewing position is now stored.

2.2. Accessing the Viewing Position

If a viewing position is stored:

- Pressing the UP button for less than 2 seconds will move the carrier to the stored viewing position.
- If the carrier has already reached the stored viewing position, pressing the UP button for less than 2 seconds will move it to the upper end position. (This function is only accessible in LOGICDATA operating mode.)
- Pressing the DOWN button for less than 2 seconds will move to the lower end position.



Note: It is not possible to store a viewing position below the heat-protection level. The device will confirm 'Viewing Position Stored' when attempting to store such a position but the viewing position stored will be the heat-protection level.



Note: No command, of course, will permit movement above the absolute upper end position or below the absolute lower end position.

2.3. Saving the Rotation Level

Definition: The **rotation level** is the position above which it is safe to rotate the carrier.

Definition: The **minimum rotation level** is a minimum position defined by the carrier-manufacturer below which no rotation level can be defined. This makes it impossible for the user to rotate the carrier inside a piece of furniture, preventing possible damage.



Note: It is imperative you read this section **carefully** before programming a new rotation level!



Note: The rotation function is only available in the LogicSP-2-2 control box and accessible with any handset that offers RIGHT and LEFT buttons.
(Or, more generally speaking, with any handset that offers buttons for controlling 2 motor groups individually.)



Danger: It is the responsibility of the user to choose a **reasonable** rotation level! **To that end, it is the responsibility of the carrier manufacturer to define a reasonable minimum rotation level.**

Attempting to rotate the carrier inside (or partially inside) a piece of furniture may cause damage to your property! **LOGICDATA** cannot be held liable for such damages since, as the control box manufacturer, we cannot know what a safe rotation level (or a safe minimum rotation level, for that matter) for any individual end user will be.



To store a new rotation level:

- Move to the desired rotation level.
- Press the UP and DOWN buttons for Motor Group 2 (Right and Left Buttons) and hold them for 10 seconds. (Alternatively: Right and Left on your Remote Control.)
- If your handset has an integrated display, it will show '003' for 2 seconds for confirmation.



The position is now stored as the new rotation level. It will not be possible to rotate below this position.

Once stored, it is possible to rotate the carrier above the rotation level. **When saving a viewing position that is above the rotation level, the angle position will be saved along with it.**

When such a viewing position is accessed by pressing the UP button for less than 2 seconds, the saved angle position will be restored. If the carrier is off-centre when a downwards movement is initiated by the user, the motor control will rotate the carrier to a neutral (i.e. centred) position before activating the lifting column for downwards movement.

2.4. Learning a new Remote Control



Note: Which remote controls will work for your control box, in part, depends on the firmware revision and the parameter-set programmed before shipping.
See the section about software-dependent functions (page 17) for details.



Note: It is **strongly recommended** to use a cable handset with display for learning a new remote control.
This section describes learning a new remote control using a cable handset with integrated display.

For learning a new remote control:



- Press the Memo-1, Memo-2 and DOWN keys and hold them for at least 3 seconds until the display reads '100'.
- Press a key on your remote control. The handset-display shows '001' if the remote control has been recognized.

- You can now press the S button on your handset to exit programming mode.

Your LogicSP control box now recognizes the new remote control.



Hint: Work through the steps slowly and carefully. The receiver module needs about 3 seconds to enter programming mode and 3 seconds to exit programming mode. During these periods, it will not react to any input from your remote.

Please note that, due to the logic of the receiver module integrated into our LogicSP control boxes, the very first command from your remote control after it has been learned will be ignored.

3. Software-Dependent Functions







Note: Prior to delivery, the LogicSP control box is programmed with a set of parameters appropriate for the intended application. The functions described in this section are available only if the parameter-set of your control box activates them.

3.1. Reset at First Use

At first use (i.e. when the control box is powered on for the first time), the control box must be reset to make it fit for operation. This procedure can also be performed via remote control.



Note: Make sure the TV is OFF when performing this procedure!



- 
 After first power-on, the UP key (UP button on your remote control) is locked (i.e. has no function).
- 
 Press the DOWN key (or DOWN button on your remote control) for less than 2 seconds (i.e. perform the reset). The carrier will move downwards at half speed until it stops in the absolute lower end position.
- The box is now reset properly and ready for normal operation.



3.2. Manual Reset

The Manual Reset function allows the user to calibrate the lower end position anew. This procedure can also be carried out via remote control.



Note: Make sure the TV is OFF when performing this procedure!

