Important: never leave your RC model unattended when the battery is connected. If a fault should occur the result could be a fire in the model which could destroy anything else in the vicinity.

The speed control and other electronic components must never be allowed to contact water. Avoid operating the unit in rain. If you are obliged to run in wet conditions, make sure the paper covers provide the best protection.

If the motor is connected to the speed control you must not run the motor by connecting a separate battery. This will wreck the unit and invalidate the guarantee.

Take care to avoid incorrect connections and reverse polarity as this will also cause damage to the unit. If you prefer different connectors, fit a polarised connector system (plugs / sockets) such as the LRP Hi-Amp (No. 6280), this does not invalidate your guarantee.

Never allow the output stages (FETs) to touch a metal surface - short-circuit hazard.

Never wrap your speed control in foil or film; air must always be able to flow round and over the unit.

All cables and connections should be well insulated. Short-circuits will ruin the unit.

Never change the polarity of the receiver plug.

WARNING NOTES

• Mount the speed control in the model using the double-sided foam tape supplied.
• Provide plenty of cooling openings in the bodywork; this increases the performance and extends the life of all electronic components.
• Install the speed control in a location where it is protected from crash damage.
• The speed control should be installed in such a way that you have easy access to all connectors and the set-up button.
• Ensure that there is an adequate distance (approx. 3 cm) between the speed control and power cables and the receiver or receiver aerial. Avoid direct contact between all power system components and the receiver or aerial, as this can cause interference. If you encounter interference problems, re-position the components in the model.
• The aerial should be run vertically up and away from the receiver. Avoid contact with any parts made of carbon fibre or metal. If the aerial is too long, do not coil up the excess length. It is better to cut it down to a length of about 35 cm. See also the instructions supplied with your radio control system.
• Use the sheet of stickers supplied to protect your speed control from dirt and dust, and to hold the set-up button. If necessary you can also apply the dust guard.
• Remove all traces of grease and dirt from your speed control (don't use motor cleaners or similar agents), then apply the sticker round the outside of the case. If necessary you can also apply the dust guard.
• The white ring must always face the positive motor terminal.

The Schottky diode improves the efficiency of the speed control / motor combination, and provides additional protection to the brake FETs. Solder the diode in place as shown in the illustration. Note that the white ring must always face the positive motor terminal.

SUPPRESSING THE MOTOR:

The Schottky diode improves the efficiency of the speed control / motor combination, and incorporates the latest findings in the field of speed control technology:

• More powerful, more constant braking
• More power
• Longer running times
• A new 2.1 software
• Superior initial acceleration
• New digital pulse frequency for optimum control

Solder the suppressor capacitors and the Schottky diode to the motor.

SUPPRESSING THE MOTOR:

Bend the metal lugs up again.

Check correct polarity carefully if changing connectors:

<table>
<thead>
<tr>
<th>Receiver</th>
<th>Futaba</th>
<th>Graupner</th>
<th>Acorns</th>
<th>Sanwa</th>
</tr>
</thead>
<tbody>
<tr>
<td>Signal wire</td>
<td>white</td>
<td>orange</td>
<td>yellow</td>
<td>yellow</td>
</tr>
<tr>
<td>Positive wire</td>
<td>red</td>
<td>red</td>
<td>red</td>
<td>red</td>
</tr>
<tr>
<td>Negative wire</td>
<td>black</td>
<td>brown</td>
<td>black</td>
<td>black</td>
</tr>
</tbody>
</table>

The reading „Momentary load (1sec)“ is equal to US-manufacturers reading „continuous load at 25°C“.

