

# PHASER

## USER GUIDE

 Order No.:  
**8401**

 FM receiver  
**27 MHz**

 Order No.:  
**8406**

 FM receiver  
**40 MHz**

 Order No.:  
**8410**

 FM receiver  
**75 MHz**


LRP electronic

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<http://www.lrp-electronic.de>

### Dear customer,

Congratulations on your choice of the LRP Phaser - one of the world's finest receivers. These receivers exploit the latest technical developments and manufacturing technology to achieve the highest possible level of reliability and interference rejection.

Your new receiver includes many outstanding features and offers the following crucial advantages:

- ultra-small
- ultra-lightweight
- special interference suppression circuit
- works with your standard pair of crystals
- vibration-proof crystal socket system
- super-shielded case for maximum interference rejection
- low-voltage guarantee down to 3.0 Volts
- special LRP receiver crystals available as option for receiver only
- top-mounted aerial for simple deployment and interference rejection

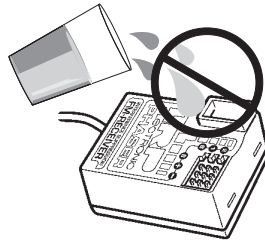
## SPECIFICATION

Reception mode:	FM-PPM
No. of channels:	2
Reception frequency:	Any spot frequency within the waveband using plug-in crystals
IF frequency:	455 kHz
Operating voltage:	3.5 - 6.5 V
Dimensions:	36 x 25.5 x 15 mm (L / W / H)
Weight:	14.5 g (excl. crystal)



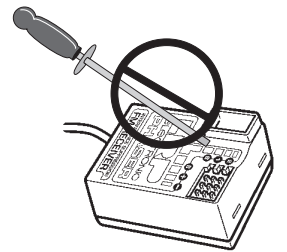
## WARNING NOTES

- **Important:** never leave your RC model unsupervised with the battery connected. If a fault should arise, the result could be a fire in the model or its surroundings.
- The receiver and other electronic components must not be allowed to contact water, oil or fuel. If this should happen, stop using the model immediately and dry out the receiver carefully and thoroughly.
- Always take great care when completing electrical connections. You could lose control of the model if any connector should come loose due to vibration.
- Do not remove the Phaser receiver from its case, or wrap it in



heat-shrink sleeving. Removing the metallised case reduces the effectiveness of the receiver's interference suppression, and could also result in short-circuits.

- Take great care to maintain correct polarity in all connections involving the receiver. Reverse polarity may damage the receiver.
- Always switch on your transmitter before you switch on the receiver and speed control. If you ignore this, the receiver will be open to interference, which could send the throttle channel to full power and cause your model to be damaged. Keep to the reverse order when switching off: switch off the receiver and speed control first, then the transmitter.



## INSTALLATION

- Install the aerial holder as close to the receiver as possible. A long section of loose aerial can cause interference.
- If the chassis is of metal or carbon fibre construction, the aerial must not be attached directly to it. Use a plastic aerial holder, not a metal or aluminium one.
- Do not use a metal or carbon fibre aerial tube.
- For safety's sake, assume that interference can arise wherever a current is flowing! For this reason keep the aerial as far as possible away from the motor, speed control, batteries and cables. Interference takes the form of radio waves and is broadcast in a similar way. The effect of

interference is therefore greater if the aerial is installed close to the source of interference.

- The aerial wire must not be bundled together with other wires, as this can reduce the receiver's performance, and the model could then run out of control. Do not shorten the aerial wire (it must be at least 30 cm long).
- Max. length uncoiled = maximum effective range.

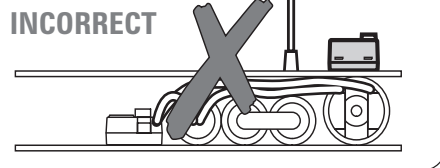
Aerial coiled = always bad, creates problems even within effective range.

Aerial shortened = reduced range, but does not create problems within effective range.

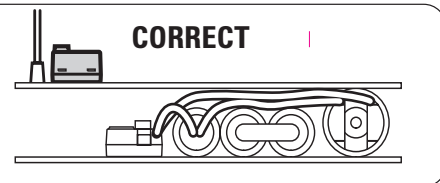
### ELECTRIC MODELS:

Particular care is required when positioning the components in the model. The speed control, motor, battery and power cables should be kept as far from the receiver as possible.

Do not install the aerial or receiver above the motor or batteries.



