

Order No.:
8347

IPC
SPORT DIGITAL

FORWARD BRAKE
14 - 36 Turns
150 Amps

Order No.:
8359

IPC
SUPER SPORT DIGITAL

FORWARD BRAKE
12 - 36 Turns
230 Amps

Order No.:
8362

IPC
PRO-SPORT DIGITAL

FORWARD BRAKE
No Motorlimit
340 Amps

USER GUIDE



LRP electronic

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ra00021

Dear customer,

Congratulations on choosing one of the world's best electronic speed controls. We have incorporated the latest digital technology in your IPC Sport-series speed control in order to provide maximum performance and reliability. The following features give your new speed control the crucial advantage:

- Drive Control System, for maximum running time and smooth control.
- 30% lower internal resistance compared with predecessor models.
- Multi-Protection protective functions.
- Variable current limiting / anti-slip function.

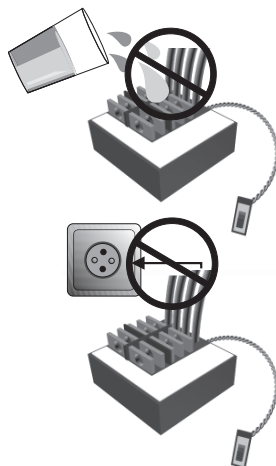
SPECIFICATION

	IPC Sport	IPC Super Sport	IPC Pro Sport		IPC Sport	IPC Super Sport	IPC Pro Sport
Voltage range / No. of cells	4.8-9.6 V / 4-8	4.8-9.6 V / 4-8	4.8-9.6 V / 4-8	Pulse frequency	2100 Hz	2300 Hz	2500 Hz
Voltage range without BEC	4.8-12 V / 4-10	4.8-12 V / 4-10	4.8-12 V / 4-10	Brake, Drive-Control-System	EMF	EMF	EMF
Internal resistance	0.0042 Ω	0.0022 Ω	0.0012 Ω	Anti-slip function (APC)	yes	yes	yes
Momentary load (1 sec)*	150 A	230 A	340 A	Protective functions	yes	yes	yes
Brief load (30 sec)*	70 A	85 A	105 A	Set-up procedure	Digital / push-button	Digital / push-button	Digital / push-button
Continuous load (5 min)*	35 A	50 A	65 A	Battery recharge during braking	yes	yes	yes
Recommended motor	14-36 turns	12-36 turns	No limit	Power-on pulse suppression	yes	yes	yes
Receiver voltage	5.0 V	5.0 V	5.0 V	Weight	47 g	47 g	47 g
Max. receiver current (30 sec)	1.6 A	1.6 A	1.6 A	Size	41x36x19mm	41x36x19mm	41x36x19mm
Continuous receiver current (5 min)	0.6 A	0.6 A	0.6 A				

*The "Momentary load (1 sec)" figure corresponds to US manufacturers' specifications; Continuous current refers to a temperature of 25°C.

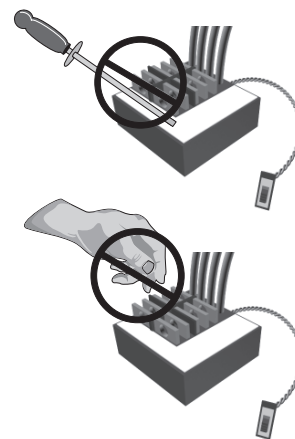
WARNING NOTES

- **Important:** never leave your RC model unattended when the battery is connected. If a fault should occur the result might 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, domestic paper towels 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.
- Do not cut off the original plug, as this invalidates 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.
- If you use **more than 6 cells** in the drive battery, the motor limit rises by 2 turns for each additional cell.



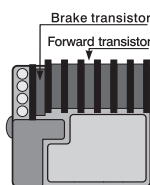
INSTALLATION TIPS

- 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, don't 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.

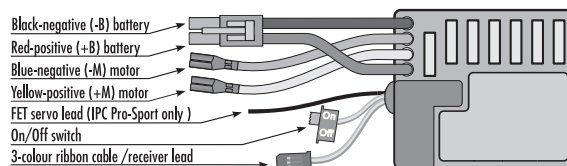
- **IMPORTANT:** heat-sink (supplied in set)

The heat-sink improves the performance of your IPC Sport-series speed control and **must always be used**. Use only genuine LRP heat-sinks. Never allow the heatsink or FETs of one "block" to touch parts of another "block" - short circuit. For this reason we recommend that you attach the heat-sinks to the case using a small drop of cyano glue.

Heat-sink



CONNECTIONS



- **Graupner, Ko-Propo, Futaba, Hitec and LRP Phaser receivers:**

The LRP speed control is fitted with an LRP Multi-Con receiver lead which fits any of the above receivers directly.

- **Sanwa receivers:**

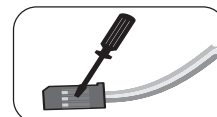
Remove the black plastic moulding from the receiver cable and replace it with the plastic moulding supplied (inscribed "AIR") as follows:

- **Replacing the plastic plug moulding:**

Press in the metal lugs of the connector pins using a ball-point pen to disengage them; the wires can then be withdrawn from the plastic housing. Check the polarity using the table below, and slip the pins into the new plastic moulding until they snap into place.



Bend the metal lugs up again. Push the plug into the new plastic moulding.



- **Check correct polarity carefully if changing connectors:**

Receiver	Futaba	Graupner	Acoms	Sanwa from Carson
Signal wire	white	orange	yellow	yellow
Positive wire	red	red	red	red
Negative wire	black	brown	black	black

INSTALLATION

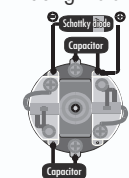
- First attach the heat-sinks (supplied) to the speed control, as described under "Installation tips".

- Solder the suppressor capacitors to the motor.
- Remove the motor pinion, or ensure in some other way that the wheels of the model can rotate freely.

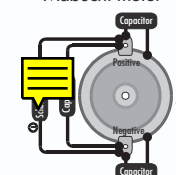
- Install the speed control in the model.
- Connect the speed control to the receiver (channel 2).
- Check that the switch is set to "OFF".
- Connect the speed control to the motor. Note the colour code: yellow wire positive, blue wire negative.
- If you are using a servo with an external FET lead, solder this in place (IPC Pro-Sport only).
- Check all the wiring and connections before you connect the speed control to a drive battery. Caution: incorrect polarity will wreck your speed control.
- The speed control is now ready to be set-up (see back page).

MOTOR SUPPRESSION:

Racing motor



Mabuchi motor



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



Caution: never use Schottky diodes in conjunction with a forward/reverse speed control; they are for forward/brake units only!

Schottky-diode:

