

**OFF ROAD WORLD CHAMPIONSHIPS**

**1991**

**TEAM SEMROCC RACING**



**IFMAR**

August 4 -11 1991  
Detroit Michigan

*Sponsored by*

 **TRINITY<sup>®</sup> KYOSHO**

## Welcome Racers!

SANYO powered cars have won every major championship in the last eight years

### Stock competition

Winning stock racers consistently choose—and continue to choose SANYO N1200SC & N1200SCR batteries.

Their records are evidence of the performance and value SANYO delivers.

### Modified competition

These racers require the world's leading technology. SANYO delivers with the KR1700SCE. Top competitors demand product excellence.

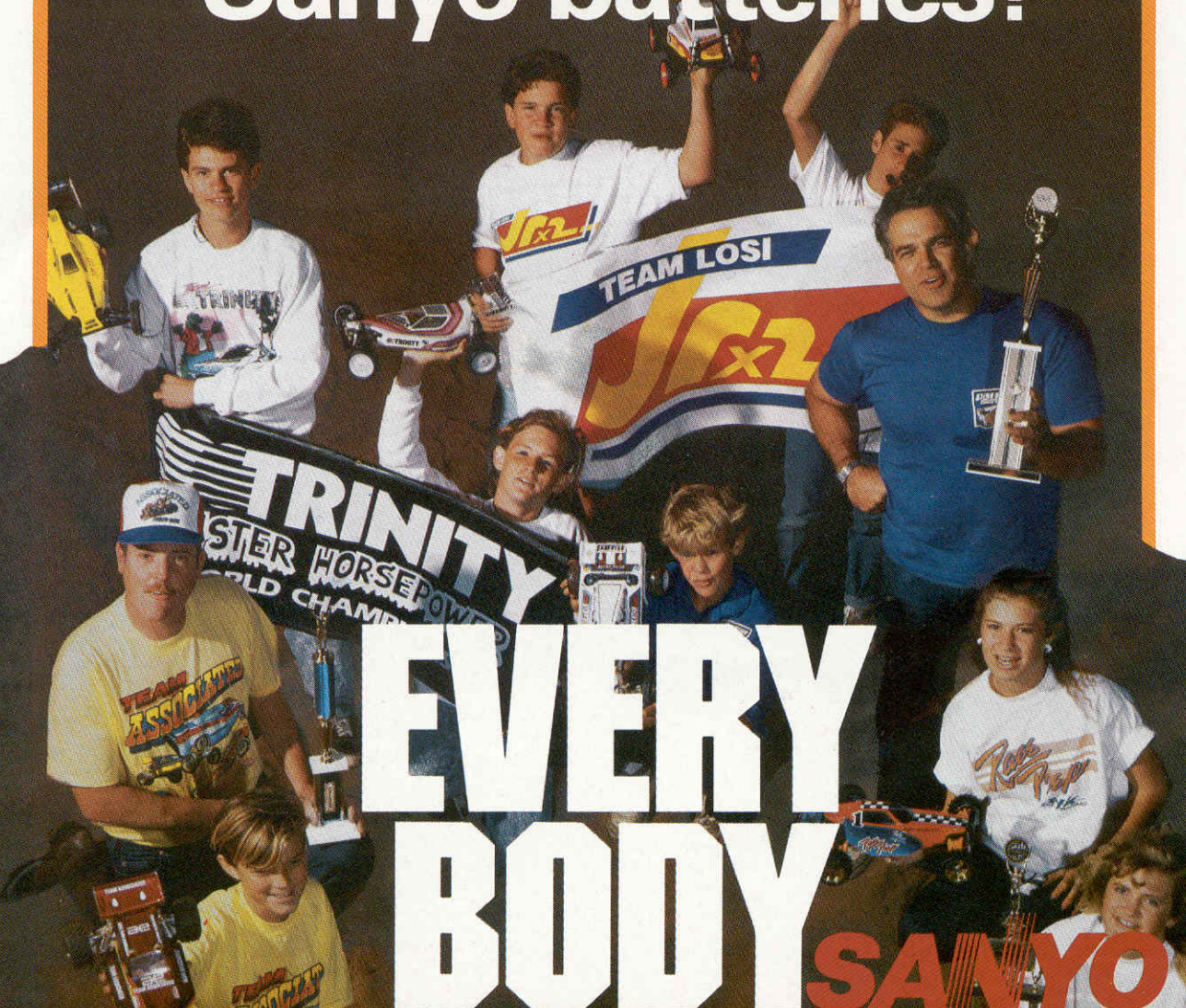
### Neighborhood competition

Now SANYO's winning technology is available for Neighborhood racing—and fun.

SANYO's new SPORTS PACK KR1300SC is now available—and at highly competitive prices.

*New*

# So, who endorses Sanyo batteries?



# EVERY BODY

# SANYO

You're only as good as your weakest link. Don't let that be your batteries. Look for Sanyo at your local dealer.



# Control. Power.

## Challenger 260- Pistol Control

Whether you're at the track or just cruisin' the neighborhood, control means the difference between fun and frustration. If you want to spend more of your time having fun, check out the Hitec Challenger 260. Standard features include: BEC receiver, servo reversing, unbreakable steering wheel assembly, reversible wheel for right or left hand use, two rugged HS-300 servos and a full one-year warranty.

Available on 75 and 27 MHZ, the Challenger 260 is ready to provide perfect control to your on or off-road vehicle. Don't be left on the side lines, go for maximum fun time with the Hitec Challenger 260.



*The Challenger 260 is also available with the RCD Ultra-Micro Shredder Receiver.*

**hitec**<sup>™</sup>

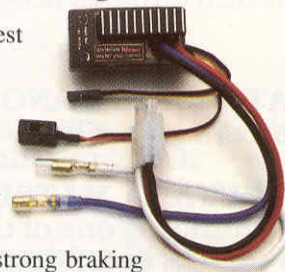
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## 1802N Speed Control for Winning Power

To control the power in your latest road rocket, install the new Hitec 1802N Electronic Speed Control. Featuring a switchable BEC, it will handle 6 to 8.4 volts with the BEC switch on and 6 to 15 volts with the BEC off. The 1802N provides smooth forward only proportional throttle response and strong braking power. Compact and light weight, the 1802N will fit virtually any installation. With features like these including heavy gage power wire and an efficient heat sink you should be first to the finish line!



## CG-315 Peak Charger

Power up for peak performance with the Hitec CG-315 Peak Charger. No other peak charger offers simplicity, economy and clean peak charging power like the CG-315. Just connect it to any 12 volt power source, hook up your battery pack and push a button. When charging is completed, the flashing indicator lamp lets you know you are ready to go. If you need a quick, simple and efficient peak charge turn to the CG-315 and turn on the power!



# OFF-ROAD WORLDS

## 1991 KYOSHO/TRINITY IFMAR OFF-ROAD WORLD CHAMPIONSHIP ITINERARY

### **Sunday, August 4**

3 p.m. - Opening Ceremony - Freedom Hill Park

### **Monday, August 5 (4WD Only)**

8 a.m. - Registration and Technical Inspection

Semi-Controlled Practice until 3 p.m.

3:30 p.m. Practice By Heats (Two Rounds)

### **Tuesday, August 6 (4WD Only)**

9 a.m. - 10:30 a.m. - Round 1 Qualifying

11 a.m. - 12:30 p.m. - Round 2 Qualifying

1 p.m. - 2:30 p.m. - Round 3 Qualifying

3 p.m. - 4:30 p.m. - Round 4 Qualifying

5 p.m. - 6:30 p.m. - Round 5 Qualifying

### **Wednesday, August 7 (4WD Only)**

9 a.m. - 10:30 a.m. - Round 6 Qualifying

11:30 a.m. - 1 p.m. - Practice Finals (with transponders)

2 p.m. - 2:30 p.m. - L, K, J & I Finals

2:45 p.m. - World Championship Final - Leg 1

3 p.m. - 3:20 p.m. - H, G & F Finals

3:35 p.m. - World Championship Final - Leg 2

3:50 p.m. - 4:20 p.m. - E, D, C & B Finals

4:35 p.m. - World Championship Final - Leg 3

### **Friday, August 9 (2WD Only)**

8 a.m. - Registration and Technical Inspection

Semi-Controlled Practice until 3 p.m.

3:30 p.m. Practice By Heats (Two Rounds)

### **Saturday, August 10, (2WD Only)**

9 a.m. - 10:30 a.m. - Round 1 Qualifying

11 a.m. - 12:30 p.m. - Round 2 Qualifying

1 p.m. - 2:30 p.m. - Round 3 Qualifying

3 p.m. - 4:30 p.m. - Round 4 Qualifying

5 p.m. - 6:30 p.m. - Round 5 Qualifying

### **Sunday, August 11, (2WD Only)**

9 a.m. - 10:30 a.m. - Round 6 Qualifying

11:30 a.m. - 1 p.m. - Practice Finals (with transponders)

2 p.m. - 2:30 p.m. - L, K, J & I Finals

2:45 p.m. - World Championship Final - Leg 1

3 p.m. - 3:20 p.m. - H, G & F Finals

3:35 p.m. - World Championship Final - Leg 2

3:50 p.m. - 4:20 p.m. - E, D, C & B Finals

4:35 p.m. - World Championship Final - Leg 3

*Winners will receive their laurels at the track immediately following the Finals. Trophies will be presented at the World Championship Banquet on the evening of Sunday, the 11th of August.*

# OFF-ROAD WORLDS

## **SANYO HOSPITALITY PARTY**

Thursday, August 8, starting at 7:30 p.m. there will be a pool-side party at the Sterling Inn. All IFMAR drivers will be the guest of SEMROCC & SANYO. The party is to be a Hawaiian theme buffet. Drivers will be treated to a Roasted Pig, grilled Mahi Mahi, spicy Island Chicken, lots of vegetables and dressings, and fresh fruit with honey dip.

This event should be a great opportunity for drivers and sponsors to get together and promote the International camaraderie our sport enjoys. There will be a cash bar and plenty of fun. SEMROCC and SANYO encourage everyone to enjoy this opportunity to get away from the rigors of the race track.

Anyone wishing to attend that is not a driver may purchase a ticket at the track for \$20. Tickets must be purchased before Monday, August 5th at 5 p.m. Hope to see you there!

## **AWARDS BANQUET**

As everyone knows, the Awards Banquet is a very special event at any IFMAR World Championships. Not only is it an opportunity to honor the winners, but also an opportunity to pay tribute to the hard work and dedication of all the participants.

This year's banquet should prove to be very special. It will be held at the Sterling Inn, the "Official Host Hotel for the 1991 IFMAR World Championships". Cocktails will be served at 7 p.m. and dinner will be served at 8 p.m.

The Sterling Inn's Executive Chef, Ramon Hollingsworth, has designed a menu that, while being American in theme, will please the tastes of all our International guests. Dinner will begin with an appetizer of Lobster American followed by a Chicken Consomme for the soup course. The salad will be a traditional Caesar served with fresh baked rolls and followed with Tangerine Sorbet. For the main course, Chef Hollingsworth will prepare Northern Tenderloin which will be sliced, topped with a pepper mustard sauce and accompanied by chanterelle mushrooms, sweet potato planks and green beans with yellow peppers. The finale will be a Chocolate Hazelnut Pate.

All drivers are invited as the guests of TRINITY, KYOSHO and SEMROCC. Others wishing to attend may purchase a ticket at the track before Wednesday, August 7th at 5 p.m. Additional tickets for the Awards Banquet are \$35.

# OFF-ROAD WORLDS

## **AUSTRALIA**

Reece BIRTLES  
Andrew BOLTON  
Greg BROOKS  
Darrin CAMPBELL  
Michael CHARD  
David CROWE  
Stewart GRANT  
Andrew JACKSON  
Ross KRAMER  
Neal MILLARD  
Clifton YOUNG

## **AUSTRIA**

Roland BRINDELMAYER  
Michael PODIWINSKY  
Michael SELNER

## **BELGIUM**

Guy DE WEERD  
Luke DE WEERD  
Rudy NEECKX

## **CANADA**

Mike BOEKDRUKKER  
Terry YEO

## **ENGLAND**

Jamie BOOTH  
Steve BRACE  
Nick COCHRANE  
Rory CULL  
Phil DAVIES  
Craig DRESCHER  
Leigh EDWARDS  
Steve HAYNES  
William MITCHAM  
Kevin MOORE  
Marc NEALE  
Ellis STAFFORD  
Mark TATMAN

## **FINLAND**

Heikki NAULAPAA

## **FRANCE**

Didier ALBUISSON

Marc BERREBI  
David DELAPIERRE  
Frederic DEMAINE  
Pierre FILLOUX  
Gilles GREVILLOT  
Jean Francois JOSEPH  
Patrick MASSARINO  
Nicolas RINGART  
Stephane VILORIA

## **GERMANY**

Thomas BEHNKE  
Stefan DANZ  
Ralf HELBING  
Christian KEIL GEMBH  
Jurgen LAUTENBACH  
Stephan OBERLE  
Florian STAINER  
Michael UDO

## **HONG KONG**

Wong Kin CHUNG  
Choy Chi KEUNG  
Niki KWONG KA YICK  
Lai Yiu LUN  
Lam Wai MAN  
Lee Hou PIN  
Lim Fung YIU

