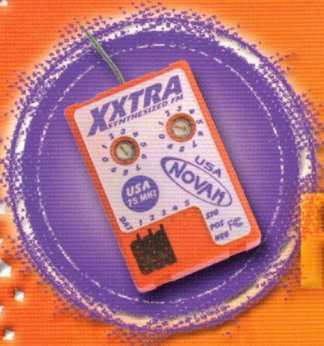


Programming Devices



NOVAH

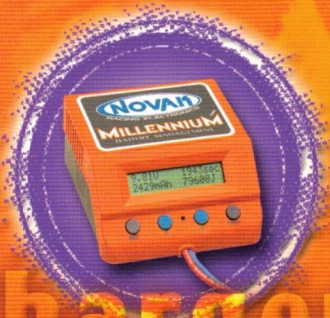
Quality Electronics
For Your R/C Car



Receivers



Speed Controls



Chargers

Brushless Motors



Power Supply

NOVAK

R/C Specialists since 1978



Novak Electronics entered the exciting world of R/C in 1978 and immediately established themselves as an industry leader

in designing and manufacturing quality, innovative R/C products. Degreed engineers and experienced R/C car drivers combined with sophisticated manufacturing equipment attribute to Novak's ability to produce the most innovative and cutting edge products available. Convenient features that many racers enjoy today were first introduced by Novak, including Radio Priority Circuitry, One-Touch Set-Up, Polar Drive Technology, and Reverse Voltage Protection. Over the years, Novak has introduced products that have revolutionized R/C car racing, most notably fully programmable speed controls and programming devices. In 2001, Novak vows to bring some of the most innovative R/C products to consumers. Hitting the shelves this year are the XXtra Synthesized FM Receiver, a Brushless Motor System, and an AC Charger, all of which will prove extremely beneficial for R/C car enthusiasts of all driving skill levels. The XXtra provides extra

convenience by doing away with the hassle of carrying spare receiver crystals—now all that's needed to change the frequency is a simple twist of a switch. The Brushless Motor System promises to revolutionize the R/C hobby by eliminating the need for costly and burdensome motor rebuilds. This motor and speed control

combination is much more efficient than conventional brush-type motors, and gives racers more power and considerably longer run times. And finally, Novak is pleased to give R/C enthusiasts what they've been asking for from Novak: an AC Charger. That's right, this charger doesn't require a power supply...just plug it into the wall and CHARGE!

Enjoy the ride...this is going to be a great year!

Coming 2001 AC Charger

Novak's new AC Charger is still being fine tuned by our engineering staff, so exact specifications are not yet available. Here are some preliminary specs:

- ▶ Full-featured AC charger
- ▶ Easy-to-use digital interface
- ▶ Universal input voltage (100-240V AC input)
- ▶ 0.5, 1.0, 3.5 amp constant linear charge current
- ▶ Dual mode: Ni-Cd, Ni-MH
- ▶ Fully output protected
- ▶ Built-in fan

Coming 2001 Brushless Motor System

Novak's new Brushless Motor System is still being fine tuned by our engineering staff, so exact specifications are not yet available. Here are some preliminary specs:

- ▶ Higher efficiency than brush-type motor
- ▶ More power output than brush-type motor
- ▶ No brushes or commutator to wear out—which is a significant time and money savings
- ▶ No motor rebuilding necessary
- ▶ ESC with forward-only & reverse capabilities

XXTRA SYNTHESIZED FM

- ▶ Synthesized FM receiver
- ▶ Small size: 1.65" x 1.12" x 0.51"
- ▶ Light weight: 0.59 oz.
- ▶ Low voltage operation
- ▶ Convenient frequency selection switch (No crystals to change)
- ▶ Solid State Reverse Voltage Protection
- ▶ Outstanding range
- ▶ Ultra narrow-band ceramic filter for 10 KHz channel spacing
- ▶ Slot for external battery or DSC connection
- ▶ Compatible with all popular radio systems
- ▶ Available on 27 and 75 MHz bands
- ▶ Meets FCC radiation limits (75 MHz)
- ▶ Up to 5 control channels

XXL

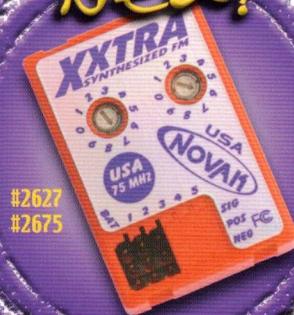
- ▶ AM and FM models available
- ▶ Extremely small size: 1.29" x 1.11" x 0.54"
- ▶ Internal shield for extra radio interference protection
- ▶ Ultra narrow-band ceramic filter for 10 KHz channel spacing
- ▶ Extremely light weight: 0.48 oz.
- ▶ Low-voltage operation for glitch-free reception
- ▶ Slot for external battery or DSC connection
- ▶ Reverse Voltage Protection
- ▶ Available on 27 and 75 MHz bands
- ▶ Meets FCC radiation limits (75 MHz)

NEW!

Brushless Motor System
& AC Charger
Photo Not Available

Coming 2001

NEW!



#2627
#2675



See Retail Price
List for Part #'s

NOVAK

Programmable Speed Controls

Get With the Program!

Novak programmable speed controls have been number one with racers since their introduction. This year we are pleased to unveil the newest generation Cyclone and Cyclone TC: the C2 and TC2. Some of their great new features include a lower On-resistance, a built-in, 1-touch On/Off switch, a user-replaceable input harness, and updated throttle profiles. Like the Cyclones, our smallest speed control, the Atom, is also programmable and comes with 3 built-in profiles. Add the optional Pit Wizard to the picture and you have the ability to customize ALL operating parameters of the Cyclones and Atom. With all of its powerful features, and as the current IFMAR 4WD

World Champion, ROAR

Off-Road and ROAR

Touring Car National

Champion, it's easy to see why

for the last 4 years the Cyclone was named "Reader's Choice" as the top speed control by the readers of R/C Car Action magazine.

CYCLONE

- ▶ Small size: 1.69" x 1.11" x 0.76"
- ▶ Light weight: 1.42 oz.
- ▶ 480A rated current
- ▶ 160A braking current
- ▶ 4-7 cell operation
- ▶ Minimal on-resistance: 0.00049Ω
- ▶ Built-in combination 1-touch On/Off switch
- ▶ User-replaceable input harness
- ▶ Polar Drive capacitor open-air cooling
- ▶ No motor limit
- ▶ 3 user-selectable profiles
- ▶ Constant Force Braking
- ▶ Polar Drive Technology
- ▶ One-Touch Set-Up
- ▶ Low-resistance solder posts
- ▶ Built-in Schottky diode
- ▶ Heavy-duty BEC
- ▶ Heat sinks not required



#1775

Available
Spring 2001



#1035

PIT WIZARD

- ▶ Interfaces with Cyclone, Cyclone TC, Cyclone C2, Cyclone TC2, and Atom ESCs
- ▶ Optional device for complete speed control customization
- ▶ Adjusts 10 ESC operating parameters
- ▶ 2-line/16-character LCD
- ▶ 10 profile memory locations
- ▶ Ergonomic hand-held design

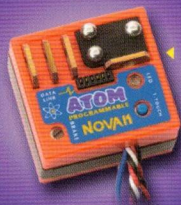


#1777

Available
Spring 2001

CYCLONE TC2

- ▶ Small size: 1.69" x 1.11" x 0.76"
- ▶ Light weight: 1.42 oz.
- ▶ 480A rated current
- ▶ 160A braking current
- ▶ 4-7 cell operation
- ▶ Minimal on-resistance: 0.00049Ω
- ▶ Built-in combination 1-touch On/Off switch
- ▶ User-replaceable input harness
- ▶ Polar Drive capacitor open-air cooling
- ▶ No motor limit
- ▶ 3 user-selectable touring car profiles
- ▶ Constant Force Braking
- ▶ Polar Drive Technology
- ▶ One-Touch Set-Up
- ▶ Low-resistance solder posts
- ▶ Built-in Schottky diode
- ▶ Heavy-duty BEC
- ▶ Heat sinks not required



#1770

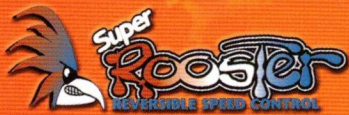
ATOM PROGRAMMABLE ESC

- ▶ Smallest Novak ESC: 1.23" x 1.16" x 0.69"
- ▶ Light weight: 1.0 oz.
- ▶ 240A rated current
- ▶ 80A braking current
- ▶ 4-6 cell operation
- ▶ Minimal on-resistance: 0.00130Ω
- ▶ No motor limit
- ▶ 3 user-selectable profiles
- ▶ Polar Drive Technology
- ▶ One-Touch Set-Up
- ▶ Low-resistance solder posts
- ▶ Heavy-duty BEC