If you intend to install the receiver or aerial on the top platform, position them as far from the motor and batteries as possible.

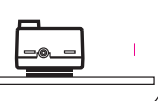


### Installing the receiver (electric cars):

If you **attach** the receiver to the chassis or RC plate, we recommend using a **double layer of double-sided foam tape** to provide adequate shock protection. Note that the crystal socket must be on the top of the receiver for access.

**INCORRECT**

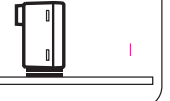

Do not attach the receiver directly to the chassis or RC plate.

**CORRECT**


Use two layers of double-sided foam tape.

**INCORRECT**


Don't position the crystal socket on the underside.

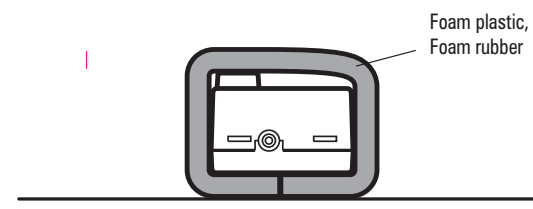
**CORRECT**


The crystal should always be on top for good access.

### GLOWPLUG MODELS:

Do not attach the receiver to the chassis or RC plate without some form of shock absorption. Vibration can cause malfunctions or even damage to the receiver.

Use the receiver holder which is included in your kit, or pack the receiver in a shock-absorbent material such as foam rubber.



## CONNECTIONS

### AERIAL WIRE

Do not bundle the aerial wire together with other cables. Do not leave the aerial coiled up.

### SOCKET B FOR RECEIVER BATTERY

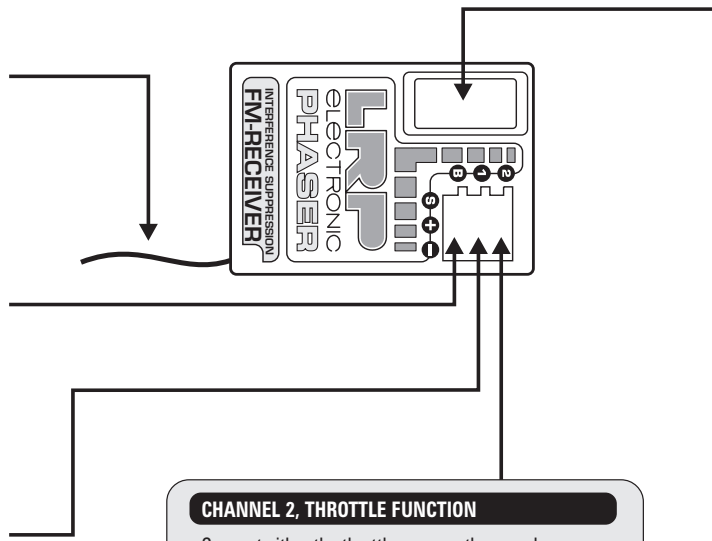
If you have a glow-powered model, connect the receiver battery to this socket. Use a 4-cell or 5-cell pack.

### CHANNEL 1, STEERING FUNCTION

Connect the steering servo to this socket.

### CHANNEL 2, THROTTLE FUNCTION

Connect either the throttle servo or the speed control to this socket.

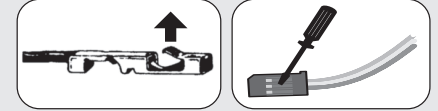


### CRYSTAL SOCKET

Use only FM crystals !!!

### CHANGING THE PLASTIC CONNECTOR COMPONENTS

Use a ball-point pen to push the metal lug of one of the pins down slightly, until the wire can be withdrawn from the plastic moulding. Check the wire sequence in the table, and push the pins into the new plastic housing until they click into place.



Carefully bend the metal lug up again. Push the plug into the plastic moulding.

POLARITY	COLOUR	COLOUR
Signal:	white	yellow/orange
Positive:	red	red
Negative:	black	brown

## CRYSTALS

LRP Phaser receivers work with all standard commercial crystals. We have had very good results with KO Propo and Futaba crystals, but in most cases crystals made by other manufacturers can also be used, as they generally work perfectly.

LRP can supply receiver crystals specially matched to the Phaser, and these guarantee optimum interference rejection. With these crystals you can still use the transmitter crystal supplied as standard with your set.