<table>
<thead>
<tr>
<th>Voltage range / No. of cells</th>
<th>4.8 9.6 V 4-8</th>
<th>4.8-12 V 4-10</th>
</tr>
</thead>
<tbody>
<tr>
<td>Voltage range without BEC</td>
<td>4.8-12 V 4-10</td>
<td></td>
</tr>
<tr>
<td>Internal resistance</td>
<td>0.00052 Ω</td>
<td></td>
</tr>
<tr>
<td>Momentary load (1 sec)*</td>
<td>690 A</td>
<td></td>
</tr>
<tr>
<td>Brief load (30 sec)</td>
<td>165 A</td>
<td></td>
</tr>
<tr>
<td>Continuous load (5 min)</td>
<td>100 A</td>
<td></td>
</tr>
<tr>
<td>Recommended motor</td>
<td>No limit</td>
<td></td>
</tr>
<tr>
<td>Receiver voltage</td>
<td>0.0 V</td>
<td></td>
</tr>
<tr>
<td>Max. receiver current (30 sec)</td>
<td>1.0 A</td>
<td></td>
</tr>
<tr>
<td>Continuous receiver current (5 min)</td>
<td>1.2 A</td>
<td></td>
</tr>
<tr>
<td>Pulse frequency</td>
<td>3140 Hz</td>
<td></td>
</tr>
<tr>
<td>Brake adj. + Auto. Brake</td>
<td>EMF</td>
<td></td>
</tr>
<tr>
<td>Current Limiter</td>
<td>Digital</td>
<td></td>
</tr>
<tr>
<td>Startautomatic</td>
<td>yes</td>
<td></td>
</tr>
<tr>
<td>Active current limiting</td>
<td>yes</td>
<td></td>
</tr>
<tr>
<td>Continuous motor current</td>
<td>100 A</td>
<td></td>
</tr>
<tr>
<td>Size</td>
<td>4.8x34x19 mm</td>
<td></td>
</tr>
</tbody>
</table>

For more power and lower current drain:

1. Always use a new external FET cable.
2. Set up the new plastic moulding until they snap into place.
3. Install the speed control in a location where it is protected from crash damage.
4. Provide plenty of cooling openings in the bodywork; this increases the performance and extends the life of all electronic components.
5. Install the speed control in a location where it is protected from crash damage.
SET-UP PROCEDURE

In set-up mode the IPC-V7.1 stores every step when you press the Set-up button. All the settings are stored in the unit even when the speed control is subsequently disconnected from the battery.

Start with the transmitter set-up procedure:

1. Connect the speed control to the battery and switch the unit on.
2. Switch the transmitter on.
3. Remove the motor pinion, or ensure in some other way that the wheels of the model are free to rotate.
4. Hold the Set-up button pressed in for at least three seconds using the plastic screwdriver supplied.
5. The bottom Set-up LED starts to flash green to indicate that you have selected set-up mode. It continues to flash until the set-up process is completed.
6. Leave the throttle stick at the neutral position and press the Set-up button once.
7. The neutral position is now stored, the top Control LED flashes green, and the motor beeps.
8. Move the transmitter throttle stick to the full brake position and press the Set-up button once.
9. The full brake position is now stored, and the top Control LED flashes red.
10. Move the transmitter throttle stick to the full brake position and press the Set-up button once.
11. The brake position is now stored, and the top Control LED and the bottom Set-up LED both glow red.
12. The set-up process is complete, and your IPC-SR is ready to use.

If you make a mistake during the set-up procedure, don't worry: disconnect the battery for about 10 seconds and start again from the first step.

At the end of each run disconnect the drive battery, and only then switch off the transmitter. At the start of each run switch on the transmitter first, then connect the drive battery.

DESCRIPTION OF FEATURES

AUTOMATIC START CIRCUIT

This IPC-V7.1 automatic start circuit gives you a real advantage at the start of a race. In this mode the response time of the speed control is shortened (half throttle on the transmitter corresponds to full-throttle on the speed control) and the set current limiting value is doubled for the start of the race. The first time you reduce throttle (first turn) the IPC-V7.1 automatically reverts to the normal racing program.

- Activating the automatic start circuit:
  - With your vehicle in the start position, hold the brake on for at least five seconds (count up to 10); next time you open the throttle the automatic start circuit is activated - but only once. You need to reactivate it for each new start.

BRAKE

You should adjust the brake to meet the requirements of the track and racing conditions.

Normal brake: standard characteristics (for normal to slippery conditions): rotate the brake adjustor pot fully left.

This produces linear braking power over the full stick travel, and provides perfect vehicle control during braking.

Soft brake (for extremely slippery surfaces): rotate the pot fully to the left. If you find you still want a reduction in braking power, use the LO/DE ADJ. EPA or ATL function (reduced brake travel) on your transmitter to reduce the effect.

