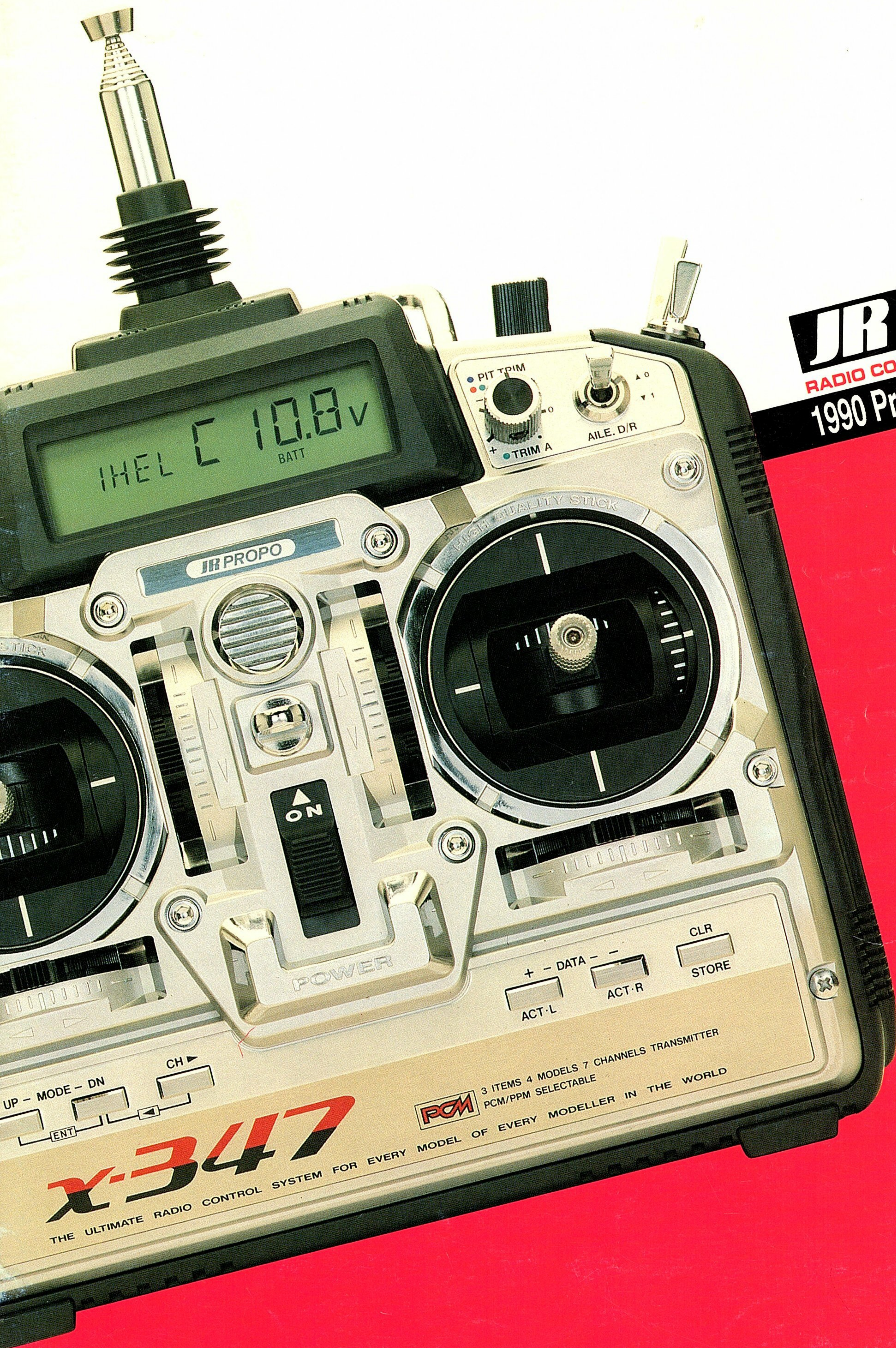


JR REMOTE CONTROL
RADIO CONTROL SYSTEMS
1990 Product Catalog



X-3447

THE ULTIMATE RADIO CONTROL SYSTEM FOR EVERY MODEL OF EVERY MODELLER IN THE WORLD



3 ITEMS 4 MODELS 7 CHANNELS TRANSMITTER
PCM/PPM SELECTABLE



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WHY JR?

Why are flyers around the world calling JR radios "The Best"?

WHY JR?

Hobby Dynamics Distributors is proud to be the exclusive distributor of JR Radio Control Systems because JR is:

- Recognized as the worldwide leader in design and production of advanced radio control systems
- Quoted as "The best radios I've ever used!"
"I've flown many great radio systems, but none can compare to JR!"
"JR radios are the best! I've used them for ten years without any problems!"
- Focused on technological evolution

JR radios are not only technologically advanced; they are extremely user friendly. This combination makes JR radios ideal for beginners and experts alike!

WHY SHOULD I BUY A JR RADIO?

- JR is recognized for its high quality by many of the world's best R/C flyers. Hanno Prettnner, Austria, has won the past three World Pattern Championships using a JR computer radio.
- The past two out of three Helicopter World Championships were won by flyers using JR radios.
 - 1987 – Curtis Youngblood, Century 7
 - 1985 – Shigetada Taya, PCM-9
- All the Tournament of Champions competitions have been won with JR radios.
- The 1990 Top Gun Tournament was an excellent display of JR's superior capabilities. The top three winners all flew JR radios.

1st Place – Ron Gilman
Flew a PCM-10

2nd Place – Bob Violett
Flew a PCM-10
3rd Place – Jeff Foley
Flew an Unlimited 8

- JR went to Hollywood this year in the newly-released movie, "Fire Birds." JR PCM-10's were the only radios chosen for this Touchstone Picture to help perform the special effects.
- The 1990 U.S. Scale Masters Competition allowed JR radios the chance to prove their excellent quality even further. The top two winners both flew JR.

1st Place – Ron Gilman
Flew a PCM-10
2nd Place – Bob Violett
Flew a PCM-10

Bob Violett also took first place at the U.S. Scale Masters Competition in 1989 using a JR radio.

- JR is an innovator in the field of radio control and uses space age radio signal reception electronics with its patented ABC&W single conversion Rx circuitry. JR radio systems are designed to operate in the narrow band radio signal environment of 1991 and beyond. This type of circuitry is the most signal selective, bullet proof system available to date. JR was the first to have "1991" approved radios. Just another way JR is using its technological advances to meet consumers' needs.

JR, with the help of JR Service Americas, also provides an affordable "1991" upgrade program. Customer satisfaction is of the utmost importance, and JR continually improves its radios to meet the modeler's needs. JR was the first company to offer a computer radio

and a "1991" approved 4-channel AM system. JR was also the first to offer one radio that can fly three different aircrafts – the new X-347.

- JR servos are equally reliable and respected, due to their high quality and top performance.
- JR also provides high-quality service and repair of its products. JR Service Americas (JRSA), Hobby Dynamics Distributor's improved JR warranty and repair division, is known for its quality of work and rapid turnaround. It is JRSA's top priority to return repaired JR radios as quickly as possible. Less time in service means more time at the field!

JRSA also provides unique technical assistance. JRSA phone lines (217-355-9511) are open weekdays from 8:00 am to 5:00 pm CST to assist you. Just another reason to use JR!



- Public relations support from JR and Hobby Dynamics Distributors is another reason to use JR products. We have had an overwhelming response to our new consumer Club JR. Club JR provides a perfect way for us to keep JR enthusiasts abreast of new JR products, JRSA service and repair news, accomplishments of JR flyers, and various other bits of industry news.



JR Remote Control Radio Systems

About Hobby Dynamics Distributors

Hobby Dynamics Distributors is a full-line distributor of radio control hobby products. The JR Remote Control line of radio systems and accessories is distributed exclusively by Hobby Dynamics Distributors and can be found at local hobby shops everywhere. We are pleased to present these fine quality radio systems to the North American R/C market. More information about JR radios and accessories can be obtained at your local hobby shop.

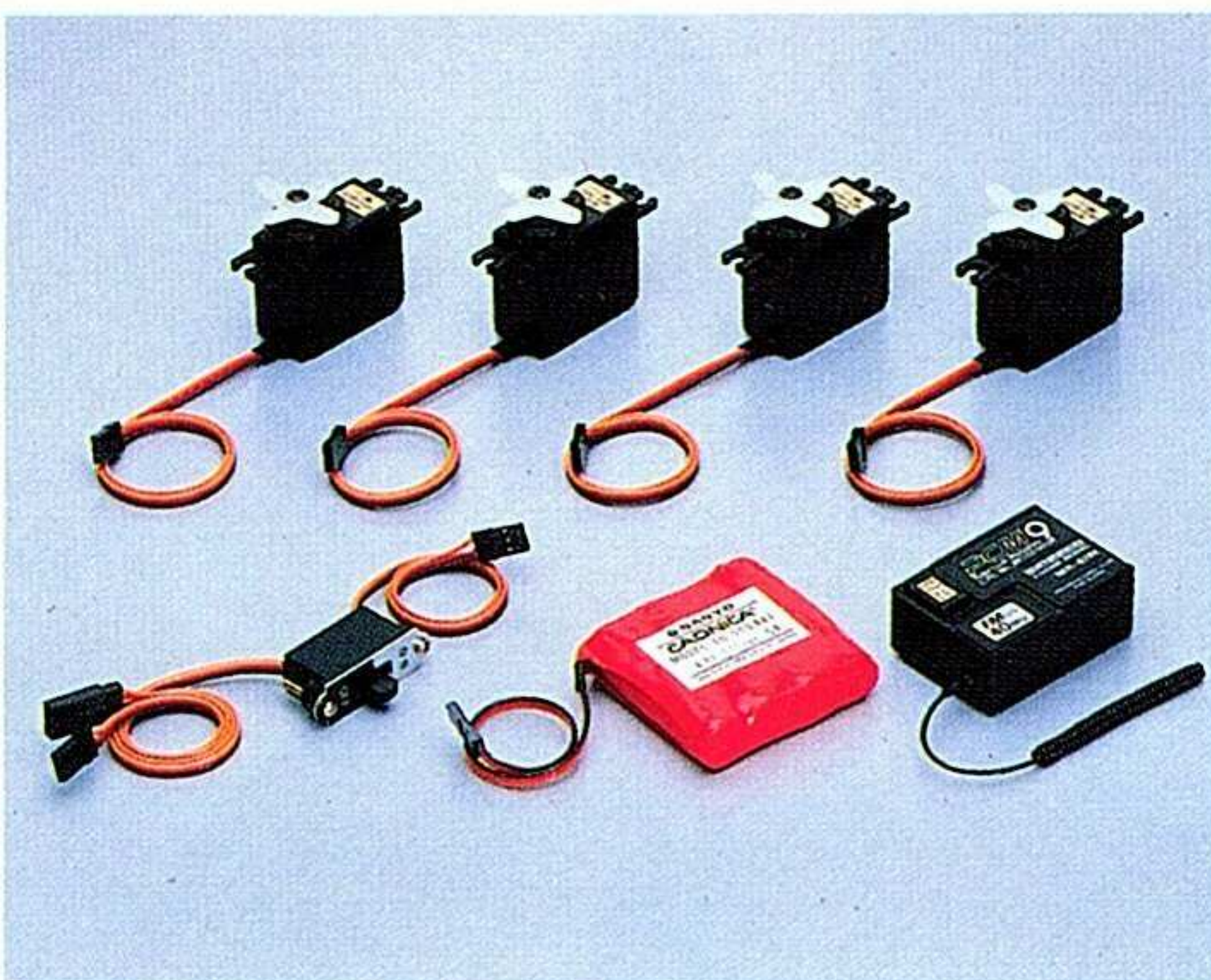


Hobby Dynamics Distributors' Headquarters.

JR - The World's Finest Radio Systems

JR Remote Control is recognized as the worldwide leader in the design and production of advanced radio control systems.

JR is dedicated to designing and making radio systems with state of the art features incorporating the latest technological advancements. Much time and effort has been spent by JR in research and development, product design and market analysis to bring you the very best radio systems available. JR is also committed to delivering a quality line of radio systems that are responsive to the hobbyist's needs. Their goal is to evaluate the needs of the R/C enthusiast and combine them with their technology to produce radio systems with consumer appeal.



1991 and Beyond

Leading the world in R/C technology requires a commitment to producing the most advanced equipment achievable, to manufacturing under rigorous standards of quality, and to constantly challenging those standards. The new JR X-347 is a perfect example of a radio system that is the latest breakthrough in a new generation of computer control. This computer radio system and all currently produced JR Radio Systems are designed and engineered to operate in the narrow band radio signal environment of 1991 and beyond.

JR's focus is on technological evolution. Being an innovator in your field also requires stepping outside of that field to bring in new technology. JR was the first radio equipment manufacturer to blend the computer into the digital proportional radio system, and JR is the only manufacturer to borrow space age radio signal reception electronics (the patented ABC&W receiver circuitry) from the satellite industry to further answer the demands of operating in the narrow band frequency environment.

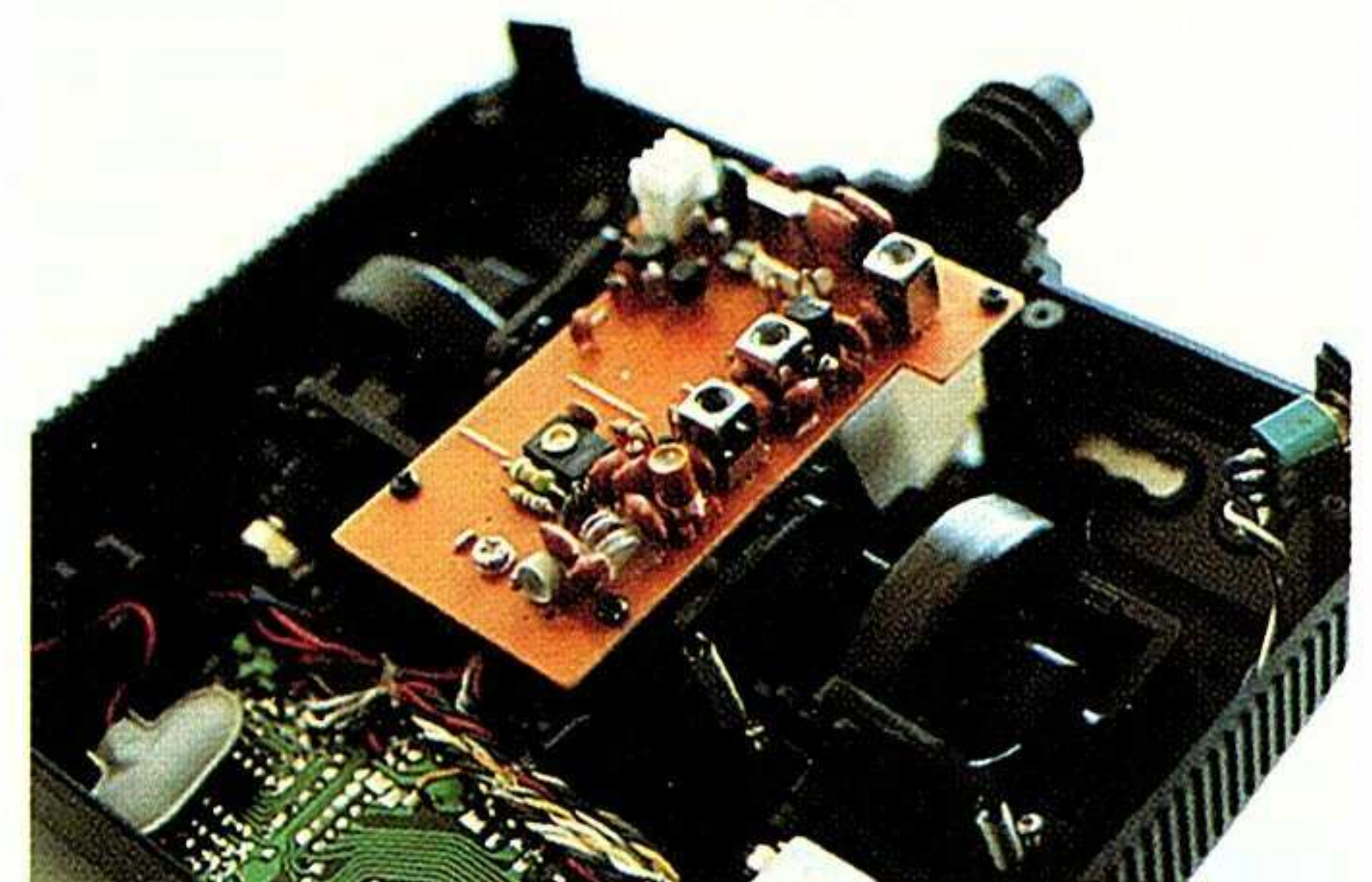


To complement the quality and high technology found in its line of radio systems, JR also makes available an extensive line of servos, receivers, electronic speed controls, chargers, gyros, and other accessories.

JR has earned its reputation for fine quality radio control systems and accessories. From beginner to expert, JR's quality and features are unmatched. Take advantage of JR's years of experience with radio control electronics. There is a radio system for everyone from JR and Hobby Dynamics Distributors.

JRSA

JR Service Americas (JRSA) is Hobby Dynamics Distributors' improved warranty and repair division that services and repairs our exclusive line of JR products on a discount basis. JRSA's goal is to repair JR products quickly and cost-effectively so that you can be back at the field or on the track as soon as possible.



Some of the JRSA features include:

- Trained professional staff
- On-line computer tracking system for repairs
- On-line computer ordering system for JR, Kalt and Webra parts and accessories
- Actual cost UPS shipping
- State-of-the-art test equipment
- Improved factory backing
- New improved work orders to give more complete information on work and service performed
- No wait warranty service
- Notification by phone on all repairs over \$30.00
- Replacement program for radios and components not economically repairable.

JR Service Americas
4105 Fieldstone Road
Champaign, Illinois 61821
(217) 355-9511
8:00 am - 5:00 pm CST



THE FUTURE IS HERE!

One Radio That Does It All

The Radio of the Future

The new X-347 from JR proves that the future doesn't always come tomorrow. Designed with competition flying in mind, this 7-channel PCM/PPM selectable computer radio is fully-functional for helicopters, airplanes, and gliders. With the touch of a few keys, unique data can be input and memorized for up to 4 different models. You can even name your models, and everything appears on the new, large LCD display. In addition, every knob and switch has been color-coded so you can see at a glance which function it controls for each type of aircraft. And it's all wrapped up in a new bio-design casing – the most comfortable one yet. Finally, the future is here . . .

For Airplanes.

The X-347 offers all the features of more expensive computer radios. Features like Differential Ailerons, 4 Programmable Mixes, and 4 Snap Rolls. There's also an Auto Rudder Dual Rate and an Auto Landing system. JR gives you complete control . . .

For Helicopters.

Custom program the X-347 to fit your flying style – or styles! It offers 4 Pitch Curves, 3 Throttle Curves, 2 Revolution Mixes and 1 Programmable Mix. If that's not enough, there are also switches for throttle hold, inverted flight, and 3 separate stunt/flight modes. The possibilities are endless . . .

For Gliders.

Compare the X-347 to any other glider radio, and you'll find it has all the features you ever wanted . . . like 4 Programmable Mixes and Crow Mixing. And there are more Mixes – for Elevator to Flap, Flap to Elevator, Flap to Aileron, and Aileron to Flap. This is the ultimate radio control system . . .

For Training.

The X-347 makes training a breeze with the very first programmable function trainer. This revolutionary system allows the trainee to control one function at a time; once proficient with it, new ones can be accepted until the trainee has full control of the model. This means safer, easier training with all 3 types of aircraft. The X-347 makes it all so simple . . .

X-347 Modular Design.

Your total X-347 package consists of 3 components in one, i.e., Transmitter, RF Pack (#J7XRF), and Airborne Pack (Airplane #J7XCPK, Glider #J7XGPK, Heli #J7XHPK). RF and airborne packs are available separately, which makes the X-347 the most versatile radio system in the world.

Select the Channel You Want to Use.

Each X-347 comes with one JR 7-channel RF pack; additional RF packs are also sold separately for use with other models. Every pack includes a 1991 approved narrow-band receiver, a transmitter module, and a frequency flag. They are available in 72, 53, and 50 MHz channels, and are compatible with all three types of aircraft. When you order an X-347, we'll include an RF pack that operates on the channel you specify.

Select an Airborne Pack to fit Your Aircraft.

The X-347 also comes with one airborne pack. These packs are specially designed for use with airplanes, helicopters, or gliders – you specify the kind you need. Additional packs are also sold separately, for use with other models. The helicopter airborne pack includes five (5) JRS517 servos and a 1000 mAH battery pack; the airplane pack comes with four (4) JRS517 servos and a 550 mAH battery pack; and the glider pack has two (2) JRS901 servos and a 550 mAH battery pack. Each airborne pack includes all the necessary servo accessories – switch harness, aileron extension, charge receptacle, charger (high rate for helicopters), DSC cord, 3 servo trays, and a smooth throttle ratchet for use with the helicopter system. The future of flight is in your hands.

See Page 7 For More Features!

X-347

PCM THE ULTIMATE RADIO CONTROL SYSTEM



JR REMOTE CONTROL
RADIO CONTROL SYSTEMS

2 CHANNEL

HD2C AM

- #JHD2C
- ABC&W receiver with BEC
- 2 standard JR servos
- interchangeable frequency crystal
- trims on both channels



Max 2 AM

- #J2AMB
- ABC&W receiver with BEC
- 2 JR 507 servos
- BEC switch harness
- multi-tilt racing type short stick system
- battery case
- interchangeable frequency crystals
- servo reverse



Alpina AM Wheel

- #J2AAB
- ABC&W receiver
- 2 JR 507 servos
- BEC switch harness
- battery holder
- interchangeable frequency crystal
- servo reverse
- variable rate steering
- end point adjustments
- throttle and steering trims



Alpina PCM Wheel

- #J2PAB
- ABC&W receiver
- 2 JR 507 servos
- BEC switch harness
- battery holder
- interchangeable frequency crystal
- servo reverse
- variable rate steering
- throttle and steering trims
- fail safe



4 CHANNEL

Max 4 AM

- #J4MC2
- ABC&W receiver
- 3 JR 507 servos
- plug in Tx battery pack
- rechargeable Tx & airborne NiCds
- NiCd charger
- complete servo accessories & hardware
- servo reverse



Max 4 FM Aircraft

- #J4FC2
- ABC & W 7-Channel receiver
- 3 JR 507 servos
- plug in Tx battery pack
- rechargeable Tx & airborne NiCds
- NiCd charger
- complete servo accessories & hardware
- servo reverse
- trainer system



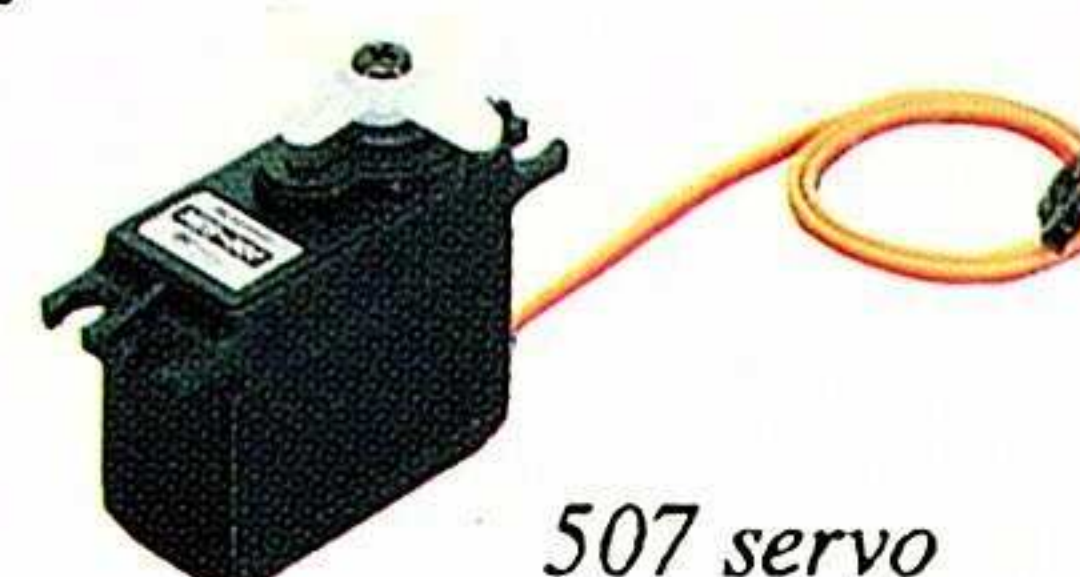
5 CHANNEL FM

Max 5 FM Helicopter

- #J5FH2
- ABC&W 7 channel receiver
- 5 JR 507 servos
- plug in Tx battery pack
- high output NiCd charger
- complete servo accessories & hardware
- servo reverse
- dual rates
- ATS system
- throttle hold
- pitch trim
- adjustable pitch curve

Max 5 FM Aircraft

- #J5FC2
- ABC&W 7 channel receiver
- 4 JR 507 servos
- plug in Tx battery pack
- rechargeable Tx & airborne NiCds
- NiCd charger
- complete servo accessories & hardware
- servo reverse
- dual rates



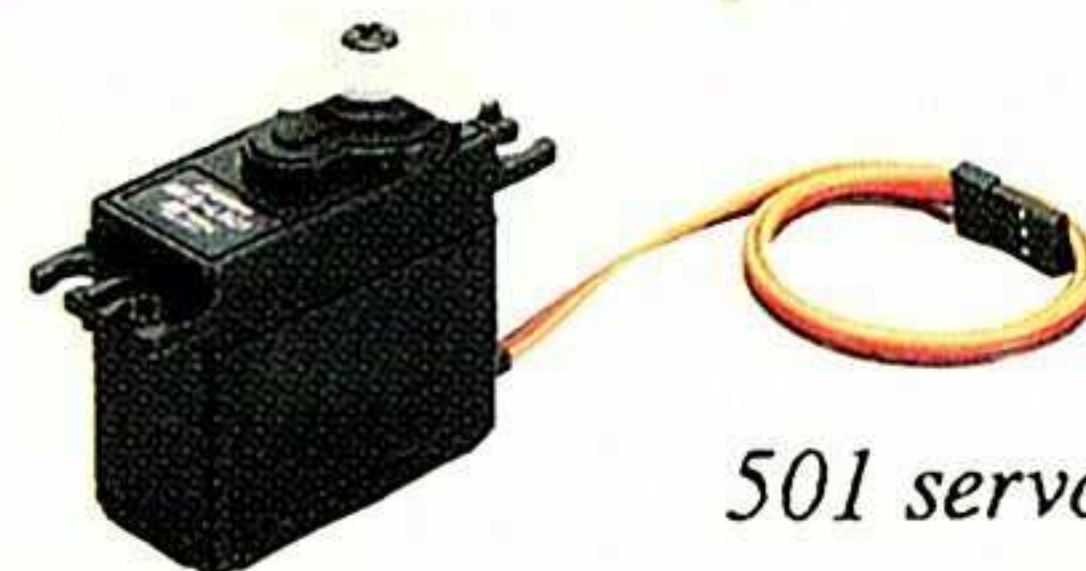
507 servo



5 CHANNEL PCM

Max

10KHz
1991
NARROW
BAND



501 servo

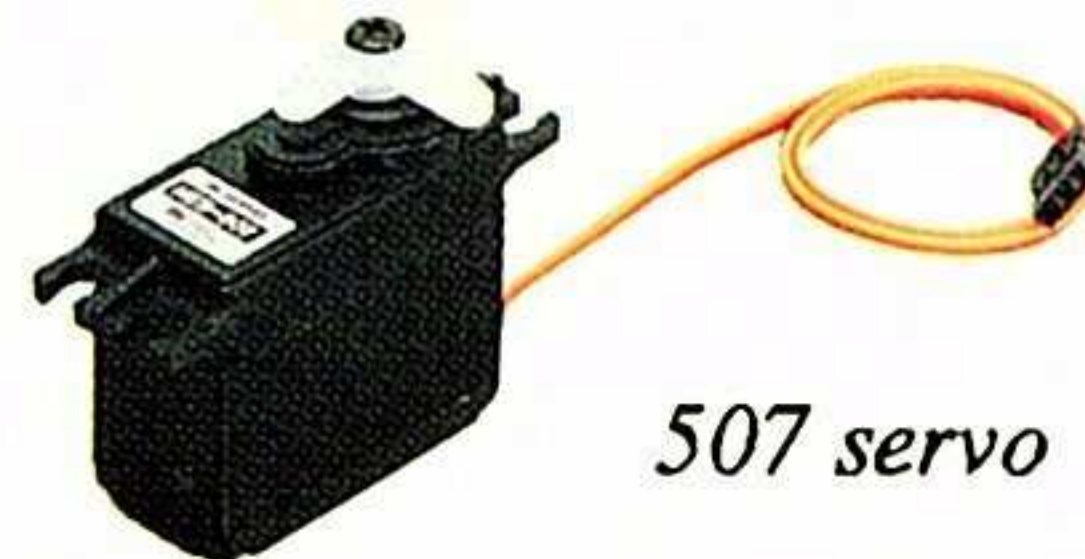
Max 5 PCM Aircraft

- #J5PC2
- ABC&W receiver (PCM 7 channel)
- 4 JR 501 servos
- plug in Tx battery pack
- rechargeable Tx & Nicds
- NiCd charger
- complete servo accessories & hardware
- servo reverse
- dual rates
- interference/battery fail safe

6 CHANNEL FM

Max

10KHz
1991
NARROW
BAND



507 servo

Max 6 FM Aircraft

- #J6FC2
- ABC & W 7-channel receiver
- 4 JR 507 servos
- plug in Tx battery pack
- rechargeable Tx & airborne NiCds
- NiCd charger
- complete servo accessories & hardware
- servo reverse
- dual rates
- 3-position flap switch
- retract switch
- trainer system

6 CHANNEL PCM

Max

10KHz
1991
NARROW
BAND



501 servo

Max 6 Computer PCM Helicopter

- #J6PH
- ABC&W receiver (PCM 6 channel)
- 5 JR 501 servos
- rechargeable Tx & 1000mah airborne NiCd
- high output NiCd charger
- complete servo accessories & hardware
- LCD
- servo reverse
- dual rates
- exponential
- interference/battery fail safe
- programmable subtrims
- ATS system
- ATV
- battery alarm
- throttle hold
- throttle curve (3)
- pitch curve (3)

Max 6 Computer PCM Aircraft

- #J6PC
- ABC&W receiver (PCM 6 channel)
- 4 JR 501 servos
- rechargeable Tx
- airborne NiCds
- NiCd charger
- complete servo accessories & hardware
- LCD
- servo reverse
- dual rates
- adjustable exponential
- interference/battery fail safe
- programmable subtrims
- ATV
- battery alarm
- elevator/flap mixing
- program mix for mixing 2 channels
- landing system

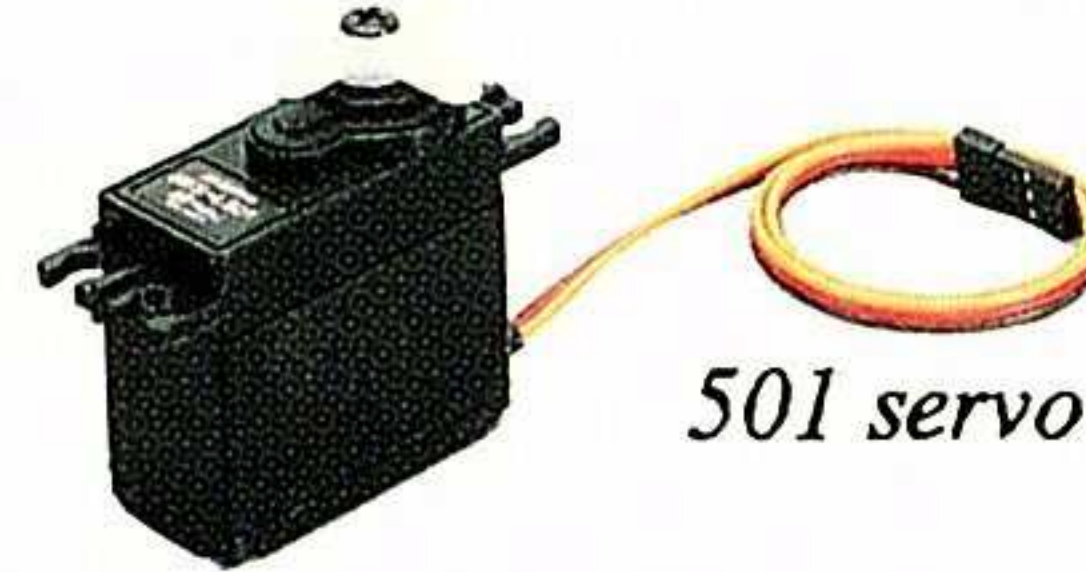
7 CHANNEL FM SINGLE STICK

Century 7 FM Single Stick Helicopter

- #J7FHS
- ABC&W receiver
- 5 JR 501 servos
- rechargeable Tx & airborne NiCds
- NiCd charger
- plug in Tx RF module
- complete servo accessories & hardware
- servo reverse
- dual rates
- exponential
- ATV • ATS
- direct servo controller
- trainer system
- throttle hold • throttle hover
- high idle
- inverted flight system
- adjustable pitch curve
- idle up

Century 7 FM Single Stick Aircraft

- #J7FCS
- ABC&W receiver
- 4 JR 501 servos
- rechargeable Tx & airborne NiCds
- NiCd charger
- plug in Tx RF module
- complete servo accessories & hardware
- servo reverse
- dual rates
- exponential
- ATV
- direct servo controller
- v-tail mix
- elevator/flap mix
- aileron/rudder mix



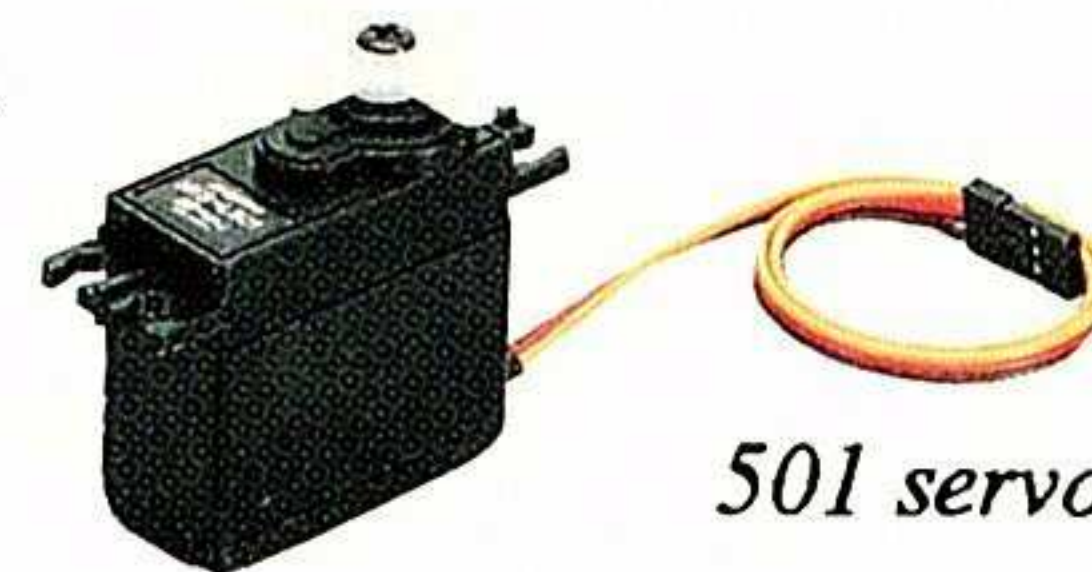
7 CHANNEL FM

Century 7 FM Aircraft

- #J7FC
- ABC&W receiver
- 4 JR 501 servos
- rechargeable Tx & airborne NiCds
- NiCd charger
- plug in Tx RF module
- complete servo accessories & hardware
- servo reverse
- dual rates
- exponential
- ATV
- direct servo controller
- v-tail mix
- elevator/flap mix
- aileron/rudder mix

Century 7 FM Helicopter

- #J7FH
- ABC&W receiver
- 4 JR 501 servos
- rechargeable Tx & airborne NiCds
- NiCd charger
- plug in Tx RF module
- complete servo accessories & hardware
- servo reverse
- dual rates
- exponential
- ATV • ATS
- direct servo controller
- trainer system
- throttle hold
- throttle hover
- high idle • idle up
- inverted flight system
- adjustable pitch curve

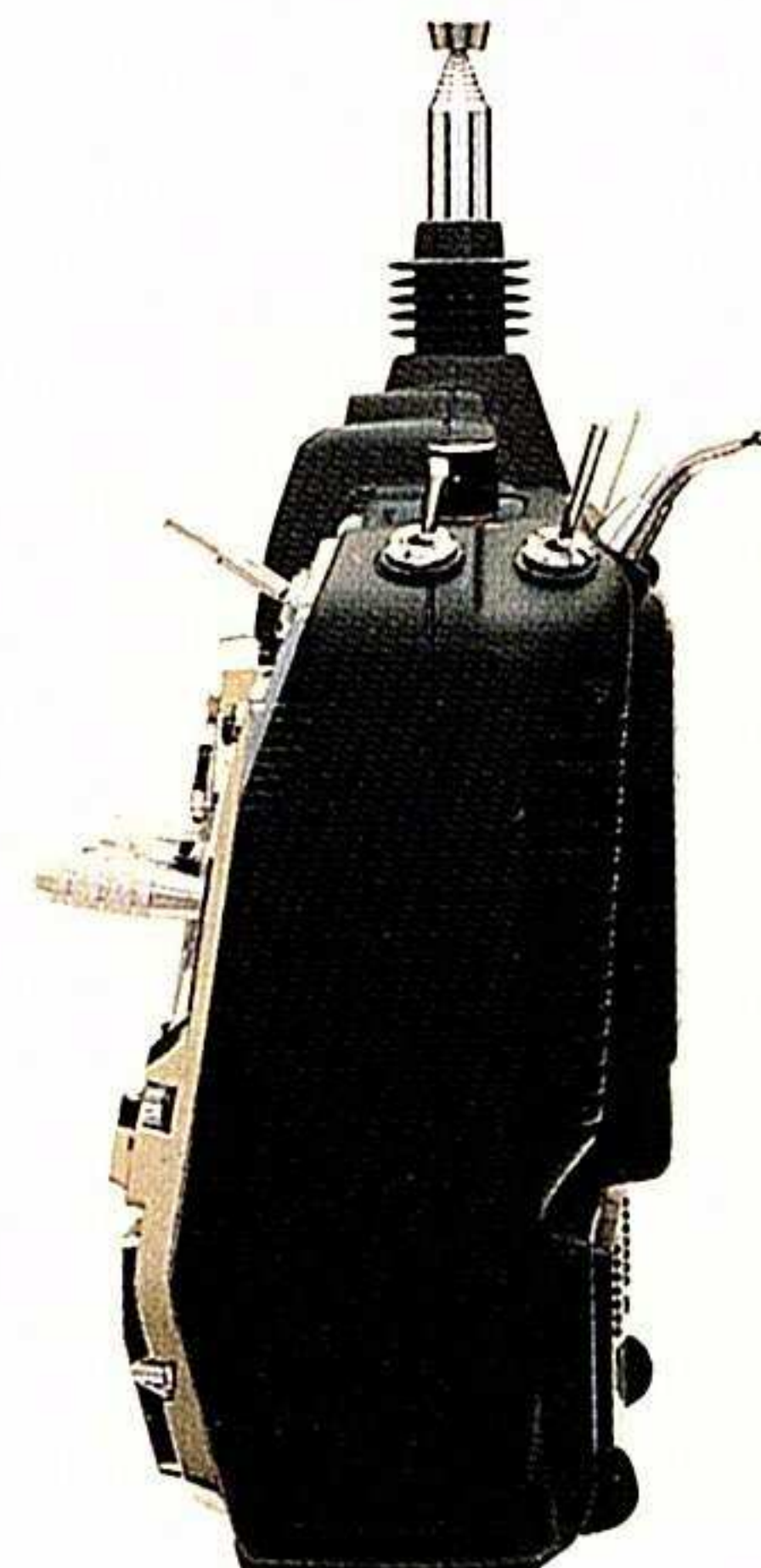


7 CHANNEL PCM

X-347 PCM Computer

Features Common to Three Types of Aircraft
(Helicopter, Airplane, Glider)

- #J7XPH, #J7XPC, #J7XPG
- Sub-trim
- Dual rates
- Exponential
- Servo reversing
- End point adjustment (ATV)
- Programmable mixing
- Fail safe
- Programmable function trainer (PFT)
- Stop watch
- Model select
- Model name input
- Type selection (helicopter, airplane, glider)
- Modulation selectable (PCM/PPM)
- Copy function
- Mode I/Mode II switchable



See page 4 for individual system features.

