SPECIAL MISSION AIRCRAFT

Diamond AIRCRAFT

CHAPTER OVERVIEW

DIAMOND AIRCRAFT SPECIAL MISSION SOLUTIONS – PRECISION FROM ABOVE

„Diamond-Executive Aviation (DEA) believes the Diamond DA42 MPP provides a unique and world class solution to the problem of operating a wide range of sensors on a highly cost effective and reliable modern platform. DEA's experience over 15 years with Diamond DA40 and DA42s shows them to be highly reliable, robust and tolerant to both ground handling and pilot related issues. The safety record and operational service record of the DA42 in DEA's experience has eclipsed the expectations that both DEA and our partners have experienced in other similar size platforms."

DEA Special Airborne Operations, UK

ABOUT DIAMOND AIRCRAFT

A GLOBAL GROUP OF COMPANIES

Diamond Aircraft produces a full range of high quality certified all composite aircraft in state of the art facilities located in Wiener Neustadt, Austria and London, Ontario, Canada, as well as in third party license facilities to serve their respective markets. The company uses proprietary lead-free jet-fuel piston engines, made by Austro Engine GmbH of Austria, a company of the Diamond Aircraft Group and offers type specific flight training simulators.

CIVIL AIRCRAFT

DA62

DA42-VI

DA50-V

DA40 NG and DA40 Tundra Star

DA20-C1

SPECIAL MISSION AIRCRAFT

DA42 MPP series

DA62 MPP

DART program

OTHERS

Austro Engine piston engines

Flight simulator

The Austrian Diamond Aircraft Group comprises a network of companies that complement and match each other perfectly. But, in keeping with the expectations of our customers, we have taken this precision a step further: we added a high degree of flexibility to our globally renowned expertise. Besides its unique network family, Diamond Aircraft collaborates with numerous distribution partners and service centers all over the world.

Please visit
www.diamondaircraft.com
to find the agency you need.

WHY DIAMOND

MODERN AIRFRAME

Made out of robust glass and carbon fibre composite material, Diamond aircraft have the edge over traditional aluminium airplanes when it comes to durability, aerodynamics and safety.

MODERN PROPULSION

Diamond Aircraft revolutionized the general aviation market by being the first to introduce most efficient jet fuel piston singles and twins.

MODERN AVIONICS

Arguably, all OEM's have access to the same avionics technology, however some adopt quicker than others. Diamond Aircraft was the first customer to commit to Garmin's fully integrated G1000.

COMMITMENT TO SAFETY

When it comes to safety, positive results are what really matter most. Diamond has earned a safety record, backed by real world data, that is second to none.

BEST FUEL EFFICIENCY

The manufacture of incredibly fuel-efficient airplanes has always been a cornerstone of Diamond Aircraft's strategy. All our aircraft are best in class in terms of their fuel efficiency, saving you money whenever you fly.

ONE-STOP-SHOP

No other manufacturer offers you the time-saving and quality ensuring advantage of a single point of contact, whether it's the aircraft, the engine it's fitted with, our full-size replica simulator or our pilot and maintenance training training at our own TRTO.

Developing and building a family of aircraft takes long-term vision and unwavering commitment – it's not for the faint of heart. Since 1991, under the continuous leadership of Christian Dries, Diamond has pioneered many aviation firsts and achieved numerous milestones and industry expert accolades. Today, Diamond Aircraft offers the most complete range of certified piston aircraft models. Every one of our aircraft shares a common DNA, incorporating leading edge technology, not for the sake of innovation, but for superior performance, efficiency and safety.