NOVAH

Reversible Speed Controls *Go Against the Flow!*

Our reversible line of speed controls provides endless thrills for all R/C car enthusiasts. Whether you're a novice or a pro, there's nothing like going against the flow by hitting reverse. The Super Rooster is one of our most popular models and it's no secret why—it's virtually indestructible. There's no better ESC around for dual motor applications than the Super Rooster. With no motor limit, plenty of power, and loaded with great features, this speed control rules the roost! If you don't require as much juice as the Super Rooster, our other reversibles, the Reactor and Rooster, provide the same driving thrills, just without the added cost to handle the high power. All three reversibles include Smart Braking, Reverse Disable, Polar Drive, and Brake Light Circuitry—so no matter which reversible speed control you choose to go against the flow, you can't go wrong. Go reversible and find out why backwards is such a blast!



- ▶ Ideal for dual-motor applications
- ▶ 320A rated current
- ▶ 160A reverse & braking current
- ▶ 6-10 cell operation
- ▶ 14-inch power wires
- ▶ No motor limit
- ▶ Dual-Level Thermal Overload Protection
- ▶ Smart Braking Circuitry
- ▶ Reverse Disable
- ▶ One-Touch Set-Up
- ▶ Heavy-duty BEC
- ▶ Polar Drive Technology
- ▶ Brake Light Circuitry

REACTOR REVERSIBLE

- ▶ 160A rated current
- ▶ 80A reverse & braking current
- ▶ 6-7 cell operation
- ▶ 12-turn motor limit
- ▶ Small size: 1.63" x 1.42" x 0.69"
- ▶ Light weight: 1.81 oz.
- ▶ Thermal Overload Protection
- ▶ Smart Braking Circuitry
- ▶ Battery & motor connectors installed
- ▶ Reverse Disable
- ▶ One-Touch Set-Up
- ▶ Polar Drive Technology



- ▶ 100A rated current
- ▶ 100A reverse & braking current
- ▶ 6-7 cell operation
- ▶ 15-turn motor limit
- ▶ Dual-Level Thermal Overload Protection
- ▶ Battery & motor connectors installed
- ▶ Smart Braking Circuitry
- ▶ Reverse Disable
- ▶ One-Touch Set-Up
- ▶ Polar Drive Technology
- ▶ Brake Light Circuitry



NOVAK

Sport Speed Controls

Be a Sport!

While we're known primarily for making high-end racing speed controls, we also make more economically priced speed controls that provide the same thrills and excitement as our other ESCs, while still getting that famous Novak quality and reliability built into them. So, whether you are just starting out in R/C, or have enjoyed racing your car around your neighborhood for the past several years, our Sport Line contains the right ESC for you. Best of all, our Sport Line models, like our entire speed control line, include great Novak features such as One-Touch Set-Up and Polar Drive Technology. These standard features make setting up and driving your R/C car the way it should be: easy and reliable. From our entry-level Explorer II, to our multi-profile Dually and Fusion speed controls, we're sure any sport model you choose will put you on the road to fun.

DUALY DUAL-PROFILE ESC

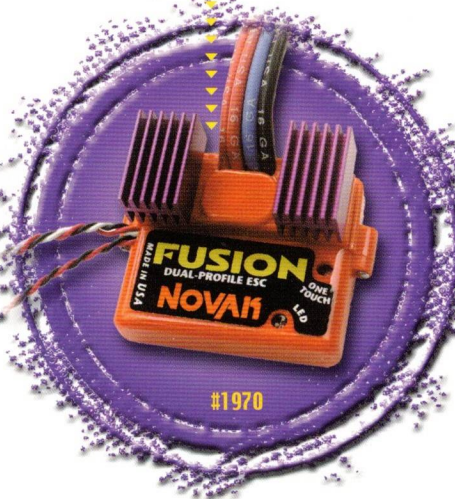
- ▶ User-selectable modified & stock profiles
- ▶ 400A rated current
- ▶ 100A braking current
- ▶ 4-7 cell operation
- ▶ No motor limit
- ▶ CLC III Current Limiter
- ▶ Thermal Overload Protection
- ▶ Heavy-duty BCC
- ▶ One-Touch Set-Up
- ▶ Polar Drive Technology
- ▶ Built-in Schottky diode