JR Remote Control

8 CHANNEL PCM

10KHz
1997
NARROW
BAND



Galaxy 8 PCM Helicopter

- #*G8H
- ABC&W dual conversion receiver
- rechargeable Tx & airborne NiCds
- NiCd charger
- complete servo accessories & hardware
- LCD
- servo reverse
- dual rates
- adjustable exponential
- interference/battery fail safe
- subtrims
- ATV
- ATS
- stop watch
- timer
- double ratcheted trims
- memory for 7 separate aircraft
- PCM/PPM selectable
- adjustable stick length
- swivel antenna
- direct servo controller
- trainer system
- battery alarm
- throttle hold
- throttle curves (3)
- pitch curves (4)
- inverted flight system

9 CHANNEL PCM SINGLE STICK

10KHz
1997
NARROW
BAND



PCM 9/9 Channel PCM Helicopter

- #J9PH2
- ABC&W dual conversion receiver
- 4 JR 501 servos
- rechargeable Tx & airborne NiCds
- NiCd charger
- complete servo accessories & hardware
- servo reverse
- dual rates
- adjustable exponential
- interference/battery fail safe
- ATV
- ATS system
- high idle (2)
- hovering throttle
- collective pitch (4)
- hovering pitch trim
- cyclic collective pitch mixing
- inverted flight system

PCM 9/9 Channel PCM Aircraft

- #J9PC2
- ABC&W dual conversion receiver
- 4 JR 501 servos
- rechargeable Tx & airborne NiCds
- NiCd charger
- complete servo accessories & hardware
- servo reverse
- dual rates
- exponential
- interference/battery fail safe
- ATV
- trainer system
- snap roll (2)
- auto landing system
- variable pitch prop mixing
- free mixing channel
- v-tail mix
- flaperon/differential aileron
- aileron/rudder mix
- elevator/flap mix

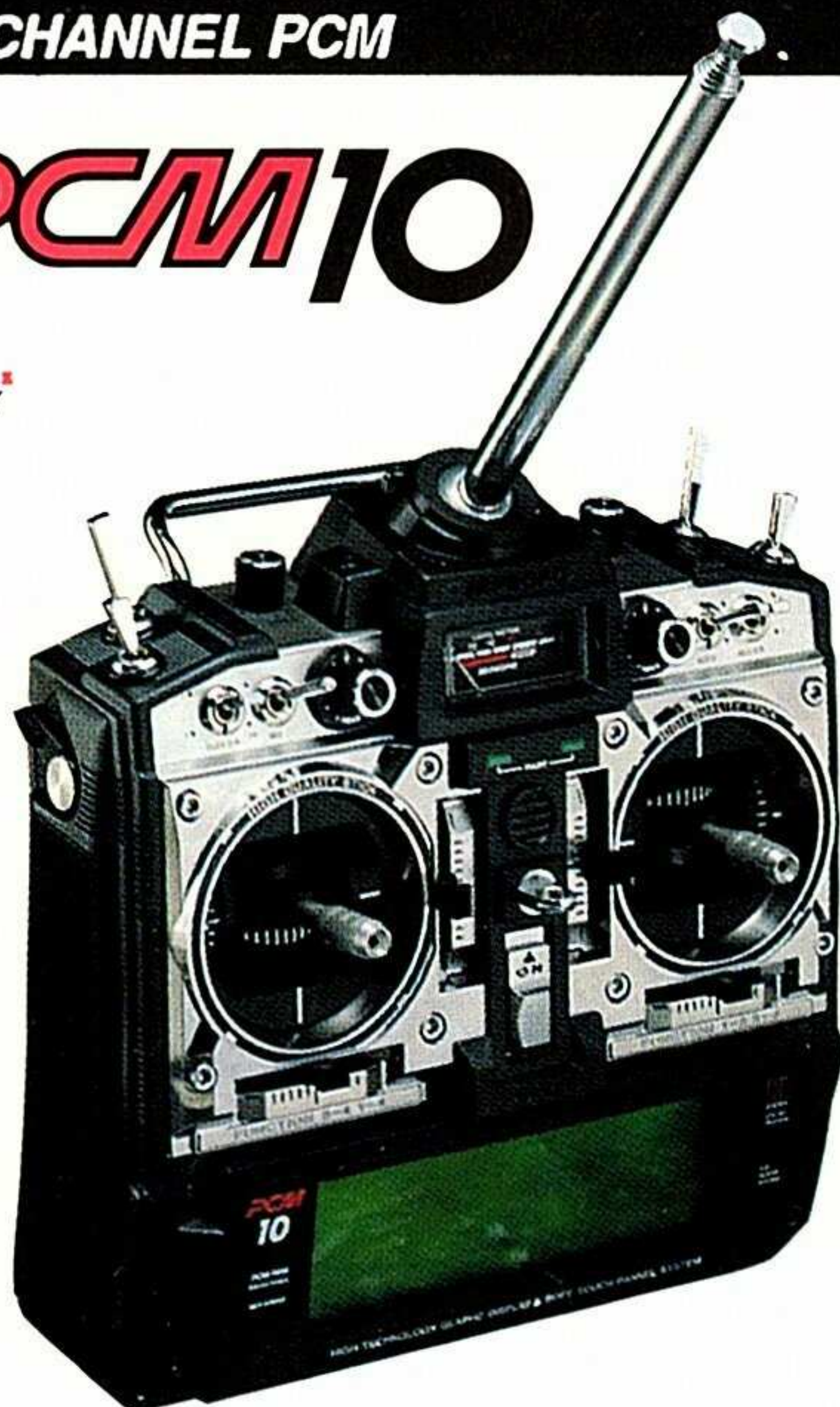


501 Servo.

10 CHANNEL PCM

PCM10

10KHz
1997
NARROW
BAND



PCM-10 Computer

Features Common to both Helicopter and Airplane

- #J10C, #J10H
- Touch screen input
- 10 channel
- Servo reversing on all channels
- Dual rate, EXP and VPT on aileron, elevator and rudder
- End point adjustment on all channels
- Group mixing (5)
- Trim rate
- Trim off-set
- Servo test
- JR 4031 servos – 5 with heli, 4 with airplane
- PCM/PPM selectable
- Automatic fail safe
- Lockable keyboard
- 7 model memory
- Model name input
- Integrated timer
- Stop watch
- Plug in Tx battery pack
- Compatible with Galaxy 8, Century 7 FM, X-347 and Max radio systems.



4031 servo

See page 9 for individual system features.

PCM10

The JR PCM-10 is the latest breakthrough in a new generation of computer radios. The PCM-10 is unmatched in performance and ease of operation! Its ergonomic design is engineered to fit the human hand perfectly and its touch screen input allows you to easily input data with the touch of a finger on the high resolution,

clear contrast display panel. With 7-model memory, you can program up to seven sets of functions and trim settings, making the changes from one aircraft to the next as simple as selecting the appropriate model by name from the function menu.

Special Functions/ Helicopter

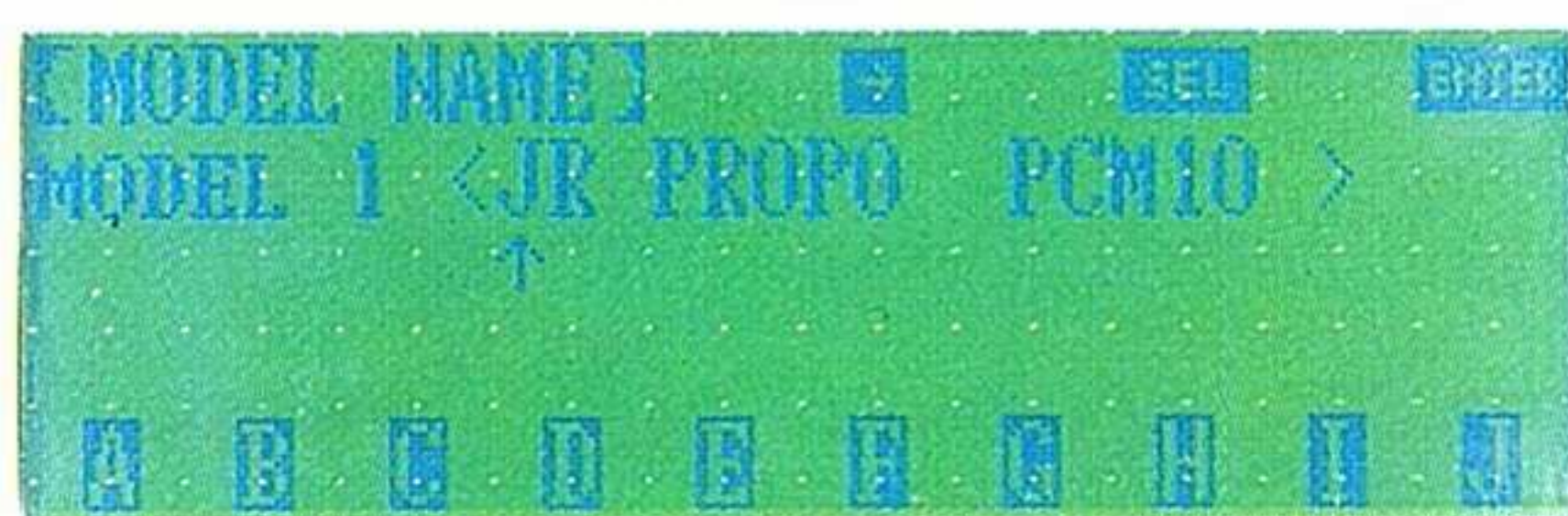
- Collective cyclic pitch mixing
- Revolution mixing (2) hovering & zero point pitch
- Throttle hold with rudder off-set
- Throttle pitch curve adjust
- Auto dual rate (flight mode)
- Stunt trim
- Inverted flight system
- Rudder to throttle mix
- 5 JR 4031 servos
- 1000 mAH battery pack and high output charge

Special Functions/ Aircraft

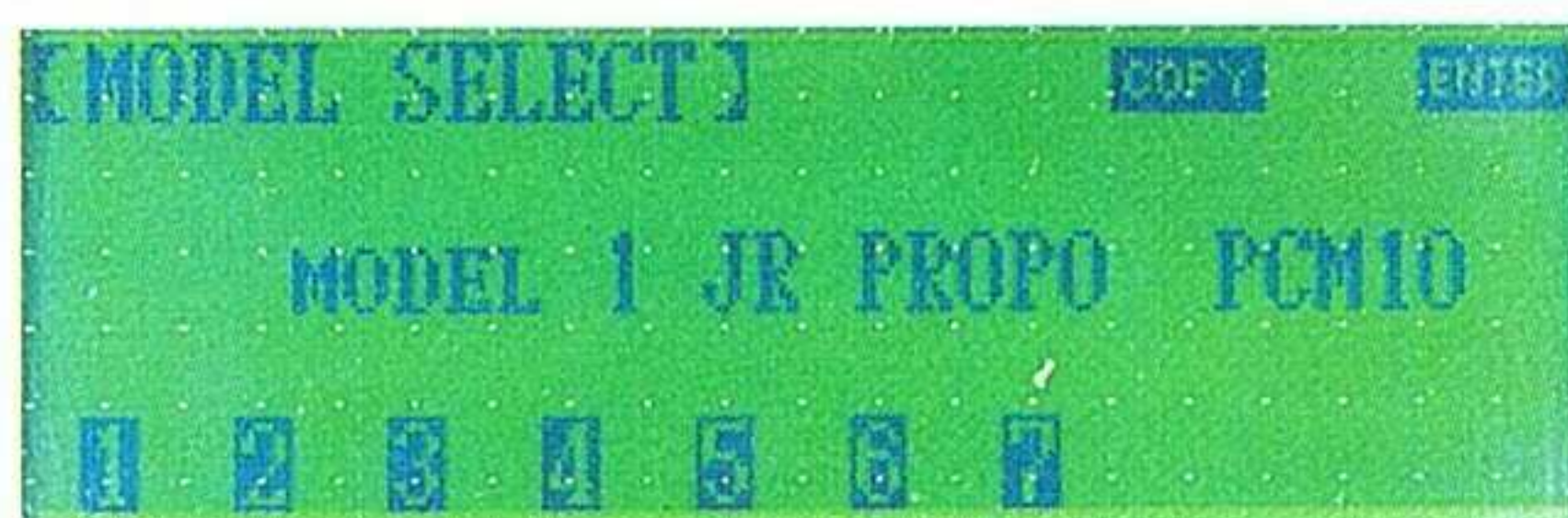
- V-tail, elevon, flaperon and spoileron
- Snap roll (4)
- Auto rudder dual rate
- Elevator to flap mixing
- Landing system with auto spoiler
- Variable propellor to pitch mixing
- 4 JR 4031 servos
- 700 mAH battery

Touch Screen Input

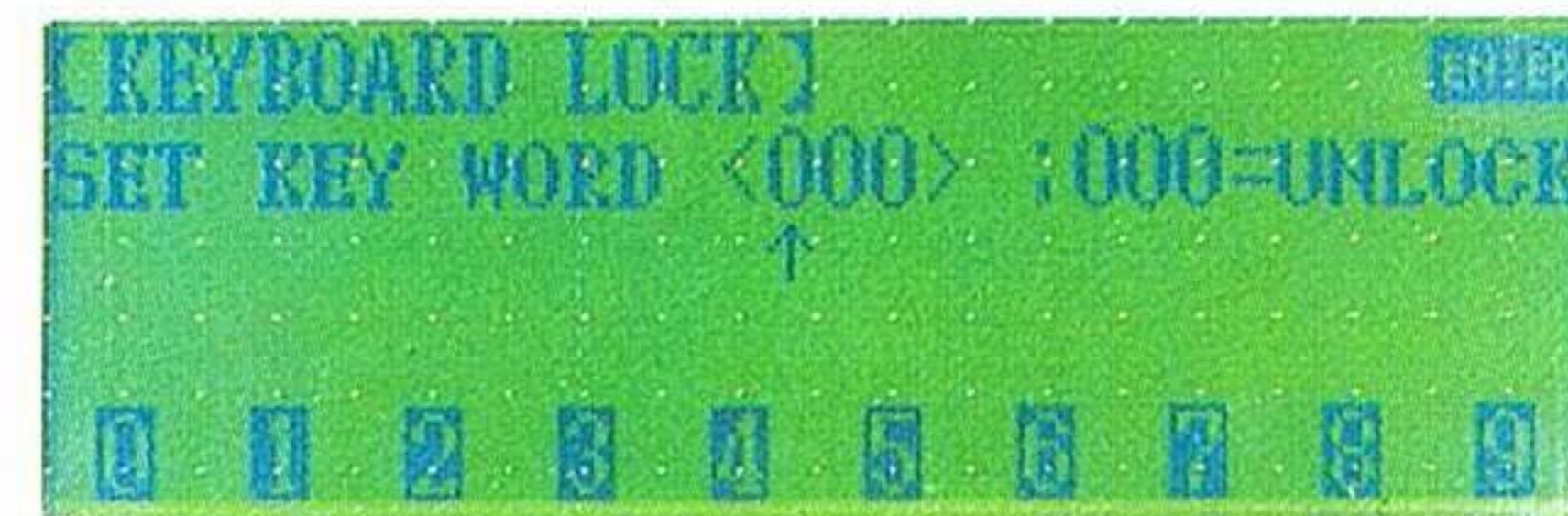
The PCM-10 panel switching system is the most user friendly method yet devised for programming your radio. Just a touch of your fingertip on the display panel calls up the function you need. You'll see all the necessary data displayed on the screen and by simply touching the desired adjust box or switch box, you can change the operation (see settings below).



Model Name Setting (heli, plane)



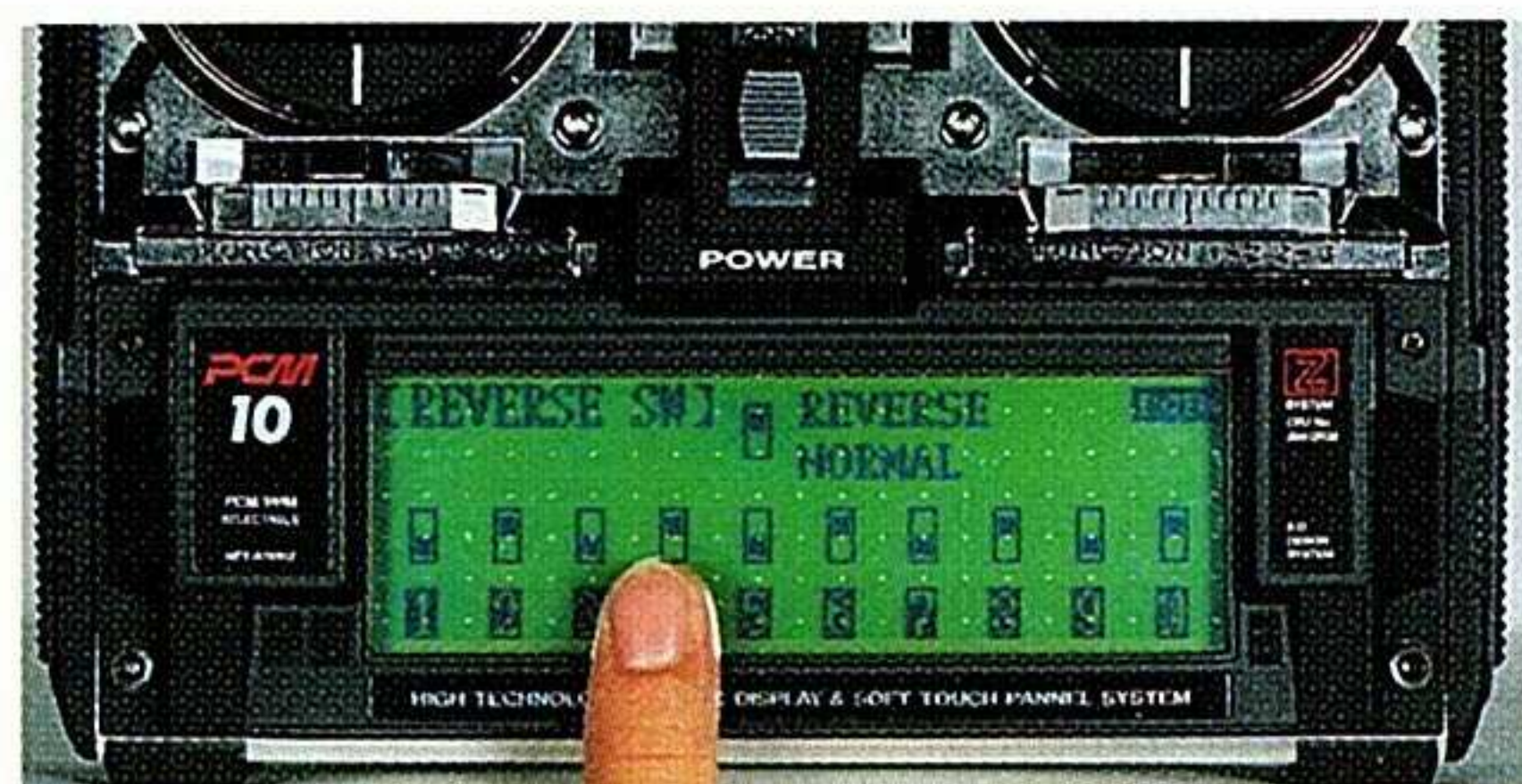
Model Selection (heli, plane)



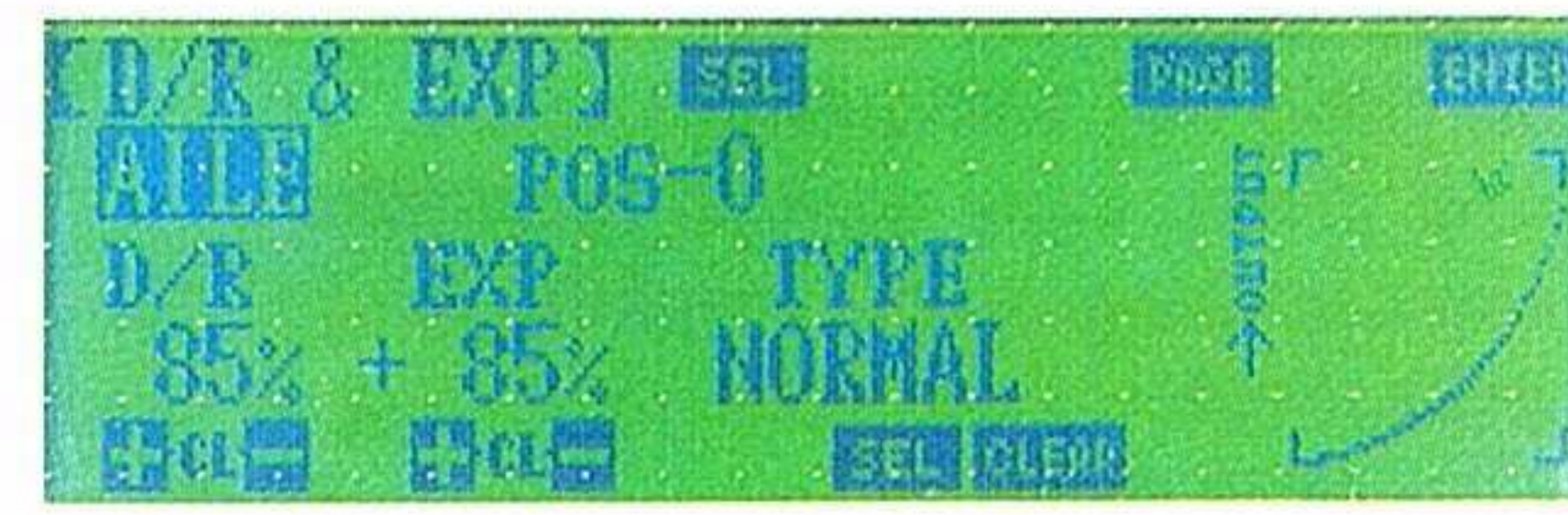
Keyboard Lock (heli, plane)



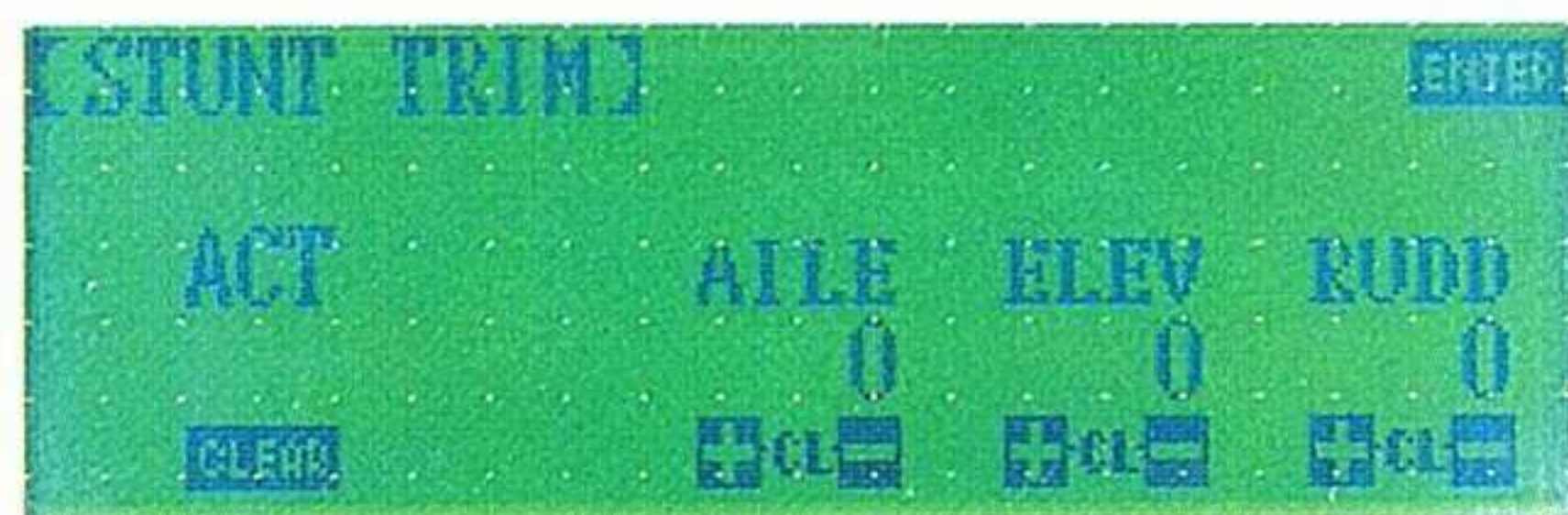
Auto Dual Rate Setting (heli)



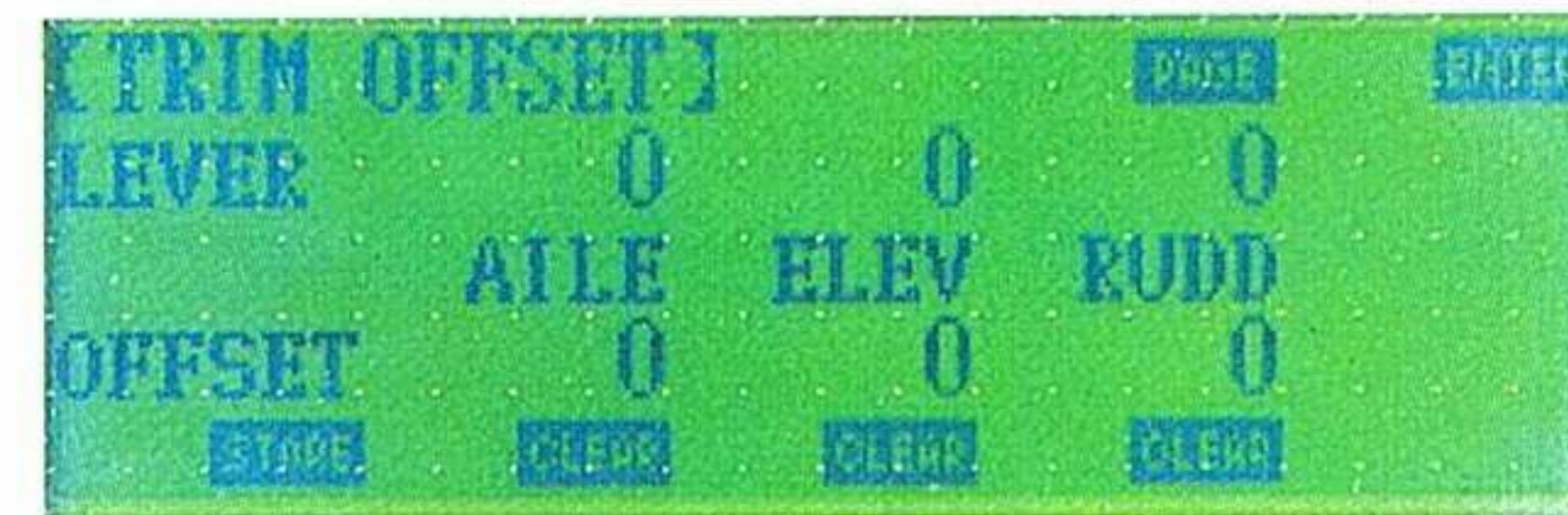
Convenient Touch Screen Programming



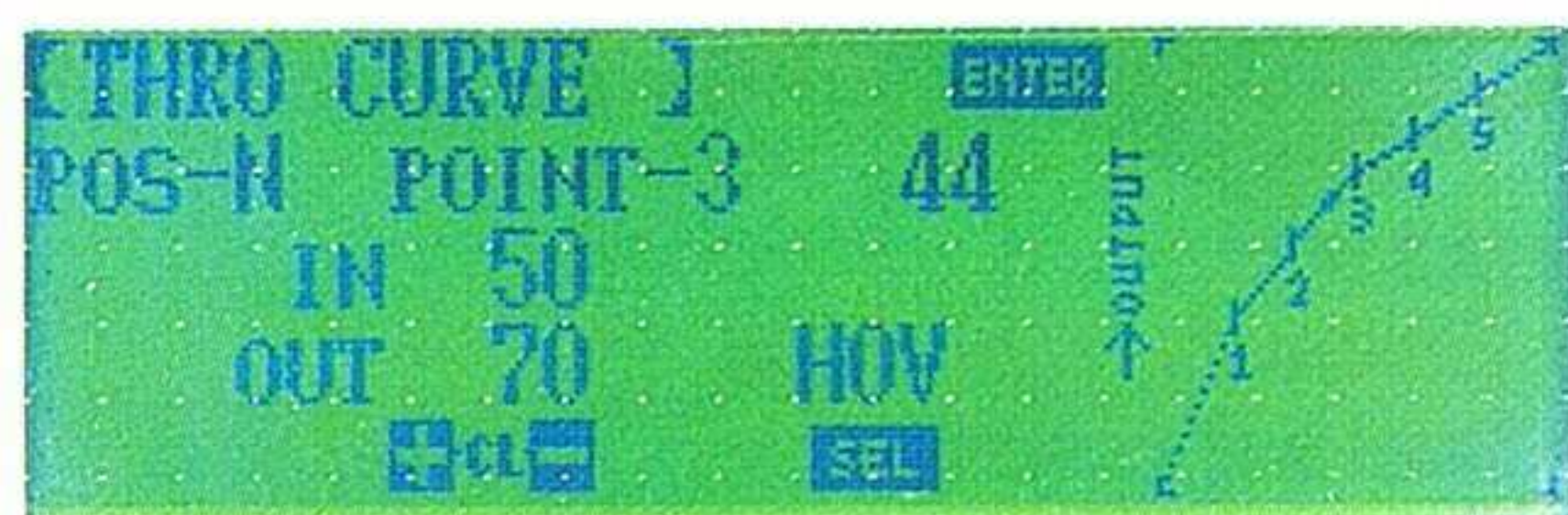
Dual Rate/Exponential Setting (heli, plane)



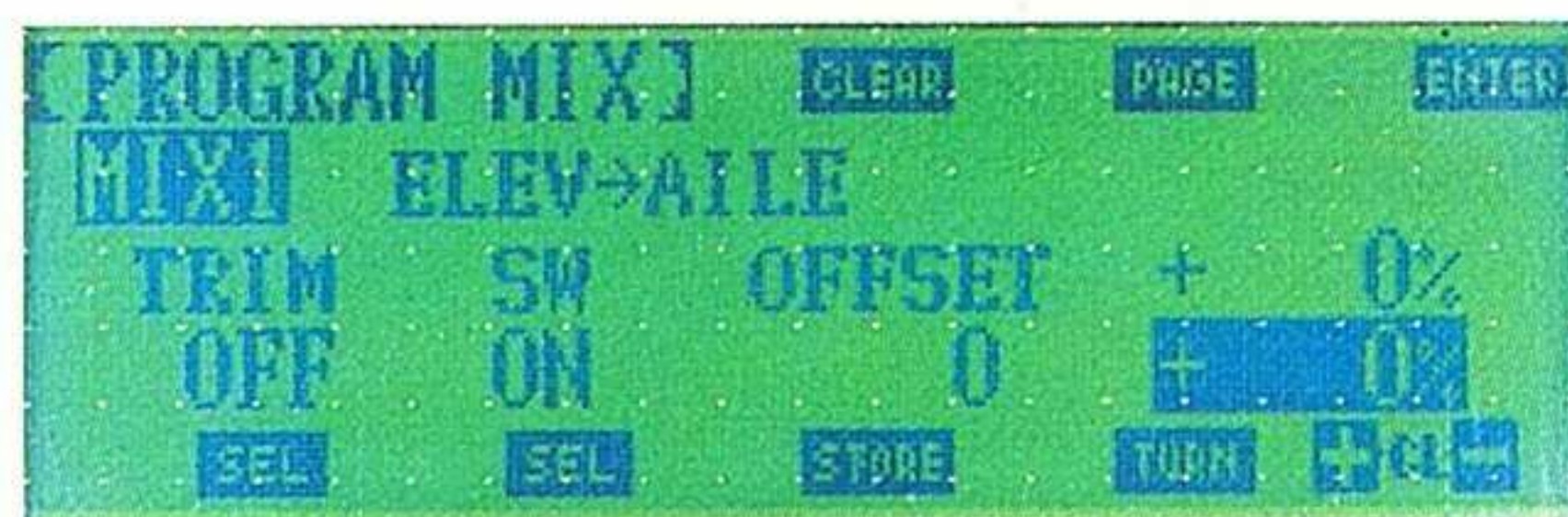
Stunt Trim Setting (heli)



Trim Off-set Setting (heli, plane)



Throttle Curve (heli)

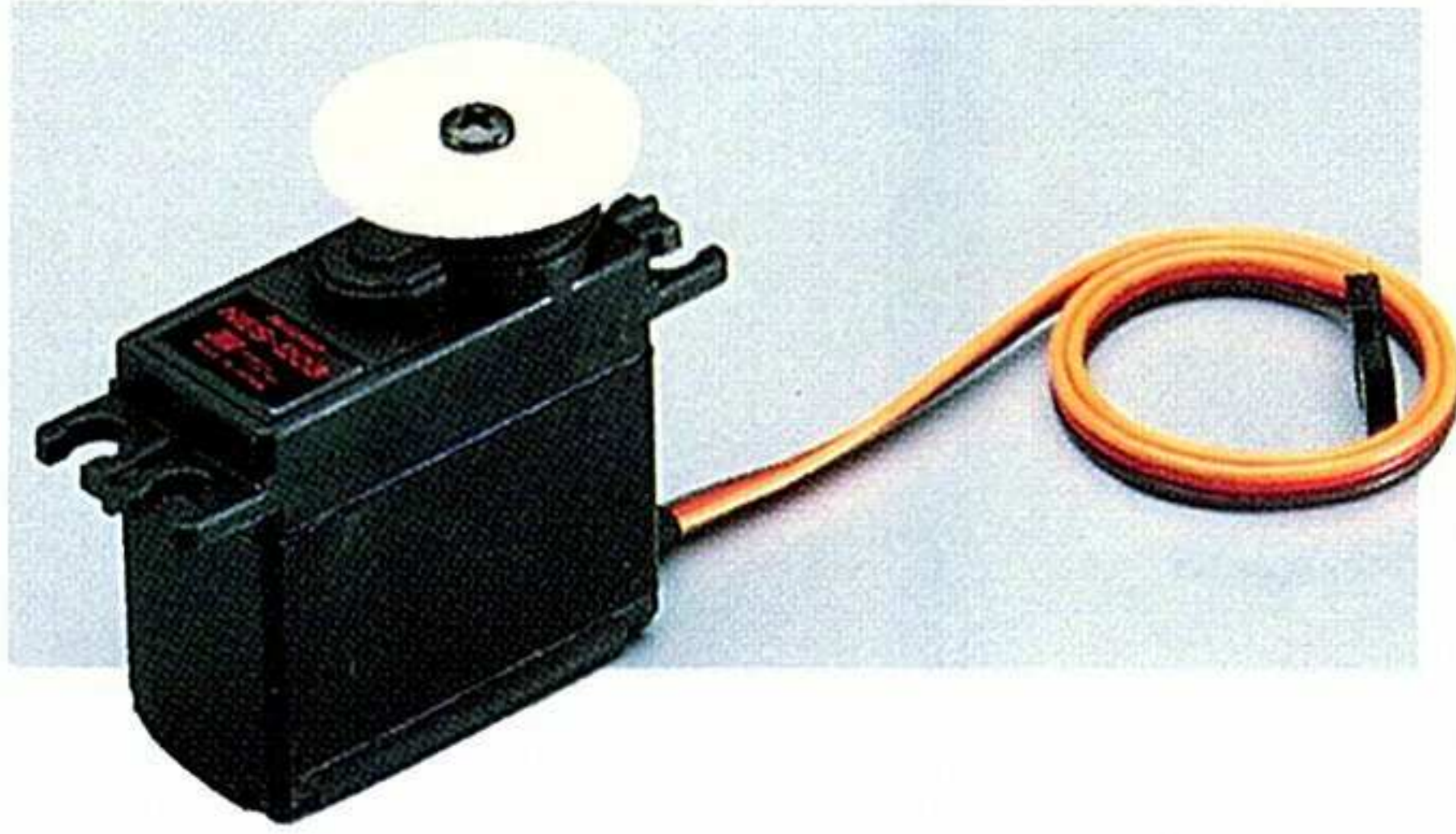


Program Mixing (heli, plane)

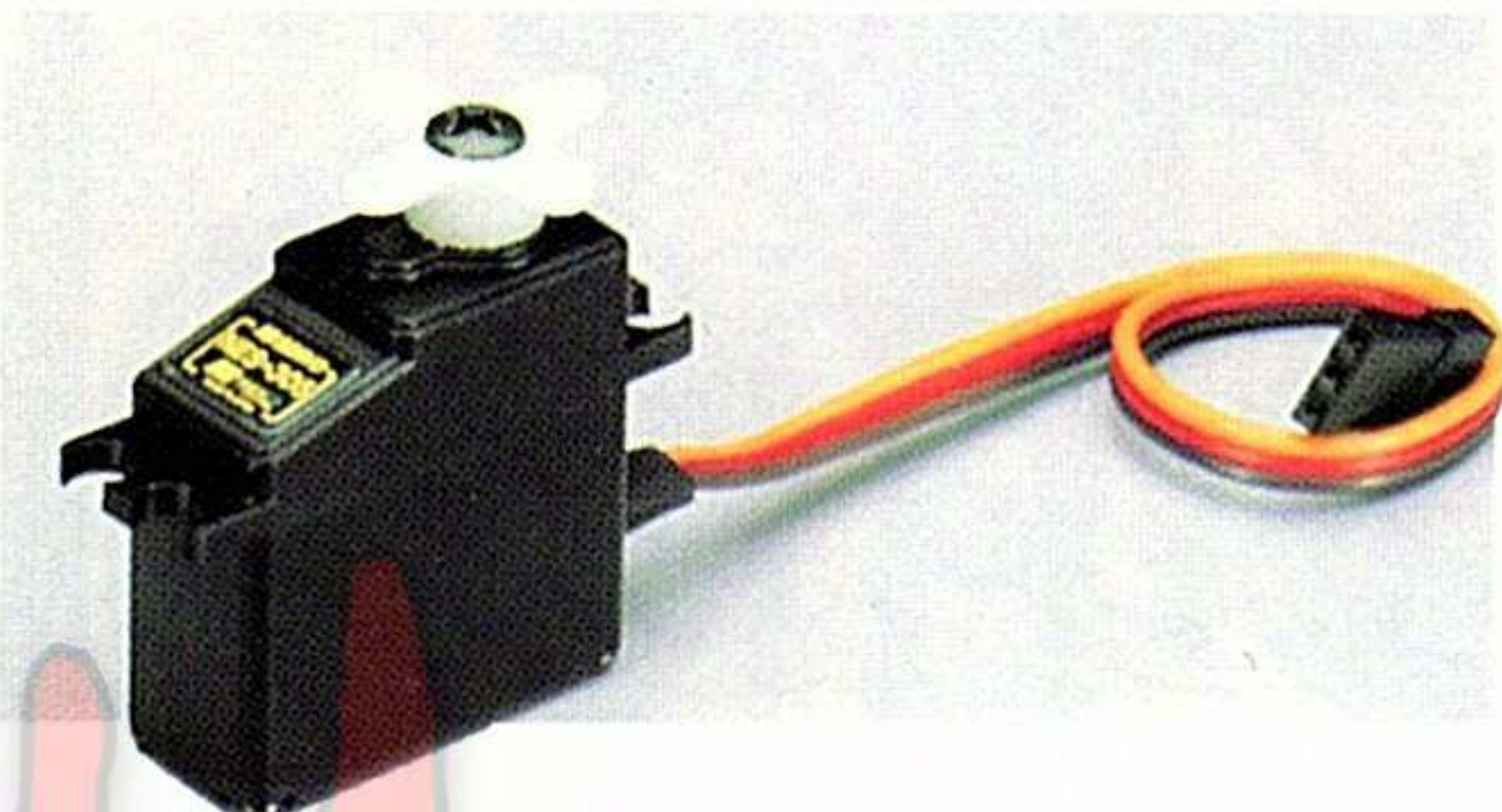


Revolution Mixing (heli)

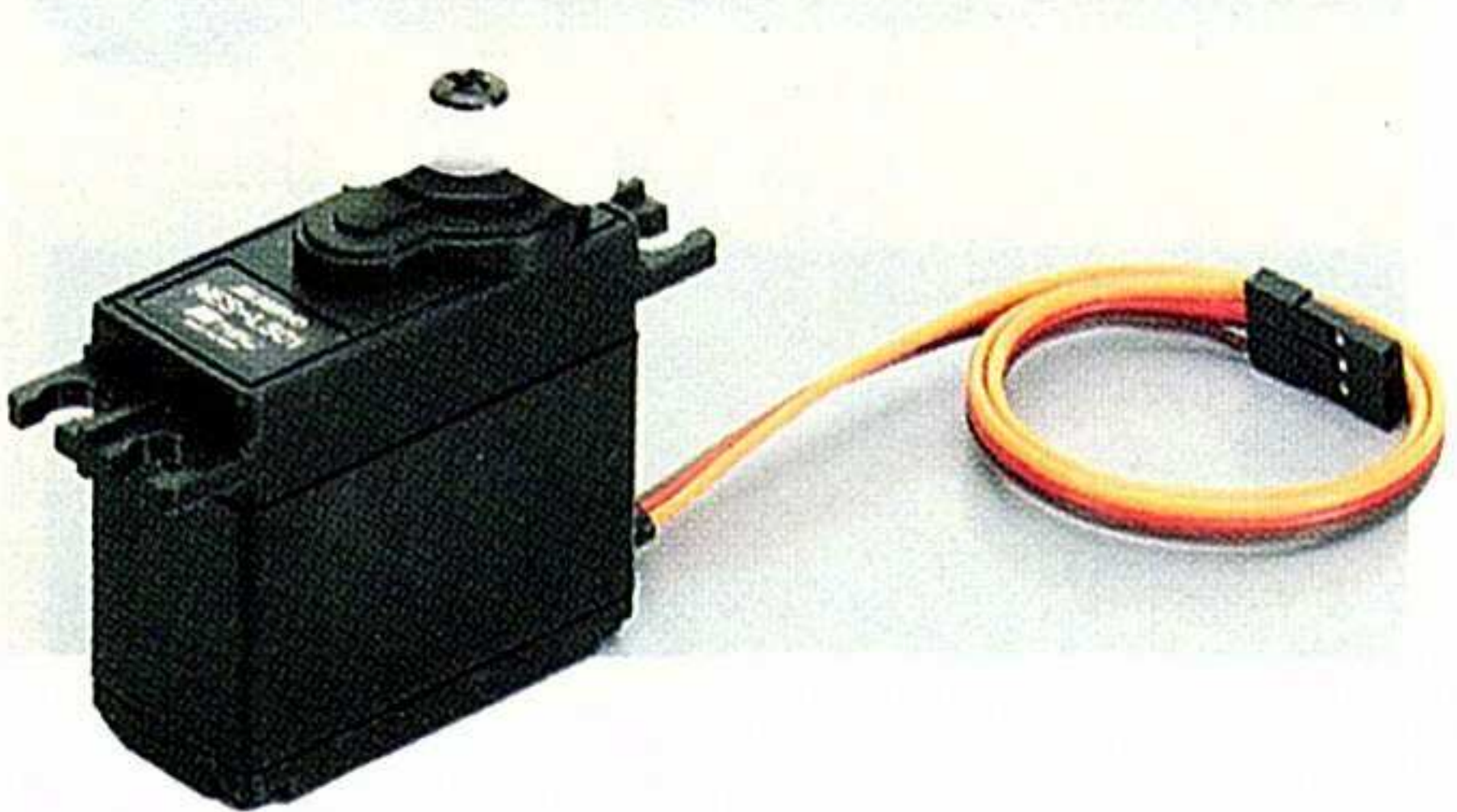
JR SERVOS



- #JRS203**
- Retract
 - 180° rotation
 - Low drain I.C. servo amplifier
 - Gold plated triple contact connector 5 pole motor
 - Indirect pot drive

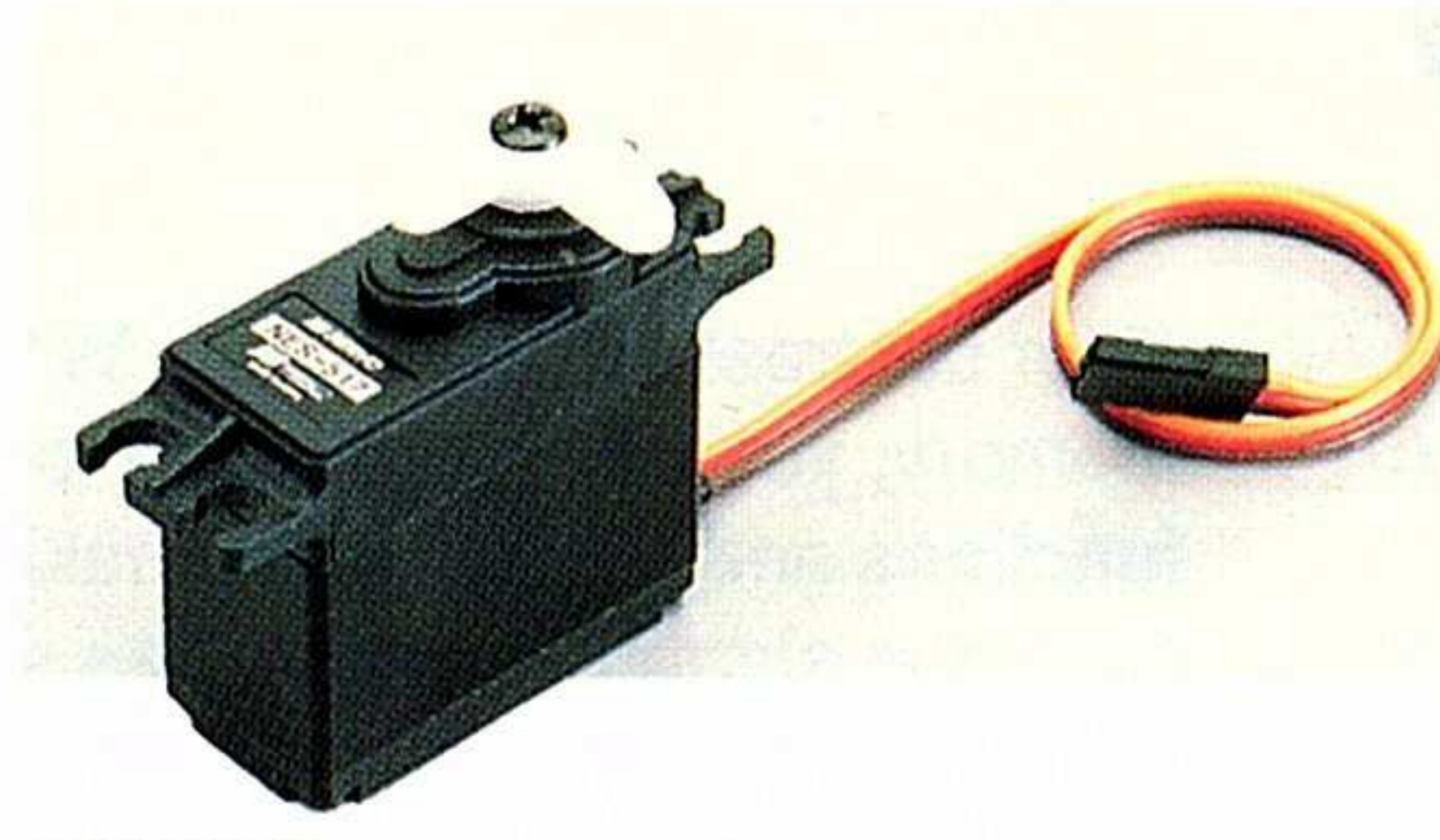


- #JRS305M Micro**
- Lightweight servo
 - Low drain I.C. servo amplifier
 - Silver plated triple contact connectors
 - Metal gears
 - Recommended for small aircraft under 2 lbs.

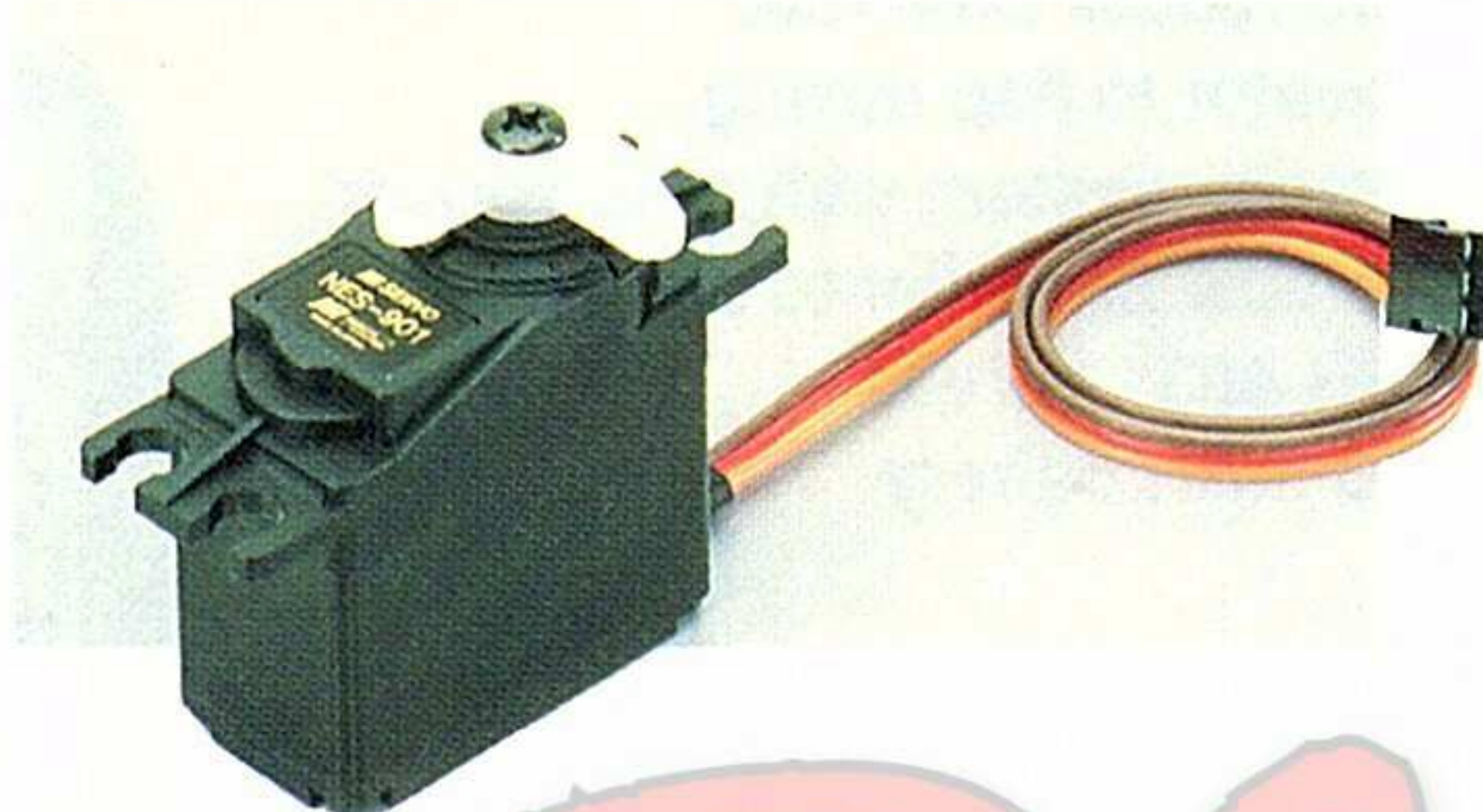


- #JRS501 Sport**
- Low drain I.C. servo amplifier
 - Silver plated triple contact connector
 - Teflon bushing output (replaceable)
 - 5 pole motor
 - Indirect pot drive
 - Ball bearing conversion kit available

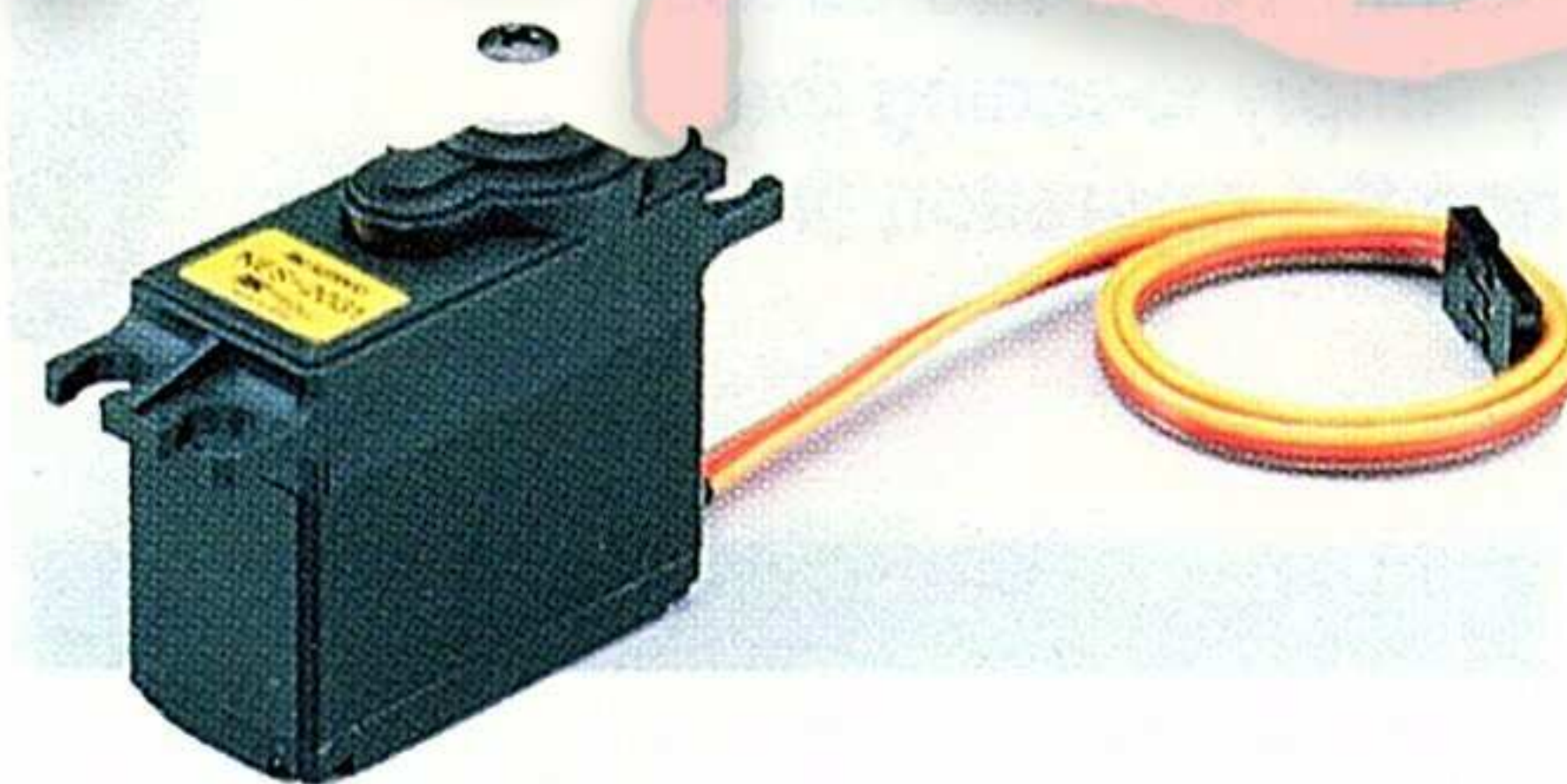
- #JRS507**
- Blister pack
 - High speed sport
 - High speed motor
 - Lower gear ratio for power
 - Silver plated triple contact connector
 - Teflon bushing output replaceable
 - 5 pole motor
 - Indirect pot drive



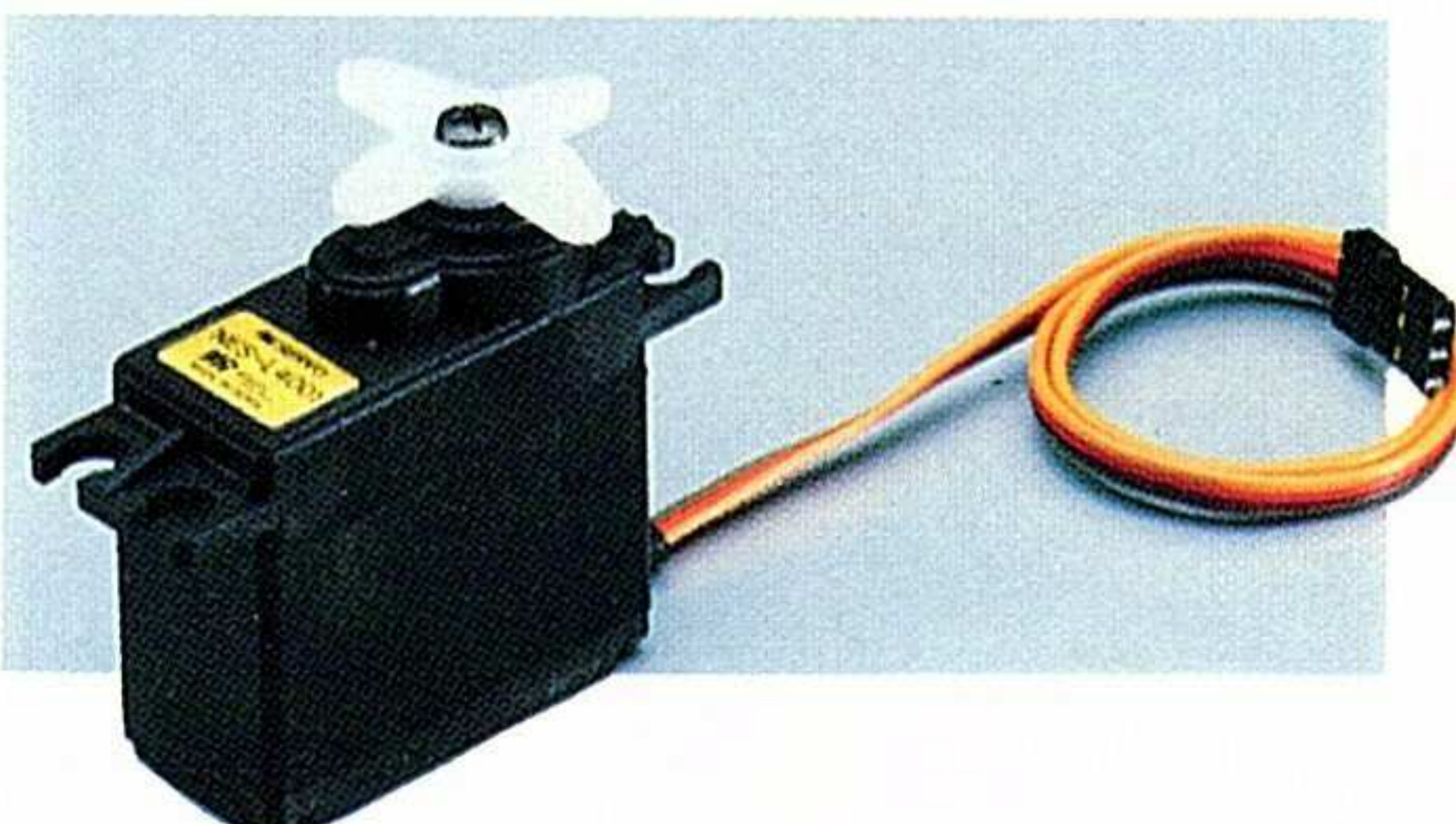
- #JRS517**
- High speed
 - Sport
 - Ball bearing
 - High torque



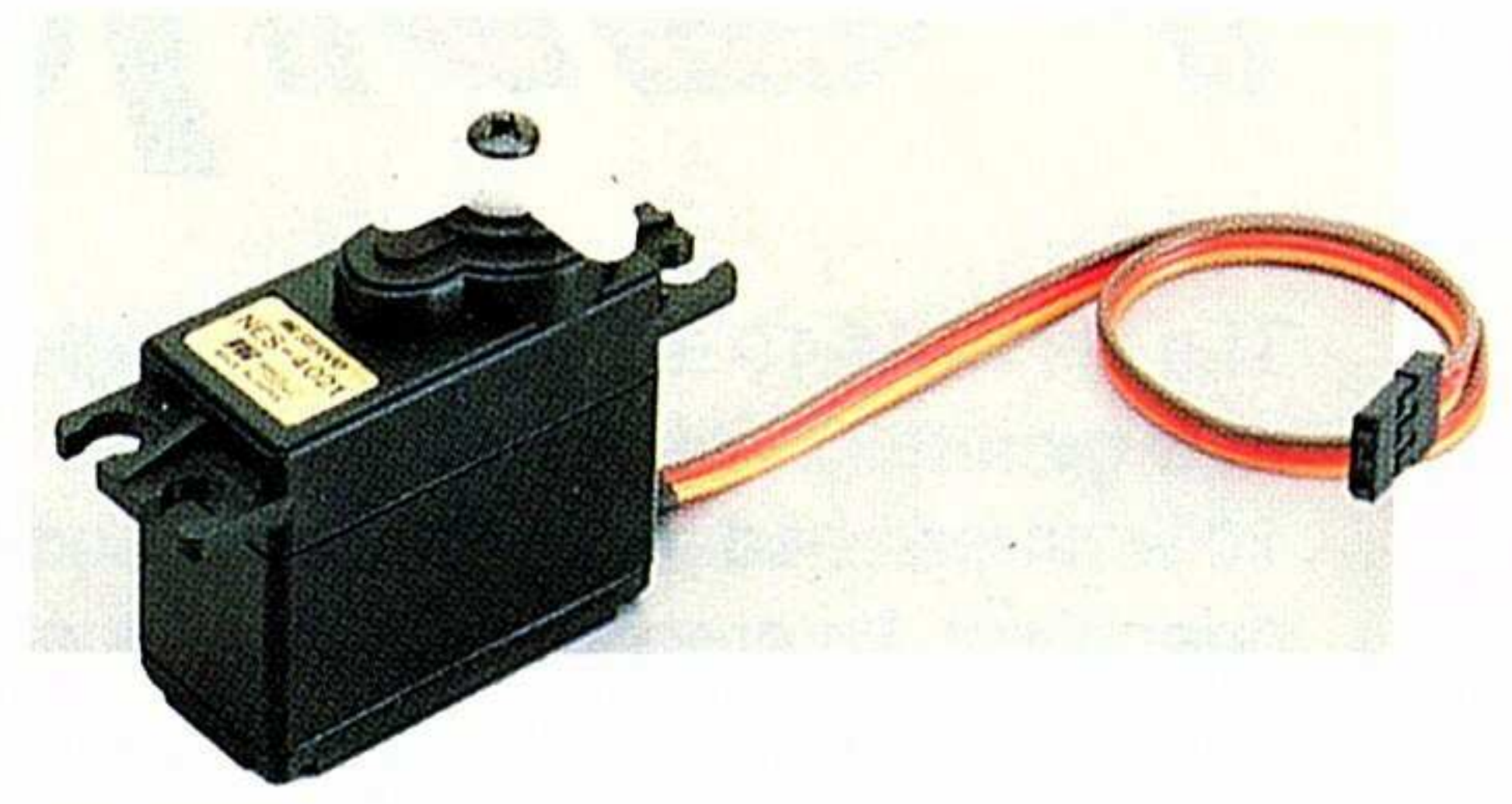
- #JRS901**
- High speed
 - Mid-size
 - Dual ball bearing



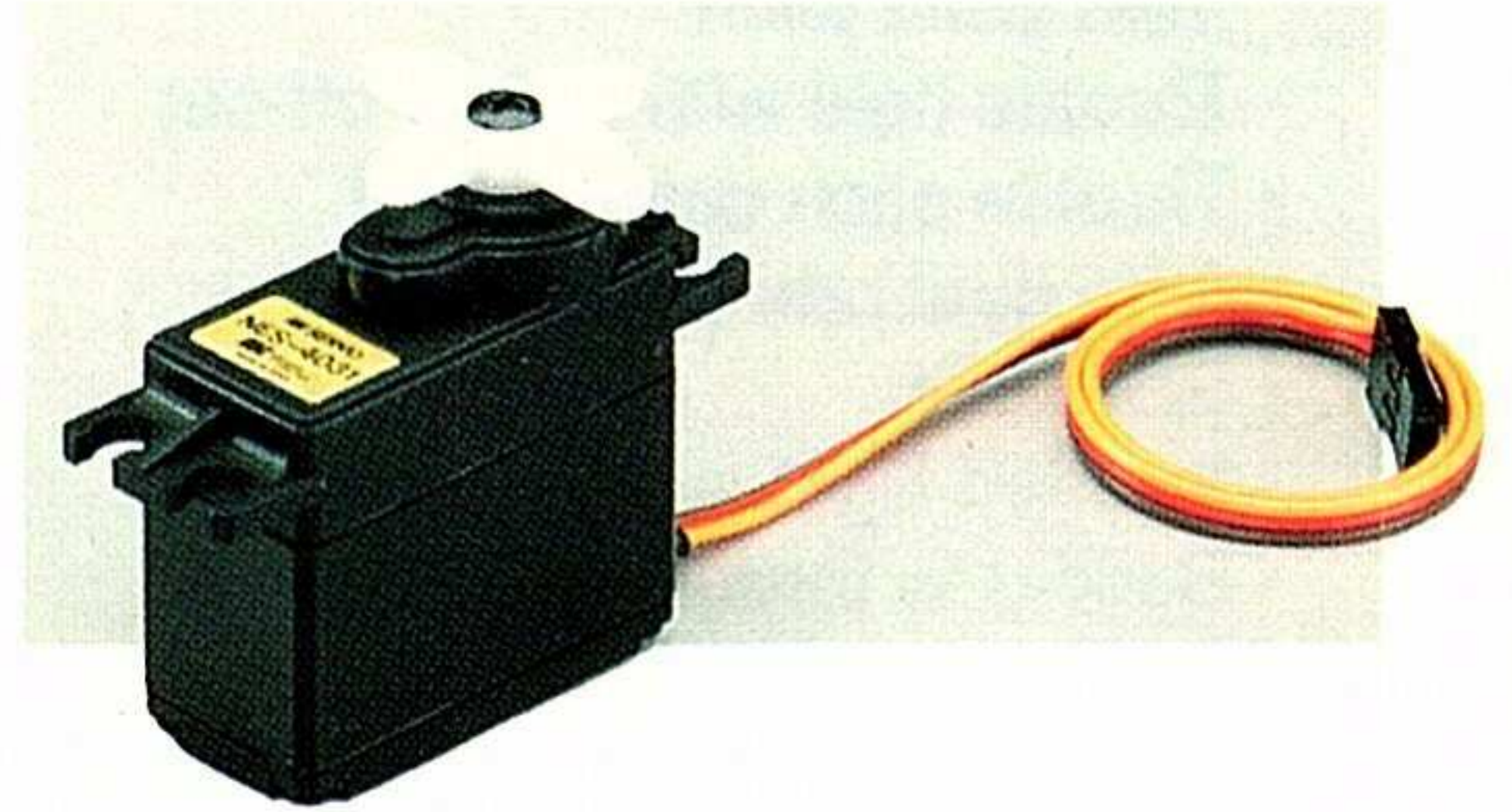
- #JRS2031**
- Coreless
 - Dual ball bearing



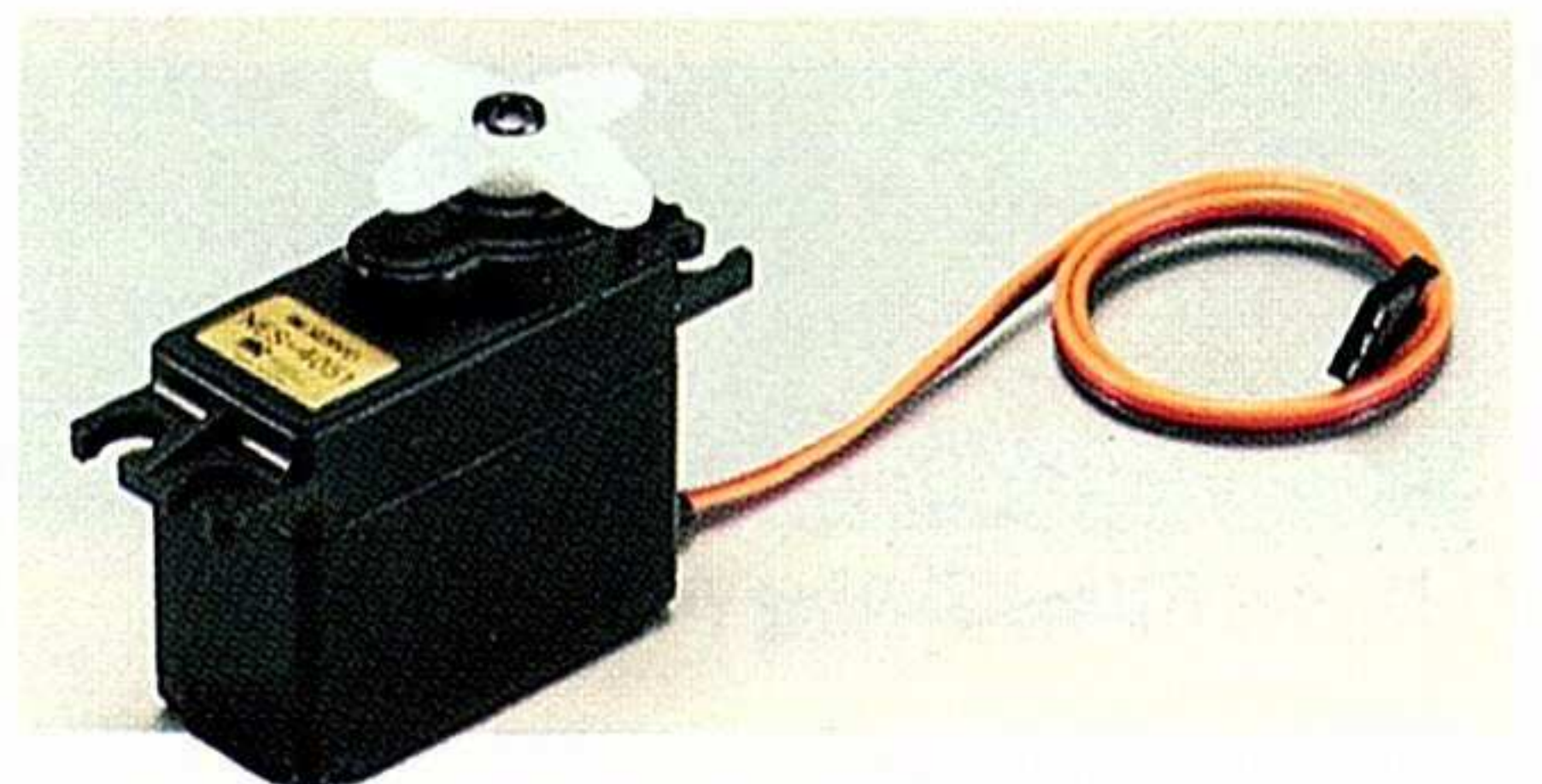
- #JRS4001**
#JRS4002
- Pattern
 - Ball bearing
 - Coreless
 - Reverse