## **IRELAND**

Paul DAGG  
Denzell M'BURNEY

## **ITALY**

Marco DE MARCHI  
Umberto PERNICE

## **JAPAN**

Masami HIROSAKA  
Hideki KAJIWARA  
Takashi KATO  
Satoshi KAYANO  
Yasuyuki KIMATA

# LIST OF DRIVERS

Katsunori KONDO  
Satoshi MAEZUMI  
Hiroyuki MATSUMOTO  
Masayuki MIURA  
Shoji MIYAZAKI  
Mazato SASAKI  
Yoshiaki SUGIYAMA  
Kazutaka SUMIDA  
Hiroshi SUZUKI

## NEW ZEALAND

Gavin DAWSON  
Tony OWSLEY  
Mark PORTER  
Ian STEWART

## NORWAY

Eirik ANDREASSEN  
Lasse HOVD

## PHILIPPINES

Noel ABELLO  
Raffy ABELLO  
Eric HENAREZ  
Edgardo MUNOZ  
Thomas PEDROSA  
Michael TUSON

## SPAIN

Xavie Estebann NAVARRO  
Alex Tomas PREUS

## SWEDEN

Peter DE CARRO  
Lars NORDIN  
Johan SCHENNING

## SWITZERLAND

To Be Advised

## THAILAND

Dilaka LATHAPIPATH  
Pong SKUNTANAGA  
Suparat UASWATANASAKUL

## UNITED STATES OF AMERICA

Scott ANFINSON

J. D. BECKWITH  
James BROWN  
Jerry CAMERON  
Mike DUNN  
Steve DUNN  
Tony FAGAN  
Mark FRANCIS  
Derek FURUTANI  
Sean GLAZAR  
Carlos GONZALES  
Jay HALSEY  
Rick HOHWART  
Jack JOHNSON  
Joel JOHNSON  
Cameron KELLOGG  
Brian KINWALD  
Butch KLOEBER  
Greg KLUGH  
John KOONCE  
Matt LEDGER  
Cliff LETT  
Todd LEWIS  
Gil LOSI, JR.  
Kris MOORE  
Mark PAVIDIS  
Shane R. PORTER  
Tem RASKIN  
Kyle REED  
Brad REELFS  
Ron ROSSETTI  
Curtis STRAWN  
Darrin STUMP  
Rick VEHLow  
Brent WALLACE  
John WALTERS  
Scott WAY  
Jeff WELCH

# OFF-ROAD WORLDS

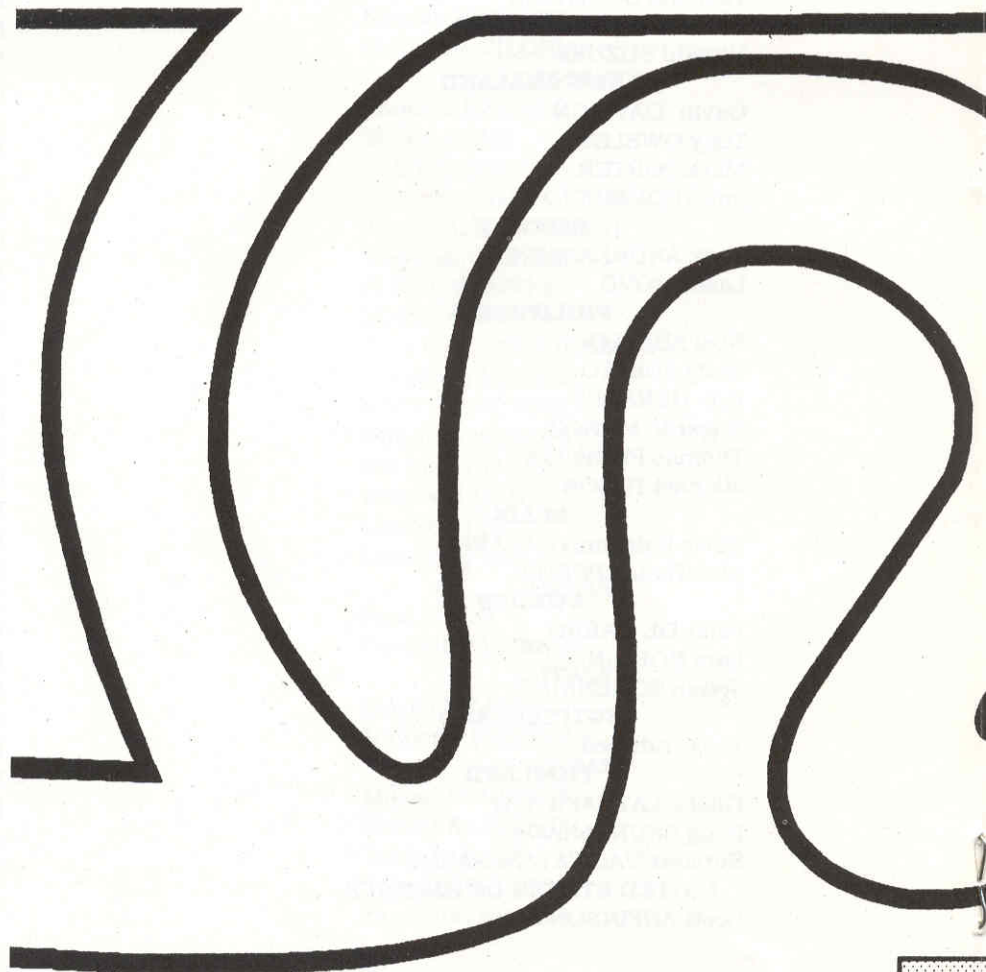
## TRACK INFORMATION

This permanent 170' x 70' track is completely man made. The original clay surface was excavated and sculpted to create proper drainage and elevation changes for the racing surface. Once the base and shape was established a four inch sand under layer was rolled into place. This again was to help facilitate drainage. The next step was to add eight inches of pure sifted and processed top soil for the actual racing surface. The circuit was then outlined using grass sod for the infield areas and the track perimeter. Once completed, electrical lines and five water locations were installed and the 190' x 90' perimeter of the track was surrounded with a post and chain swag fence. The overall effect is quite pleasing to the eye. One of the highlights of the track is a six foot elevation change over the back 1/3 of the course. Drivers are challenged with an assortment of jumps and irritations that appear as natural terrain and are realistic in scale. The jumps are not the type that require a certain amount of luck to traverse. Lanes are 14' to 8' wide with many increasing and decreasing radius turns. The racing surface provides plenty of traction with very little tire wear. Starts are facilitated by an off track grid located on the 100' back straightaway. Lap times over a four minute run average around 30 seconds for an expert driver. A permanent eight foot high drivers' stand provides the racers with an excellent view of the track. Located ten feet back from the track (so as not to hinder any driver's side to side vision of the corners) the stand is 32' long and 8' deep and is fully surrounded with a 42" railing. Scoring is also done from a raised platform.