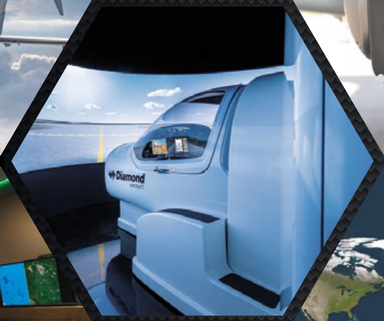
TURNKEY SOLUTION CONCEPT

COST-EFFCIENT FIXED WING REMOTE SENSING PLATFORM

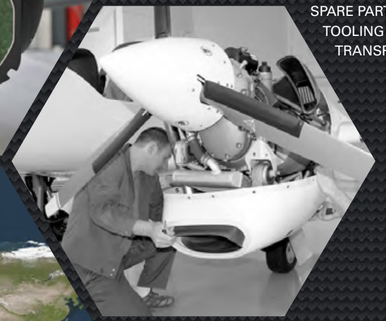
AIRBORNE SENSORS

DATA LINKS

CORRESPONDING PILOT, OPERATOR AND MAINTENANCE TRAINING



SPARE PARTS, TOOLING & TRANSPORT



GROUND STATIONS

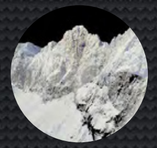
GLOBAL SUPPORT

Like no other special mission aircraft supplier, Diamond Aircraft has taken its MPP concept into a 360° turnkey solution: one single point of contact. The special mission turnkey solutions comprise a cost-efficient fixed wing remote sensing Diamond Aircraft platform, airborne sensors, data-links, ground stations, global support, spare parts, tooling, transport as well as the corresponding pilot, operator and maintenance training.

APPLICATIONS

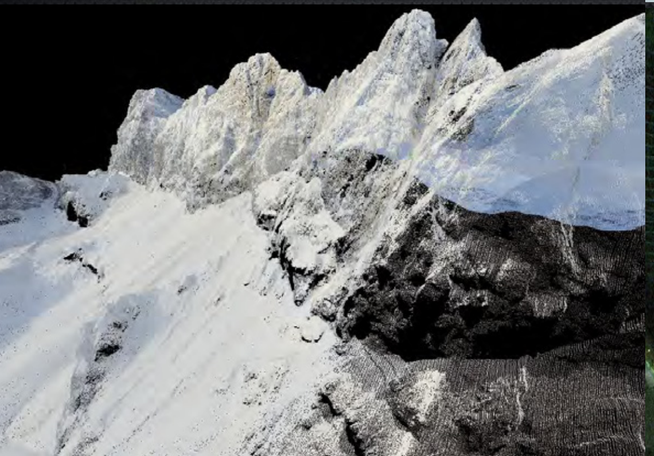
ONE AIRCRAFT - MANY MISSIONS

Surveillance & Reconnaissance



Geo Surveys

Broadcasting & More



BORDER CONTROL
• Smuggling • Drug interdiction • Human trafficking • Anti Terrorist Activity • Population Migration

GENERAL SURVEILLANCE
• Event protection (marches, demonstration, etc.) • Public order & riot control • VIP protection

MARITIME PATROL
• Coastal patrol • Illegal fishing • Pirate activity • Search and rescue

DISASTER MANAGEMENT
• Fire management • Chemical spills • Flood management • Road, rail and air crashes

ENVIRONMENTAL MONITORING
• Chemical and oil spill detection • Pipeline leak detection
• Pollution control • Atmospheric sampling • Animal control

INFRASTRUCTURE MONITORING
• Power line inspection (f.e. sagging, isolator) • Pipeline leak inspection (e.g. leak, sagging) • Monitoring of gas and oil storage, water supply systems • Monitoring of critical buildings • Railroad and highway monitoring

RADIO MONITORING
• Border guard • Maritime rescue • Military

INFRASTRUCTURE PLANNING
• Powerline planning/monitoring • Pipeline planning/monitoring
• Railroad and highway planning/monitoring • Visualization of planned projects (bridges, buildings, etc.)

MINING AND EXPLORATION
• Natural resource exploration • General mine support operations
• Monitoring of compliance with mining laws & rules

DISASTER PREVENTION
• Geo-hazard prevention • Landuse mapping • Flood prevention
• Fire fighting • Mass movement detection • Detection of ocean pollution

VEGETATION ANALYSIS
• Landuse mapping • Precision farming • Brownfield monitoring
• Forest canopy mapping

SECURITY MISSIONS
• Change detection • Detection of camouflaged vehicles • Detection of illegal ship unloading • Monitoring of compliance with mining and building law