- 
 Press the DOWN key (or DOWN button on your remote control) for less than 2 seconds to move to the currently calibrated lower end position. Alternatively, you can keep holding the DOWN key until the carrier stops in the current lower end position.

2.  After the carrier stops, press DOWN again and keep holding the key for at least 5 seconds.
 The carrier starts moving again at half speed. Keep holding the DOWN key until it stops in the actual lower end position.
3. The lower end position is now calibrated properly to the absolute lower end position.



Note: This calibration procedure can be performed at any time while the box is in normal (i.e. not in Remote-Control Setup) mode.
If the carrier already is in the absolute lower end position, the control box will not attempt to move it any further downwards. In that case, the calibration procedure is complete after you press the DOWN key for at least 5 seconds in step 2.



Note: This calibration procedure will re-detect the absolute lower end position for the drive connected to channel 1 (the lifting column). The centre position for the drive connected to channel 2 (the rotation motor) will be recomputed at the beginning of this calibration procedure.
The calibration procedure described here is guaranteed to work because the control box will never enter calibration mode if the carrier is off-centre.



Note: If your carrier is equipped with a rotation motor with hall-sensors, this manual reset procedure can be performed for the rotation motor as well.
To do so:

- The control box must be above the rotation level.
- Move the carrier to the rightmost position.
- Then press RIGHT (on your handset or remote control) again for at least 5 seconds. The carrier will start moving at half speed. Keep the RIGHT key pressed until the carrier has reached the uttermost right limit.
- The uttermost right limit (and therefore the centre position) of your rotation motor has been refreshed.



Note: Contact your carrier manufacturer if you're unsure whether or not this procedure is permissible for your system.

3.3. Low-Speed Area

This function performs a **soft-stop before reaching the target position when the target is one of:**

- The absolute upper end position.
- The absolute lower end position.
- The viewing position.
- The heat-protection level.

Or when the direction key is released after driving manually. (I.e. when a direction key has been pressed for more than 2 seconds, the box will perform a soft-stop as soon as the key is released.)

3.4. Plug Detection

The LogicSP motor control box is able to detect whether a motor is connected to a motor interface or not.

3.5. Pinch-Protection via Squeeze-Line

The LogicSP motor control offers the option of using a squeeze-line to provide pinch-protection for downwards or upwards movement.



Note: If this function is used and the squeeze-line becomes disconnected, the control box will lock the direction guarded by the squeeze-line.

Example: If a squeeze-line is used to implement pinch-protection for downwards movement and you unplug it, the carrier will refuse to move downwards.

3.6. ISP (Intelligent System Protection)

ISP is a collision-detection function offered by the LogicSP motor control. This function is designed to prevent damage to your property and considerably reduce bruise hazards. Please keep in mind, though, that it is not meant to replace the anti-pinch function implemented via external squeeze-line!



Danger: In exceptional cases a certain bruise hazard may remain even with ISP activated because not only the motor control itself but also the interaction between mechanics, motors and electronics is crucial. Furthermore, stopping sensitivity is being influenced by mechanical components, ambient conditions and motor activity!

Therefore, **LOGICDATA**, as the control box manufacturer, cannot completely eliminate this risk and we point out that we cannot be held liable for any damage to your property and/or health!

This function is implemented by monitoring changes in the motor drives' power consumption to detect solid obstacles in the carrier's path. *It is not – and cannot be – as instantaneous as pinch protection implemented via squeeze-line.*

3.7. Duty-Cycle Monitoring

The duty-cycle monitoring function forces the control box to stop after a certain on-time is exceeded (e.g. after 1 minute of continuous operation driving is disabled for the next 9 minutes).

3.8. Drive-Dynamic

If this function is enabled, the speed of the lifting column can be controlled dynamically by repeatedly pressing and releasing the UP or DOWN key in short intervals:

- Press the UP key. Release the key and *immediately* press it again. The control box will adjust the speed of the upwards movement according to the length and frequency of the brief pauses between UP commands.
- Press the DOWN key. Release the key and *immediately* press it again. The control box will adjust the speed of the downwards movement according to the length and frequency of the brief pauses between DOWN commands.

If your rotation motor is equipped with hall-sensors for position feedback and the control box uses its regular control mechanism, drive-dynamic is also available for the rotation function.



Note: Due to latencies of the receiver module as well as a necessary software-filter, drive-dynamic will not work (or will not work as well) with your remote control.

WARNING STATEMENT:

Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Note:

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

Reorient or relocate the receiving antenna. Increase the separation between the equipment and receiver.

Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

Consult the dealer or an experienced radio/TV technician for help.

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled exposure.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.