'91

WORLD

CH

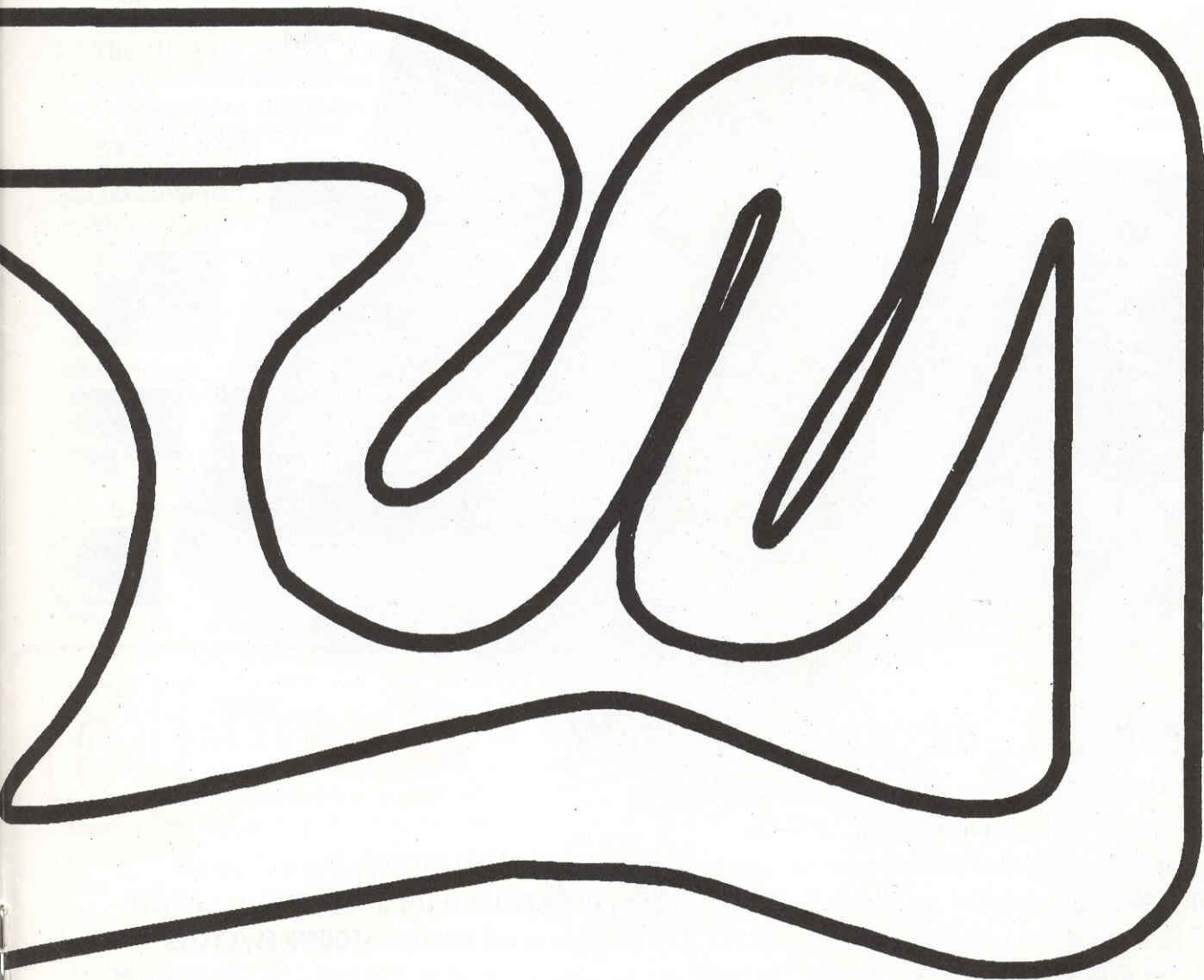




### **PITTING INFORMATION**

For this event all pitting will be trackside. SEMROCC feels trackside pitting will allow drivers to meet and socialize with one another and help promote the international interaction associated with this event. As was done for the 450 drivers attending ROAR Nationals all pits will be covered. Tables and AC power will, of course, be provided. Tech and radio impound areas will be located within the pit area so as to be easily accessible to all drivers. Public address systems will be located throughout the area including all pits, tech, impound and the immediate areas surrounding the track.

## **A M P S    T R A C K    L A Y O U T**



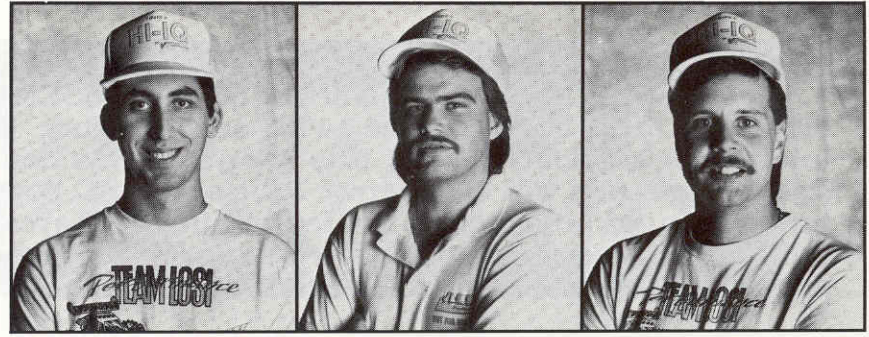
**DRIVERS' STAND**

ONLY HI-IQ CAN

# Release the BEAST

from your racing batteries and motors by 6 types of **LINEAR CHARGE, HI-RATE DISCHARGE, Cycling, Grading / Matching, Motor Conditioning / Analysis** and much more. . .

HI-IQed VICTORS...



Gil Lasi Jr.

Jay Halsey

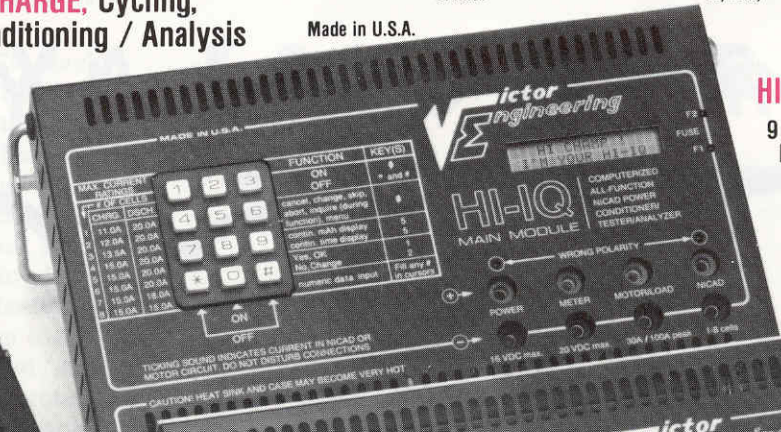
Jack Johnson

Made in U.S.A.