FUSION DUAL-PROFILE ESC

- ▶ User-selectable modified & stock profiles
- ▶ 240A rated current
- ▶ 80A braking current
- ▶ 6-7 cell operation
- ▶ 12-turn motor limit
- ▶ Battery & Motor connectors installed
- ▶ Reverse Voltage Protection
- ▶ Brake Light Circuitry
- ▶ One-Touch Set-Up
- ▶ Polar Drive Technology
- ▶ Built-in Schottky diode

EXPLORER II

- ▶ 150A rated current
- ▶ 50A braking current
- ▶ 6-7 cell operation
- ▶ 15-turn motor limit
- ▶ One-Touch Set-Up
- ▶ Polar Drive Technology
- ▶ Battery & Motor connectors installed
- ▶ Reverse Voltage Protection
- ▶ Thermal Overload Protection
- ▶ Built-in Schottky diode



NOVAK

Chargers & Power Supply *Feel the Power*

An industry leader in speed control engineering, we've extended our technological prowess into designing and creating dependable, high-performance chargers like the Millennium and Rhino DC chargers.

Leading the charge into the 21st century is our Millennium DC Battery Management System.

Chocked full of features, including the ability to charge 3000 mA Nickel Metal Hydride batteries, this charger is tops in the field. Meanwhile, our Rhino continues to be one of our most rugged and dependable chargers produced. To complement our Power Line, the most recent addition is the N-Power, our compact power supply that perfectly interfaces with the Millennium, Rhino and most DC chargers on the market.

MILLENNIUM BATTERY MANAGEMENT

- ▶ Full-featured DC Battery Management System
- ▶ Microprocessor-controlled for easy use
- ▶ 3000 mA Ni-MH compatible
- ▶ Tri-mode operation:
 - Linear mode (Ni-Cd, Sub-C size Ni-MH cells)
 - Reverse Pulse mode (Ni-Cd cells)
 - Ni-MH mode (transmitter & receiver cells)
- ▶ Large 2-line/16-character backlit LCD
- ▶ Automated battery analysis and conditioning
- ▶ Detailed charge history
- ▶ Fully protected
- ▶ Internal heat sink and fan
- ▶ Small size: 4.00" x 4.38" x 2.25"
- ▶ 0.5-7.0 amp adj. constant linear charge current
- ▶ 0.1-0.4 amp adj. trickle charge mode
- ▶ Adjustable Delta Peak value (4-20mV/cell)

RHINO DIGITAL PEAK DETECTION CHARGER

- ▶ Dependable DC charger
- ▶ Performance & reliability at an economical price
- ▶ Digital peak-detection accurate battery charge and shut-off
- ▶ Start/Stop button allows user to interrupt and resume charge
- ▶ Thermal Overload Protection
- ▶ Internal fan for cool operation
- ▶ Solid State RUP on the input & output (no fuses to replace)
- ▶ Adjustable constant-current charge (0.5-10.0 amps)
- ▶ 100 second lock-out time

N-Power

- ▶ Small size: 8.86" x 2.63" x 2.50"
- ▶ Weight: 1.53 lbs.
- ▶ Input: 110 volts AC (detachable power cord)
- ▶ Output: 14 volts DC@1.0 amps
- ▶ Compact & dependable DC power supply
- ▶ Powers two chargers simultaneously
- ▶ Interfaces with Millennium, Rhino & most DC chargers
- ▶ On/Off switch
- ▶ Anodized purple case
- ▶ Internal fan for cooling
- ▶ Output overload protection



#4480



#4470



#4900

Retail Price List

SPEED CONTROLS

PROGRAMMABLE MODELS

1775	Cyclone C2	.....TBA
1777	Cyclone TC2	.....TBA
1038	Cyclone C2 w/Pit Wizard	.....TBA
1039	Cyclone TC2 w/Pit Wizard	.....TBA
1765	Cyclone	.....\$240.00
1767	Cyclone TC	.....\$240.00
1036	Cyclone w/Pit Wizard	.....\$367.00
1037	Cyclone TC w/Pit Wizard	.....\$367.00
1770	Atom	.....\$209.00