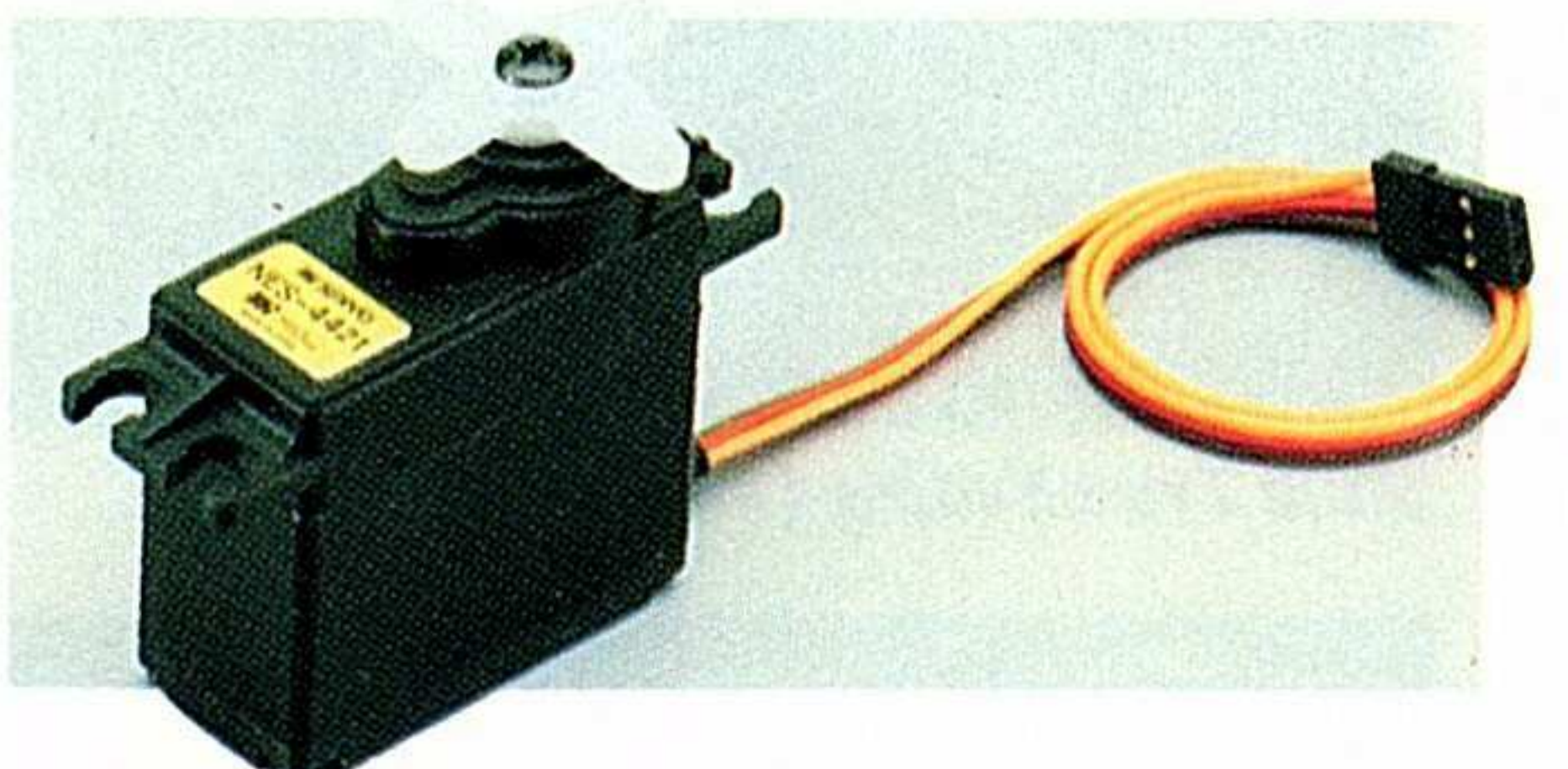
- #JRS4021**
- High torque
 - Dual ball bearing
 - Coreless
 - High speed



- #JRS4031**
- Dual ball bearing heli
 - High performance, high torque precision servo
 - Low drain, zero deadband amplifier
 - Oversize gear train
 - Gold plated triple contact connectors
 - High torque coreless motor
 - Ball bearing output
 - Indirect pot drive

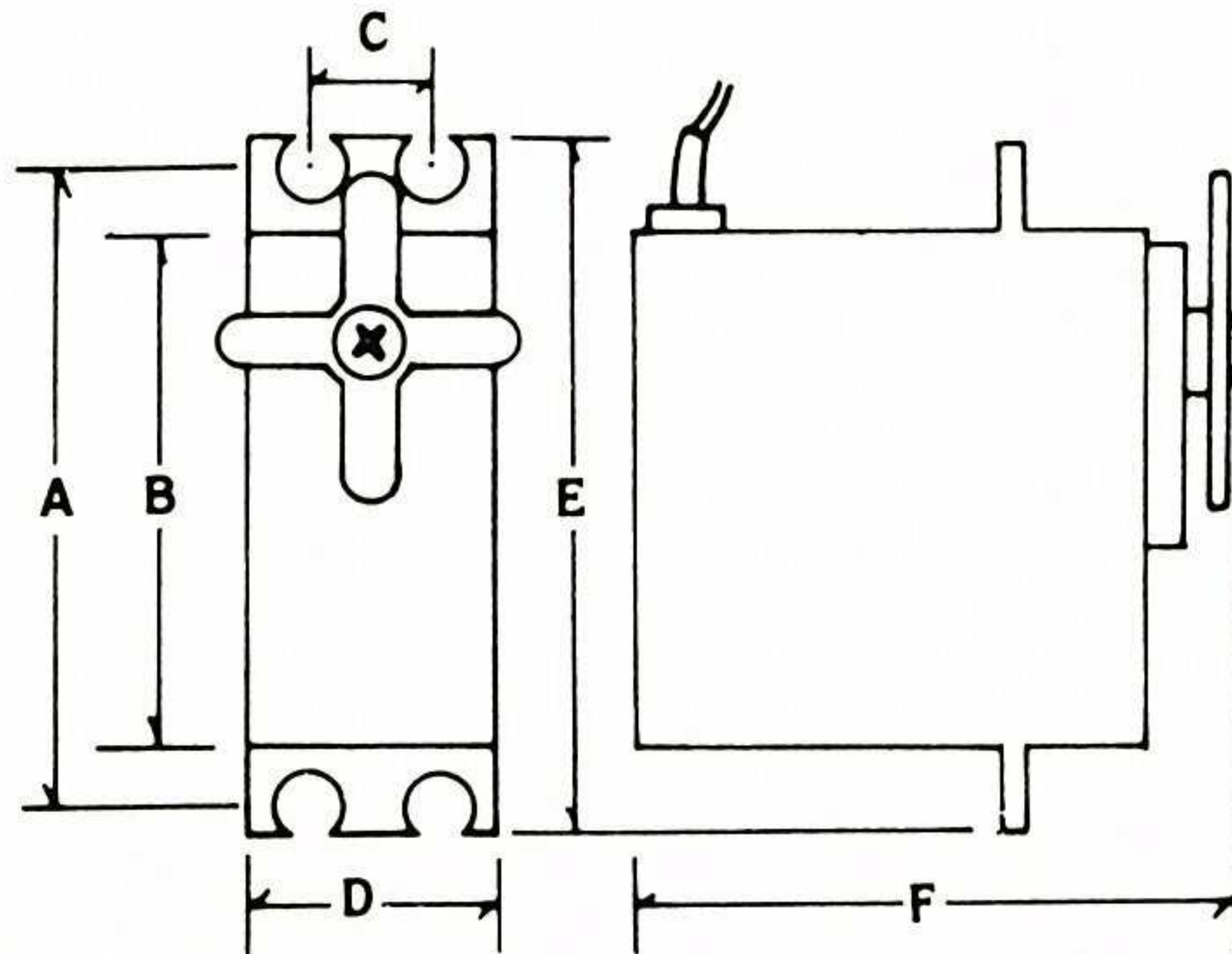


- #JRS4051**
- High speed
 - High torque
 - ball bearing
 - coreless



- #JRS4421**
- Extremely high torque
 - Dual ball bearing
 - Coreless motor
 - Ideal for quarter scale aircraft and cars

JR REMOTE CONTROL
RADIO CONTROL SYSTEMS



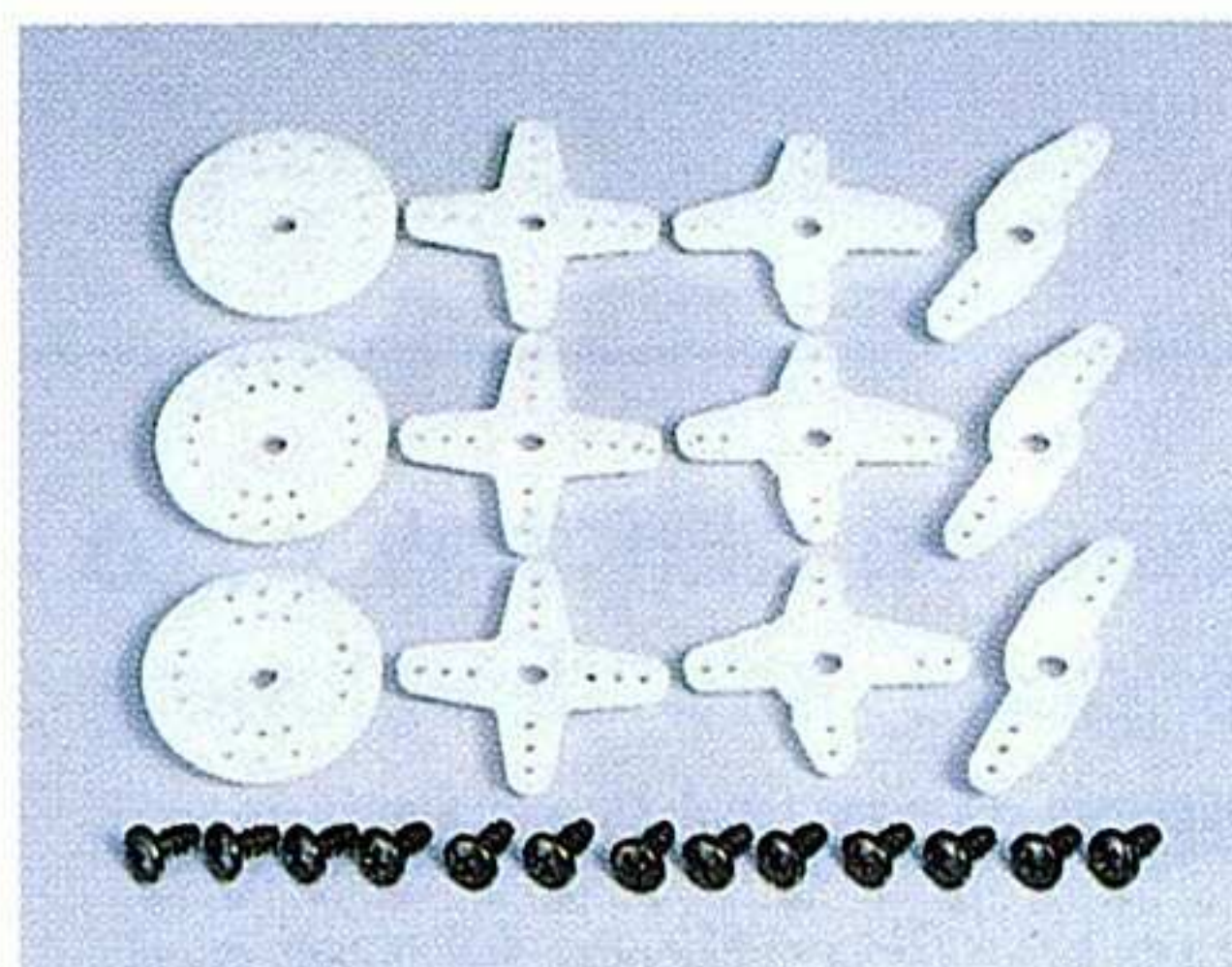
JR servos are a perfect combination with their radio systems. Much research has gone into developing custom I.C.'s that give high resolution, extreme accuracy, and are virtually impervious to vibration. Mechanical neutral is accomplished by adjusting the servo arm or wheel on the splined output shaft. All JR servos offer zero backlash gear trains, low drain amplifiers, and superior 3 point connectors to insure the performance our customers demand.

Part No.	A	Length B	C	Width D	E	Height F	Weight (Oz.)	Torque	60° Speed	Ball Bearings
JRS203*	1.85	1.53	.40	.74	2.14	1.77	1.48	76.3	1.45 sec/160°	•
JRS305M	1.30	1.14	.23	.49	1.49	1.37	.65	28.0	.25 sec	
†JRS307	1.30	1.14	.23	.49	1.49	1.37	.71	28.0	.25 sec	
†JRS315	1.46	1.28	.23	.57	1.65	1.19	.71	n/a	n/a	
†JRS321	1.49	1.30	.23	.57	1.73	1.02	.78	31.94	.23 sec	
JRS501	1.85	1.53	.40	.74	2.14	1.77	1.60	40.0	.30 sec	
†JRS506	1.85	1.54	.40	.75	2.14	1.54	1.72	40.0	.27 sec	
JRS507	1.88	1.53	.40	.74	2.14	1.73	1.70	40.2	.27 sec	
†JRS513	1.85	1.53	.40	.74	2.14	1.77	1.72	66.66	1.15 sec/160°	•
JRS517	1.88	1.53	.40	.74	2.14	1.73	1.70	40.2	.27 sec	•
JRS901	1.70	1.32	.37	.70	1.92	1.55	1.49	41.66	.27 sec	••
JRS2031	1.85	1.53	.40	.74	2.14	1.69	1.60	47.22	.25 sec	••
†JRS2035	1.85	1.53	.40	.74	2.14	1.69	1.60	61.1	.19 sec	••
†JRS3021	1.39	1.21	.25	.51	1.54	1.10	.86	41.66	.25 sec	••
JRS4001	1.85	1.53	.40	.74	2.14	1.85	1.72	55.5	.25 sec	•
JRS4002	1.85	1.53	.40	.74	2.14	1.85	1.72	55.5	.25 sec	•
JRS4021	1.85	1.53	.40	.74	2.14	1.80	1.60	72.2	.30 sec	••
JRS4031	1.85	1.53	.40	.74	2.14	1.80	1.60	61.0	.20 sec	••
JRS4051	1.85	1.53	.40	.74	2.14	1.85	1.60	47.1	.20 sec	•
JRS4421	1.85	1.53	.40	.74	2.14	1.76	1.62	83.33	.27 sec	••
†JRS9001	1.70	1.32	.37	.70	1.92	1.55	1.58	41.66	.19 sec	••
JRS9021	1.70	1.32	.37	.70	1.92	1.55	1.58	55.0	.19 sec	••

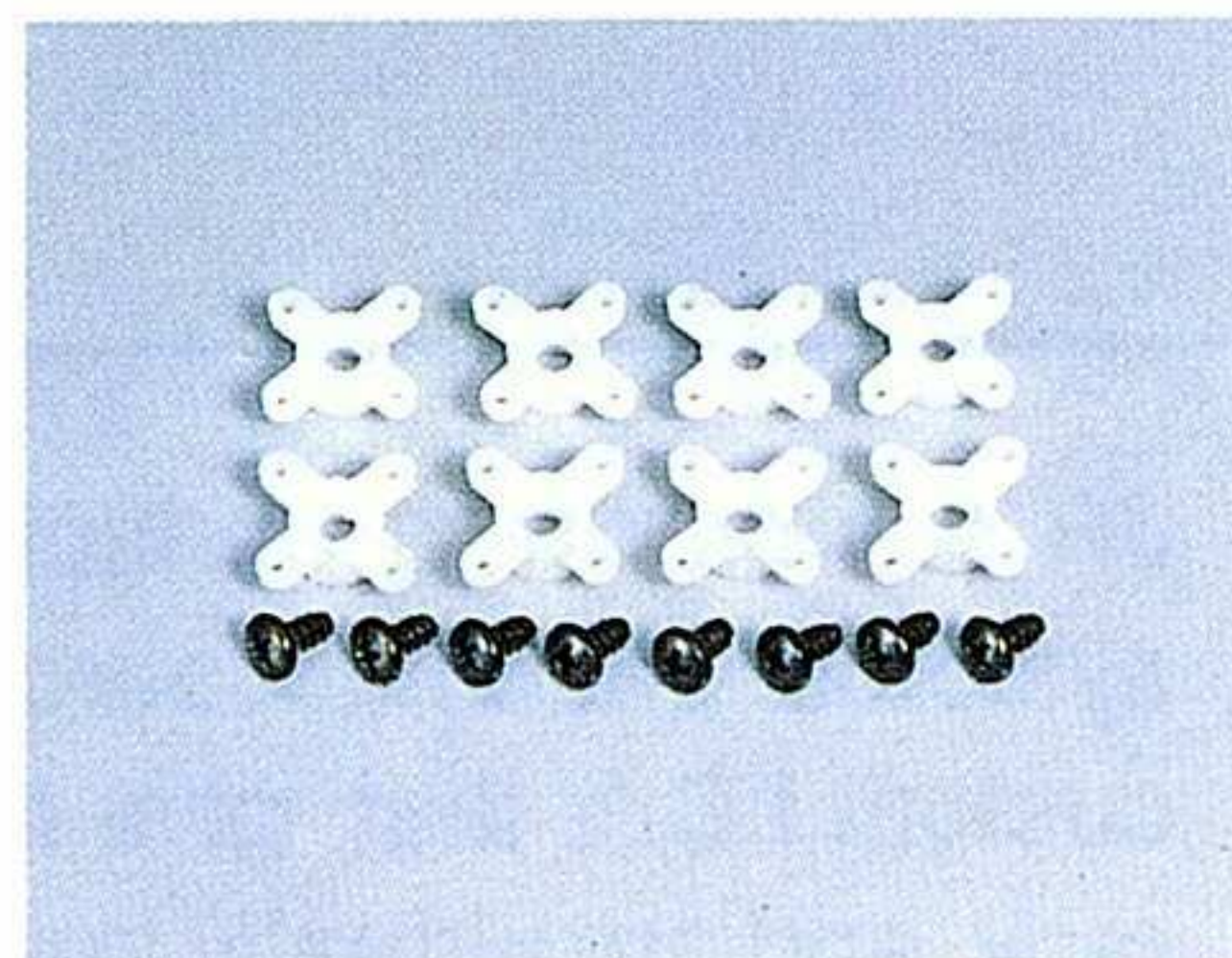
* 180° Retract Servo
 † Not Pictured

• Single Ball Bearing
 •• Dual Ball Bearing

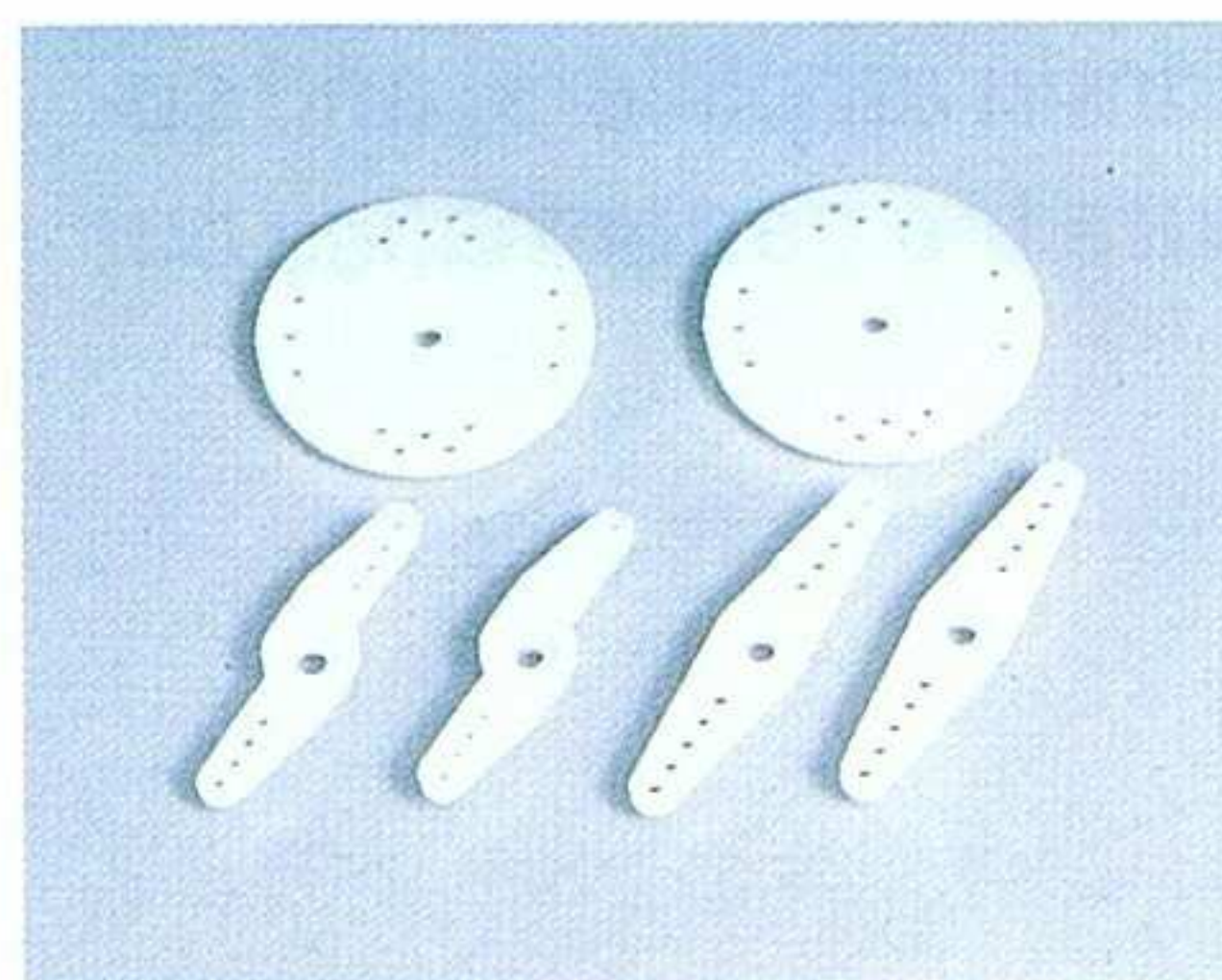
SERVO ARMS



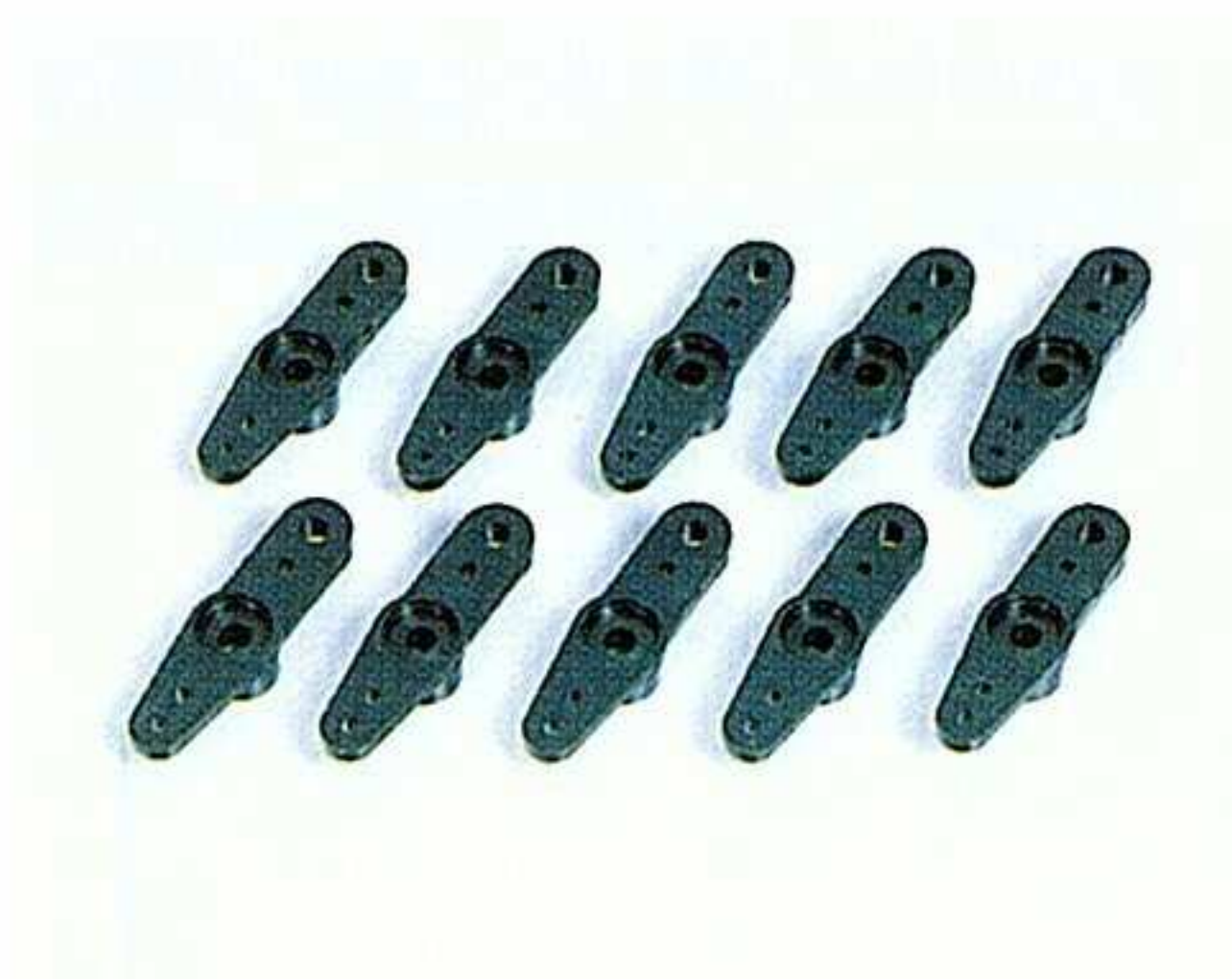
#JRA005 Standard.



#JRA005M for 305.



#JRA006 Large.



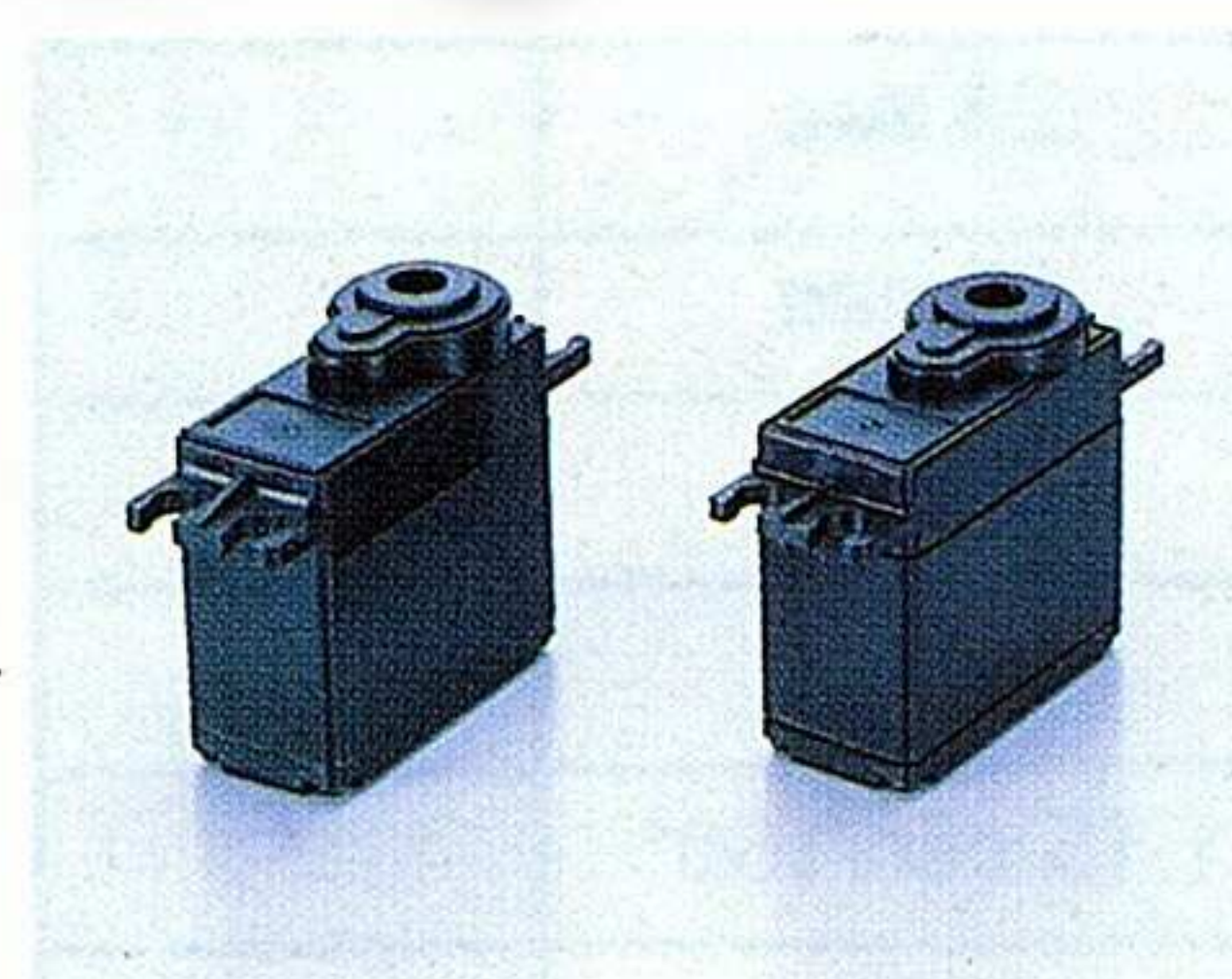
#JRA006A Heavy duty.

SERVO ARMS

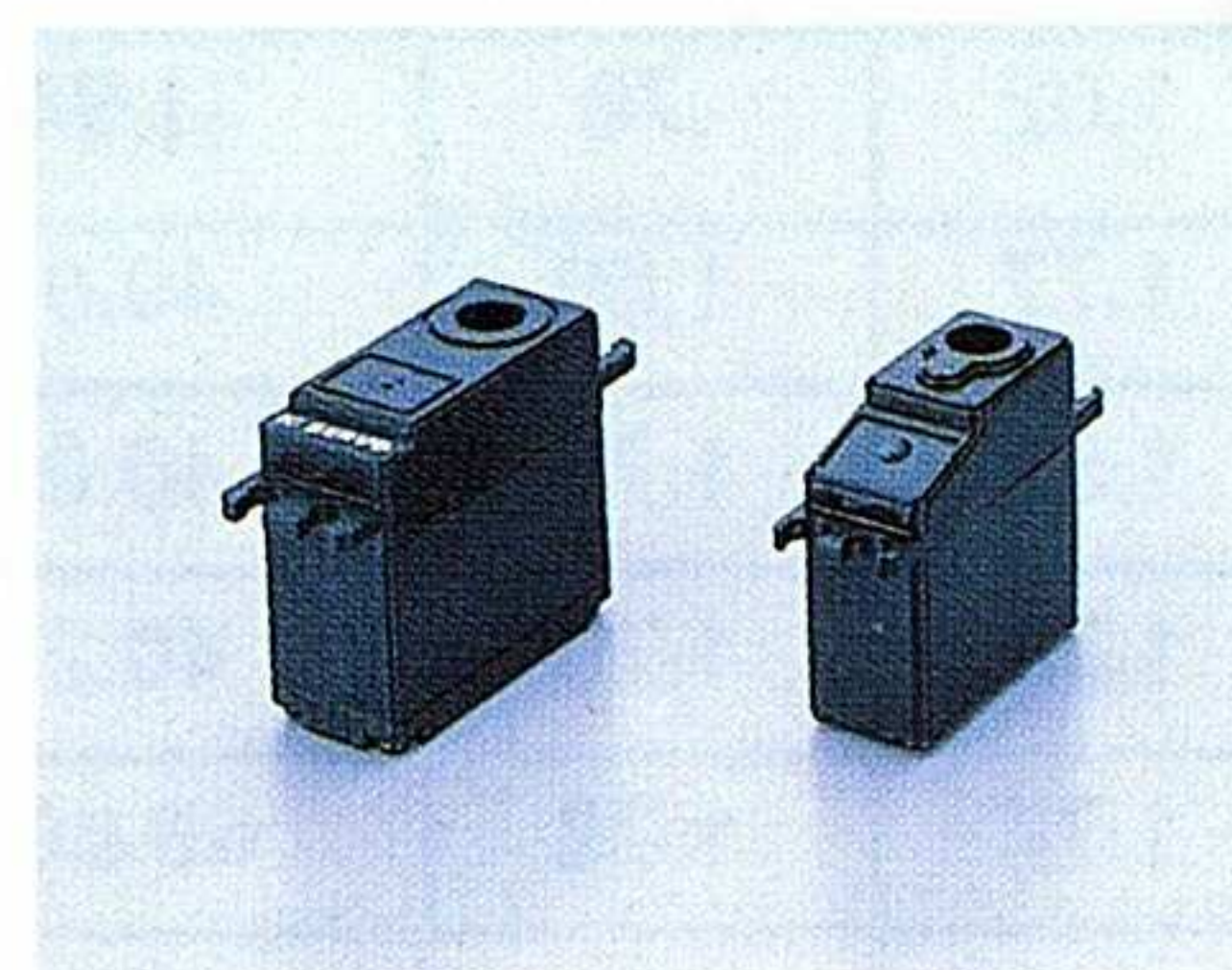
JRA005	Standard arms w/screws (4pk)
JRA005A	Off set arm
JRA005B	Servo accessories bag
JRA005M	Arm for 305
JRA005W	Standard wheel
JRA005X	Offset straight arm
JRA005Y	Star arm
JRA006	Large servo arms and wheels (6 pk.)
JRA006A	Heavy duty arms (10 pk)



SERVO CASES

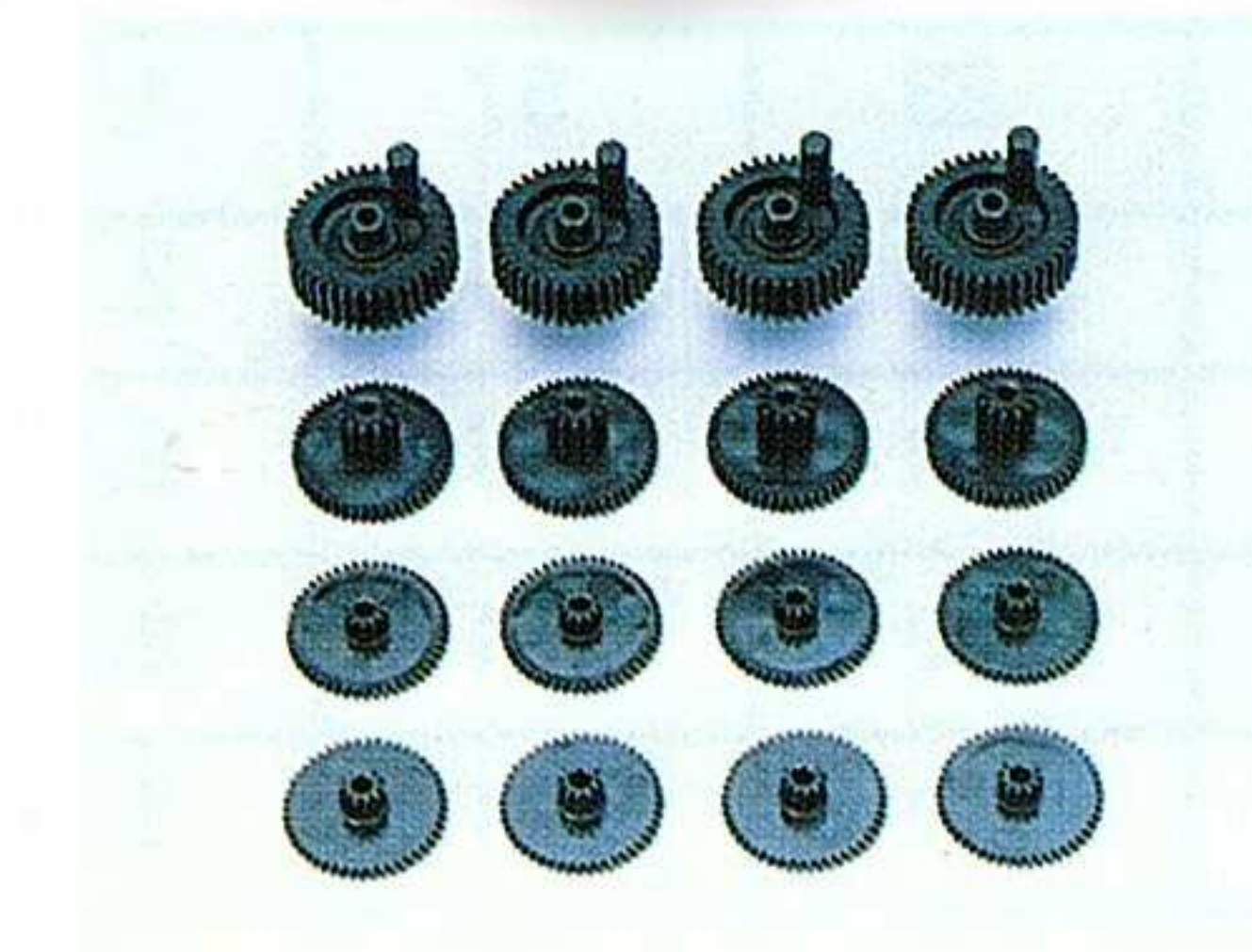


#JRASC401. #JRASC501.