MAPPING
• Urban and rural mapping • Cadastral survey • Landuse and corridor mapping • Orthophotos • 3D mapping •Topographic maps
• Forest canopy mapping

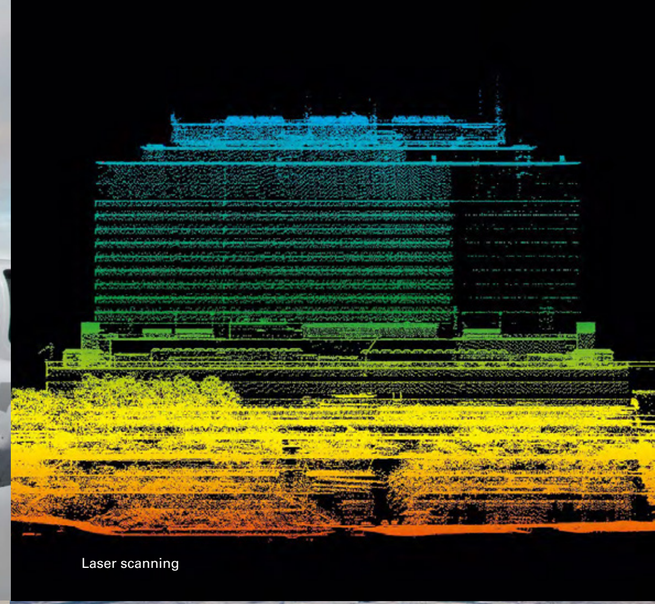
MEDIA
• Live newsgathering • Live coverage of sporting and mass events
• Midpoint relay • High-definition videos

Tomorrow's mission is different than yesterdays? No problem! The MPP has been specially designed for carrying multi-functional aerial sensors, like EO/IR cameras, land and sea radars, COMINT solutions, airborne laser scanners or large format digital aerial cameras, and more. Mission kits can be mounted on specific hard points located on the nose and belly of the aircraft as well as in the cabin and nose luggage compartments.

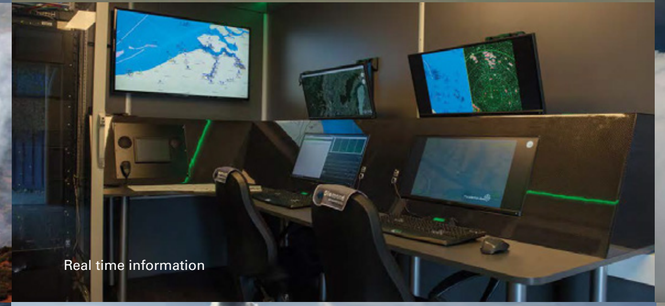
Night vision

Flood prevention

Atmospheric sampling (volcanic ash measurement)

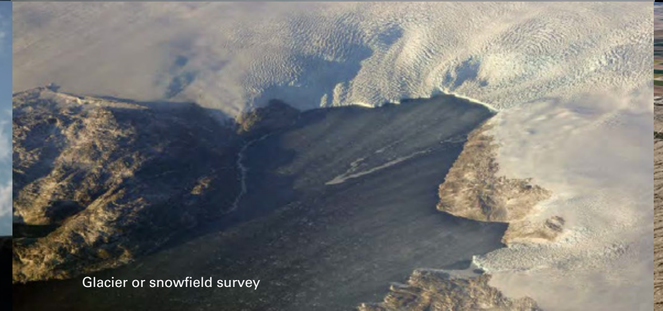

Laser scanning


Fire fighting


Real time information


Oil spill detection


Pollution control


Glacier or snowfield survey


Landuse mapping

SPECIAL MISSION PLATFORMS

SPECIAL MISSION PLATFORMS

The attributes that make our aircraft so successful, make them excellent platforms for any special mission operation.
Diamond offers an extensive portfolio of factory approved sensor, communication and datalink installations for a wide variety of missions. Additionally, Diamond is an OEM that welcomes and supports the development and certification of custom configurations to suit each customer's specific requirements.