...if you can't beat 'em, join 'em!  
Use your own IQ...

## IQ-POWER-1

Sub-compact, feather-weight, switching **POWER SUPPLY** delivers up to 12 Amps of clean regulated 14VDC power. Great for ANY **CHARGER**. Can mount piggy-back on HI-IQ (optional hardware is needed).



## HI-IQ STANDARD

9 std. functions. Charge up to 15 A. Discharge in excess of 15 A (20 A max.). Ideal for std. 10 A Discharge method.

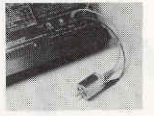
## HI-IQ "SENIOR"

16 functions + carrying case. Specifically designed for HI-RATE 20 A DISCHARGE method (25 A max.) STATE-OF-THE-ART

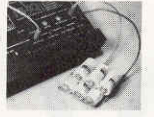
### POWER HOOKUP



### MOTOR HOOKUP



### NI-CAD HOOKUP



# ...and now... introducing the NEW

# Super IQ

to give you the EXTRA COMPETITIVE EDGE you need today by adding the following NEW RADICAL FEATURES above existing legendary HI-IQsr capabilities:

- designed for **30 Amp Discharge Method (40 Amp max.)** not only for **SINGLE CELLS** but **ALSO PACKS(!)** down to .7v cut-off
- **INTERNAL RESISTANCE** reading in mOHMs • **6 CHARGE METHODS** including VICTOR EXCLUSIVE **LIN-R-FLEX PUSH** <sup>(1)</sup> • **POWER-DOWN MEMORY** for factory and your own default parameters. **STORE, EDIT** and reuse up to **5 CUSTOM SEQUENCES/CYCLES**. Run any of them by **SINGLE KEY STROKE**. All data retained. • **GRAPH** or **LABEL** printing with any serial printer <sup>(2)</sup> or hook up PC with optional **PC SOFTWARE "TracPac"** with powerful **DATA-BASE** <sup>(2)</sup> for **AUTOMATIC CELL MATCHING** • **EXPANDED MEMORY** ready for more features
- **SOFTWARE SUPERVISED THERMAL MONITOR** - no overheating • **40 AMP CELL HOLDER** and more... **NEW SHARP LOOKS. WELL PROVEN** and **REFINED** PRODUCT LINE - **NEVER OBSOLETE. ANY EXISTING HI-IQ** can be easily **UPGRADED** - call for info.

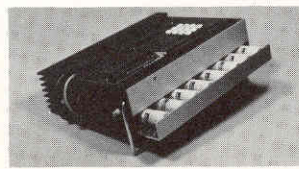
<sup>(1)</sup> this feature requires optional Thermal Probe #VE-TACTK

<sup>(2)</sup> this feature requires optional RS-232 connector #VE-IQSP-1

— see your HOBBY DEALER —



Mon.-Fri. 9 a.m.-5 p.m. PST



## also NEW - 8 channel MULTIPLEXER "IQ x 8"

**8 CHANNEL MULTIPLEXER!** Piggy-Back option performs NI-CAD functions for up to 8 single cells simultaneously or up to 8 packs sequentially. Allows direct printer hook-up for labels or PC hook-up for data-basing or both. Superior to other Multiplexers yet more cost effective. compatible with any HI-IQ or SUPER-IQ

# HPI

California  
U.S.A.

## HOBBY PRODUCTS INTERNATIONAL

# DO YOU KNOW OUR STUFF?

### ■ SUPER STAR MONSTER TRUCK WHEELS ONE FITS ALL



The wheels are strong, light weight, and they fit most of the best selling off-road cars. This universal type monster truck wheels come with bearing adaptors and hubs for Associated, Team Losi, Tamiya, and Kyosho cars.

### ■ SUPER STAR OFF-ROAD WHEELS WINNERS OF THE 90's



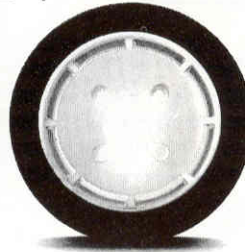
The wheels are available for the RC-10, JRX-2, ULTIMA, OPTIMA, and LAZER. They are strong and light weight. The front wheel set come with bearing adaptors to accept various sizes of bearings.

### ■ 1/10 RACING WHEELS NEW FOOTWEAR



The 1.80" wheels are designed to fit most 1/10th on-road direct drive cars. The wheels are rigid and light. The wheels are available in 5 different colors.

### ■ 1/10 MOUNTED TIRES & RUBBER CAPS WINNING EDGE



HPI is introducing new rubber caped tires along with new full width J & K compounds. The available compounds are Orange, Blue, Green, Yellow, J-fronts, K-rears, and soft & hard rubber caps.

### ■ UNO POWER MOTORS PRECISION IN MOTION



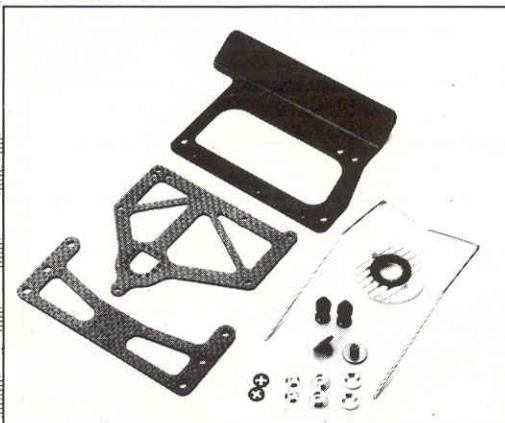
UNO 700 series motors are an excellent power source for all types of racers. STOCK, SPORTS, CLUB RACER, and MODIFIED are available at various price range. Feel the world class power you have never felt before.

### ■ UNO POWER 360 THE ADVANTAGE



HPI offers UNO 700 series motors in 360 size. The advantage of power and the running time for RC enthusiasts. HPI offers various models for cars, trucks, planes and boats.

### ■ PRECISION PARTS



#### RC-10L AERO LOWER BRACE GRAPHITE

Graphite lower brace with kick-up provide spur gear protection & ground effect.

#### RC-10L PRO UPPER BRACE GRAPHITE

It is designed to keep dampner silicone oil longer and to accept wing mounts with screws.

#### RC-10L PRO ARM BRACE GRAPHITE

It is designed to provide extra rigidity to the front arms.

#### QUICK FIT WING WIRE

Pre-bent adjustable width wing wire. This 080" wires can be used for off & on road wings.