#JRASC3001. #JRASC305.

SERVO GEAR SETS



#JRAGS4051.



#JRAGS3001. #JRAGS305.

SERVO CASES

JRASC305	305, 307, 311 servo
JRASC401	401, 4001, 4002, 4005 servos
JRASC501	501, 502, 203, 2001, 101 servos
JRASC502	502 servo
JRASC505	505, 506 servos
JRASC507	507, 513, 517 servo
JRASC601	601 servo
JRASC801	801, 803, 8001 servos
JRASC901	901, 9001, 9021 servos
JRASC2031	2031, 2035 servos
JRASC3001	301, 3001, 3002, 3005 servos
JRASC3035	321, 3021, 3035 servos
JRASC4031	4021, 4031, 4421 servo
JRASC4051	4011, 4051 servos

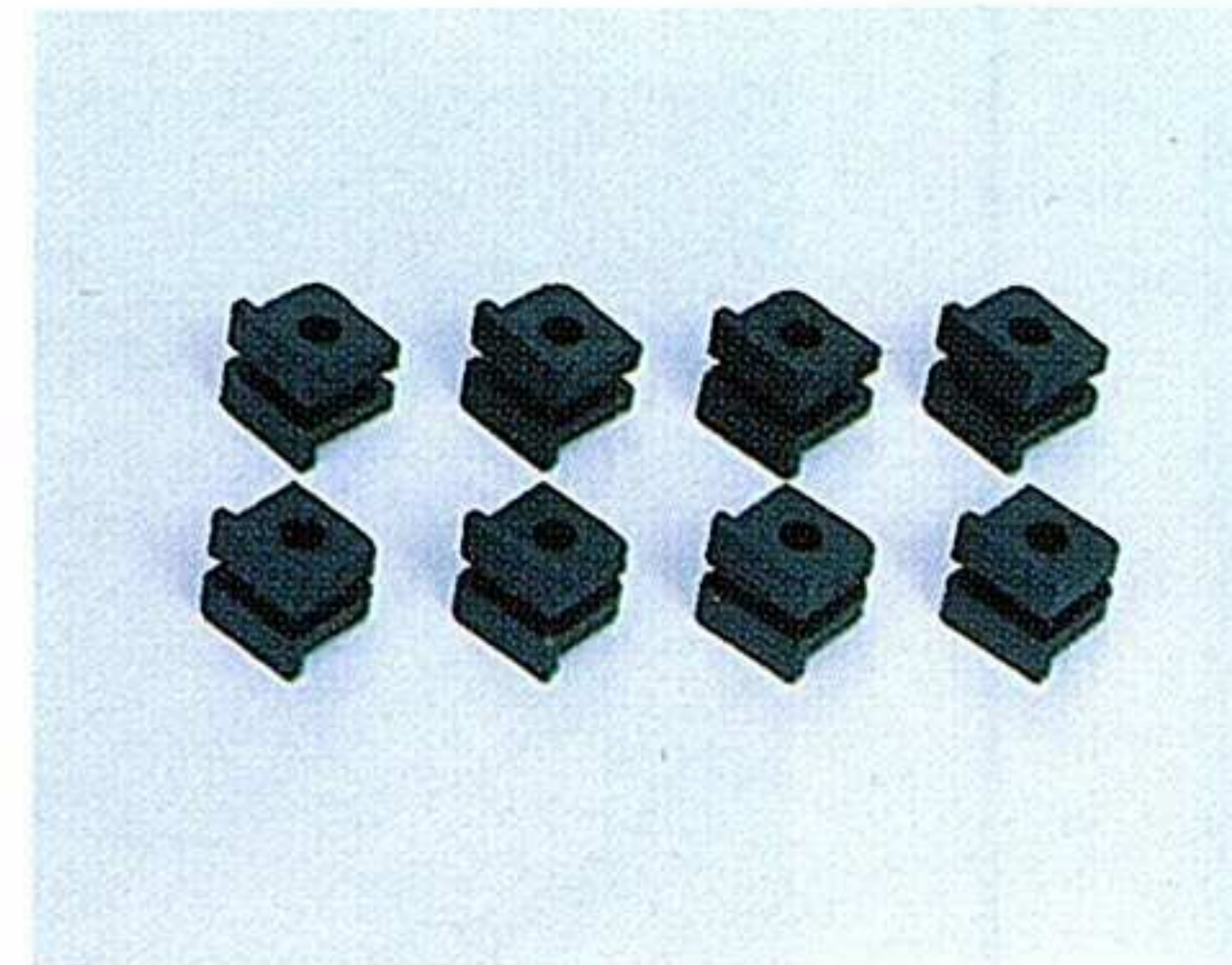
SERVO GEAR SETS

JRAGS203	203, 513 servo (1 set)
JRAGS305	305, 307 servo (1 set)
JRAGS311	311 servo
JRAGS321	321, 3021 servo
JRAGS401	401, 4001, 4011 servos (4 sets)
JRAGS501	101, 501, 2001 servos (4 sets)
JRAGS505	505, 506 servos (2 sets)
JRAGS507	507, 517 servo (4 sets)
JRAGS601	601 servo (4 sets)
JRAGS801	801, 803, 8001 servos (4 sets)
JRAGS901	901, 9001, 9021 servos (2 sets)
JRAGS2031	2031 servo
JRAGS2035	2035 servo
JRAGS3001	301, 3001, 3002 servos (1 set)
JRAGS3035	3035 servo
JRAGS4021	4021, 4421 servos
JRAGS4031	4031 servo (4 sets)
JRAGS4051	4005, 4051 servos (4 sets)

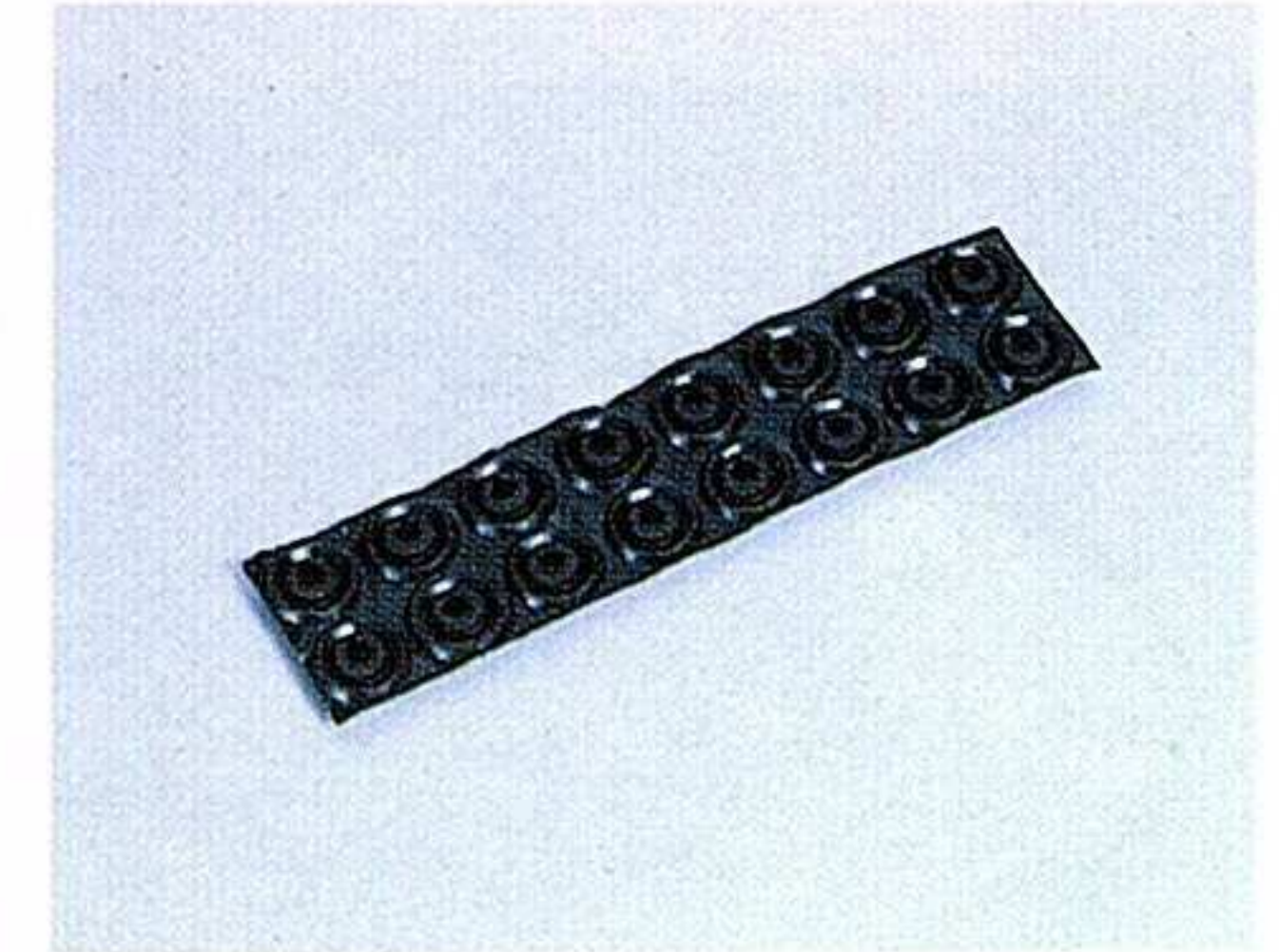
SERVO HARDWARE

SERVO HARDWARE

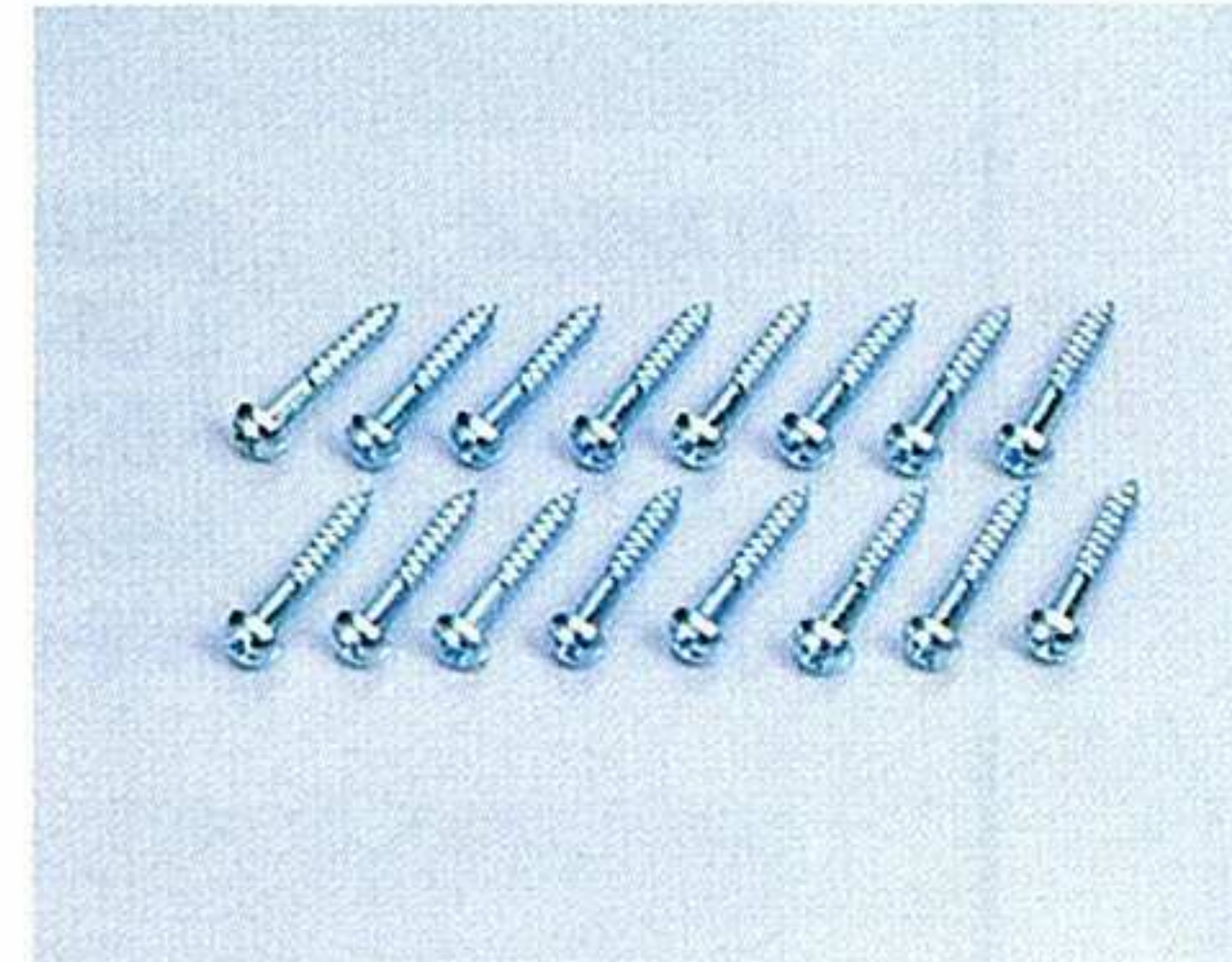
JRA008	Servo mounting rubber grommet (8 pk)
JRA008A	Grommet 305, 3001 (16 pk)
JRA008B	Servo tray grommet round (4 pk)
JRA008C	Antenna grommet (5 pk)
JRA008D	Grommet for 307
JRA008G	Servo mounting grommet (16 pk)
JRA009	Servo mounting screw set
JRA009A	Servo case screws (20 pk)
JRA009B	Servo arm screw set
JRA009C	Servo eyelet set



#JRA008.



#JRA008A.



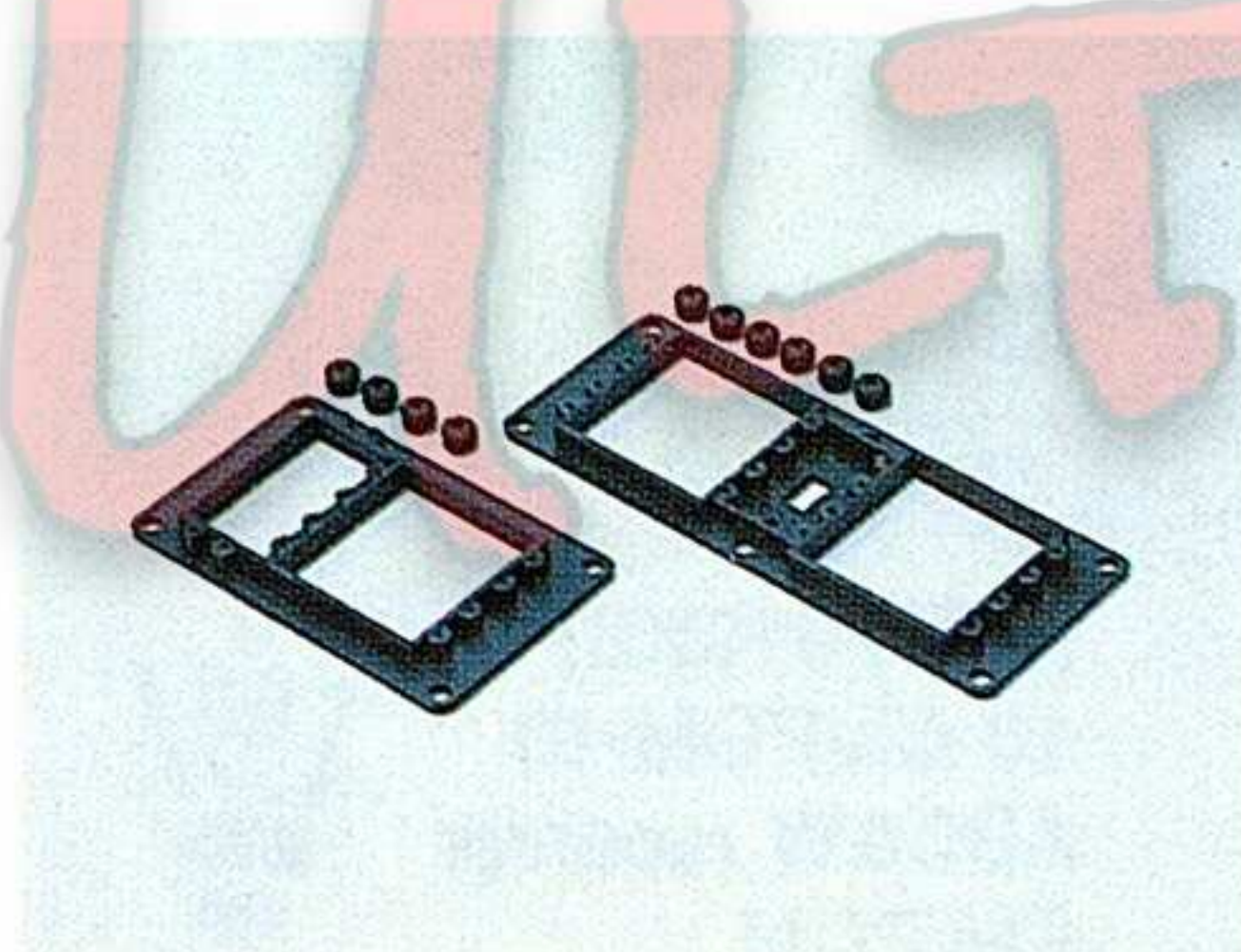
#JRA009.



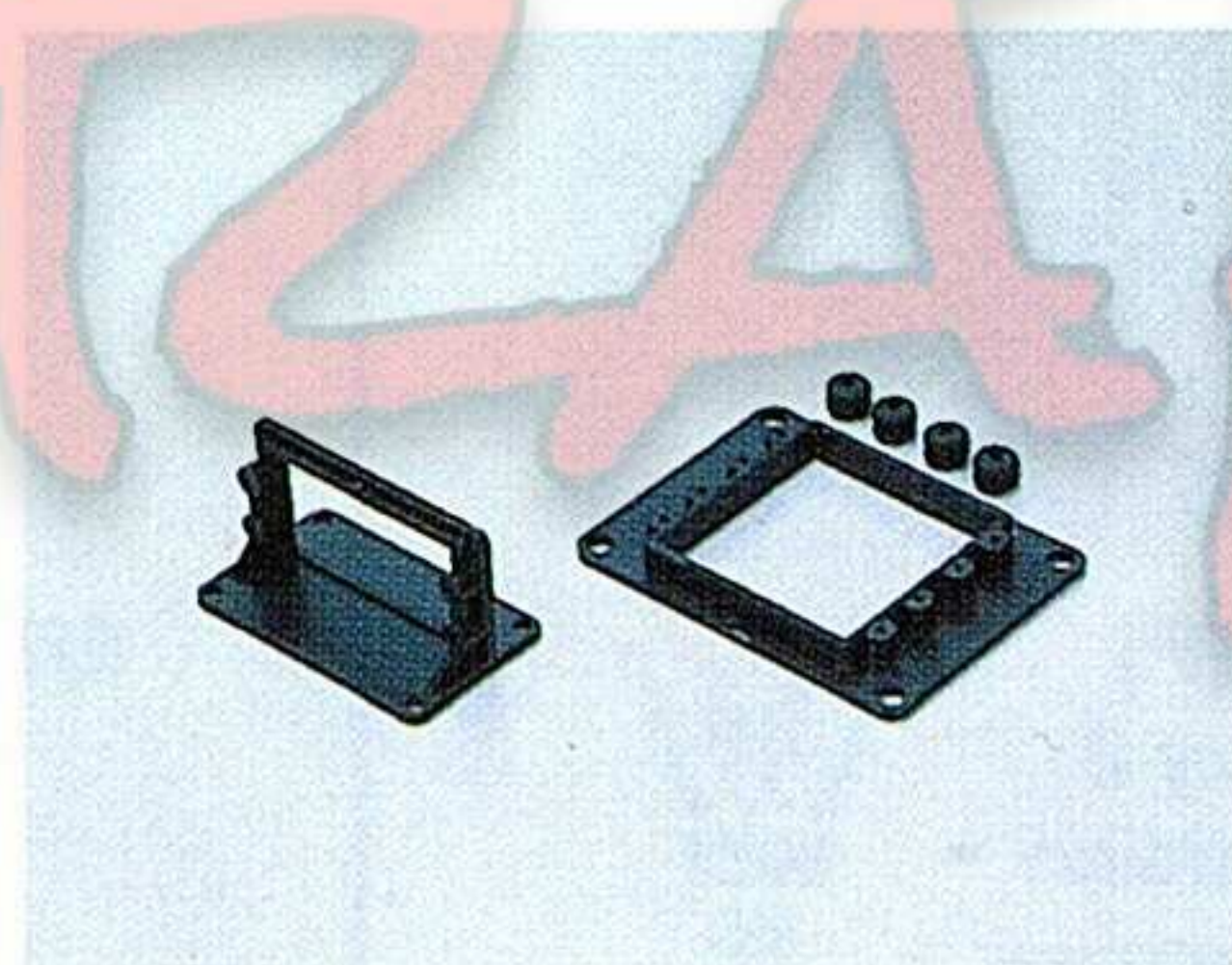
#JRA009B.

Fly high, feel free!
JR PROPO

SERVO TRAYS



#JRA0702.



#JRA0701.

#JRA0704.

#JRA0703.

SERVO TRAYS

JRA0701	2 x 2 servo tray, 4 servos
JRA0702	2 x 1 servo tray, 3 servos
JRA0703	1 x 1 servo tray, 2 servos
JRA0704	Aileron horizontal servo tray
JRA0705	2x2 servo tray, 4 servos – mid series
JRA0706	2x1 servo tray, 3 servos – mid series
JRA0707	1X1 servo tray, 2 servos – mid series
JRA0708	Aileron horizontal servo tray – mid series

DSC CORD

DSC CORDS

JRADSCAM	DSC cord AM system
JRADSCFM	DSC cord FM system
JRADSCC	DSC converter



#JRADSCAM (AM Systems)
#JRADSCFM (FM Systems)
Socket not included.

RECEIVER MODULE

#JRRMFP	PCM-9/Galaxy 8 receiver module, ABC&W system 53 & 72 MHz
---------	---

Team JR



Team JR members
at the 1989 Tangerine
Internationals in Orlando, Florida.
Standing, from left to right, are Don Weitz,
Chris Lakin, Steve Rojecki (holding the
3rd place trophy), and Mike Klein.



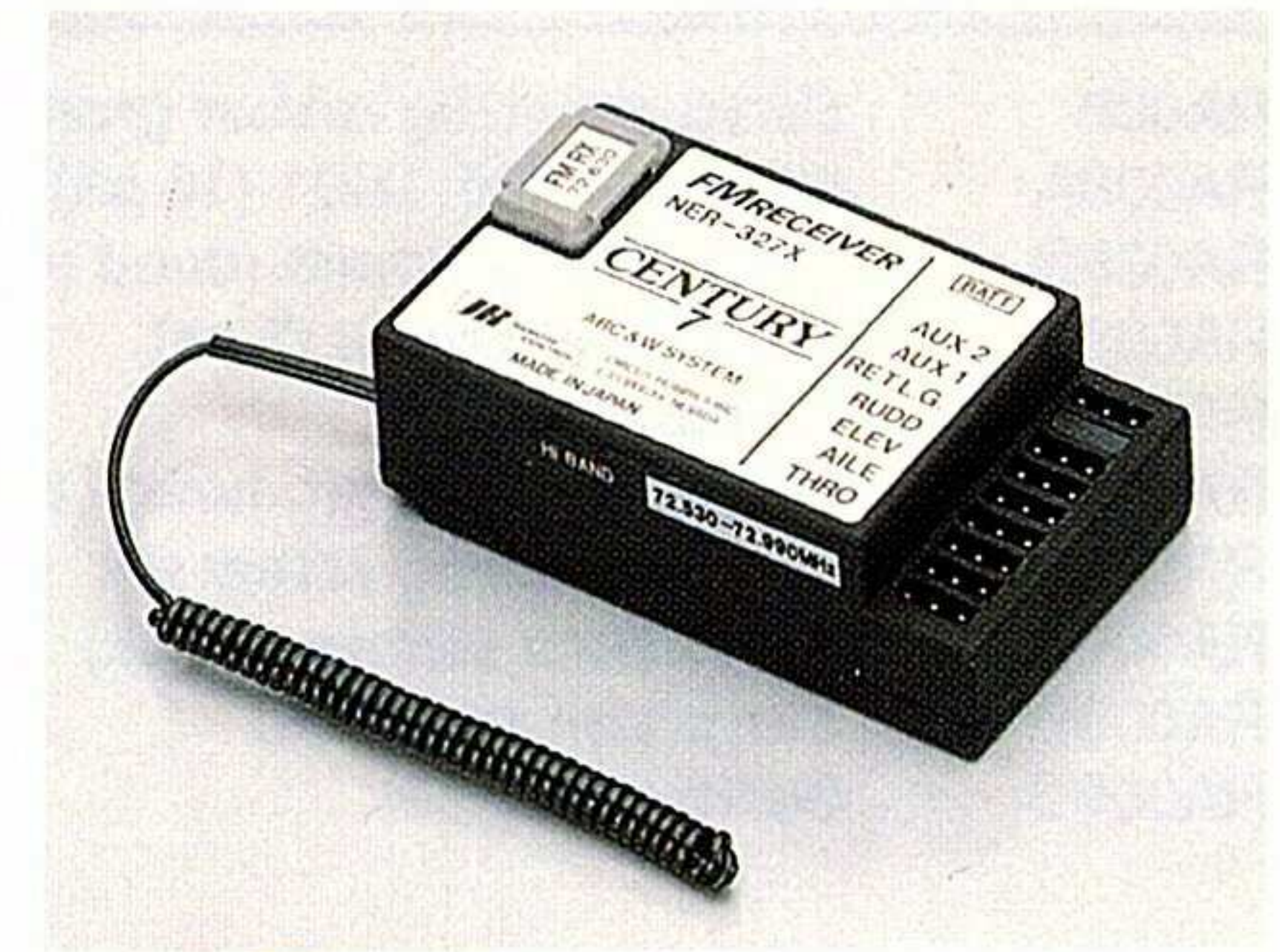
RECEIVERS



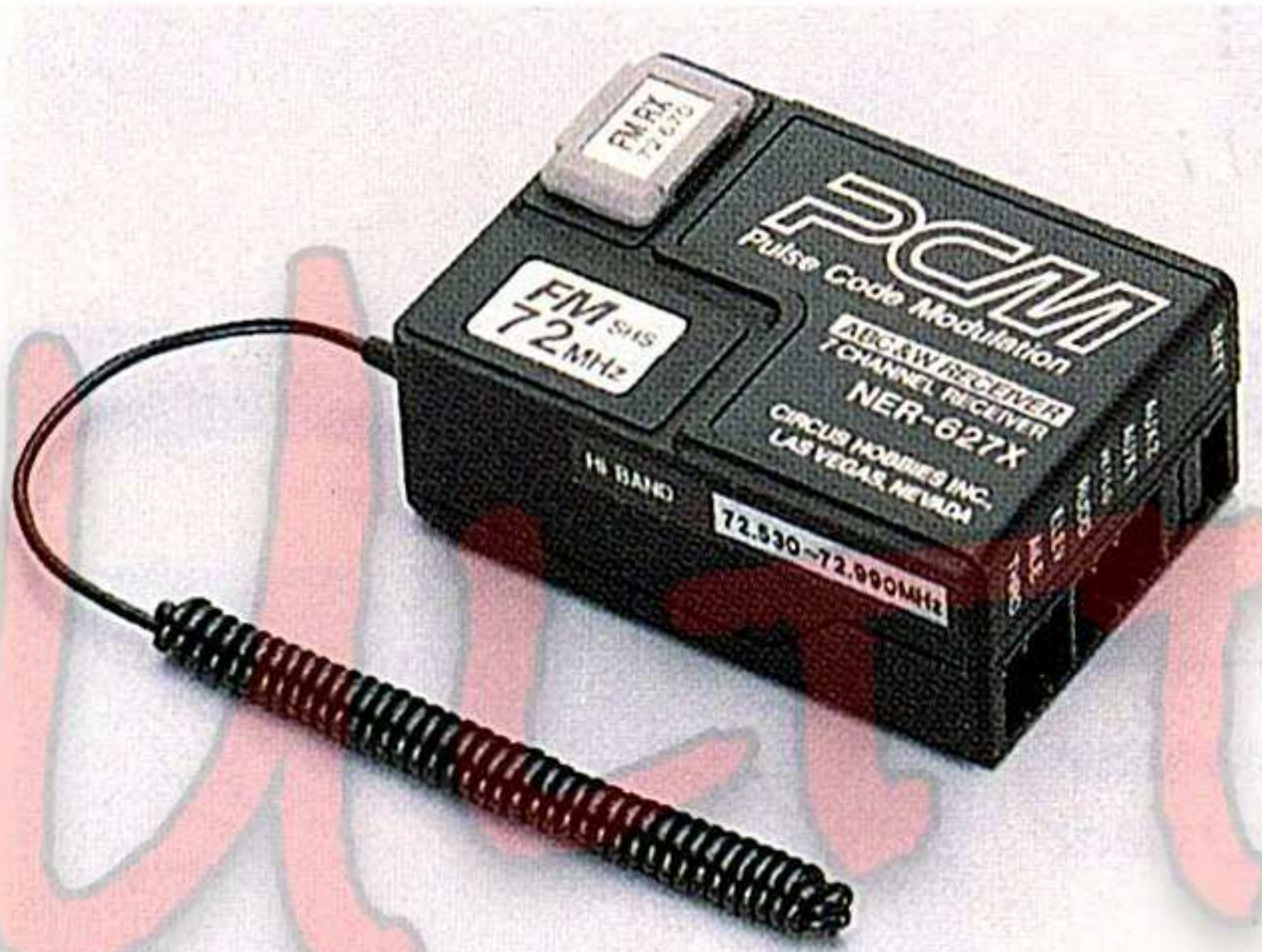
#JR822 (NER-822X)
2 Ch/BEC 2 micro
ABC&W receiver
AM/PPM



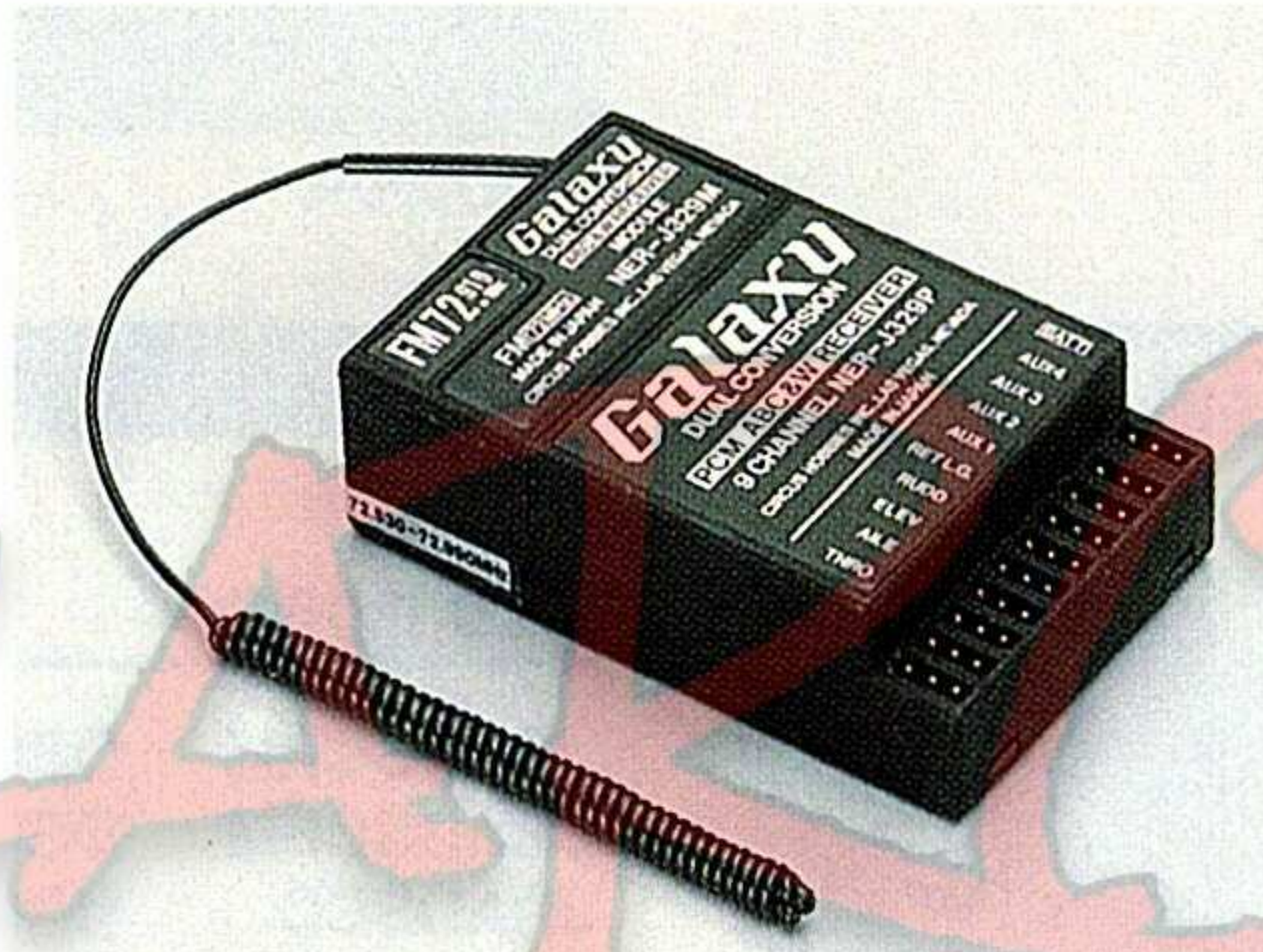
#JR832X (NER-832X)
2 Ch micro
ABC&W receiver
AM/PCM
#JR832 Without crystal



#JR327 (NER-327X)
7 Ch/Century 7/
MAX 5
ABC&W receiver
FM/PPM



#JG627 (NER-627XZ)
7 Ch /MAX 5,
6, 7
ABC&W receiver
FM/PCM



#JR329 (NER-J329P)
8 Ch/Galaxy 8
dual conversion
ABC&W receiver
FM/PCM



#JR910 (NER-910XZ)
10 Ch/PCM-10
ABC&W receiver
FM/PCM

The Advantages of ABC&W Circuitry – The Most Signal Selective Available

Designed by JR Propo in 1984, ABC&W (Automatic Blocking Circuit with Window) is an electronic windowing circuit which basically eliminates the need for dual conversion. The circuit is very narrow and will only let narrow electrical signals through. Anything that doesn't fit through the window will be shorted out to the ground and never reach the receiver. This makes ABC&W receivers the most signal selective available. The signal is then amplified, cleaned up and re-injected back through the window a second and third time to further clean the signal. All this happens before it gets to the receiver logic section, so anything that doesn't go through

the Automatic Blocking Circuit and Window never reaches the receiver's servo.

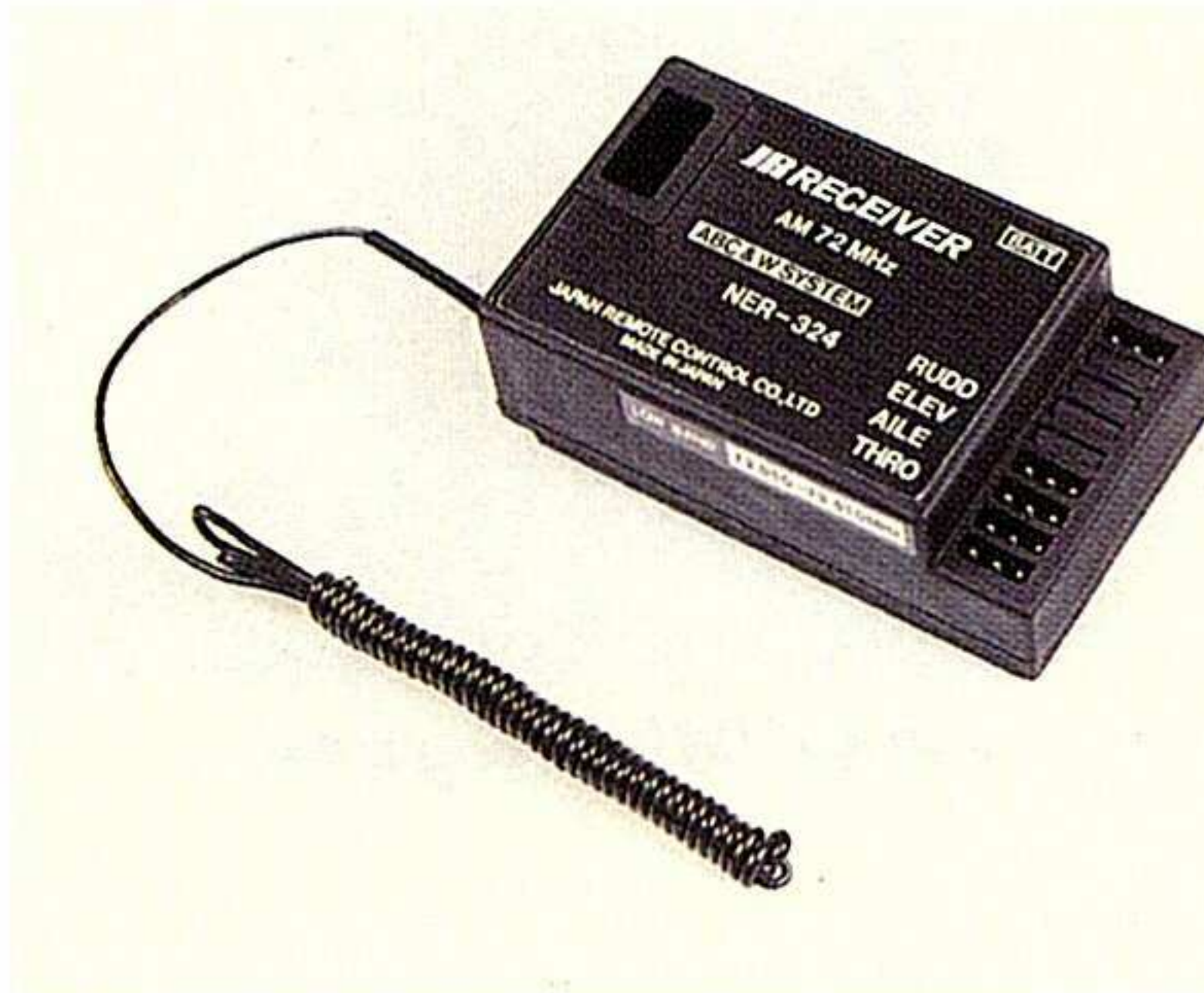
ABC&W is in all JR receivers, including AM, FM, and PCM. In fact, that circuit is found only in JR receivers because it is a patented circuit.