Aggressive hand-brake: turn the brake pot to the left. This allows you to control your vehicle aggressively and throw it round corners. Turn the pot towards the right-hand stop and the brake becomes more aggressive; turn it to the left and it becomes gentler. Note that maximum braking power is unchanged regardless of the position of the pot. If you wish to change the overall braking power you should reduce the travel of the brake function on your transmitter.

Automatic brake: as soon as you move the throttle stick to neutral, the speed control automatically to allow you to negotiate even tighter turns. You can adjust the power of the automatic brake at neutral to any setting within the range 1% (brake pot fully left) and 60% (brake pot fully right). Of course, when you deliberately operate the brake from the transmitter, full 100% braking power is available again.

Switching brake programs: applies when you change from normal to automatic brake and vice versa: switch speed control off - press Set-up button and hold - switch speed control on and hold (if Set-up button pressed off). You can tell which brake program is in use by the status of the LEDs (see CHECKING THE FUNCTIONS).

POWER PROGRAMS / CURRENT LIMITING

This IPC-V7.1 can be adjusted to meet the exact requirements of your model and the track. To activate current limiting you must install one of the plug-in chips (supplied in the values 30A, 50A, 65A, 80A and 120A) or the infinitely variable limiter pot (accessory, No. 8110). Without one of the chips or the limiter pot fitted, maximum power is always available and cannot be limited in any way.

- The orientation of the plug-in unit determines the power program which is activated (see illustration). As soon as you open the throttle, the basic current limiting value (on the chip) is in force, and after a defined period of acceleration (calculated with the power program) the speed control intelligently increases the maximum current, and repeats the process every time you resume acceleration.

- The various programs represent a method of fine-tuning the speed control's response. The IPC-V7.1 always provides a linear characteristic curve and superior battery efficiency, regardless of the program you choose.

TUROUS QURSTIONS:

P: PRACTI CAl ASPECTS
- Programming with current limiting pot: Decrease the current rating of your speed control by holding down the Set-up button and adjusting the brake pot.
- Programming with chips: Decrease the current rating of your speed control by inserting the appropriate chip into the circuit.

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 speed controls 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 wear receiver plugs, wires and switches will be replaced and changed in any case. Any speed control treated severely with silicone or anything similar inside, might not be repairable.

Speed controls sent in for repair that operate perfectly normally will be charged with a service fee. Therefor first check with the trouble shooting guide.

LRP guarantees this speed control 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 shops are not authorized to replace speed controls thought to be defective.

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 operating this speed control, the user accepts all resulting liability.

WHAT SHALL I DO?

- Package your Speed Control carefully.
- Send parcel to your national distributor.
- Distributor repairs/replaces the Speed Control.
- Ship back to you usually by COD (cash on delivery), but is subject to your distributors general policy.

TROUBLE-SHOOTING GUIDE

<table>
<thead>
<tr>
<th>Symptom</th>
<th>Cause</th>
<th>Remedy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Speed control not working</td>
<td>Battery not connected or power switch open</td>
<td>Connect battery or close power switch</td>
</tr>
<tr>
<td>Speed control does not respond to throttle movement</td>
<td>Loose or broken wires, connections not secure</td>
<td>Check connections and secure securely</td>
</tr>
<tr>
<td>Speed control overheats</td>
<td>Incorrect programming</td>
<td>Check programming settings</td>
</tr>
<tr>
<td>Motor does not work</td>
<td>Motor or ESC not connected</td>
<td>Check connections</td>
</tr>
<tr>
<td>ESC overheats</td>
<td>Incorrect programming</td>
<td>Check programming settings</td>
</tr>
<tr>
<td>ESC does not work</td>
<td>Incorrect programming</td>
<td>Check programming settings</td>
</tr>
<tr>
<td>Motor stalls when throttle is released</td>
<td>Incorrect programming</td>
<td>Check programming settings</td>
</tr>
<tr>
<td>Motor runs continuously</td>
<td>Motor or ESC over-speeded</td>
<td>Check programming settings</td>
</tr>
<tr>
<td>Motor runs in reverse</td>
<td>Incorrect programming</td>
<td>Check programming settings</td>
</tr>
<tr>
<td>Motor runs too slowly</td>
<td>Incorrect programming</td>
<td>Check programming settings</td>
</tr>
<tr>
<td>Motor runs too quickly</td>
<td>Incorrect programming</td>
<td>Check programming settings</td>
</tr>
</tbody>
</table>

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