#### MOTOR COOLING PLATE WITH DUST PROTECTOR

Alum. cooling plate with dust protector helps running the motor cool.

#### WING WIRE MOUNTS

Anodized alum. wing wire mounts with screws for on & off road cars.

#### WING BUTTONS

Anodized alum. wing buttons with rounded smooth head.

#### ALUM. LINKAGE, CONE, & CONCAVE WASHERS

Provides smooth action to the linkage. Secure and protects screws.

#### RC-10L & 12L FRONT AXLE STOPPER WASHER

"Push Nuts" to secure front axle from sliding in and out.

## Hobby Products International

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(714) 837-3250 FAX (714) 837-3251

SEND  
\$2.00 FOR OUR CATALOG



Name	Round 1	Time
1.	_____	_____
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**4  
W  
D**

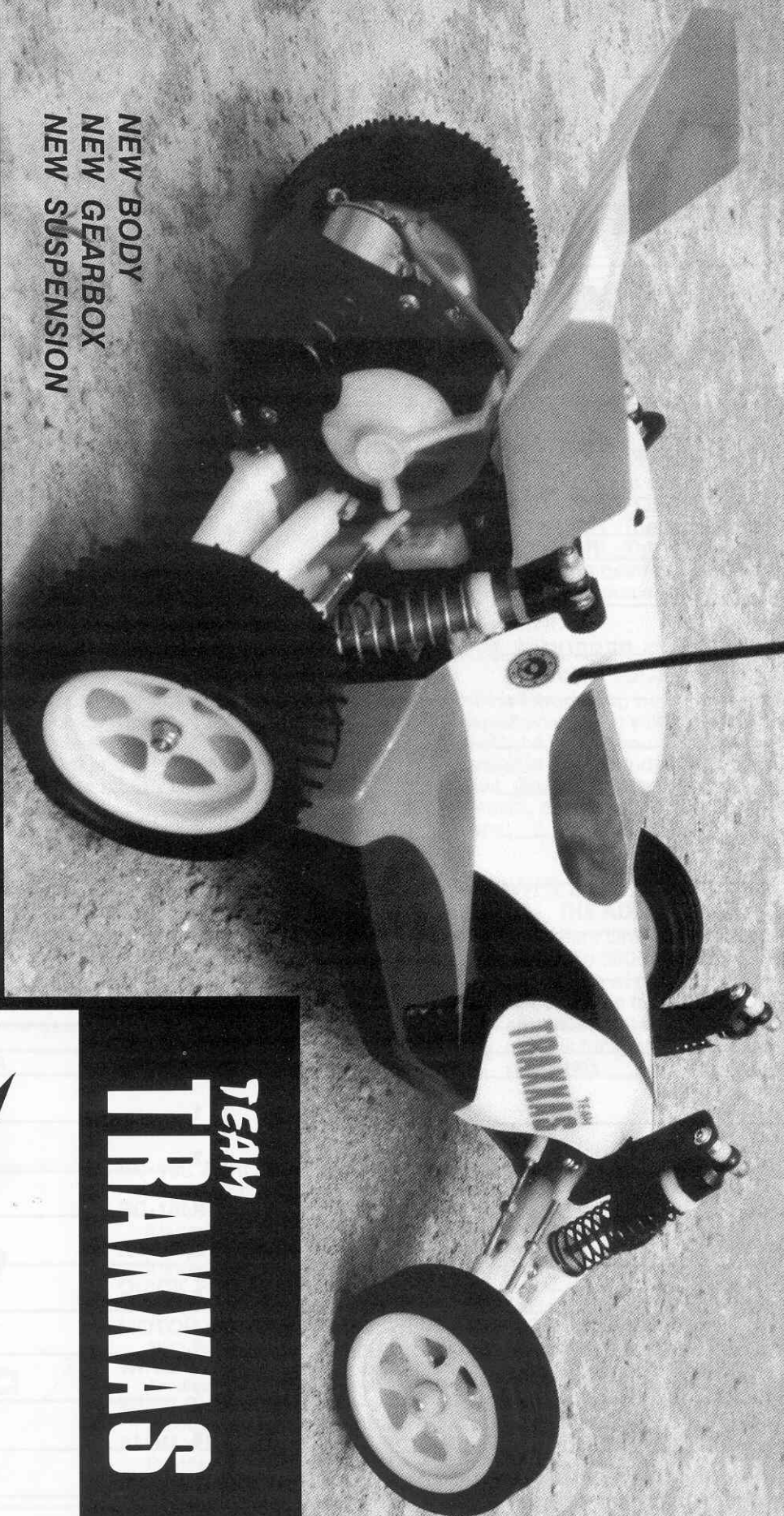
Name	Round 3	Time
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Name	Round 5	Time
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Name	Round 6	Time
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8.	_____	_____
9.	_____	_____
10.	_____	_____

# TAKE A NEW DIRECTION OFF-ROAD



**NEW BODY  
NEW GEARBOX  
NEW SUSPENSION**

Traxxas team driver Scott Montgomery sweeps the South with the Traxxas VECTOR.

**R.O.A.R. TEXAS RACE OF CHAMPIONS:**

- \* TQ, Two-Wheel Modified
- \* 1st place A-main, Two-Wheel Modified

**R.O.A.R. TEXAS INVITATIONAL:**

- \* 1st place, Two-Wheel Modified

**R.O.A.R. GEORGIA STATE CHAMPIONSHIPS:**

- \* 1st place A-main, Two-Wheel Stock
- \* 1st place A-main, Two-Wheel Modified

**N.O.R.R.C.A. TEXAS STATE CHAMPIONSHIPS**

- \* TQ, Two-Wheel Stock
- \* 1st place A-main, Two-Wheel Stock
- \* TQ, Two-Wheel Modified
- \* 1st place A-main, Two-Wheel Modified

**MICKEY THOMPSON OFF-ROAD CHAMPIONSHIP**

**GRAND PRIX**

- \* 1st place A-main, Two-Wheel Pro-Stock
- \* 1st place A-main, Two-Wheel Modified