DA42 MULTI PURPOSE PLATFORM

DA62 MULTI PURPOSE PLATFORM

UNIQUE FEATURES

LOW OPERATING COSTS

• Low fuel consumption • Short downtimes • Ultra-long endurance

LOW NOISE AND IR FEATURES

• Virtually undetectable • On-top exhaust system • Matt grey or belly surveillance painting

POWERFUL ENGINE

• Worldwide fuel availability & operability • Turbocharged engines give exceptional 'Hot & High' performance • Low fuel consumption based on advanced direct fuel injection system • Easy engine management system (EECU) • Multi-fuel certified

SAFETY FEATURES

• All weather capability day and night (certified icing protection)
• Garmin G1000 NXi glass cockpit - airliner standard
• Fully integrated GFC700 autopilot • EASA/FAA single pilot certified • Damage tolerant airframe: 26 g crash tested, 10 g flight tolerance • Fuel protection system • Positive rate of climb at MTOM with one engine inoperative

TOMORROW'S TECHNOLOGY

• Advanced composite technologies developed by Diamond Aircraft
• Composite design offers high strength to weight ratio

MINIMUM DOWNTIME

• Overnight on-site maintenance for engines and airframe • Worldwide support • Unlimited life time for all composite components

MPP at a glance
+ Stealthy
+ High useful load
+ Economical to operate
+ Exceptional endurance & range
+ Proven performance
+ Global support
+ Production aircraft based
+ Full OEM level integration

Diamond AIRCRAFT

DA62 MPP ISR FEATURES

DA62 MPP ISR FEATURES

SATCOM POD (L, KA, KU, X BAND)
INTERNET IN THE SKY DIRECT SATELLITE ACCESS

MISSION COMPARTMENT
HARD POINTS IN THE LUGGAGE COMPARTMENTS FOR MOUNTING EQUIPMENT RACKS

MATT GREY PAINTING
REDUCING SUN REFLECTIONS

UNIVERSAL NOSE
Max. 100 kg (220 lbs)
Max. 500 mm (20")
WEATHER RADAR
EO/IR CAMERAS

ON-TOP EXHAUST SYSTEM
LOW NOISE + LOW IR SIGNATURE

OPERATOR STATION
MODULAR INTERIOR CONFIGURATION FOR 1 OR 2 OPERATORS

UNDERFLOOR POD
(NOT SHOWN IN THE PICTURE)
MARITIME/LAND RADAR
VHF/UHF DIRECTION FINDER

Diamond AIRCRAFT

DA62 MPP: A NEW GENERATION OF REMOTE SENSING TURNKEY SOLUTIONS

The DA62 MPP is the next largest Diamond Surveillance Aircraft, offering increased performance, space and capability. The fully composite DA62 MPP features the latest in tracking and sensor technology and sets the benchmark as the most cost-effective, powerful and versatile airborne platform in its class today.

AT A GLANCE

• High payload • Roomy fuselage • Field proven composite technology: no corrosion, unlimited lifetime • State-of-the-art avionics (airliner standard): Garmin G1000 NXi glass cockpit, fully integrated GFC700 autopilot • Single lever operation (EECU) • Exceptional range and endurance: up to 10 hours non-stop missions • Heavy fuel technology: 180hp Austro Engine AE330, worldwide operability • Lowest total operating costs • Low Noise & IR signature (On-top exhaust system) • Matt grey finish: reduce reflections and observability

MISSION APPLICATIONS

• Search & Rescue • Coastline Patrol • Border Patrol
• Force Protection • Fire Fighting • Disaster Management
• Pipeline Monitoring • Infrastructure Monitoring • and more

DA62: RANGE up to 1,264 nm/2,341 km

DA62 MPP KEYFACTS

Consumption 35% total	Minimum Speed	Max. Altitude	Payload
28 lt/h or 7.4 gal/h	140 km/h or 76 kts	6,096 m or 20,000 ft	710 kg or 1,565 lbs

The cabin volume and payload capability of the DA62 MPP will open new markets for Diamond surveillance aircraft. The DA62 MPP challenges even significantly heavier and far more expensive conventional turboprop aircraft by combining high utility and capability with very low operating cost.