Dual conversion receivers have two IF strips, two oscillators, and two mixer stages. This keeps out a lot of unwanted interference because if the first IF strip doesn't filter out a certain type of interference, the second IF strip will. The drawback of dual conversion is that you are working with many more components, and therefore the receiver gets larger and

heavier. Single conversion receivers are ideal for small and large airplanes alike because of their smaller size and lighter weight.

The conventional method of both dual and single conversion had one stage of filtering and amplification. With the ABC&W, once a signal fits through this narrow window and is cleaned up and amplified, it is looped back around and must fit in the window once again. It actually goes through the window three and four times, but there is no appreciable delay since everything is happening at just about the speed of light. JR radios with their ABC&W circuitry design are truly state of the art.

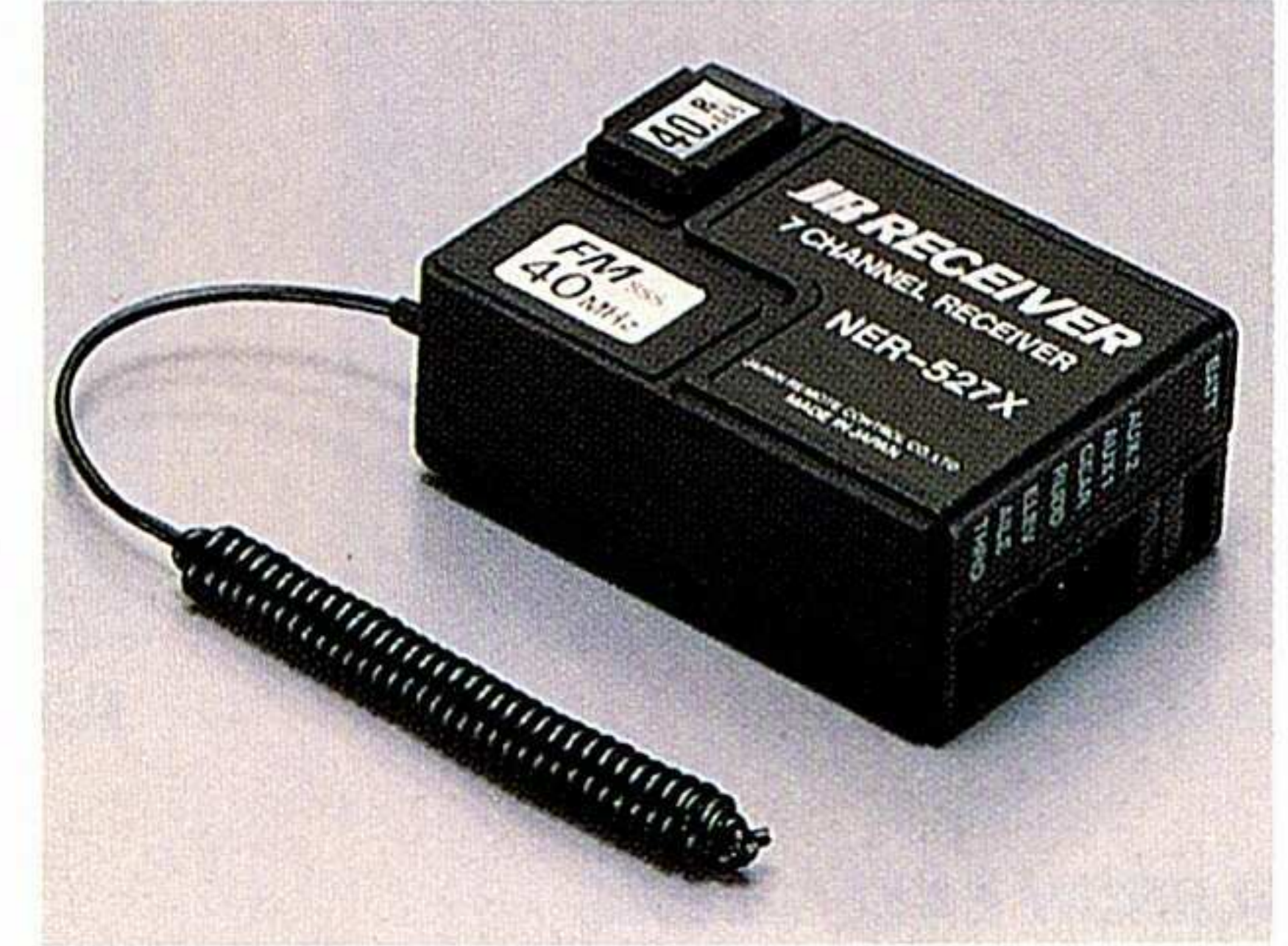
RECEIVERS - CONTINUED



#JR324XX (NER-324)
Max 4 Channel
AM Receiver/PPM
Without Crystal



#JR627 (NER-627X)
7 Ch/Century 7
PCM micro
ABC&W receiver
FM/PCM



#JR527 (NER-527X)
7 Ch/Micro-7
ABC&W receiver
FM/PPM



#JR722 (NER-722X)
2 Ch micro BEC
ABC&W receiver
AM/PPM



#JR824 (NER-824X)
4 Ch/MAX
ABC&W receiver
AM/PPM

RECEIVERS NOT PICTURED:

#JR228 (NER-J228F)
8 Ch dual conversion
ABC&W receiver
FM/PPM

#JR229 (NER-J229P)
9 Ch/PCM-9
dual conversion
ABC&W receiver
FM/PCM

#JR529 (NER-529X)
9 Ch/Micro-9
ABC&W receiver
FM/PPM

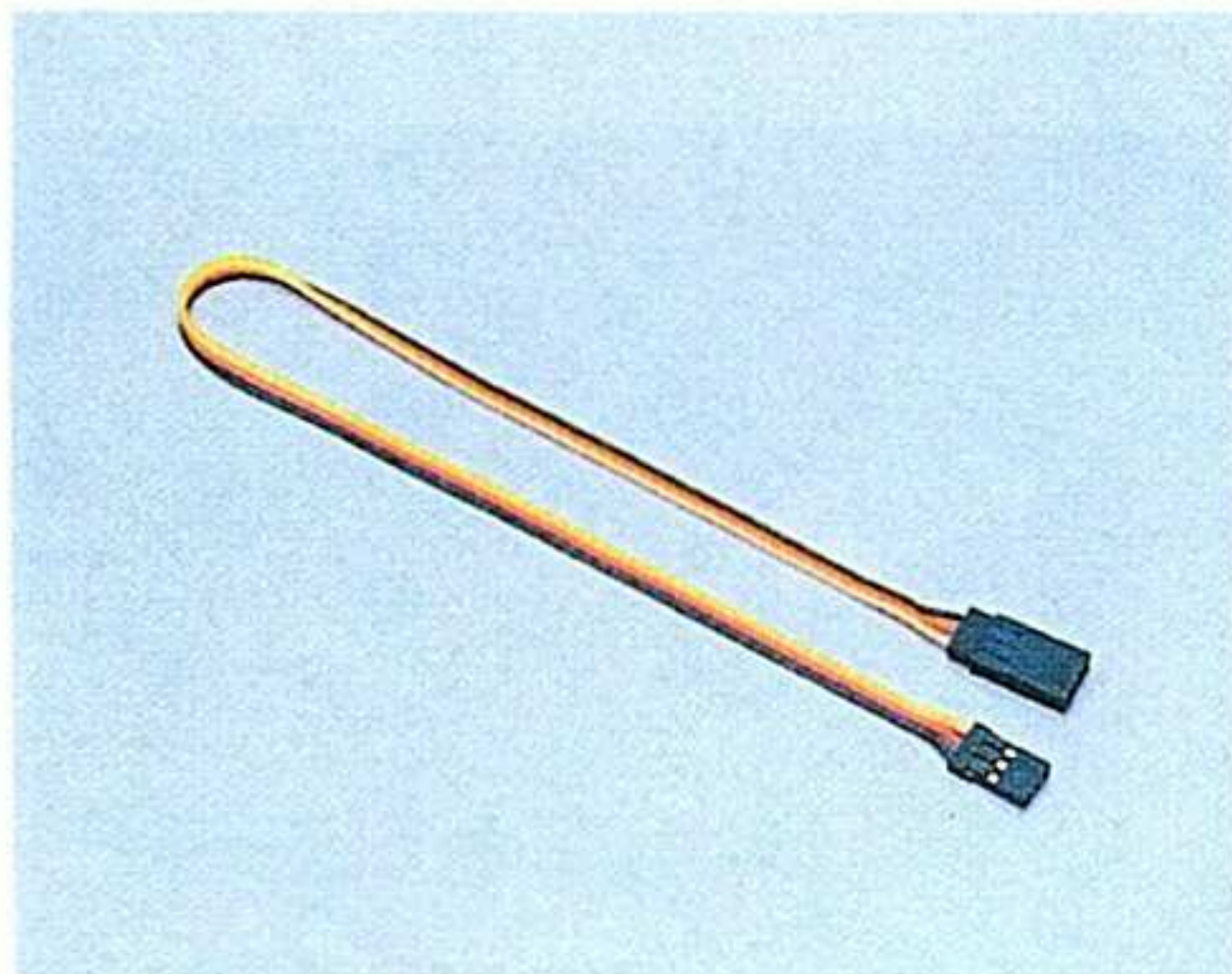
#JR724 (NER-724X)
Circus 4 Channel
AM receiver/PPM

RECEIVER SPECIFICATIONS

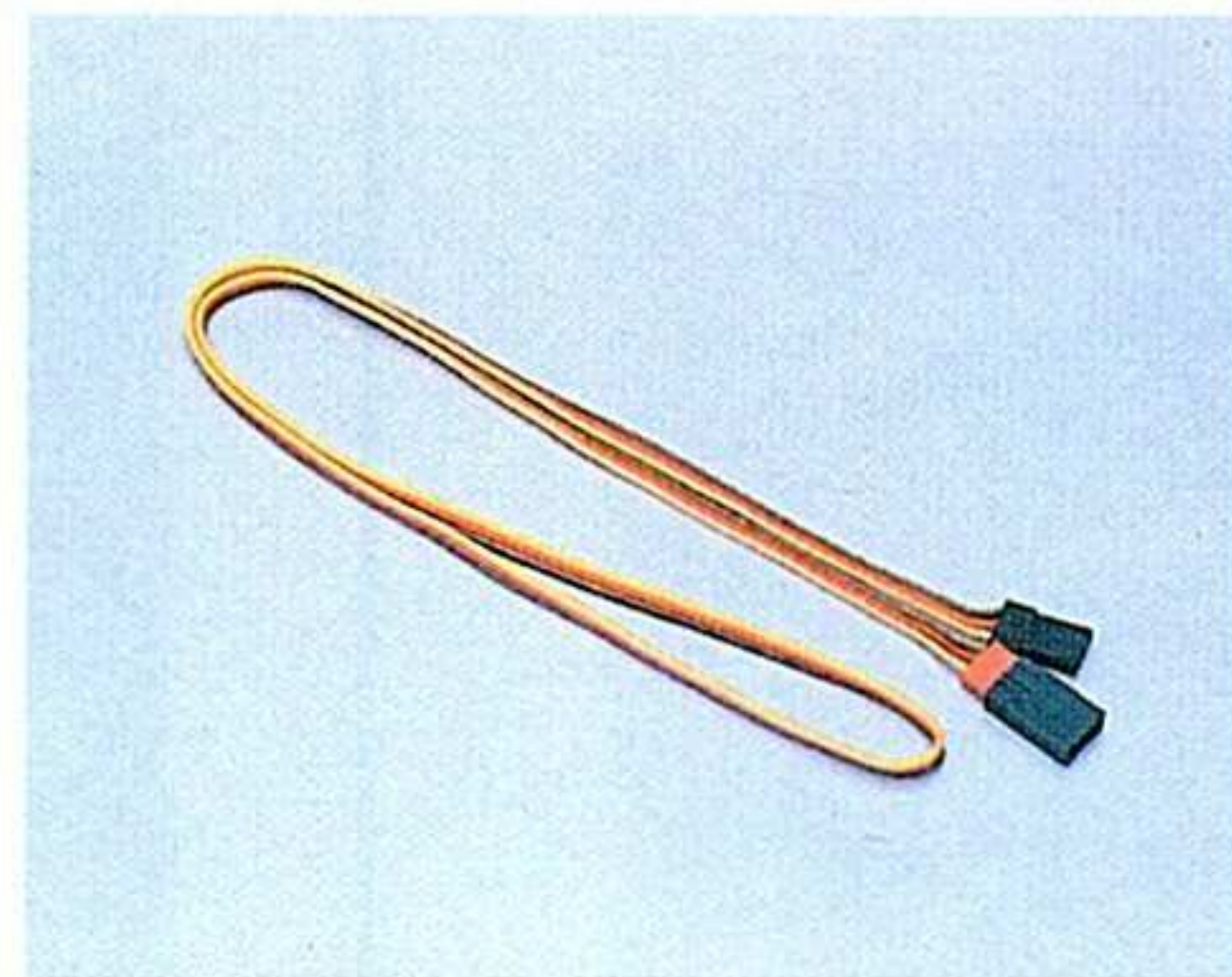
Item #	Model #	Description	AM	FM	27	50	53	72	75	Mod Type	Weight	Height	Length	Width
JR722	NER722X	2 ch Micro ABC&W, Circus 2, Winner 2	X		X			X	X	PPM	1.00	0.82	1.77	1.27
JR822	NET822X	2 ch Micro BEC ABC&W - Fits all non-PCM 2 ch	X		X				X	PPM	1.26	0.82	2.00	1.29
JR832	NER832X	2 ch BEC ABC&W Alpina PCM, Beat 2Cx PCM	X		X				X	PCM	1.34	0.82	2.00	1.29
JR832X	NET832X	2 ch BEC ABC&W w/o crystals Alpina, Beat 2Cx PCM	X		X					PCM	1.34	.082	2.00	1.29
JR324XX	NER324	4 ch Max 4	X					X		PPM	1.56	0.82	2.44	1.42
JR724	NET7244X	4 ch Micro ABC&W	X					X		PPM	1.00	.082	1.77	1.27
JR824	NER824X	4 ch ABC&W, Max 4	X					X		PPM	1.26	.082	2.00	1.29
JR327	NER327X	7 ch ABC&W, Max 5 FM, Century 7 FM, Apollo 7		X			X	X		PPM	1.58	0.82	2.44	1.42
JR527	NER527X	7 ch Micro ABC&W, Max 5 FM, Century 7 FM		X			X	X		PPM	1.58	0.82	2.00	1.42
JR627	NER627X	7 ch Micro ABC&W, Century 7 PCM		X			X	X		PCM	1.55	0.82	2.00	1.42
JG627	NER627XG	7 ch ABC&W "G," Max 5 PCM, Max 6, Max 7		X		X	X	X		PCM	1.55	0.82	2.00	1.42
JR228	NERJ228F	8 ch ABC&W Dual Conversion - Fits all FM		X		X	X	X		PPM	2.40	0.88	2.77	1.74
JR329	NERJ329P	9 ch ABC&W Dual Conversion "G," Galaxy 8		X		X	X	X		PCM	2.40	0.88	2.77	1.74
JR529	NER529X	9 ch Micro ABC&W - Fits all FM		X		X	X	X		PPM	1.60	0.82	2.00	1.42
JR229	NERJ229P	9 ch ABC&W Dual Conv, Century 7 PCM, PCM 9		X		X	X	X		PCM	2.40	0.88	2.76	1.74
JR910	NER910XZ	10 ch ABC&W "G," PCM 10		X		X	X	X		PCM	2.10	0.84	2.10	1.50

JR Remote Control

AILERON EXTENSIONS



#JRA003 12".

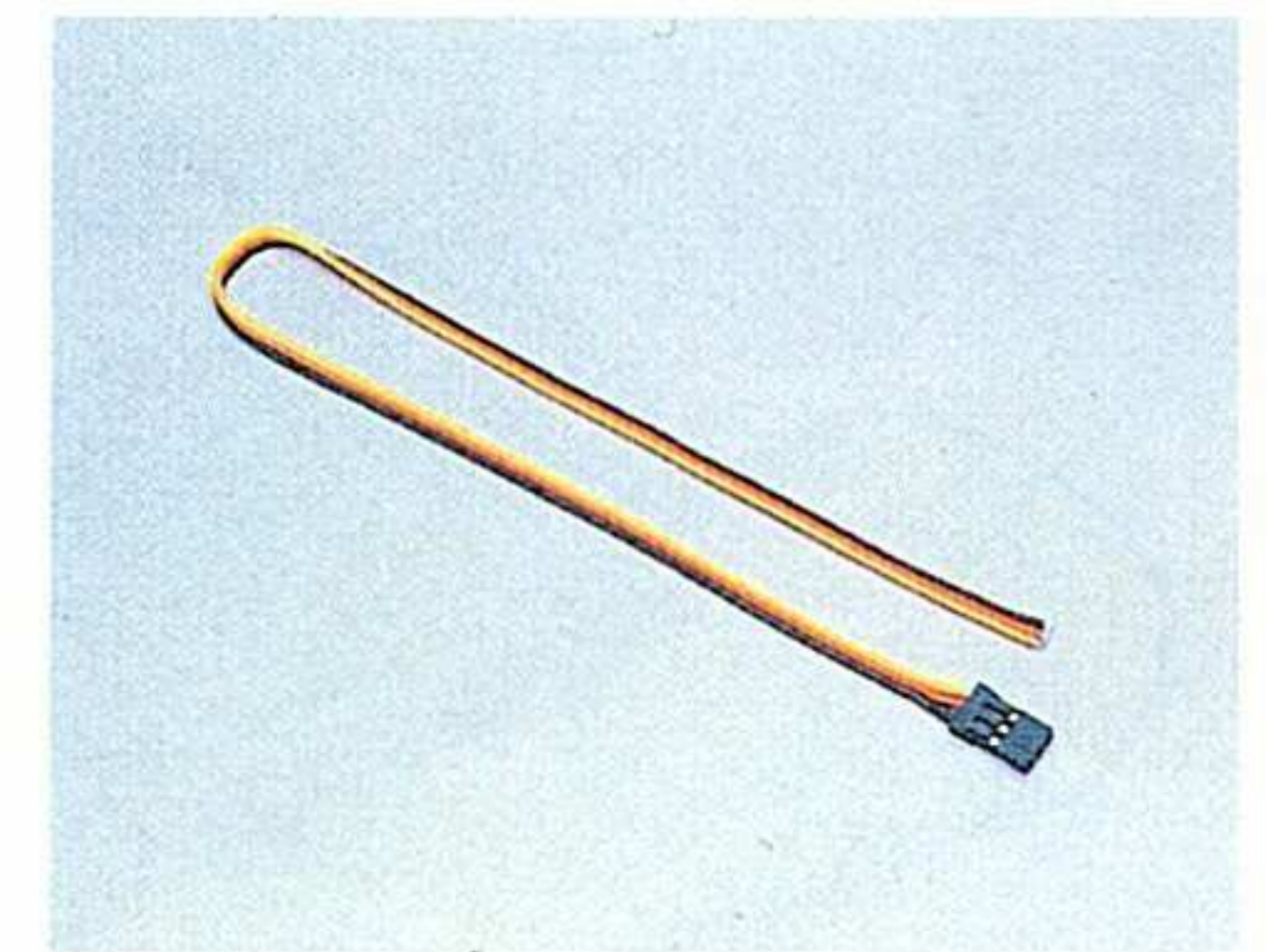


#JRA003D 36".

CORDS



#JRA002PCM "Y" harness.



#JRA05001 servo pigtail.

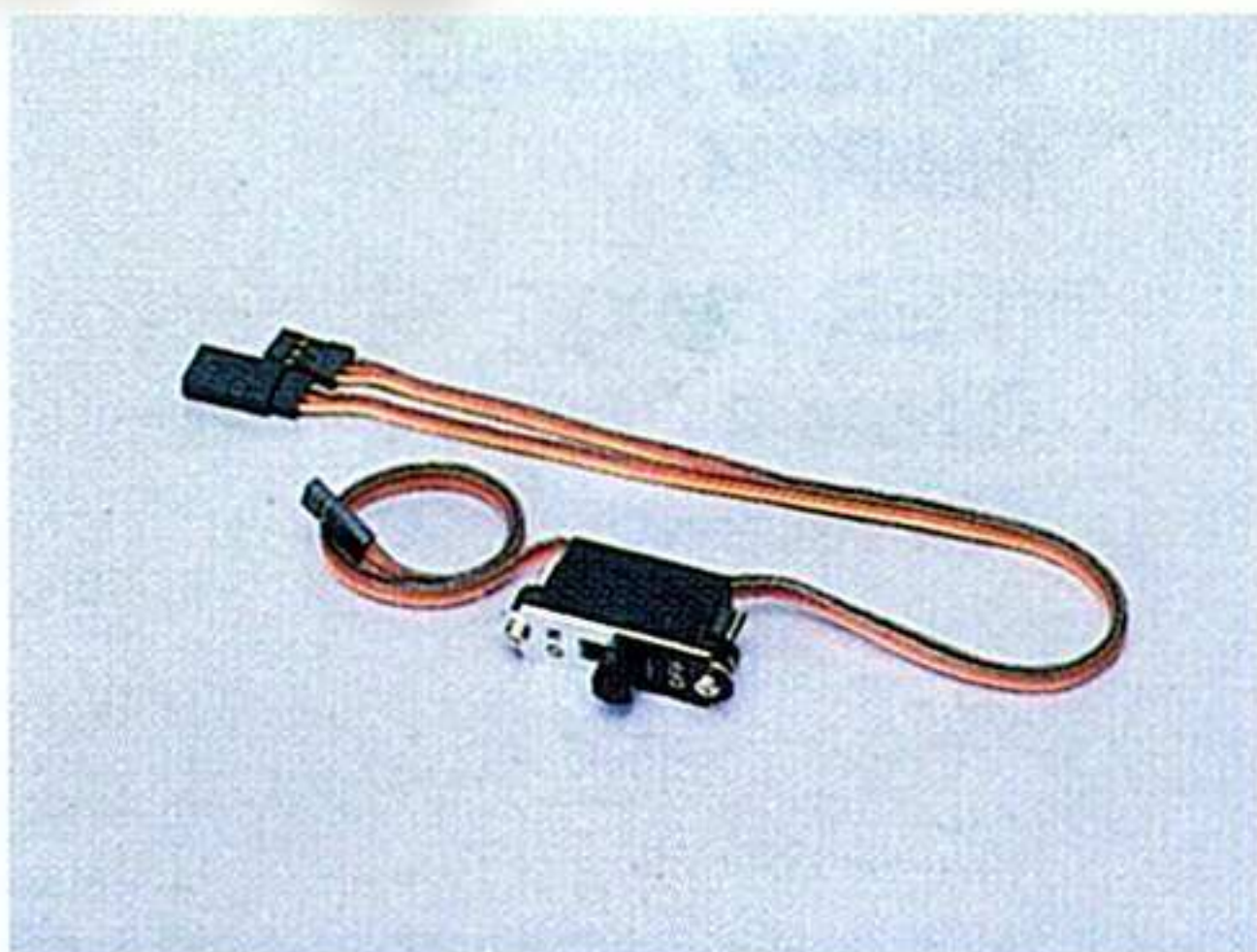
AILERON EXTENSIONS

JRA003	12" deluxe/gold pins
JRA003A	9" deluxe/gold pins
JRA003B	18" deluxe/gold pins
JRA003C	22" deluxe/gold pins
JRA003D	36" deluxe/gold pins
JRA003E	3" deluxe/gold pins
JRA003ES	3" standard/silver pins
JRA003F	6" deluxe/gold pins
JRA003FS	6" standard/silver pins
JRA003G	4" deluxe/gold pins
JRA003GS	4" standard/silver pins
JRA003HS	12" standard/silver pins
JRA003S	9" standard/silver pins

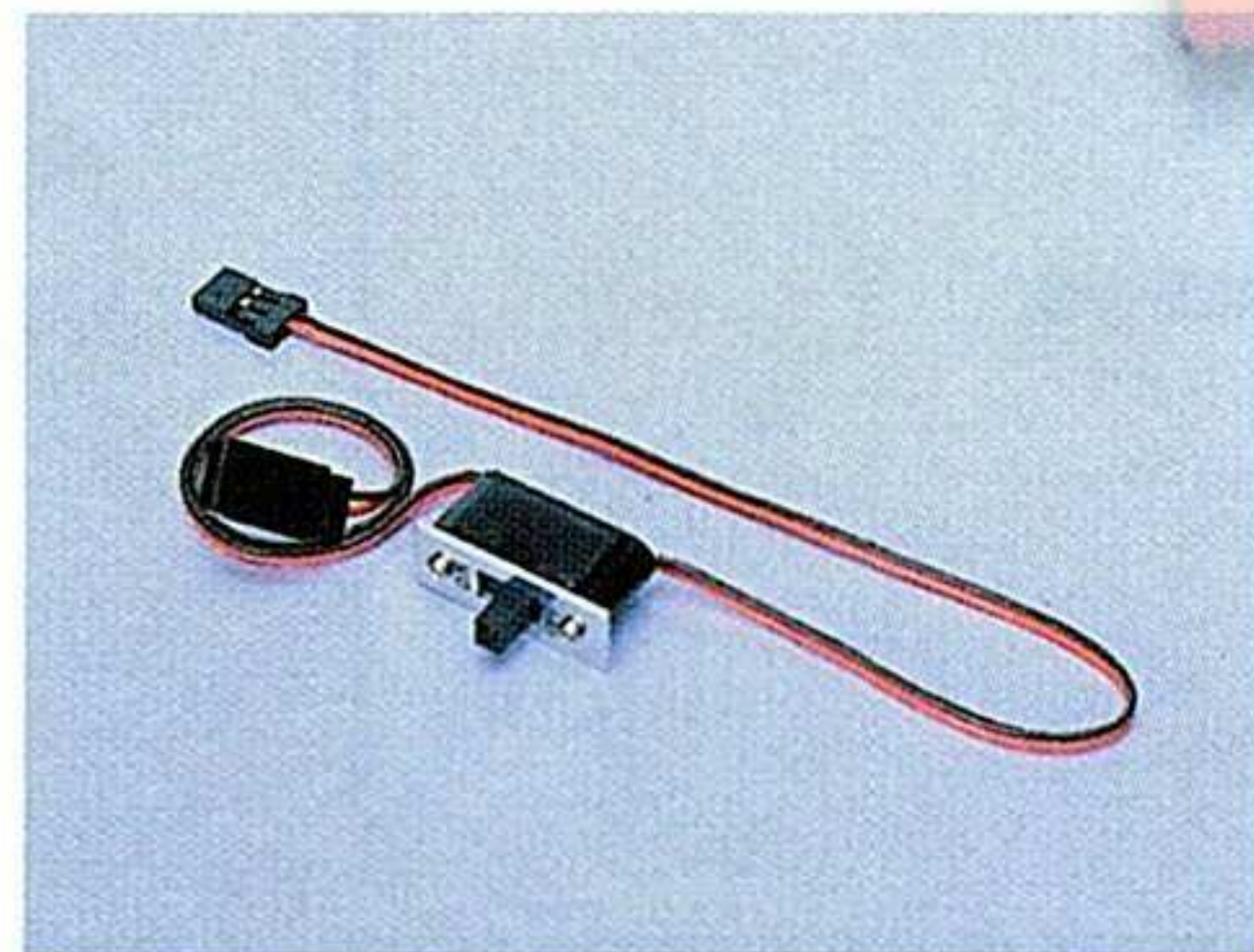
CORDS

JRA002PCM	"Y" harness PPM/PCM w/ amp
JRA05001	Deluxe servo pigtail gold pins
JRA05002	Receiver charge cord
JRA05003	Transmitter charge cord
JRA05004	Standard servo pigtail silver pins
JRATC001	Trainer cords
JRADSCAM	DSC cord AM system
JRADSCFM	DSC cord FM system
JRADSCC	DSC converter

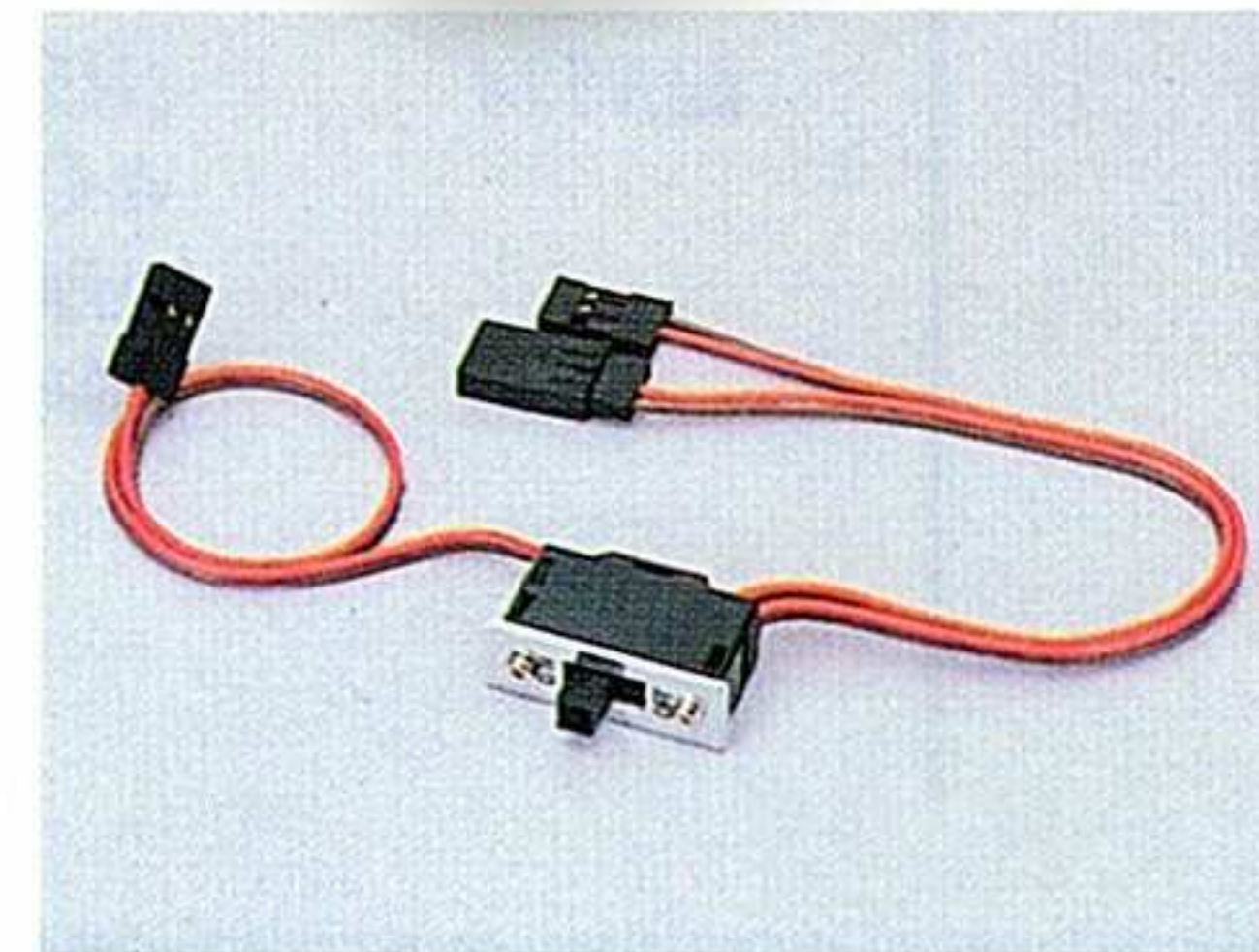
SWITCH HARNESSES & ANTENNAS



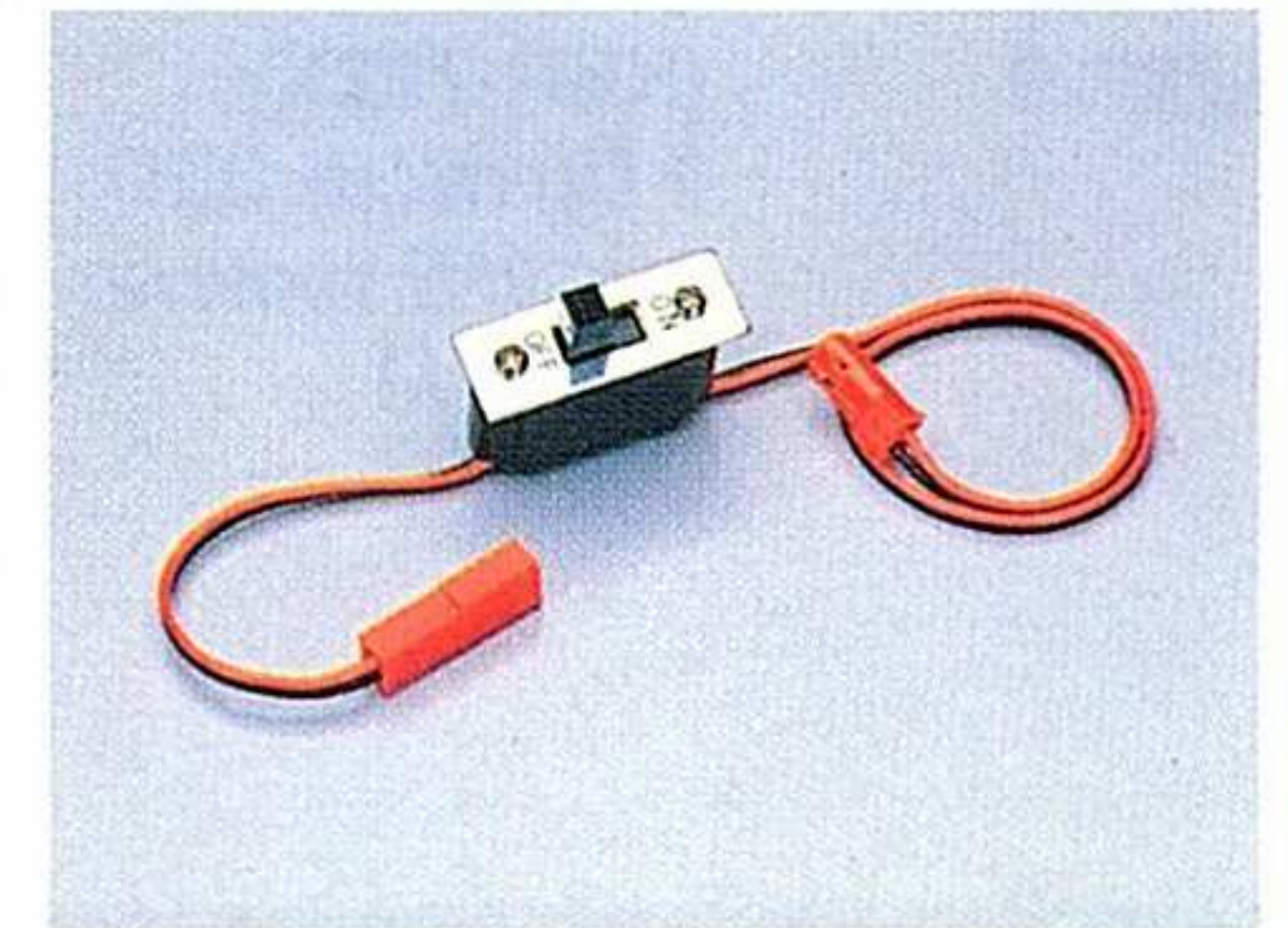
#JRA001 deluxe gold.