**TEAM  
TRAXXAS**

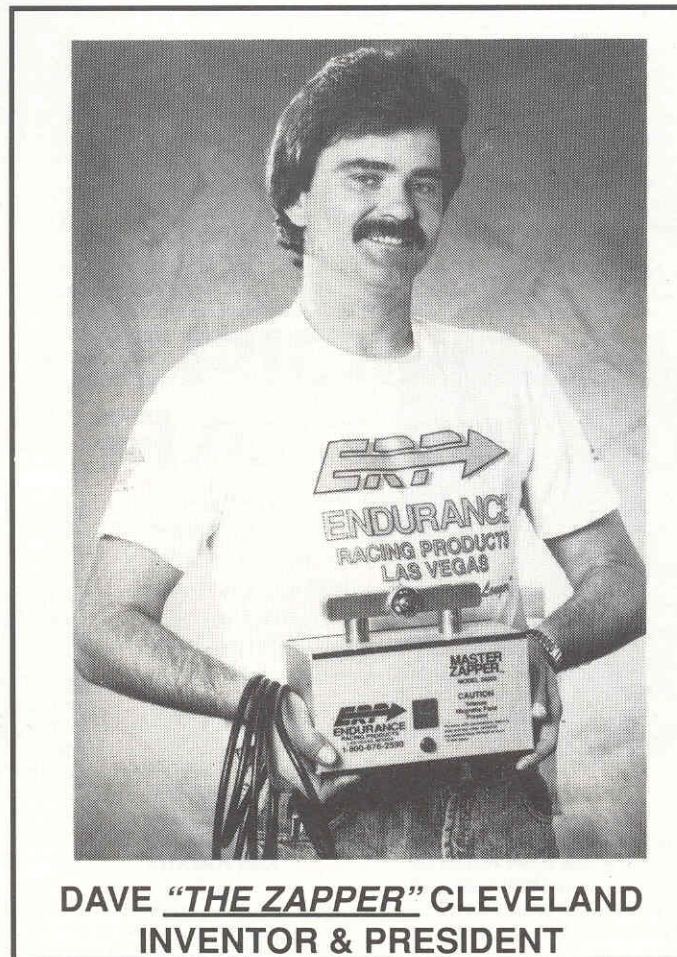
**VECTOR**

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# RACES ARE WON BY SECONDS. WILL YOU BE THE ONE TO LOSE BECAUSE YOU DIDN'T TAKE A SECOND TO ZAP YOUR MOTOR?

## FEATURES:

- Easy to Operate
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- 9"x 5"x 5"
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## Introducing the **MASTER ZAPPER™** MODEL 24000

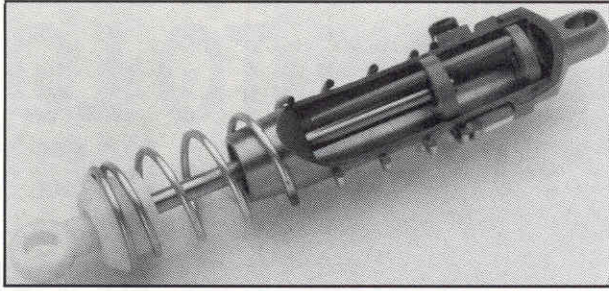
This portable magnetizing unit produces 24,000 amp-turns of magnetizing energy and is capable of magnetizing to saturation; ceramic, and cobalt magnets in one second!!!

Easy to use, connect to standard 120VAC-outlet. Adjust pole shoes to fit motor size. Orientate magnets and depress switch for one second. Switch will automatically shut off when released. Repeating cycle will not increase magnetization.

★ **DRIVERS  
NEEDED** ★  
SEND RESUME

826 N. Lamb, Las Vegas, NV 89110 • 702-438-4107 • FAX 702-459-8312

# PARAGON™ HAS WORLD APPEAL

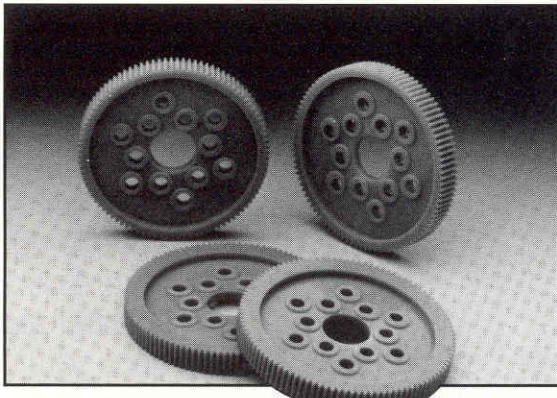


## JUMP JETS™

One of the hottest devices for off road! The *Jump Jet* fits inside of your existing shock to increase the shock's responsiveness over all types of terrain. *Jump Jets* work on the "variflow" principle; a tapered needle passes through a hole in the shock piston. As the shock compresses, the tapered needle gradually restricts the flow of oil through the piston. This makes the shock more stiff in high load situations and keeps the car from bottoming out, thereby maintaining control. Since a lighter weight oil (5 to 10w less than usual) is recommended with use of *Jump Jets*, the car is more responsive on small bumps as well.

*Jump Jets* work in Associated, kyosho gold, Losi, and other popular shocks. Size may be adjusted to work in long, medium or short barrel shocks.

JJ625



## ODD SIZE 64 PITCH SPUR GEARS

Paragon is now producing precision 64-pitch gears in sizes which were previously unavailable. The new sizes include 97, 99, 105 and 107 tooth. Made of tough nylon alloy, these vibrant colored gears are very resistant to wear and maintain excellent concentricity. Look for additional new sizes in the future.

<b>SG097</b>	97 tooth	<b>SG105</b>	105 tooth
<b>SG099</b>	99 tooth	<b>SG107</b>	107 tooth

## FXII™

When it comes to traction, Paragon has been the standout choice of champions the world over. *FXII* follows in this tradition, offering a consistent, positive feel from start to finish. It is similar to our popular *Ground Effects™* product except that it has a touch more bite and is less aromatic. Works great on all surfaces including dirt ovals!

FXII3

**PARAGON™**  
RACING PRODUCTS



## ECLIPSE™ SERIES MOTORS

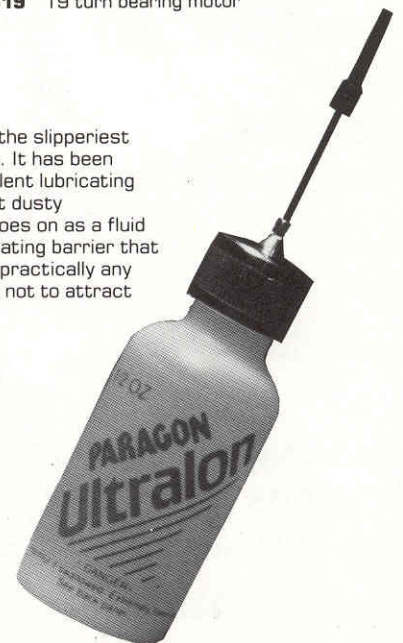
*Eclipse* motors are an exceptional value and not a common "sport" motor. The bushing-type *Eclipse* is broken in at the factory and tested for performance delivery. The bearing-type versions of *Eclipse* are meticulously retrofitted to yield exceptional performance. The armature is precision balanced, the tabs are welded, the commutator is diamond trued and finally the timing is set for optimum efficiency. All Paragon motors come with premium grade, military spec. molded capacitors. Look for the distinctive *Eclipse* emblem to be assured of exceptional quality.