FORWARD-ONLY MODELS

1660	Dually Dual-Profile	.....\$168.00
1970	Fusion Dual-Profile	.....\$135.00
1910	Explorer II Sport	.....\$92.50

REVERSIBLE MODELS

1860	Super Rooster	.....\$220.00
1810	Reactor	.....\$173.00
1850	Rooster\$139.00

PROGRAMMING EQUIPMENT

1035	Pit Wizard Hand-held Programmer\$146.00
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CHARGERS

4480	Millennium DC Battery Management System\$262.00
4470	Rhino Digital Peak Detection DC Charger\$118.00
4900	N-Power DC Power Supply (110V)	.....\$199.00

RECEIVERS

2627	XXtra FM 27 MHz	.....\$165.00
2640	XXtra FM 40 MHz (Int'l only)	.....\$165.00
2640N	XXtra FM 40 MHz (Japan only)	.....\$165.00
2675	XXtra FM 75 MHz	.....\$165.00
2427	XXL FM 27 MHz Futaba J, Sanwa, KO, JR/Hitec	.....\$104.00
2475F	XXL FM 75 MHz Futaba J	.....\$104.00
2475H	XXL FM 75 MHz Hitec	.....\$104.00
2475J	XXL FM 75 MHz JR Propo	.....\$104.00
2475K	XXL FM 75 MHz KO Propo	.....\$104.00
2475S	XXL FM 75 MHz Sanwa/Airtronics	.....\$104.00
2440	XXL FM 40 MHz Futaba J, Sanwa, KO, JR/H (Int'l only)	.....\$104.00
2527	XXL AM 27 MHz Futaba J, Sanwa, KO, JR/Hitec	.....\$93.00
2575F	XXL AM 75 MHz Futaba J	.....\$93.00
2575J	XXL AM 75 MHz JR (For use w/JR Propo XR2 only)	.....\$93.00
2575K	XXL AM 75 MHz KO	.....\$93.00
2575S	XXL AM 75 MHz Sanwa/Airtronics	.....\$93.00

ACCESSORY ITEMS

5600	ESC Switch Harness	.....\$7.25
<i>The original factory switch harness replacement.</i>		
5620	Motor Capacitors: 0.1µF, 50V (25)	.....\$7.00
<i>The same capacitors shipped with all Novak speed controls. Use of this capacitor ensures having the proper value for noise suppression (0.1µF, 50V).</i>		

5640	Schottky Diodes (2)	.....\$5.50
<i>Ensures fade-free braking. For use with forward-only, high-frequency ESCs.</i>		

5650	Rhino Fan Filters (2)	.....\$3.75
<i>User-replaceable air filters for the Rhino. Keeps dirt out of the cooling fan.</i>		

5655	Brake Light LED Kit	.....\$12.00
<i>For use with speed controls equipped with Brake Light Circuitry. Adds a realistic look to vehicles. Includes 2 high luminescent LEDs, mounting brackets and everything needed for a quick & simple brake light hookup.</i>		

5670	Power Capacitors (2)	.....\$5.50
<i>This is the same power capacitor shipped with all Novak Cyclone models and Atom Programmable speed controls. It helps smooth power surges and improve overall performance of your R/C system.</i>		

HEAT SINK SETS

All heat sinks are micro-fin, purple anodized aluminum.

5403	Dually	(1 large/1 small)	.....\$7.50
5406	Reactor	(3 small/long)	.....\$7.50
5407	Cyclone (all versions)	(3 small)	.....\$7.50
5408	Fusion/Explorer II	(2 small)	.....\$6.50
5409	Super Rooster	(4 count)	.....\$8.00
5411	Atom	(2 count)	.....\$6.50

SILICONE WIRE

The same wire used on Novak speed controls.

5500	14-Gauge	3' black & 3' red	.....\$6.00
5505	14-Gauge	3' blue & 3' red	.....\$6.00
5510	16-Gauge	3' black & 3' red	.....\$5.00
5515	16-Gauge	3' blue & 3' red	.....\$5.00
5530	Super-Flex 12™	3' black & 3' red	.....\$16.00
5535	Super-Flex 12™	3' blue & 3' red	.....\$16.00

SOLDER POST REPLACEMENT WIRE

Each pack includes two pieces of 9-inch black, blue & red wire. (Stripped & pre-tinned for easy replacement)

5507	Solder Post Wire: 14-Gauge	black, blue, & red	.....\$8.00
5517	Solder Post Wire: 16-Gauge	black, blue & red	.....\$7.20
5537	Solder Post Wire: Super-Flex 12™	black, blue, & red	.....\$16.35

PROMOTIONAL ITEMS

We offer an assortment of promotional items such as t-shirts, hats and pit towels that vary throughout the year. Please visit our website for the most up-to-date information on available promotional items.