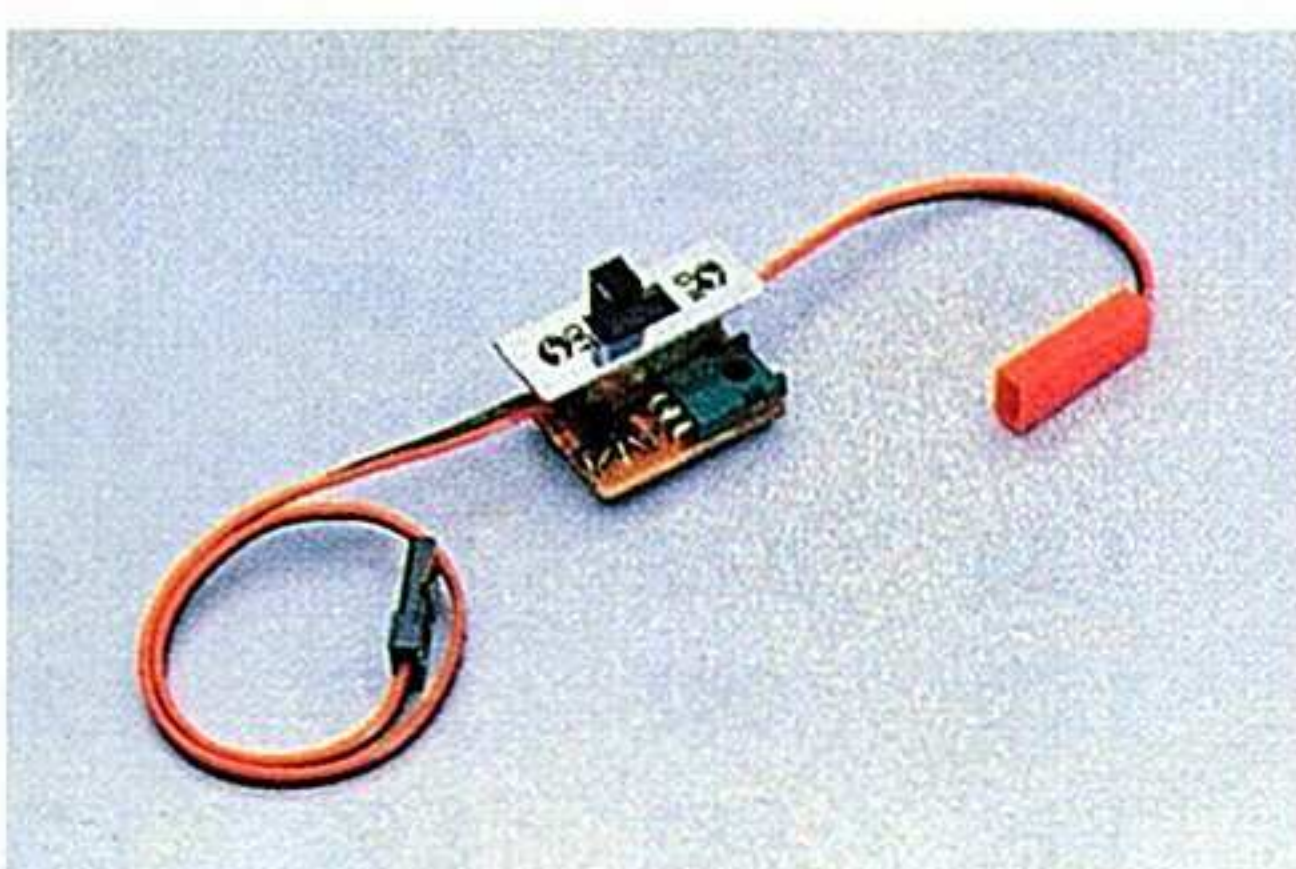
#JRA001E 2 channel.



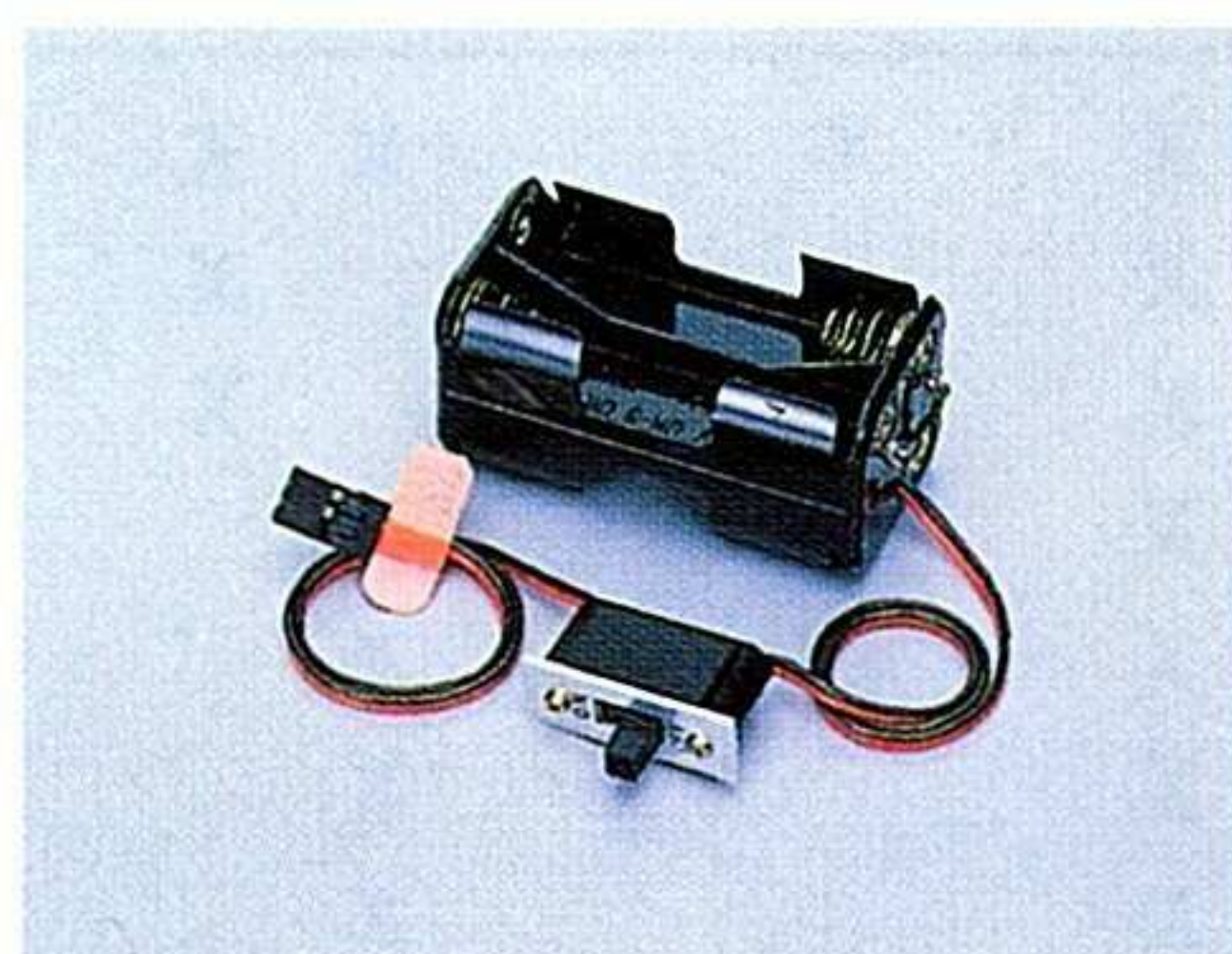
#JRA001S.



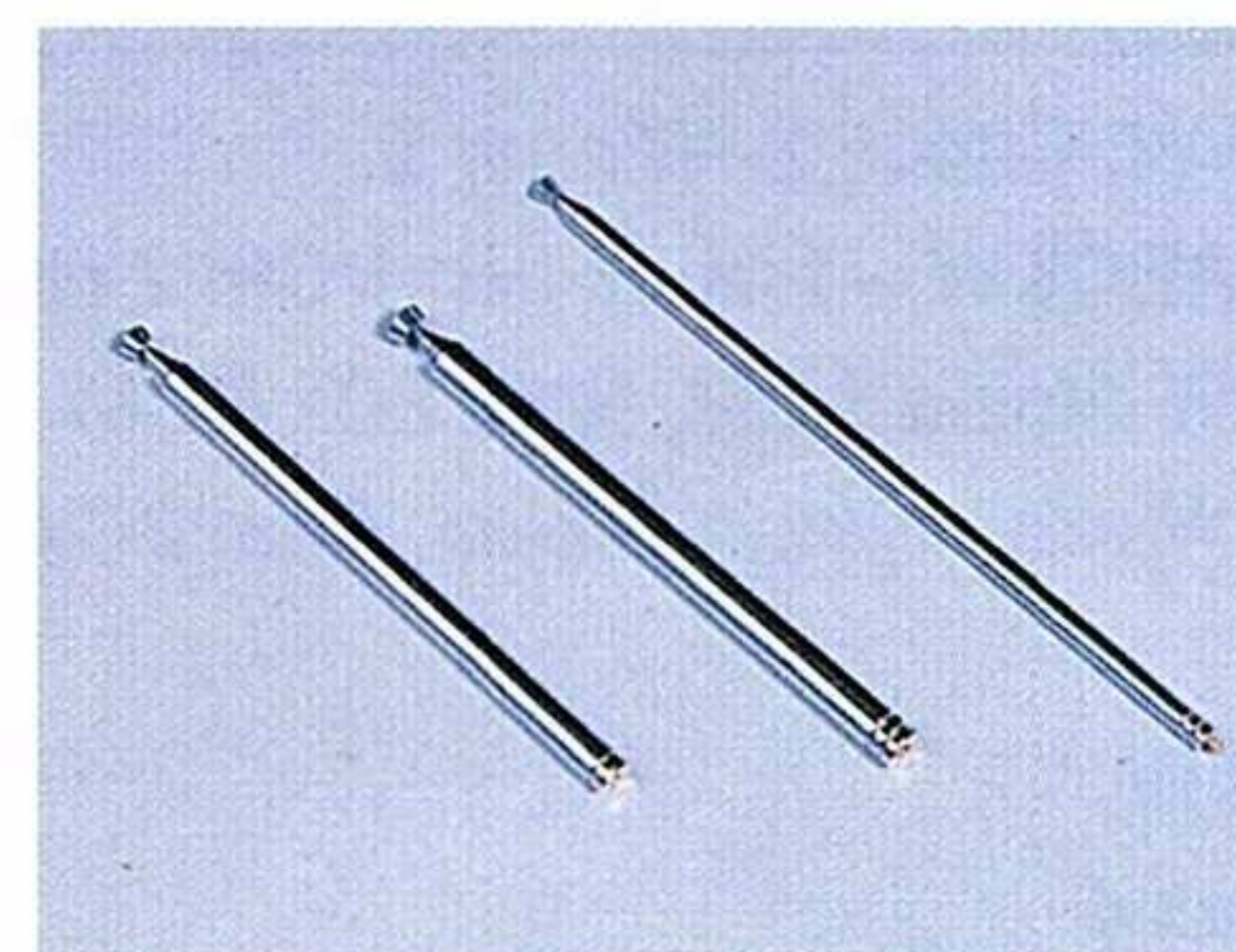
#JRA001BEC for BEC Rx.



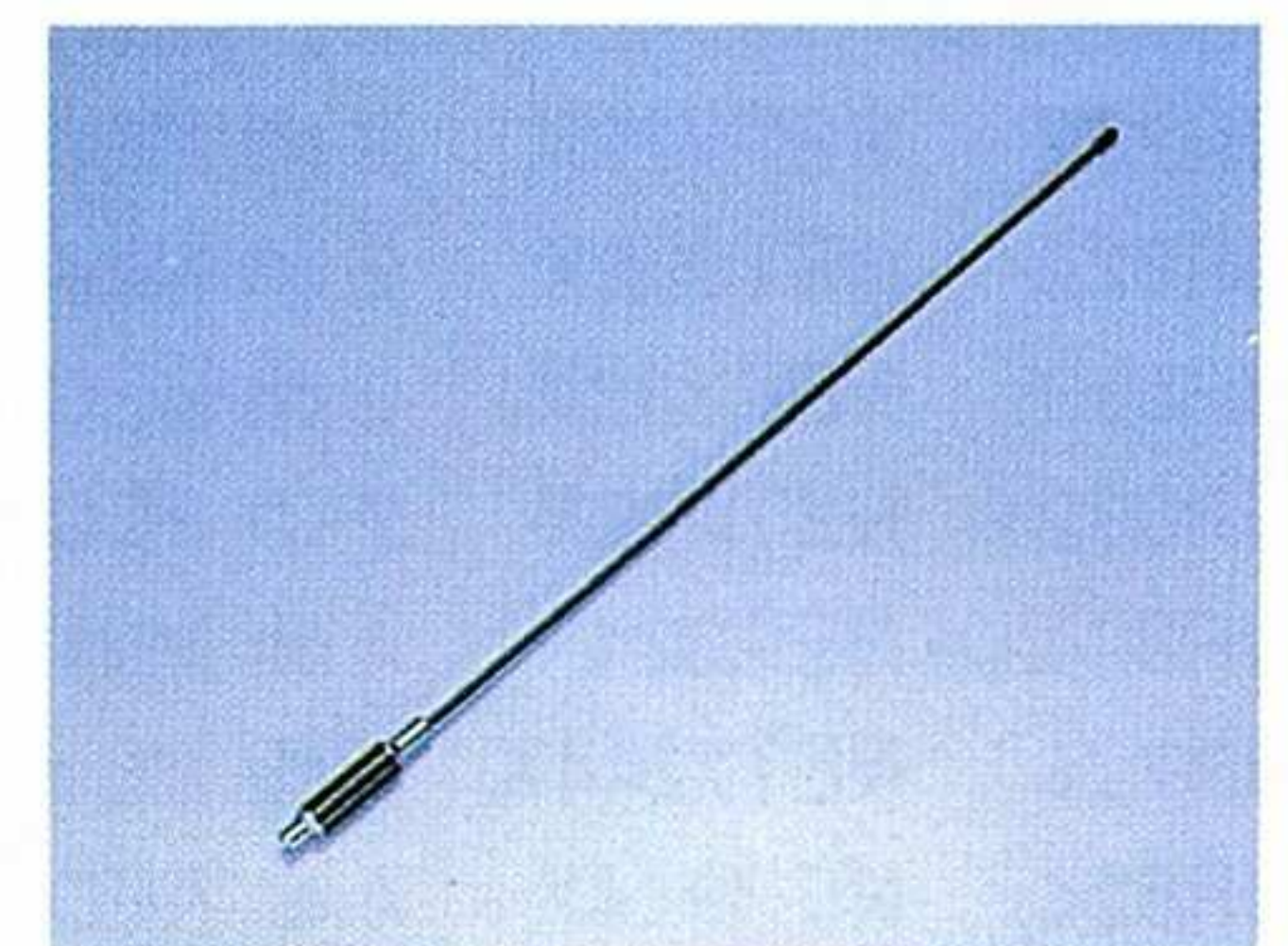
#JRA580 w/BEC circuit.



#JRA018 w/battery case.



#JRA010, #JRA010A, #JRA010C.



#JRA010E (72 MHz).

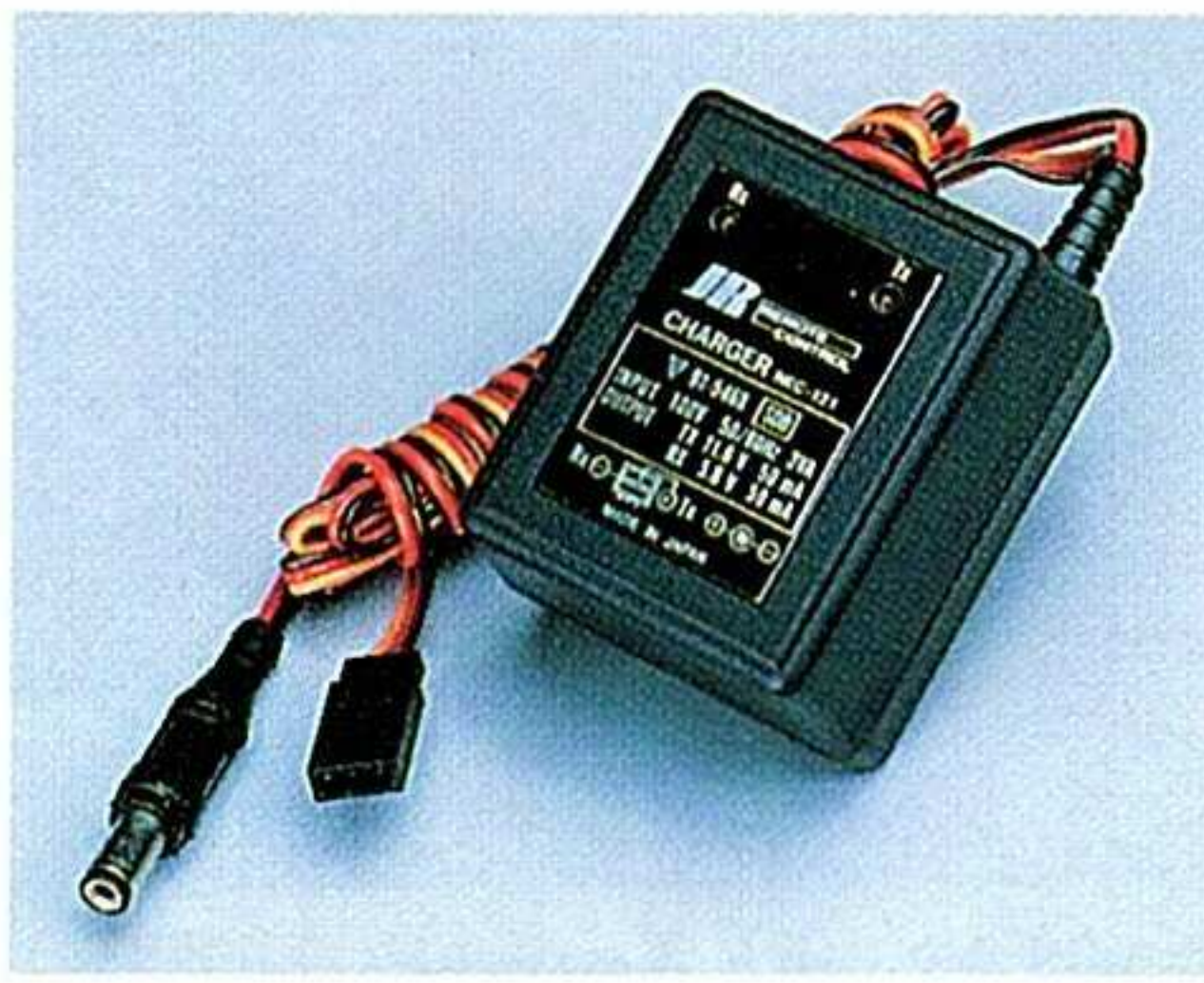
SWITCH HARNESSES

JRA001	Switch/deluxe gold w/ charging jack
JRA001BEC	Switch for BEC receiver
JRA001E	Switch/2 channel
JRA001S	Switch/standard silver w/ charging jack
JRA001Z	Switch - economy w/ charging socket
JRA018	Battery case w/ switch
JRA020BEC	Battery case w/ BEC plug
JRA580	Switch 2/ BEC circuit

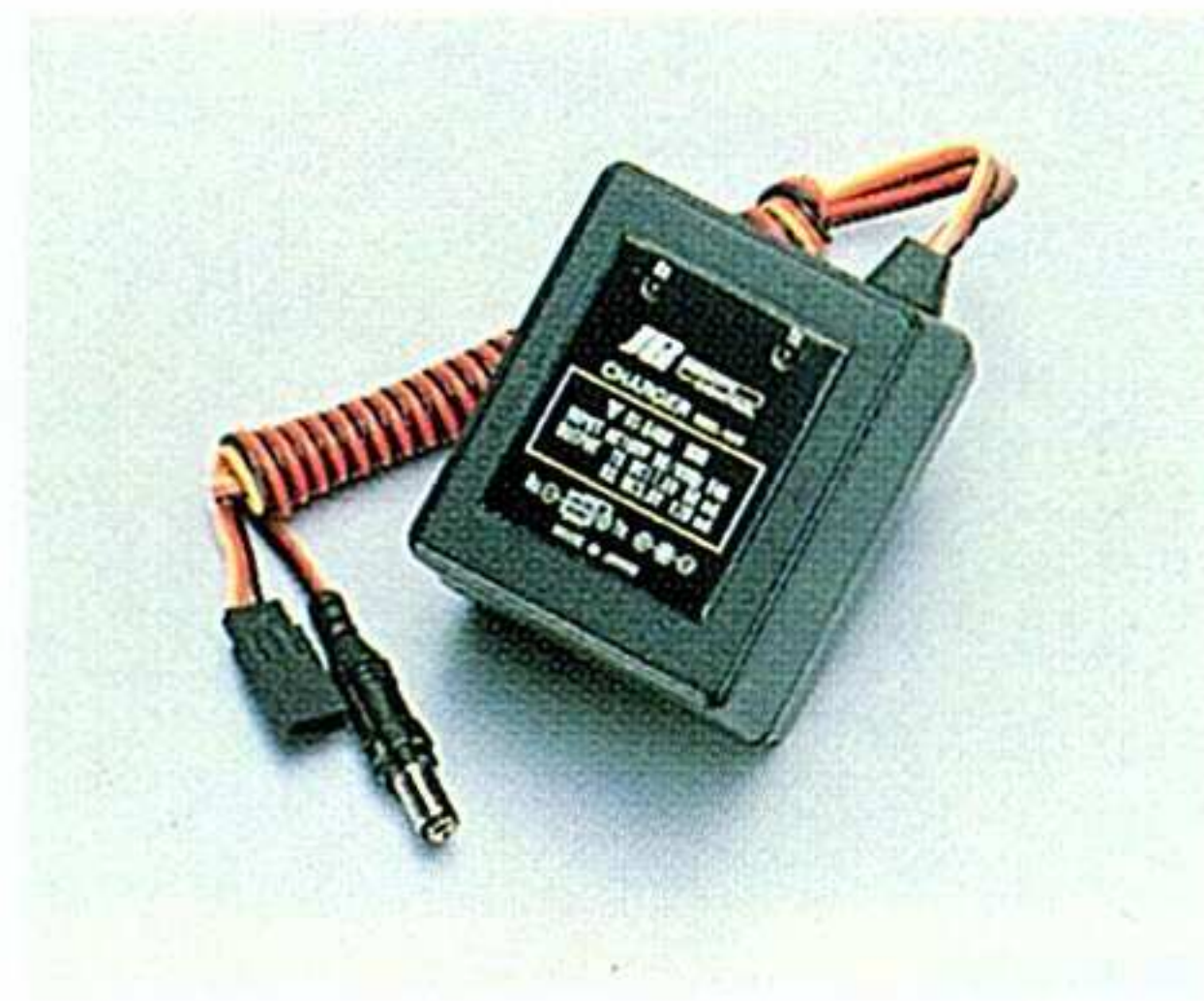
ANTENNAS

JRA010	Unlimited 8/Apollo/Circus 4/PCM 9
JRA010A	Century 7/Galaxy 8
JRA010B	Circus 2/Beat 2
JRA010C	Winner 2/Beat 2
JRA010E	Active antenna 72 MHz
JRA010EFA	Adapter active antenna
JRA010F	Active antenna 53 MHz
JRA010MA	Adapter for active antenna - MAX

CHARGERS & BATTERIES



#JRC221 standard.
50 mAH Rx/50 mAH Tx



#JRC1211K high rate.
100 mAH Rx/50 mAH Tx



#JRB270 270 mAH flat/Rx.



#JRB500 550 mAH flat/Rx.

CHARGERS

JRA121KA	Charging adapter for 1211K
JRC221	Standard Tx/Rx
JRC1211K	High rate Tx/Rx
JRC1212V	220 volt AC Tx/Rx

AIRBORNE BATTERY PACKS

JRB270	270 mAH flat/Rx
JRB500	550 mAH flat/Rx
JRB500S	550 mAH square/Rx
JRB700	700 mAH/Rx
JRB1000	1000 mAH Rx
JRB1200S	1200 mAH/Rx

TRANSMITTER BATTERY PACKS

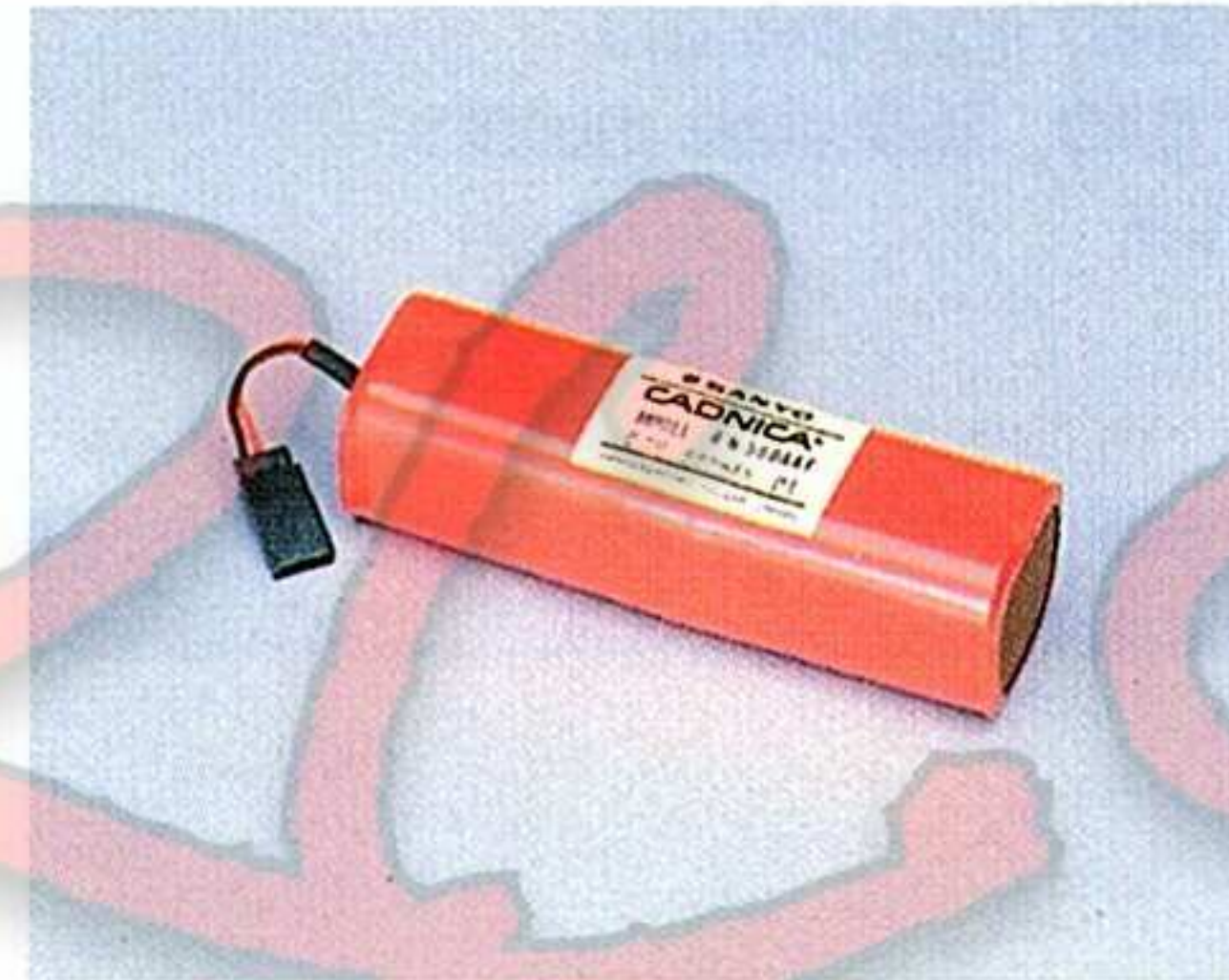
J520002	550 mAH – Unlimited 8/PCM 9
J520004	550 mAH – Galaxy 8/Century 7/X-347
J520005	700 mAH – PCM 9 SS
J520008	700 mAH – Max 4, 5, 6, & 7
J520010	700 mAH – PCM 10



#JRB500S 550 mAH square/Rx.



#JRB1200S 1200 mAH/Rx.



#J520004 500 mAH/Tx
(Galaxy 8, Century 7, X-347).



#J520008 700 mAH/Tx
(Max 4, 5, 6, & 7, X-347).

TRANSMITTER MODULES



#JTXAM, #JTXFM.

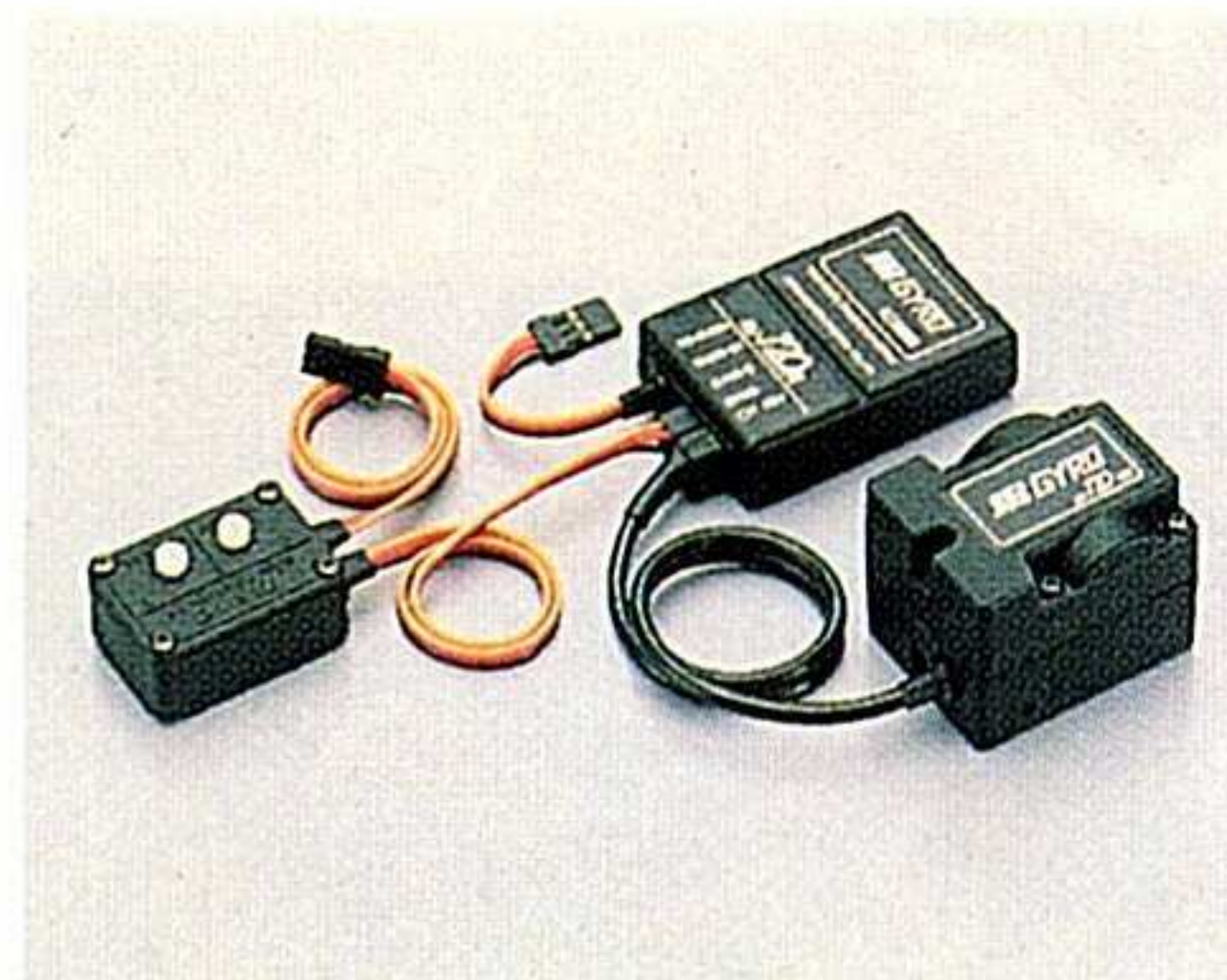


#JTXPC.

TRANSMITTER MODULES

JTXAM	AM Tx module (72 MHz)
JTXFM	FM Tx module (50,53,72 MHz)
JTXPC	PCM Tx module (50,53,72 MHz)

GYRO & GLOW PLUG CONNECTOR



#JRJ120BB.



#JRA360, JRA360A.

