

ARES

**MINI
GAMMA**

**Owner's Manual &
Technical Information (RTF)**



AZSA3150	Mini Gamma RTF
AZSA3150M1	Mini Gamma RTF (Mode 1)

Specification

Wingspan:	408mm (16.0")
Length:	318mm (12.5")
All-up weight:	40g (1.41oz)
Battery:	1S 180mAh LiPo
Motor:	Brushed, geared
Propeller:	5"
Charger:	1S USB
Transmitter:	3-channel 2.4GHz
On-board electronics: ...	6-axis stabilization
Stability modes:	High, Medium, Off
Controls:	Rudder, elevator, throttle

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IMPORTANT! This radio control model is not a toy. It must be operated and flown according to these instructions and may cause serious injury to persons or damage to property if not used responsibly or if operated without due caution. Unsuitable for children under 14 years of age.

Introduction

The heavier they are the harder they fall! It's a fact, and with this in mind the light and versatile Ares Mini Gamma makes perfect sense for anyone seeking a low cost, low commitment introduction to RC model flying. Your hobby budget will rarely return this much fun and performance for such a small investment, not to mention a level of sophistication that'll have you wondering how we do it. So what's the key to the Mini Gamma's success? Well, let's start with the light and resilient carbon-braced EPO airframe, the high-lift wing section and the powerful brushed / geared motor. Crucial features that are joined by a rock-solid 2.4GHz 3-channel proportional radio system, turbulence-beating state-of-the-art 6-axis gyro stabilization and a long-duration 180mAh LiPo that gives 8 to 10 minute flights. Wrap it all in a striking colour scheme and what you get is a good-looking all-season sportster that's not only perfect for flying indoors and out but also suits wind conditions that see similar aircraft grounded. Beginners will love its simplicity, its durability and its forgiving flight characteristics. Experts, will delight in its versatility and its grab 'n' go convenience. With a Mini Gamma, there's something for everyone.

FCC Information

This device complies with part 15 of the FCC rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Caution: Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This product contains a radio transmitter with wireless technology which has been tested and found to be compliant with the applicable regulations governing a radio transmitter in the 2.400GHz to 2.4835GHz frequency range.

The associated regulatory agencies of the following countries recognize the noted certifications for this product as authorized for sale and use: USA, UK, AU and EU.

Safety Precautions

Failure to use this product in the intended manner as described in the following instructions can result in damage and / or personal injury. A Radio Controlled (RC) airplane is not a toy! If misused it can cause serious bodily harm and damage to property.

Keep items that could become entangled in the propeller away from the propeller, including loose clothing, tools, etc. Be especially sure to keep your hands, face and other parts of your body away from the propeller.

As the user of this product you are solely and wholly responsible for operating it in a manner that does not endanger yourself and others or result in damage to the product or the property of others.

This model is controlled by a radio signal that is subject to possible interference from a variety of sources outside your control. This interference can cause momentary loss of control so it's advisable to always keep a safe distance from objects and people in all directions around your model as this will help to avoid collisions and / or injury.

- Never operate your model if the voltage of the batteries in the transmitter is too low.
- Always operate your model in an open area away from obstacles, people, vehicles, buildings, etc.
- Carefully follow the directions and warnings for this and any optional support equipment (chargers, rechargeable batteries, etc.).
- Keep all chemicals, small parts and all electronic components out of the reach of children.
- Moisture causes damage to electronic components. Avoid water exposure to all electronic components, parts, etc. that are not specifically designed and protected for use in water.

LiPo Battery Warnings

IMPORTANT NOTE: Lithium Polymer batteries are significantly more volatile than the alkaline, NiCd or NiMH batteries also used in RC applications. All instructions and warnings must be followed exactly to prevent property damage and / or personal injury as the mishandling of LiPo batteries can result in fire. By handling, charging or using the included LiPo battery you assume all risks associated with LiPo batteries. If you do not agree with these conditions please return the complete product in new, unused condition to the place of purchase immediately.

- You **MUST** charge the LiPo battery in a safe area away from flammable materials.
- **NEVER**, at any time, leave the LiPo battery unattended when it's being charged.
- When charging the battery you should **ALWAYS** remain in constant observation to monitor the charging process and react immediately to any potential problems that may occur.
- After flying / discharging the battery you must allow it to cool to ambient / room temperature before recharging.
- To charge the LiPo battery you **MUST** use only the included USB charge lead or a dedicated proprietary 1S LiPo charger. Failure to do so may

result in a fire causing property damage and / or personal injury. DO NOT use a NiCd or NiMH charger.

- We recommend charging the LiPo in a proprietary, fireproof, dedicated LiPo charge bag.