BANNER

7059	Novak Oval Logo Track Banner	.....\$15.00
<i>Printed on durable Tyvek material and measuring 6 feet wide by 3 feet high, this highly visible banner features the Novak logo in purple and white against our familiar orange background.</i>		

DECALS

An assortment of nine different decals in various sizes and color schemes are available. For more detailed information, visit our website at www.teamnovak.com. Decals range from \$0.75-0.85 per sheet. Three different size sheets are available:

Novak (regular)	3.25" x 5.0"	\$0.75	.....#D1-D5
Novak Oval Cut	2.25" x 5.5"	\$0.75	.....#DL1-DL3



Novak ESC Spec Chart

Measurement Units	Forward/Reverse	Input Voltage	On-Resistance	Case Width	Case Length	Case Height	Weight	Rated Current	Braking Current	Wire Size	B.E.C.	Motor Limit	Discrete Steps***	Battery/Motor Plug	# User-Selectable Profiles	Programmable	1-Touch On/Off Switch	Replaceable Input Harness	One-Touch Set-Up	Polar Drive	Radio Priority Circuitry	Current Limiter	Thermal Protection	Solid State RVP	Solder Posts	Internal Schottky Diode	Brake Light Circ.	
	cells	V	Ω	Inches		oz.	amps	amps	GA	volts/amps																		
CYCLONE C2	F	4-7	0.00049	1.69	1.11	0.76	1.33 ^W	480	160	5F*	6.0/3.0	None**	512	—	3	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	—
CYCLONE TC2	F	4-7	0.00049	1.69	1.11	0.76	1.33 ^W	480	160	5F*	6.0/3.0	None**	512	—	3	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	—
CYCLONE	F	4-7	0.00058	1.73	1.10	0.79	1.42 ^W	480	160	5F*	6.0/3.0	None**	512	—	3	✓	—	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	—
CYCLONE TC	F	4-7	0.00058	1.73	1.10	0.79	1.42 ^W	480	160	5F*	6.0/3.0	None**	512	—	3	✓	—	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	—
ATOM	F	4-6	0.00130	1.23	1.16	0.69	1.00 ^W	240	80	14	6.0/3.0	None**	512	—	3	✓	—	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	—
DUALLY	F	4-7	0.00070	1.63	1.72	0.65	2.10 ^R	400	100	14	6.0/3.0	None**	512	—	2	—	—	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	—
FUSION	F	6-7	0.00130	1.98	1.42	0.70	1.87	240	80	16	5.0/0.5	12	512	✓ ^T	2	—	—	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
EXPLORER II	F	6-7	0.00450	1.98	1.42	0.70	1.87	150	50	16	5.0/0.5	15	512	✓ ^T	1	—	—	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
SUPER ROOSTER	F/R	6-10	0.00200	1.63	2.02	1.22	4.00 ^H	320	160	14	6.0/3.0	None**	64	—	1	—	—	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
REACTOR	F/R	6-7	0.00400	1.63	1.42	0.69	1.81	160	80	16	5.0/0.5	12	512	✓ ^T	1	—	—	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
ROOSTER	F/R	6-7	0.01800	1.63	2.02	1.22	3.00 ^H	100	100	16	5.7/0.5	15	64	✓ ^T	1	—	—	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

^TTransistor's rating at 25° C junction temperature
 **Single motors or dual motors in series

^WWithout wires
^TTamiya/Bullet

^RRace-ready
^{**}Half of the steps in forward, and half in brake/reverse

^{*}Super-Flex
^DDual-level

^HWith heat sinks and wire

See up-to-date specifications at
www.teamnovak.com

Novak Features

The following are brief descriptions of various Novak features. For terms not listed here, visit our website at www.teamnovak.com.

BEC (Battery Eliminator Circuit)

A built-in voltage regulator that supplies a constant voltage to the receiver and servo.

CLC III CURRENT LIMITING

Allows the driver to conserve power and extend run time by setting a maximum current value. Smoother than previous models. Has an "OFF" position for maximum punch.