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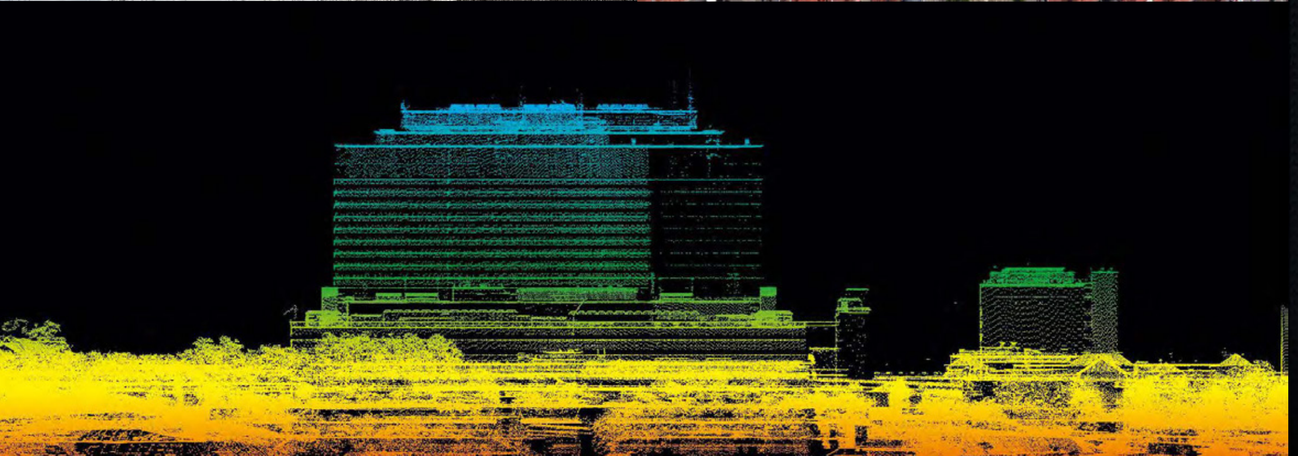
Diamond
AIRCRAFT

DA62 MPP SURVEY CONFIGURATION



DA62 MPP SURVEY CONFIGURATION

NOSE TRAY

DESIGNED FOR SURVEY EQUIPMENT INSTALLATION
for example airborne laser scanner

max. 100 kg (220 lbs), max. Ø 500 mm (20")

OPERATOR STATION

MODULAR INTERIOR CONFIGURATION
FOR 1 OR 2 OPERATORS

MAIN BELLY TRAY

DESIGNED FOR SURVEY EQUIPMENT INSTALLATION
for example large format photogrammetric camera

max. 150 kg (331 lbs), max. Ø 440 mm (17")

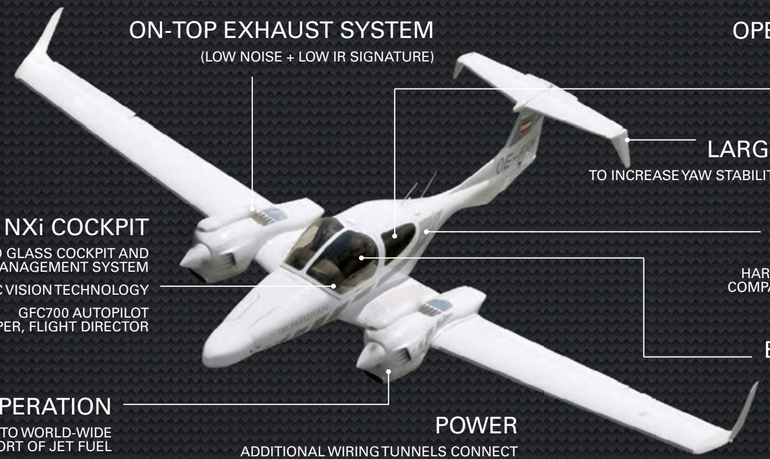
MISSION COMPARTMENT

HARD POINTS IN THE LUGGAGE
COMPARTMENTS FOR MOUNTING
EQUIPMENT RACKS

MISSION APPLICATIONS

- Disaster prevention • Mapping • Environmental monitoring • Vegetation analysis
- Surveys of critical infrastructure / land areas / cities / glaciers or snow fields

DA42 MPP GENERAL FEATURES



ON-TOP EXHAUST SYSTEM
(LOW NOISE + LOW IR SIGNATURE)

OPERATOR STATION
MODULAR INTERIOR CONFIGURATION FOR 1 OR 2 OPERATORS

LARGE ELEVATOR TIPS
TO INCREASE YAW STABILITY FOR PRECISION FLIGHTS.