If at any time during the charge or discharge process the battery begins to balloon or swell, discontinue charging or discharging immediately. Quickly and safely disconnect the battery, then place it in a safe, open area away from flammable materials to observe for at least 15 minutes. Continuing to charge or discharge a battery that has begun to balloon or swell can result in a fire. A battery that has ballooned or swollen, even a small amount, must be removed from service completely.

For best results, store the battery at room temperature – approximately 68 – 77° Fahrenheit (F) – and in a dry area.

Contents

- 1 x Factory-assembled Mini Gamma airframe.
- 1 x Undercarriage unit.
- 1 x 3-channel 2.4GHz transmitter.
- 1 x 180mAh 3.7V 1S LiPo battery.
- 1 x USB charger.
- 1x Manual.



Required To Complete

- 4 x AA alkaline batteries for the transmitter



Transmitter Details

Note that since the Mini Gamma is a 3-channel model the rudder is controlled using the aileron stick.

Mode 2



Mode 1



Preparing for Flight

1. Plug the undercarriage into the slot just forward of the battery bay and push it right home.



2. Remove the transmitter battery cover and insert four AA alkaline batteries making sure to observe the correct polarity. For guidance the cell orientation is indicated inside the battery box. Replace the battery cover.



3. Locate the USB charger and connect it to a suitable port, noting that, upon connection, the red LED on the charger will illuminate.



4. Connect the white two pin plug of the 1S 180mAh LiPo battery to the USB charger noting the orientation of the two pin connector and making sure to align the slots for correct polarity.



On connection of a discharged battery the red LED will turn off. A discharged battery will be charged in approximately 60 minutes and can be seen to be fully charged when the red LED light comes on. When this happens the battery is ready to use and can be disconnected from the charge lead.

5. Ensure the throttle stick is in the low position, with the Stabilization Mode switch in the OFF position. Power the transmitter ON, then connect the battery to the white two pin plug on the underside of the fuselage. Make sure to align the slots to ensure correct polarity. Do not move the Mini Gamma during pairing. Tidy the plug and battery lead into the fuselage then secure the battery using the hook and loop tape.



6. When the battery is connected your transmitter and Mini Gamma will instantly pair allowing control of the elevator and rudder only. In the unlikely event that the rudder and elevator do not operate, see the section entitled Transmitter Pairing.



Note: As a safety precaution the motor will not be armed at this stage. Leave the motor unarmed until you complete the set-up of your Mini Gamma. Instructions for arming the motor are given in Step 11.

7. Check that the control surfaces are centered and, if necessary, use the transmitter's digital trim buttons to set them at neutral. For example, if the rudder displays a slight bias to the left, press the right side of the rudder trim button repeatedly to bring it back into line.



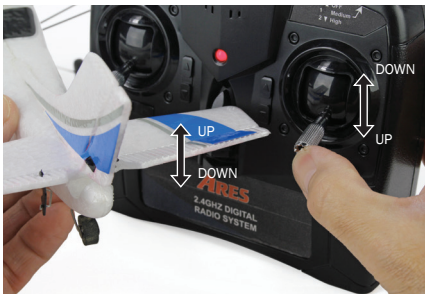
8. In the unlikely event that the trim buttons are not sufficient to center the control surfaces, use a pair of needle-nose pliers to open or close the gap in the U-section of the pushrod to achieve the same result.



9. Check that the rudder operates in the correct direction. Moving the aileron stick to the left should cause the rudder to move left in response. Right aileron stick will move the rudder to the right.



10. Check that the elevator operates in the correct direction. Pulling the elevator stick back should cause the elevator to move up in response. Pushing the elevator stick forward should cause the elevator to move down in response.



11. Clear the propeller of obstructions and hold the model firmly at the tail with the propeller facing away from you. Arm the motor by raising the throttle stick to full then lowering it to the off position. To confirm that the motor is live the rudder and elevator will temporarily move to the full right and full up position, then return to center.



12. Whilst maintaining your grip of the model, check that the propeller rotates in the correct direction. To do this, open the throttle slowly. The propeller should turn in an anticlockwise direction when viewed from the front.



13. The set-up and checking process of your Mini Gamma is now complete. See the section entitled Finding a Flying Field to ensure you operate your airplane safely and in the correct environment.



Flight Stabilization Control



The Mini Gamma is equipped with a three-position, 6-axis gyro-assisted flight stabilization control that reduces the control sensitivity for beginners, limits the airplane's angle of bank and helps dampen the effects of wind and turbulence during a flight. The three positions are:

- 0 – OFF – Expert mode (No flight stabilization is applied).
- 1 – Medium – Intermediate mode. (Full flight stabilization with increased control throws).
- 2 – High – Beginner mode. (Full flight stabilization is applied).