GYROS

JRJ120BB	Pro II gyro w/ball bearing
JRJ130BB	Economy gyro

GLOW PLUG CONNECTOR

JRA360A	Glow plug connector & cord
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RF AND AIRBORNE PACKS

AIRBORNE PACKS

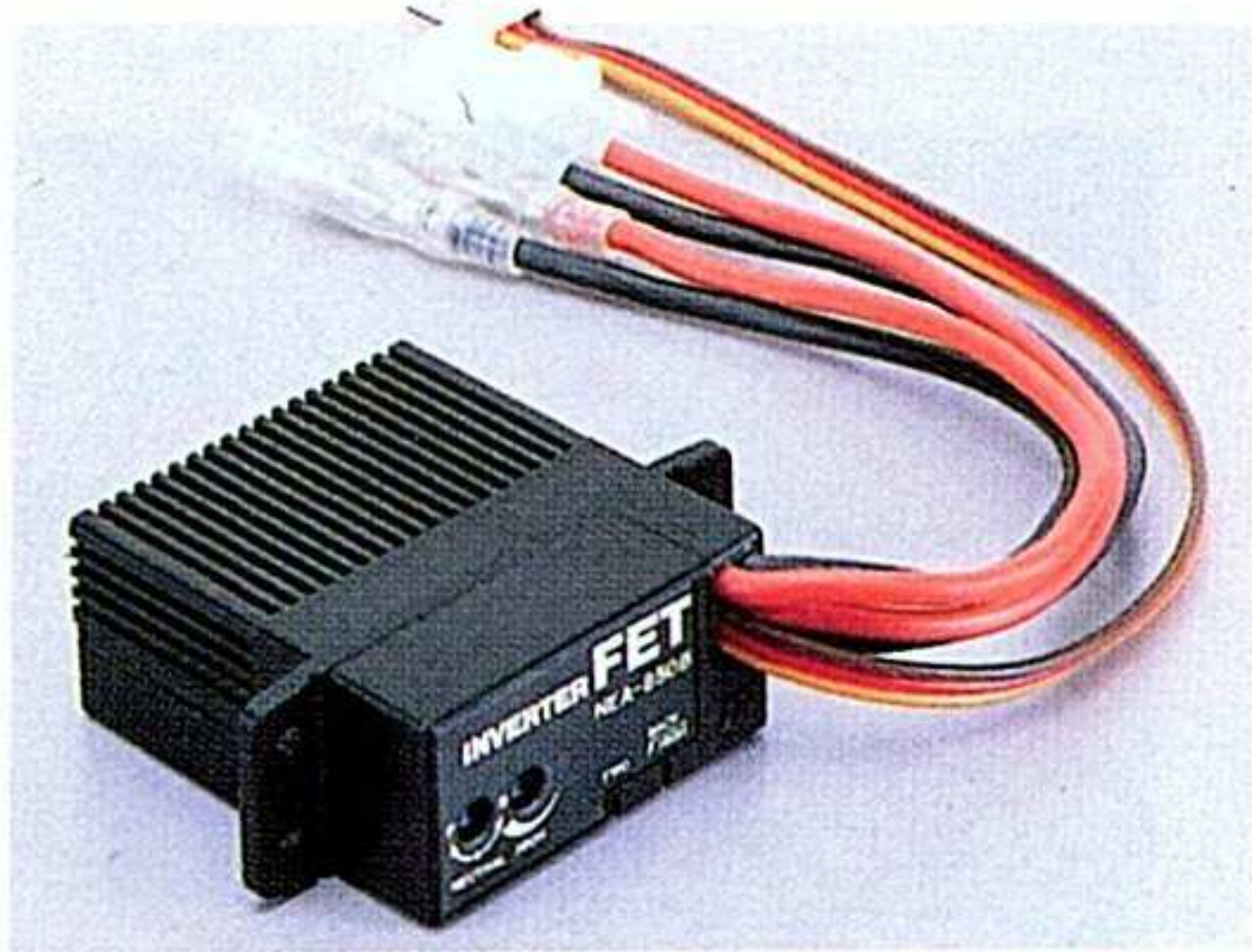
J7XCPK	X-347 pattern airborne pack
J7XGPK	X-347 glider airborne pack
J7XHPK	X-347 heli airborne pack

RF PACKS

J7XRF	X-347 RF pack only (receiver and Tx module)
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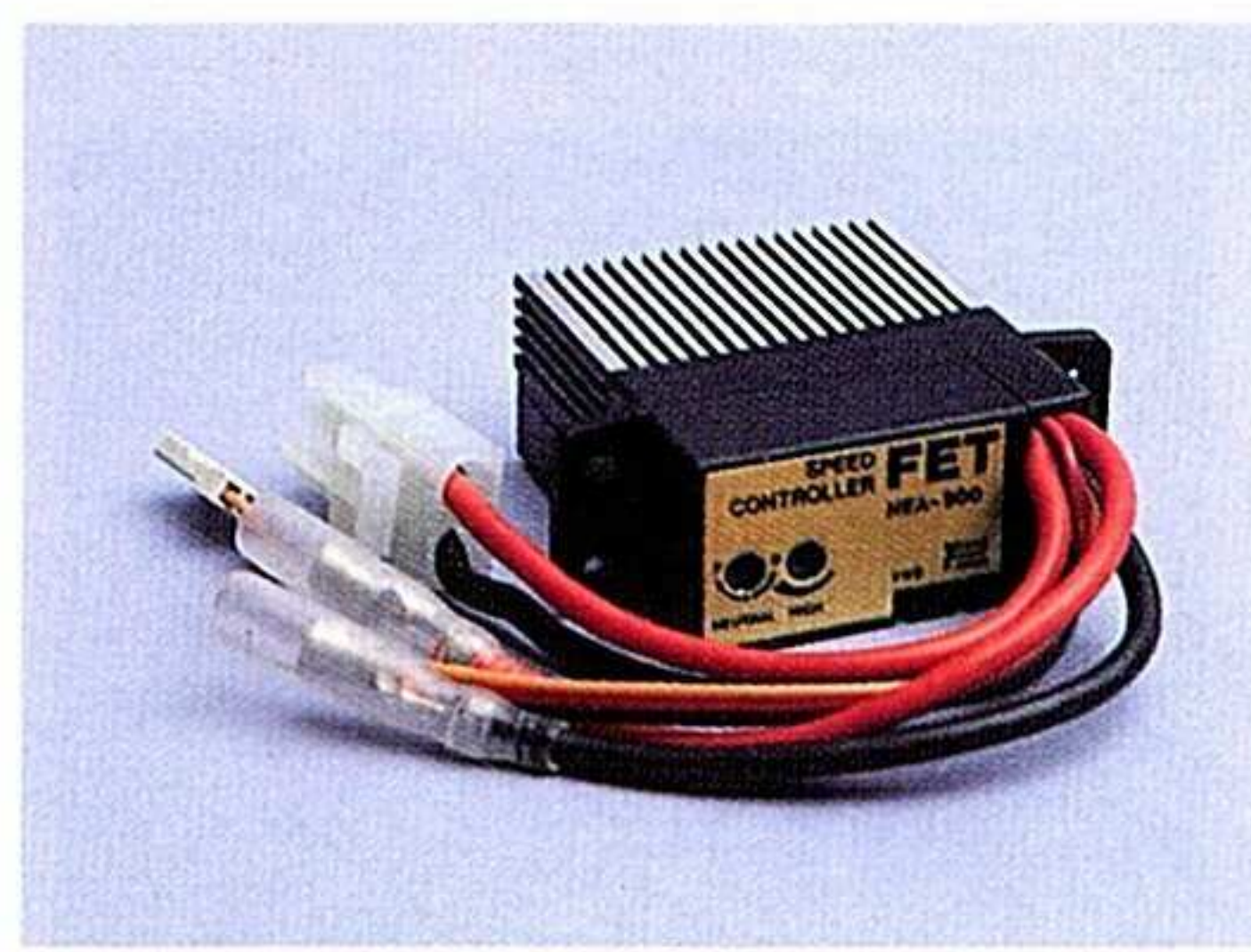
JR Remote Control

SPEED CONTROLS



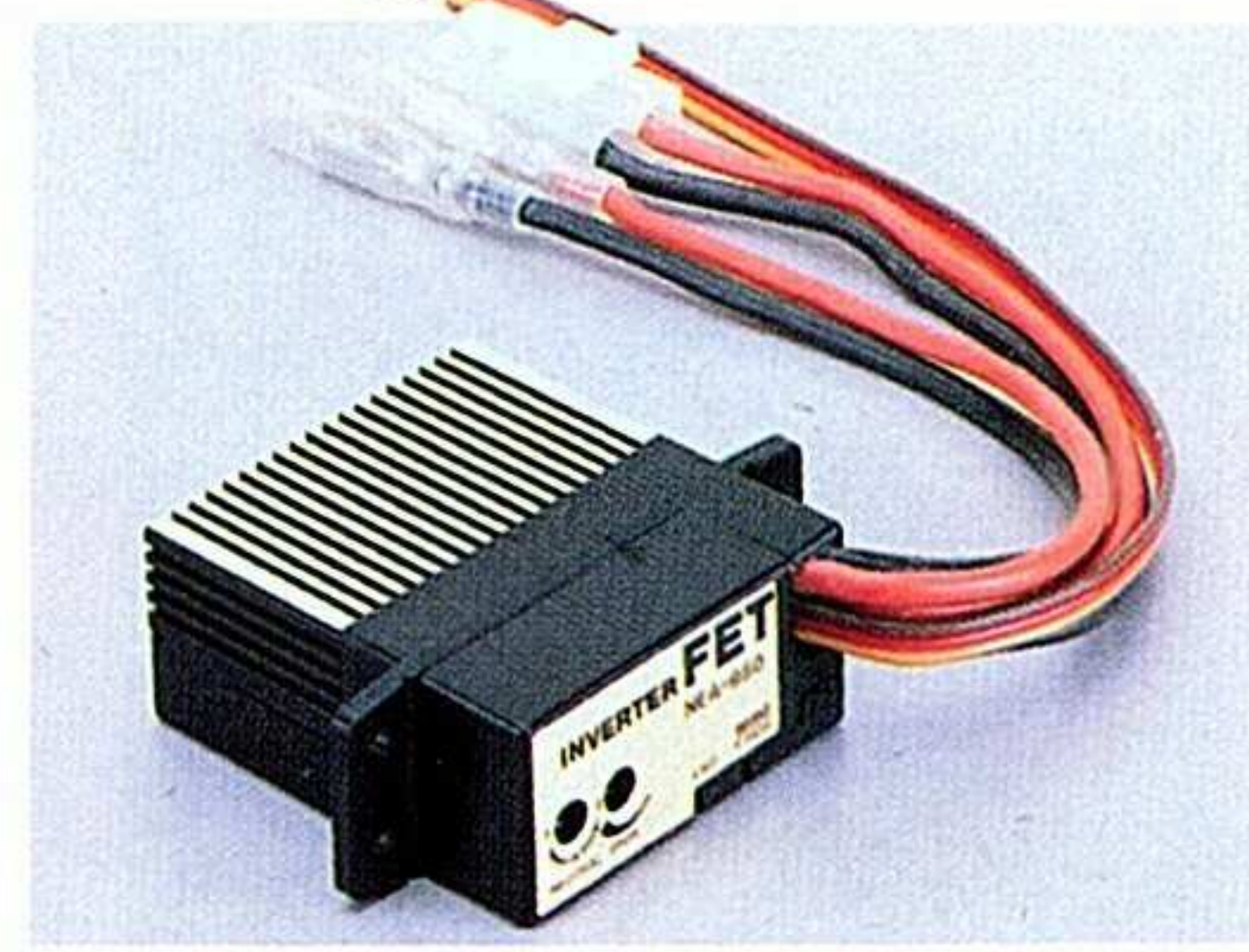
#JRA850B with Reverse

- FET control system 7.2V-8.4V
- continuous current 20 amps/fwd
- surge current 240 amps/fwd
- residual resistance 0.013 W fwd
- weight 2.40 oz.
- 1.6" x 1.8" x .8"



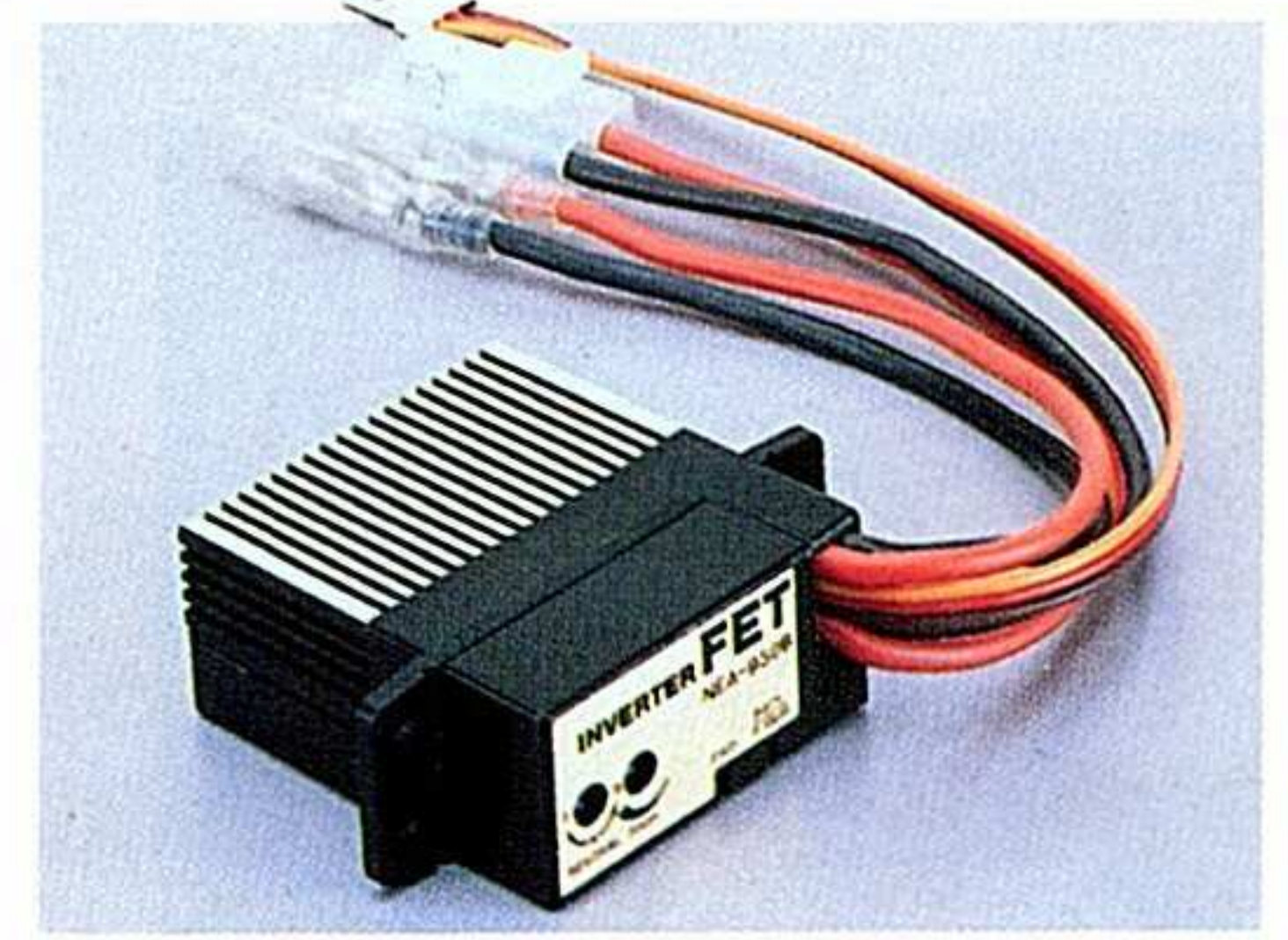
#JRA900

- FET control system 6v-10.8v
- continuous current 120 amps/fwd
- surge current 480 amps/fwd
- residual resistance 0.004 W /fwd
- weight 2.1 oz.
- 1.6" x 1.8" x .8"



#JRA950

- FET control system 7.2v-9.6v
- continuous current 40 amps/fwd
- surge current 1440 amps/fwd
- residual resistance 0.0025 W/fwd
- weight 2.40 oz.
- 1.6" x 1.8" x .8"



#JRA950B with Reverse

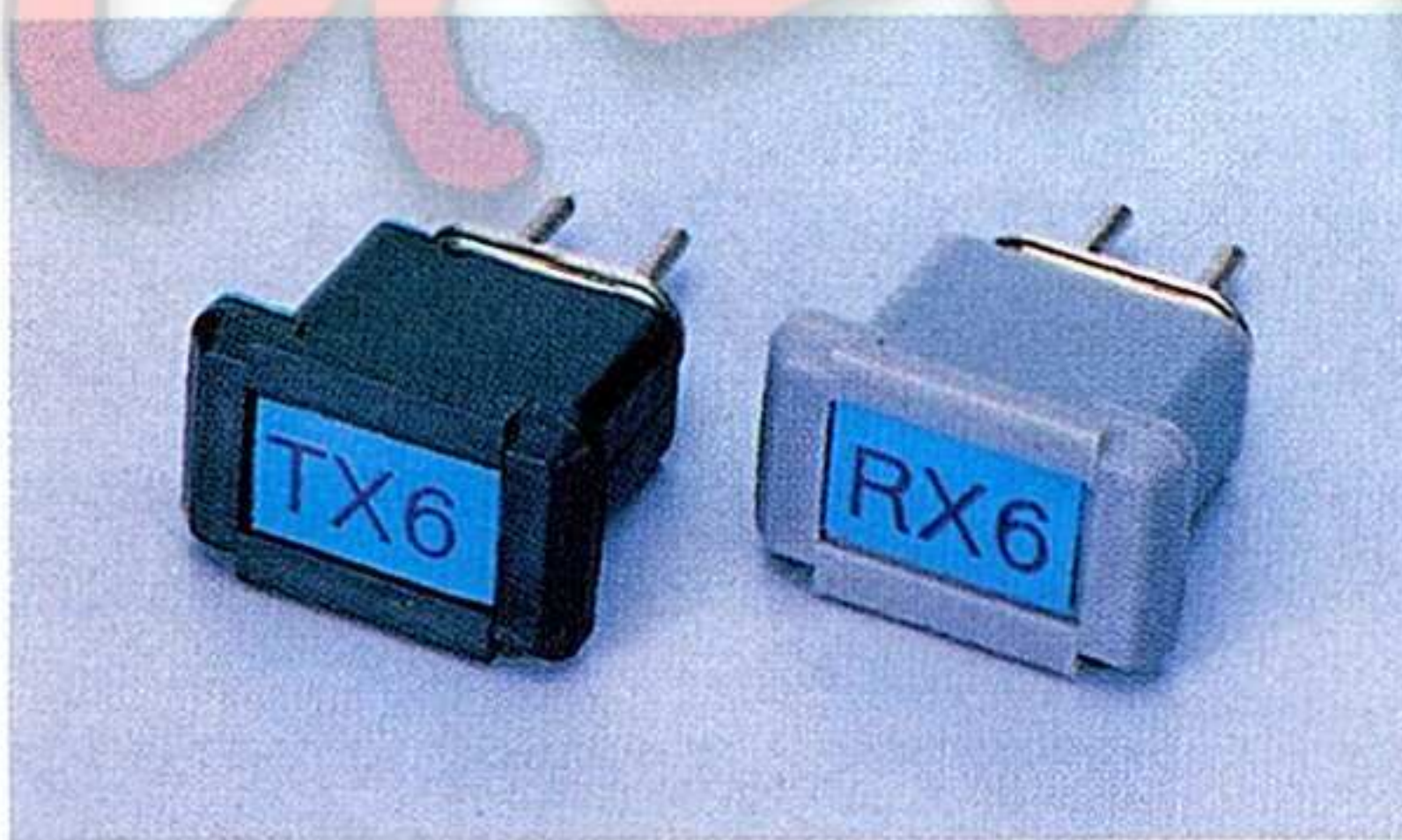
- FET control system 7.2V-9.6V
- continuous current 25 amps/fwd
- surge current 720 amps/fwd
- residual resistance 0.01 W/fwd
- weight 2.24 oz.
- 1.6" x 1.8" x .8"

SPEED CONTROLS

JR100B	Micro speed control with reverse
JRA220	Speed control for 280 size motors
JRA240	Speed control for 540, 550 size motors
JRA250H	Speed control – heli

JRA850B	Speed control w/reverse
JRA900	Speed control w/o reverse
JRA950	Speed control w/o reverse
JRA950B	Speed control w/reverse

CRYSTALS & SURFACE RADIO ACCESSORIES



Tx and Rx Crystal Set.



#JRA100B, Speed Control for JRXAB.



#JRA023B, Hand Strap for Alpina.

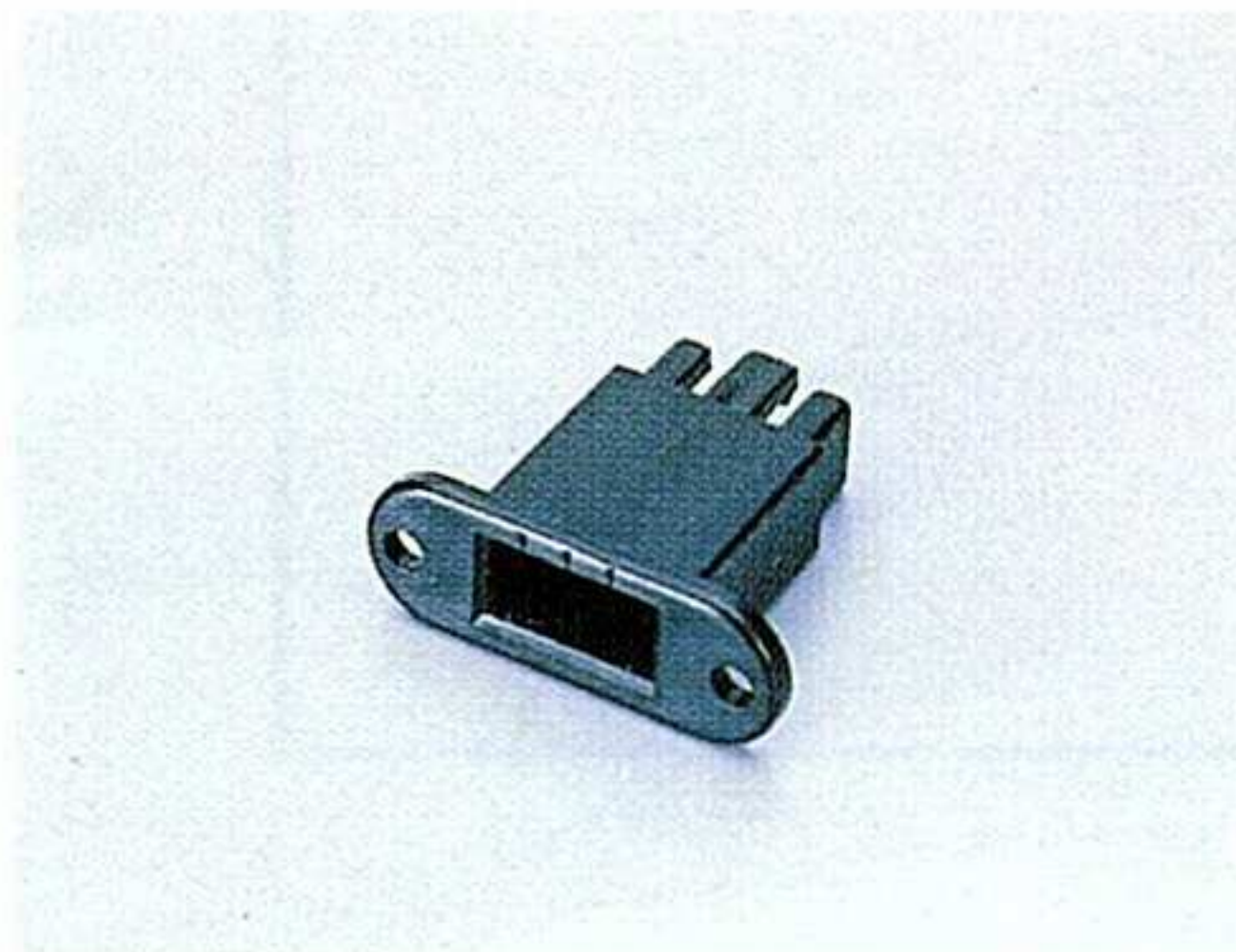
CRYSTALS

JRA021-1	Tx and Rx crystal set – 26.995 Mhz
JRA021-2	Tx and Rx crystal set – 27.045 Mhz
JRA021-3	Tx and Rx crystal set – 27.095 Mhz
JRA021-4	Tx and Rx crystal set – 27.145 Mhz
JRA021-5	Tx and Rx crystal set – 27.195 Mhz
JRA021-6	Tx and Rx crystal set – 27.255 Mhz
JRA021-62	Tx and Rx crystal set – 75.430 Mhz
JRA021-64	Tx and Rx crystal set – 75.470 Mhz
JRA021-66	Tx and Rx crystal set – 75.510 Mhz
JRA021-68	Tx and Rx crystal set – 75.550 Mhz
JRA021-70	Tx and Rx crystal set – 75.590 Mhz
JRA021-72	Tx and Rx crystal set – 75.630 Mhz
JRA021-74	Tx and Rx crystal set – 75.670 Mhz
JRA021-76	Tx and Rx crystal set – 75.710 Mhz
JRA021-78	Tx and Rx crystal set – 75.750 Mhz
JRA021-80	Tx and Rx crystal set – 75.790 Mhz
JRA021-82	Tx and Rx crystal set – 75.830 Mhz
JRA021-84	Tx and Rx crystal set – 75.870 Mhz
JRA021-86	Tx and Rx crystal set – 75.910 Mhz
JRA021-88	Tx and Rx crystal set – 75.950 Mhz
JRA021-90	Tx and Rx crystal set – 75.990 Mhz

SURFACE RADIO ACCESSORIES

JRA023B	Handstrap (Alpina)
JRXAB	Car amp set (for ABC Indy car- 27 MHz only)
JRAFWHL	Foam wheel (Alpina)

MISCELLANEOUS ACCESSORIES



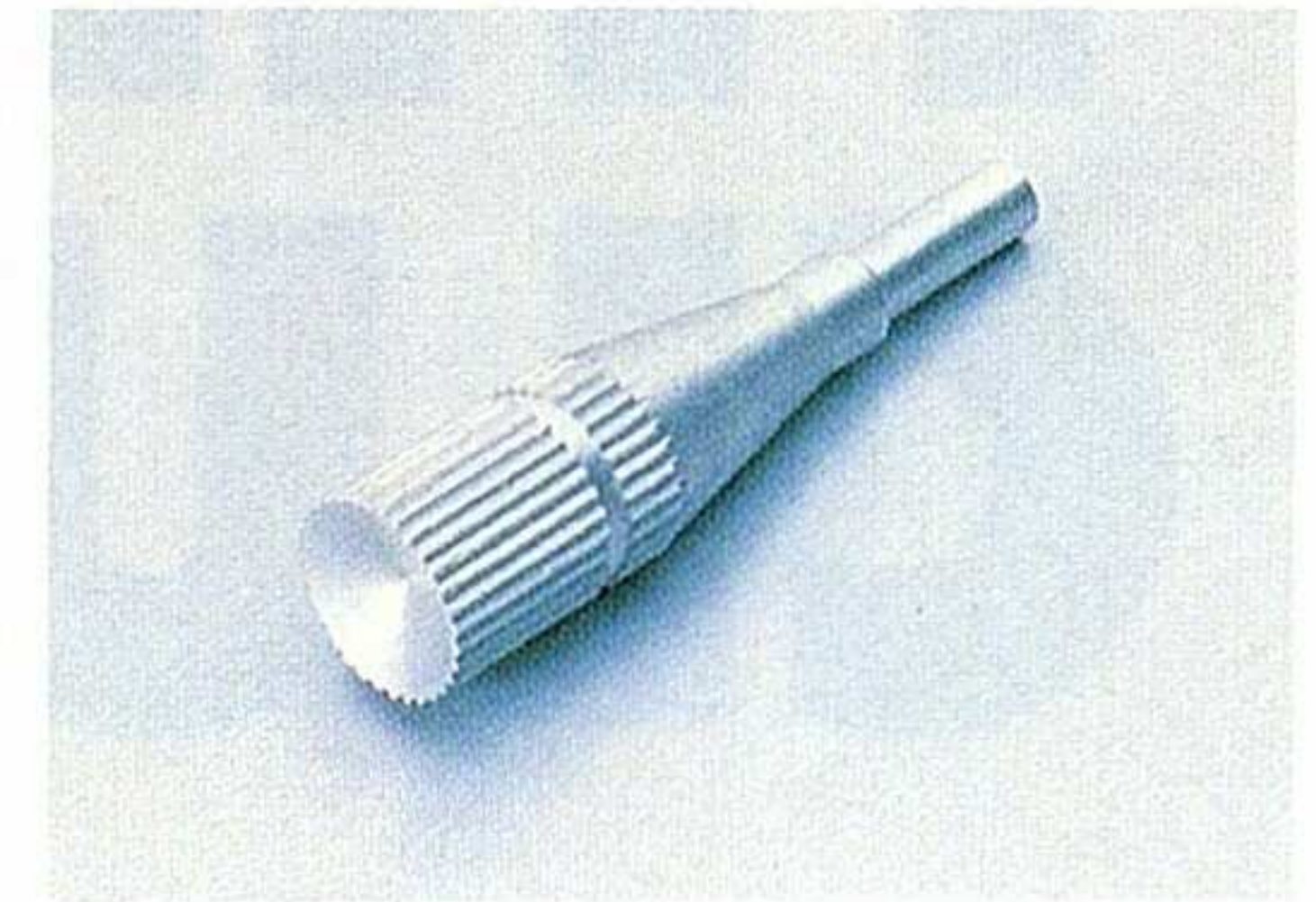
#JRA024.



#JRADECALR.



#JRA023A.



#JRA011

ACCESSORIES

- JRA001Z Economy switch with charging jack
- JRA011 Pot adjusting screwdriver
- JRA020BEC Battery case with BEC plug
- JRA023A Neck strap 1" wide
- JRA023B Hand strap
- JRA024 Charge receptacle
- JRA500 Reverse amp
- JRC380 Tx & Rx battery expanded scale voltmeter
- JRCZ5000M JR Propo Team Jacket-medium
- JRABG910 PCM-10 grip (rubber)-pair
- JRASMK Ball bearing conversion 501/507 (4 ea)
- JRAFWHL Foam steering wheel (Alpina)
- JRCTCASE PCM 10 Tx carrying case (single)
- JRADECALR JR decal set
- JRAPCMDEC PCM-10 decal set



#JRC380.



#JRCTCASE.

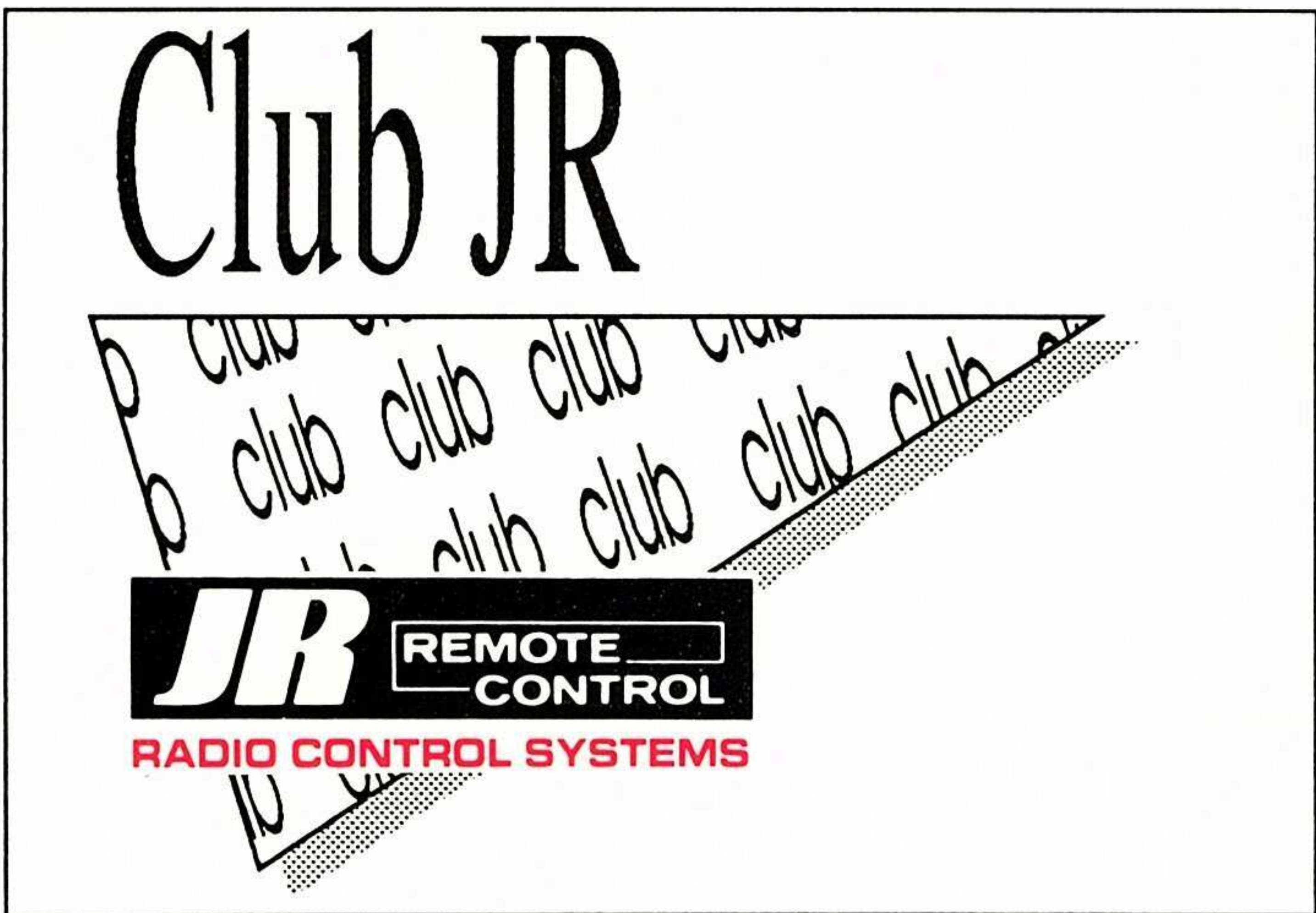


Team JR's Mike Klein with his winning LA-1 and JR PCM-10.

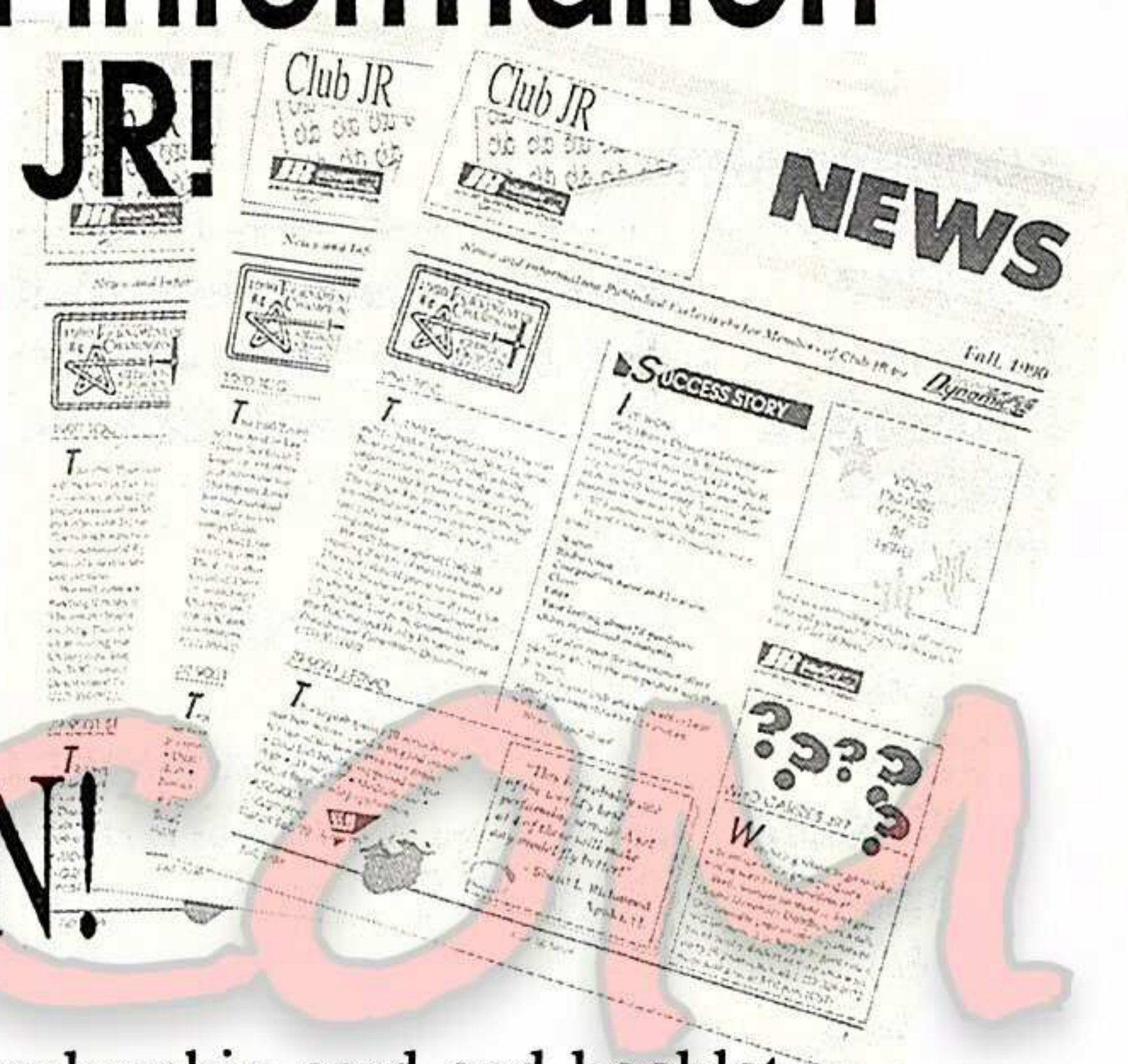
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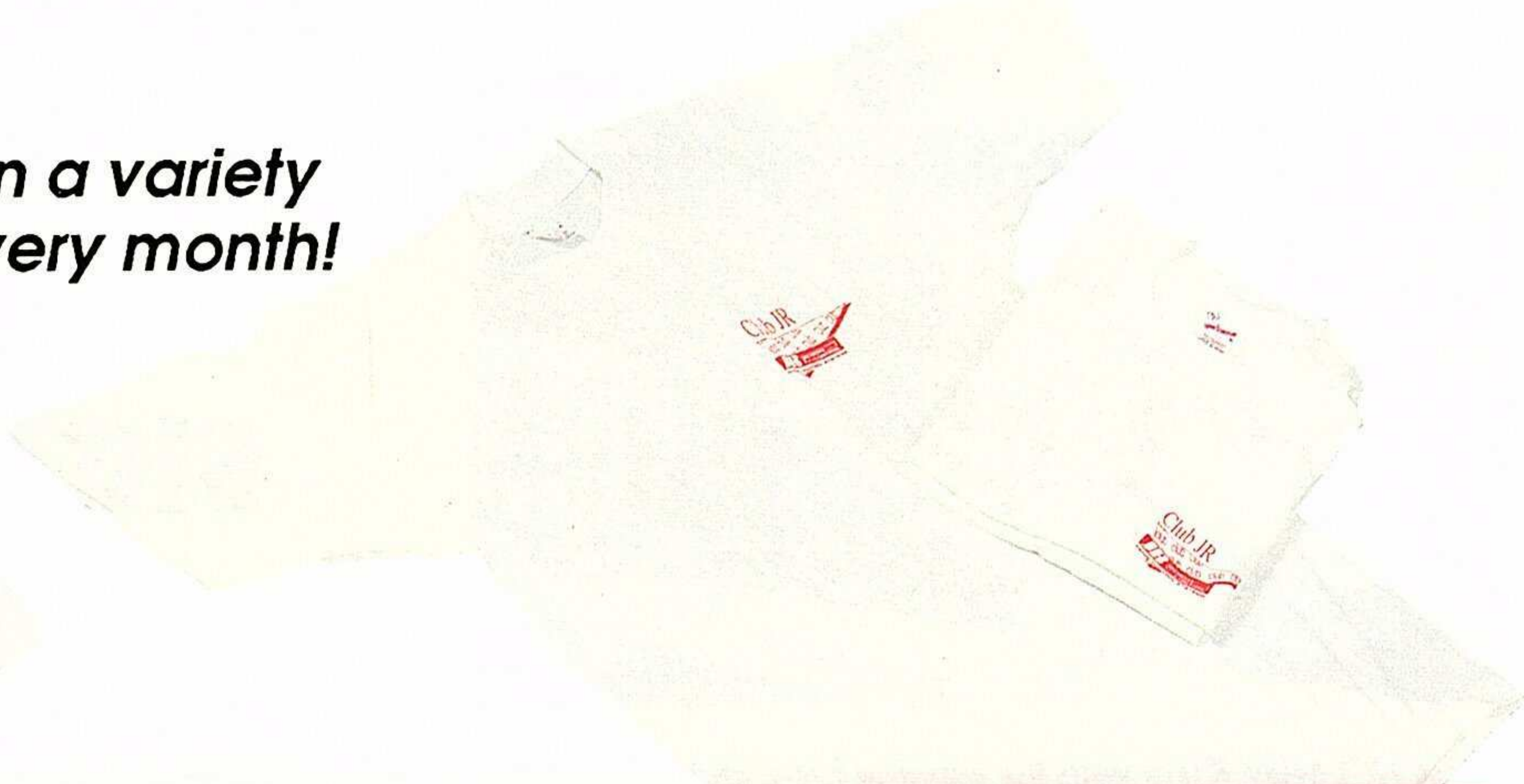


FIVE REASONS TO JOIN!

1. Receive a membership packet including a membership card and booklet together with a Team JR cap and tee-shirt.
2. Receive a quarterly newsletter summarizing new product offerings and other features pertaining to JR activities nationally and throughout the world.
3. Tee-shirts, jackets, decals and other logo items at great prices.
4. Receive an annual radio tune-up at no cost (member pays for shipping and needed replacement parts at cost).
5. Automatically entered in monthly drawings for JR products.

Max 6 Computer PCM.

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