GARMIN G1000 NXi COCKPIT
FULLY INTEGRATED GLASS COCKPIT AND FLIGHT MANAGEMENT SYSTEM

SYNTHETIC VISION TECHNOLOGY

GFC700 AUTOPILOT INCL. YAW DAMPER, FLIGHT DIRECTOR

MISSION COMPARTMENT
HARD POINTS IN THE LUGGAGE COMPARTMENTS FOR MOUNTING EQUIPMENT RACKS

BUBBLE CANOPY
ALLOWS A BETTER VIEW FOR THE PILOTS WHILE WEARING HELMETS

GLOBAL OPERATION
FUEL AVAILABILITY DUE TO WORLD-WIDE SUPPORT OF JET FUEL

IN-HOUSE DESIGNED JET FUEL ENGINES

170 HPS PER ENGINE

ULTRA LOW FUEL CONSUMPTION

POWER
ADDITIONAL WIRING TUNNELS CONNECT THE HARD POINTS OF THE EQUIPMENT COMPARTMENTS

DEDICATED POWER SOURCE FOR MISSION EQUIPMENT

DA42 MPP GUARDIAN ISR CONFIGURATION

MICROWAVE LINE OF SIGHT DOWNLINK

GUARANTEED STABLE ENCRYPTED DATA TRANSFER IN HD QUALITY
(1000 MHZ TO 5 GHZ) UP TO 100 NM (180 KM) - S-BAND, C-BAND.

SATCOM

BEYOND LINE OF SIGHT UP- AND DOWNLINK

MISSION COMPARTMENT

HARD POINTS IN THE LUGGAGE COMPARTMENTS FOR MOUNTING EQUIPMENT RACKS

UNIVERSAL NOSE

ALL EO/IR AND MULTI MEDIA TURRETS
UP TO 15.5" AND 65 KG (143 LBS)
AIRBORNE LASER SCANNER SYSTEMS
ASH SENSORS
ILS FLIGHT CALIBRATION

UNDERFLOOR POD

MARITIME/LAND RADAR
VHF/UHF DIRECTION FINDER

OPERATOR STATION

MODULAR INTERIOR CONFIGURATION FOR 1 OR 2 OPERATORS

OPTIONAL MATT GREY PAINTING

(SHOWN IN THE LEFT PICTURE)
REDUCING SUN REFLECTIONS

DA42 MPP GUARDIAN

DA42 MPP GUARDIAN: PRECISION FROM ABOVE

Tomorrow's mission is different than yesterday's? No problem for the twin engine, four-seater DA42 MPP GUARDIAN remote sensing platform. Your flexible and cost-efficient ISR turnkey solution with outstanding performance.

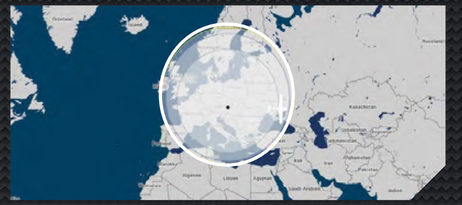
AT A GLANCE

• Powerful and cost efficient • Proven performance • High Payload
• Garmin G1000 NXi glass cockpit, GFC700 autopilot • Twin 170hp Jet fuel AE300 Engines • More than 100 units worldwide

MISSION APPLICATIONS

• Covert Surveillance • General Surveillance • Border Patrol
• Maritime Patrol • Disaster Management • Environmental Monitoring • Infrastructure Monitoring • Radio Monitoring

DA42 MPP RANGE: up to 1,065 nm/1,974 km



DA42 MPP KEYFACTS

Consumption 35% total	Minimum Speed	Max. Altitude	Payload
24.2 lt/h or 6.4 gal/h	132 km/h or 71 kts	5,486 m or 18,000 ft	634 kg or 1,398 lbs

„After we received such an overwhelming response to this aircraft, we recognized that we needed to immediately purchase our first DA42 GUARDIAN to get ahead of demand. There is really no other certified aircraft that offers so much capability at such a low cost to purchase and operate."