When connecting a flight battery with the switch set to position 1 and 2 (Intermediate and Beginner mode) it is important to allow the Mini Gamma to sit on a level surface without movement for a period of 5 – 7 seconds. This will allow the gyro to properly calibrate.

Finding a Flying Field

Based on the size and weight of the Mini Gamma it is classified as a Park Flyer and therefore requires a flying area of a size similar to a park, school yard, football field or regular model flying field. Of course, larger areas are even more suited, particularly if you're new to model flying and wishing to learn. Do not fly in car parks, built up areas, crowded locations or within close proximity to highways, railway lines, high tension cables, people, animals or residential areas. Your flying area must be free of obstructions. Our suggestion is that you also fly over grass as this is a much more forgiving surface that will cause less damage in the unfortunate event of a crash. Short grass is better for take-offs and landings as long grass can cause the airplane to nose over. An ideal flying area allows take-off and landing from a smooth surface (such as asphalt) and flying over grass. Note: the Mini Gamma is designed to be flown outdoors only.

Flying Conditions and Experience

It is typically best to fly on days that are calm, especially when learning. When learning to fly even light winds can make things difficult and can even carry the model beyond your range of vision. When you have properly trimmed the airplane in calm conditions and become familiar with its handling and capability you will be able to fly it in light winds of up to 7mph. Do not fly when it's snowing or raining.

If you are a new or low-hours pilot we highly recommend that you allow a more experienced flyer to test and trim your model before you attempt your first flight. A properly trimmed airplane is significantly easier and more enjoyable to fly. We also suggest that your first few flights be carried out with the flight stabilization control set to Beginner mode (switch position 2).

Pre- and Post-flight Checklist

- Always power the transmitter ON first.
- Ensure the throttle stick is in the low position before connecting the battery.
- Make sure the control surfaces operate in the correct direction.
- Arm the motor only when ready to take off.
- Take off from a smooth / level surface or hand-launch the airplane at full power in a slightly nose high attitude.
- Land on a smooth / level surface.
- Unplug the battery from the model.
- Always power the transmitter OFF last.

Propeller Replacement

Do not attempt to fly your Mini Gamma with a damaged or broken propeller. In the event that you damage the propeller, replace it with a new one using the following procedure:

- Disconnect the battery from the airplane.
- Prise the rubber spinner from the propeller hub and put to one side for reuse.
- Hold the propeller shaft tightly with a pair of needle-nose pliers and rotate the propeller in an anticlockwise direction to unscrew it from the shaft.
- Fit the new propeller in a reverse operation of the above, using rubberized, foam-friendly glue to carefully refit the spinner.

Transmitter Pairing

Pairing is the process of programming the receiver in the Mini Gamma to recognize the Globally Unique Identifier (GUID) code of a single specific transmitter. If ever you find that the transmitter does not operate your Mini Gamma as it should, it may be necessary for you to re-pair the transmitter and receiver using the following procedure:

- With the transmitter switched OFF, prepare it for pairing by pulling the throttle stick back to its lowest point. Switch the Stabilization Mode to the OFF position.
- Connect a fully charged battery to the airplane, place the Mini Gamma on a level surface where it can remain still and undisturbed by wind, then power the transmitter ON within 5 seconds of connecting the battery. Important: Do not move the Mini Gamma during the pairing process.
- The transmitter and Mini Gamma will pair within 8 seconds.
- Check the controls for correct operation.
- If pairing is unsuccessful, unplug the LiPo battery, ensure you have fresh AA batteries in the transmitter, then repeat the process.

Replacement Parts

AZSA3151	Fuselage
AZSA3152	Wing and tail set
AZSA3153	Wing strut set
AZSA3154	Window decals
AZSA3155	Landing gear
AZSA3156	Spinner
AZSA3157	Propeller 5"
AZSA3158	Pushrod set
AZSA3159	Servo horn set
AZSA3160	Motor and gearbox
AZSA3161	180mAh 3.7V LiPo
AZSA3162	4 in 1 control unit
AZSA3163	2.4GHz transmitter
AZSA3164	3.7V USB charger

30 DAY WARRANTY

Model Engines (Aust.) Pty. Ltd. warrants this product to be free from defects in materials or workmanship for 30 days from the date of purchase and will repair, replace or refund the purchase should the product prove to be defective.

This warranty does not apply to any unit or system or component which has been dropped, damaged in a crash, improperly installed, assembled, handled or abused.

Model Engines (Aust.) Pty. Ltd. reserves the right to void the warranty if the product has been altered or modified, has had a foreign part added, has been misused or not used for the purpose for which it was designed, has been used near or in salt water, has been water damaged, or if the damage has been caused by the customer's use of the product.