DIGITAL ANTI-GLITCH CIRCUITRY

Rejects signals read by the speed control from the receiver that are caused by radio interference. All Novak ESCs have this feature.

DIGITAL PEAK DETECTION CIRCUITRY

A 10-bit digital circuit that constantly reads and then stores the highest battery pack voltage. If the pack voltage drops below the highest reading (the peak) by a preset amount, the circuitry shuts off the charging circuit.

DISCRETE STEPS

The smallest trigger motion change that can be distinguished by the ESC. The more steps a speed control uses to accelerate (or decelerate), the smoother the driving will be. Many racing ESCs have 64 steps, but the Novak Cyclone (all models) and Atom have 256 steps in forward and 256 steps in brake, for a total of 512 steps, to create the smoothest trigger response.

HIGH-FREQUENCY OPERATION

All Novak speed controls are true digital high-frequency controllers. A digital PWM frequency provides smooth, linear control of your model. The benefits are longer run times and extended motor life.

HYPERFET III TRANSISTORS

80-amp high-power MOSFET drive transistors used in Novak racing speed controls that are rated at 150 watts of power dissipation at 25° C. These metal-tab TO-220 configuration transistors can handle more power, and are much more reliable than several of the 2.5-watt surface-mount transistors that are used in some of our competitor's speed controls.

MINIMUM BRAKE ADJUSTMENT

Allows users to adjust the starting amount of the brakes. With the Novak Cyclone (all models) and Atom Programmable speed controls, the minimum brake amount is adjustable from 0-75%.

MOTOR LIMIT

Novak's motor limits are based on using a 1/10 scale vehicle, 6 cells, and a gear ratio of 4:1 or higher. Gearing, driving style, number of cells, tire size, ambient temperature, vehicle weight, and the amount of air flow over the heat sinks will affect the amount of heat build-up in the ESC, motor and batteries. If a motor with fewer than the recommended minimum number of turns is used, the ESC will need to be monitored for excessive heat. If more than 6 cells are used, the number of turns on the motor will need to be increased to prevent damage to the ESC.

ON-RESISTANCE

One of the most important ESC specifications. The on-resistance is the amount of restriction the ESC has on the flow of current to the motor. The lower the resistance, the higher the performance.

ONE-TOUCH/ON-OFF SWITCH

Novak's newest convenient feature, found in the Cyclone C2 and Cyclone TC2 speed controls, eliminates the external on-off switch by incorporating it into the same button used for One-Touch Set-Up.

ONE-TOUCH SET-UP

Makes adjusting the speed control to the transmitter easy by simply touching the Set-Up button. All Novak ESCs have this feature.

POLAR DRIVE TECHNOLOGY

Allows the circuitry to stay incredibly cool while enabling the speed control to handle higher powered motors. This results in smoother performance, increased acceleration, longer run times, and increased radio system range. All Novak ESCs have this feature.

PROFILES

A set of design parameters that determine the functionality of the speed control. These parameters address functions such as how wide the dead-band is, what percentage of full throttle is applied with the first pulse of transmitter information, and what the drive and brake frequencies are. Most ESCs have one profile. The Cyclone (all models) and Atom include 3 profiles, and one user-customizable profile. The Dually and Fusion have 2 profiles. Profiles are selected using the One-Touch button.

RADIO PRIORITY CIRCUITRY

When battery power is running low, this circuitry ensures that the receiver is continually powered. This allows the user to maintain control of the model, even after the batteries have discharged. All Novak ESCs have this feature.

REVERSE DISABLE

Through the use of the One-Touch button, the reverse mode of the speed control can be shut off, turning it into a forward-only ESC. All Novak reversible ESCs have this feature.

SMART BRAKING

Provides a safe transition from forward to reverse by slowing the car to an optimum speed before engaging reverse, and thus preventing damage to the speed control. All Novak reversible ESCs have this feature.

SOLID STATE RVP (REVERSE VOLTAGE PROTECTION)

A feature which protects the product against reverse voltage (battery pack is plugged in backwards to a speed control, or voltage source is connected backwards to charger).

THERMAL OVERLOAD PROTECTION

A built-in sensor which shuts down the ESC when its temperature exceeds a preset level. This circuitry provides protection from overloads. Dual-level protection cuts the throttle in half when the ESC temperature reaches unsafe levels. If the temperature continues to climb, it will shut completely down.

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