<b>EC017</b>	17 turn bushing motor
<b>EC020</b>	20 turn bushing motor
<b>EC023</b>	23 turn bushing motor
<b>EC013</b>	13 turn bearing motor
<b>EC015</b>	15 turn bearing motor
<b>EC019</b>	19 turn bearing motor

## ULTRALON™

*Ultralon* contains PTFE, the slipperiest substance known to man. It has been formulated to offer excellent lubricating qualities in even the most dusty environments. *Ultralon* goes on as a fluid and dries to form a lubricating barrier that will maximize lubricity on practically any moving part. Guaranteed not to attract dust.

UL035





# GET SERIOUS ABOUT YOUR RACING FUTURE



Graphite top and bottom chassis plates offer high strength with low weight. The Lazer ZX layout means quick maintenance.

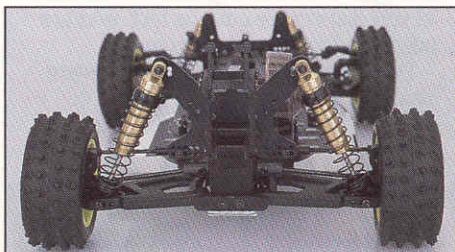
Kyosho has lifted 4WD technology and design to a new level with the introduction of **Lazer ZX**. Starting with a clean sheet of paper, along with the experience gathered in the design and refinement of the Optima Mid series of cars, Kyosho has given today's off-road racer a new weapon for the racing wars.

## Redesigned. Not rehashed.

Kyosho has engineered many significant improvements into the Lazer ZX. A new twin belt, low friction drive system powers front and rear differentials, with new universal swing shafts transferring power to the wheels.

At the heart of the drive train is a center differential on the mainshaft, allowing adjustable torque split for any track condition. The center diff also includes one-way bearings for the front drive system. Of course, a car of this caliber features full ball bearings as standard.

Kyosho has made a vast improvement in suspension geometry with the Lazer ZX. Utilizing extra long suspension arms with pick-up points well inboard, the Lazer's suspension tames the wildest of racing conditions, while Kyosho's famous Gold Shocks help dampen the roughest terrain. The suspension is also totally adjustable to any desirable geometry.



Lazer features improved double wishbone suspension arms. Upper suspension links allow front and rear camber adjustment.

## The Right Parts. The First Time.

The Lazer ZX includes a graphite chassis and top plate for low weight and high strength, and accepts either saddle or stick-type batteries.

Unlike other "high performance" cars that include black fiberglass chassis, Kyosho includes the right parts the first time.

Kyosho also includes many features to help today's racer spend more time racing and less time in the pits. For example, the Lazer ZX body comes complete with an undertray to keep out dirt and dust. And an adjustable wing mount is an integral part of the chassis (no more bending music wire to adjust wing angle!) For easy maintenance, both differentials can be accessed by the removal of a few screws.

Today's racer demands serious equipment. Get the new Lazer ZX from Kyosho. And get serious about your racing future.

**KYOSHO** **LAZER ZX**™

DISTRIBUTED TO LEADING RETAILERS  
NATIONWIDE EXCLUSIVELY THROUGH



Send to our address for your **FREE** copy of  
Kyosho's Mini Catalog from Great Planes.

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# MAGNUM FORCE.



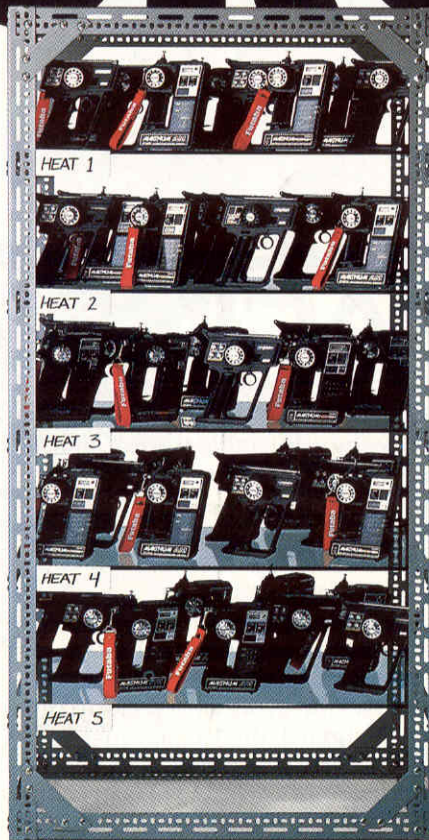
Tony Neisinger wins the 1989 Futaba Grand Prix with Magnum.

Every race day, more and more Magnums are showing up at the track. That's because Futaba makes a complete selection of Magnum pistol-grip systems to suit every kind of radio controlled car. Each Magnum system is loaded with competition features to give you an edge, whether it's your first race or the World Championships.

Get a grip on our hot, new 2PB/Sport. With a price as comfortable as its ergonomically designed case, the Sport is the perfect Magnum for the beginner. Servo reverse switching and convenient throttle and steering trims make set-up in any car or boat easy, and the Sport ESC option includes our MC112B MOS/FET speed control with reverse.

## MOVE INTO THE WINNERS CIRCLE

Our grown up Magnum 2PBKA/Junior gives you some extra moves to put on the competition. Full range steering rate lets you perfectly balance your car's



handling, even as track conditions change. Fine trimming and ATV controls let you dial in race set-ups fast, and are positioned for easy adjustment.

Racing options for the Junior system include the MC112B and a choice of S148, S132H or S9601 servos.

## THE ALL NEW MAGNUM AM

The Magnum 2PD/AM is just what the serious racer ordered. Compact, yet fully equipped with pro-style, fine tune controls like steering rate, brake trim, throttle ATL, ATV and sub trim. The Magnum AM transmitter also lets you customize wheel throw and spring tension.

Like all Magnum 2 channel systems, the 2PD includes our new, narrow-band R102JE receiver, S9301 servos, the choice of most top 1:10 on and offroad drivers, are included, or you can choose S132H or S9601 versions.



Servo reversing, throw adjustment and sub-trimming can be individually preset on the 2PD control panel.

## THE ULTIMATE MAGNUM

Racers who want it all turn to the awesome Magnum 3PB/PCM. The 3PB has everything you need for world class competition, in any class. Electronic trimming with sub trims and LED read-outs, programmable mixing, dual rates and exponential, plug-in RF module, DSC and more make the 3PB a uniquely refined and versatile performer.

And the incredible interference protection and resolution of Futaba's exclusive PCM 1024 put it in a class by itself.



2PB/Sport

(2PB and 2PBKA available with MC112B speed control)



2PBKA/Junior



2PD/AM

(2PD and 3PB available with S9301, S9601 or S132H servos)



3PB/PCM1024

# MAGNUM Futaba

Futaba Corporation of America