### Available LRP receiver crystals:

ORDER NO.	FREQUENCY	CHANNEL	BAND
LQ26995	26.995 MHz	4	27
LQ27025	27.025 MHz	7	27
LQ27045	27.045 MHz	9	27
LQ27075	27.075 MHz	12	27
LQ27095	27.095 MHz	14	27
LQ27125	27.125 MHz	17	27
LQ27145	27.145 MHz	19	27
LQ27195	27.195 MHz	24	27
LQ27255	27.255 MHz	30	27
LQ40675	40.675 MHz	51	40
LQ40695	40.695 MHz	53	40
LQ40715	40.715 MHz	54	40
LQ40725	40.725 MHz	55	40
LQ40765	40.765 MHz	57	40
LQ40775	40.775 MHz	58	40
LQ40785	40.785 MHz	59	40
LQ40815	40.815 MHz	81	40
LQ40835	40.835 MHz	83	40
LQ40865	40.865 MHz	84	40
LQ40875	40.875 MHz	85	40
LQ40885	40.885 MHz	86	40
LQ40915	40.915 MHz	87	40
LQ40935	40.935 MHz	89	40
LQ40965	40.965 MHz	90	40
LQ40975	40.975 MHz	91	40

## TROUBLE-SHOOTING GUIDE

In many cases it can be difficult to pin down the cause of interference. The fault-finding table below includes only the most important errors. If you cannot solve your problem, please contact your local model shop first, or ring the LRP Hotline on:

**LRP Hotline: int +49-71 81-25 25 65**

Symptom	Cause	Remedy
Inadequate effective range or general receiving problems	Aerial wire incorrectly deployed	Ensure that the aerial holder is positioned as close to the receiver as possible.  Is the aerial making contact with the chassis or other parts?
	Receiver incorrectly positioned	Keep the receiver well away from current-bearing components, and install it as recommended.
	Aerial too short	Ensure that the aerial is the full, original length.
	Poor connections	Check that all connectors are pushed in firmly, and there are no intermittent contacts.
	Transmitter battery flat	Charge transmitter battery.
	Frequency vacant?	Check that your spot frequency is not already in use by another driver. Very closely spaced channels can give problems.
Throttle problems during acceleration	Faulty crystal	Test with a different crystal; replace transmitter and receiver crystal if necessary.
	Motor inadequately suppressed	Solder the appropriate suppressor capacitors to your motor. Read the instructions supplied with your speed control for details.
Throttle and brake functions interchanged	Throttle and steering cables mixed up	Ensure that the steering servo is connected to channel 1, and the speed control or throttle servo to channel 2 (see RC system instructions).
No steering function	Steering servo cable connected to wrong socket.	You may have connected the steering servo to the receiver battery socket instead of channel 1.

## REPAIR PROCEDURES/WARRANTY

In case of problems first check the trouble shooting guide or contact your hobby shop or *LRP-importer*. In case of damage, repair fees are normally far below the recommended retail price of a new unit. **Hobby shops are not authorized to replace receivers thought to be defective.**

**Warranty** can only be accepted if it is claimed by the customer on the warranty sheet and the control sheet and the original sales receipt are included.

For quick repair and return we definitely need your address, detailed description of the malfunction and the original sales receipt. Repair may be refused without sales receipt.

To guarantee a proper repair, cut off or worn receiver plugs, wires and switches will be replaced and charged in any case. Any receiver treated severely with silicone or anything similar inside, might not be repairable.

Receivers sent in for repair that operate perfect normally will be charged with a service fee. Therefore first check with the trouble shooting guide.

LRP guarantees this receiver to be free from defects in materials or workmanship for 90 days from the original date of purchase verified by sales receipt.

This warranty doesn't cover: suitability for specific operation, incorrect installation, components worn by use, application of reverse or improper voltage, shipping, tampering, misuse like any soldering inside the unit, poor installation, replacing of wires on the board, connection to electrical components not mentioned in the instructions, mechanical damage, immersion of water and cutting off the original wires, plugs, connectors and switches.

Our warranty liability shall be limited to repairing the unit to our original specifications. Because we have no control over the installation or use of this product, in no case shall our liability exceed the original cost of this unit. We can't accept any liability for any damage resulting from using this product. By the act of installing or operation this receiver, the user accepts all resulting liability.

## WHAT SHALL I DO?

• Package your receiver carefully.

• Send parcel to your national distributor.

• Distributor repairs/replaces the receiver.

• Shipment back to you usually by COD (cash on delivery), but is subject to your distributors general policy.