Under no circumstances does Model Engines (Aust.) Pty. Ltd. warrant nor will the consumer be entitled to consequential or incidental damages. Model Engines (Aust.) Pty. Ltd. assumes no responsibility for any other damage, inconvenience or other claims whatsoever.

LODGING A CLAIM

To lodge a claim, present the goods to your place of purchase (retailer where you bought the product) with your original purchase receipt and a written explanation of the defect.

The place of purchase (retailer where you bought the product) will then contact Model Engines (Aust.) Pty. Ltd. for a Return Authority number and will return the item for warranty assessment to Model Engines (Aust.) Pty. Ltd.. Items delivered to Model Engines (Aust.) Pty. Ltd. for warranty assessment without a Return Authority number will be returned to sender.

The warranty process may take up to 14 business days from the date of receipt. Model Engines (Aust.) Pty. Ltd. must assess each item and if warranty applies must repair or replace the item at its discretion and return it to the place of purchase (retailer where you bought the product).

Goods presented for warranty may be replaced by refurbished goods of the same type rather than being repaired. Refurbished parts may be used to repair the goods.

If the product is proved to be defective the cost and expenses relating to the delivery of the goods to Model Engines (Aust.) Pty. Ltd., will be borne by Model Engines (Aust.) Pty. Ltd..

The benefits of this warranty are in addition to other rights and remedies of the customer under any law to which this warranty relates.

Our goods come with guarantees that cannot be excluded under the Australian consumer Law. You are entitled to a replacement or refund for a major failure and for compensation for any other reasonably foreseeable loss or damage. You are also entitled to have the goods repaired or replaced if the goods fail to be of acceptable quality and the failure does not amount to a major failure.

Model Engines (Aust.) Pty. Ltd., Unit 1, 158-168 Browns Road, Noble Park, Victoria, 3174, Australia.

www.modelengines.com.au

Ph (03) 8793 5555

warranties@modelengines.com.au

This warranty information relates to goods supplied on a wholesale basis by Model Engines (Aust.) Pty. Ltd. to Australian Retailers. The warranty complies with Australian regulatory requirements and supersedes all warranty information from the original manufacturer.

Warranty, support and service (UK)

This product is covered by the current statutory guarantee regulations. If you wish to make a warranty claim, please contact the model shop where you originally purchased the product from. You should also present your proof of purchase.

- The guarantee does not cover faults or damage caused by:
- Incorrect handling or operation
- The use of incompatible accessories
- Modification or unauthorised repairs
- Accidental or deliberate damage
- Normal wear and tear
- Using the product outside of its stated specification

Firelands Group LLC accepts no liability for loss, damage or costs which are incurred due to the incorrect or incompetent use of the product.



CE Conformity Declaration

This device has been tested in accordance with the relevant harmonised European directives. This product's design fulfils the protective aims of the European Community relating to the safe operation of this equipment.

For a copy of the Declaration of Conformity, please visit:
www.ikonnik-rc.com/support



Disposal

Electrical equipment marked with the crossed out wheellie bin symbol must not be disposed of in household waste, but must be taken to a specialist disposal or recycling system. In EU member countries, electrical equipment must not be discarded via the normal domestic refuse channels (WEEE - Waste Electrical and Electronic Equipment Directive 2002/96/EG). You should take unwanted electrical equipment to your nearest local authority waste collection point or recycling centre.

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Warranty, support and service (USA)

30-Day Limited Warranty Term Period:

We warrant that the Product(s) purchased (the 'Product') will be free from defects in materials and workmanship when the product is new (before being used) for the limited warranty term period, 30 days, from the date of purchase by the Purchaser.

If you believe a defect in material, workmanship, etc. was not apparent when the Product was new and only became evident after the Product was used, take the following steps:

If you purchased the Product at a HobbyTown store, please contact your local HobbyTown store for warranty support and/or service.

If you purchased the Product from the Firelands website, use the contact information found under the Support heading to contact Firelands directly.

If you contact Firelands, you may be asked to send the product to Firelands, at your cost, for inspection. Provided the warranty conditions have been met within the warranty term period, the components that are found to be defective, incorrectly manufactured or assembled may be repaired or replaced, at the sole discretion of Firelands. Your warranty item will be returned to you at Firelands' expense. In the event your product needs repair or a replacement part that is not covered by this warranty, your local HobbyTown store or Firelands can assist you with support and in obtaining the genuine replacement parts to repair your Product. Firelands will charge \$40.00 per hour plus the cost of replacement parts to service your vehicle if after contacting you, you so authorize such repairs. Your product will be returned to you at your expense.

If you purchased your Product from a HobbyTown Internet site not affiliated with a local store, please consult that site for its support and service policies. You can also find more information at:

www.Hobbytown.com

by emailing customerservice@firelandsgroup.com

or by calling 800-205-6773

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