Dr. Loren Poulsen PhD, DA42 MPP GUARDIAN Operator, Montana

DA42 MPP GUARDIAN

DA42 MPP MISSION RANGE: ENDURANCE UP TO 12 HOURS FLIGHT TIME

9.9 HOURS TIME OVER TARGET:
- Flight: homebase/target/homebase
- Mission Radius: 185 km / 100 nm

5.9 HOURS TIME OVER TARGET:
- Flight: homebase/target/homebase
- Mission Radius: 556 km / 300 nm

3.9 HOURS TIME OVER TARGET:
- Flight: homebase/target/homebase
- Mission Radius: 741 km / 400 nm

MTOM, without fuel reserve. Specifications are based on aircraft configurations without external/outboard pods, containers or sensor equipment (refer to DA42 MPP fact sheet for mission specific configuration details). Distance and times indicated are for guidance only and should not be used for flight planning purposes. Air traffic congestion, wind and other factors are not taken into consideration.

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DA42 MPP PANDION

MARITIME PATROL TURNKEY SOLUTION

BLOS
(BEYOND LINE OF SIGHT)
SATCOM

GENERAL FEATURES
OF THE DA42 MPP (PAGE 27)

UNDERFLOOR POD
WITH MARITIME RADAR
IN-HOUSE MODIFIED LIGHTWEIGHT COMPACT AIRBORNE RADAR,
MAX. RANGE 36 NM (66 KM), AIS RECEIVER

EO/IR CAMERA
ON UNIVERSAL NOSE
STABLE IMAGING THROUGH
FULLY DIGITAL 4-AXIS ACTIVE
GYRO-STABILIZED SYSTEM

Diamond AIRCRAFT

DA42 MPP PANDION

EO/IR CAMERA „SWE-300 LE“

The SWE-300 LE from Trakka Systems offers high performance in a compact size. It has good capacity for high performance sensor payloads and can accommodate various payload options.

KEY FEATURES

- Gyro stabilized gimbal
- Reliability and low mass
- On-screen graphics operation
- Environmental design
- IMU/INS for geo-reference • Non ITAR

TECHNICAL CHARACTERISTICS

- Type: 4-axis active gyro-stabilized gimbal
- Coverage Azimuth: 360° continuous
- Coverage Elevation: +90° to -120°
- Dimension: Ø 300 mm (11.8“)
- Weight: 18 kg (39 lbs)
- Power: 20 – 30 VDC, 250 W

SATCOM „KOPERNIKUS“

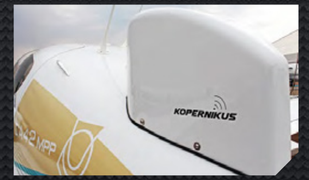
Diamond Aircraft’s concept of ITAR free light weight satellite communication solutions covers different civil, surveillance and reconnaissance mission requirements – available for INMARSAT and THURAYA.

KEY FEATURES

- Low weight • Plug’n’Play • WiFi
- Prepaid/Postpaid • Non ITAR
- COTS Components
- User friendly operation

TECHNICAL CHARACTERISTICS

- Weight: 4.3 kg (9.5 lbs) • Power: 28 V
- Certification: MIL Spec 810B, IP56
- Frequency: L-Band
- Interface: Ethernet/WiFi
- Temperature: -25°C to +55°C
- Data Rate (Shared): up to 400 kbps



MARITIME RADAR „NEPTUN“

Diamond’s concept of ITAR free light weight maritime radar covers different maritime surveillance and reconnaissance mission requirements in using Search Mode, AIS and Radar overlays applications.

KEY FEATURES

- Search Mode • AIS Overlay
- Radar Overlay • Various Nautical Charts
- Non ITAR • Low weight
- COTS Components
- User friendly operation

TECHNICAL CHARACTERISTICS

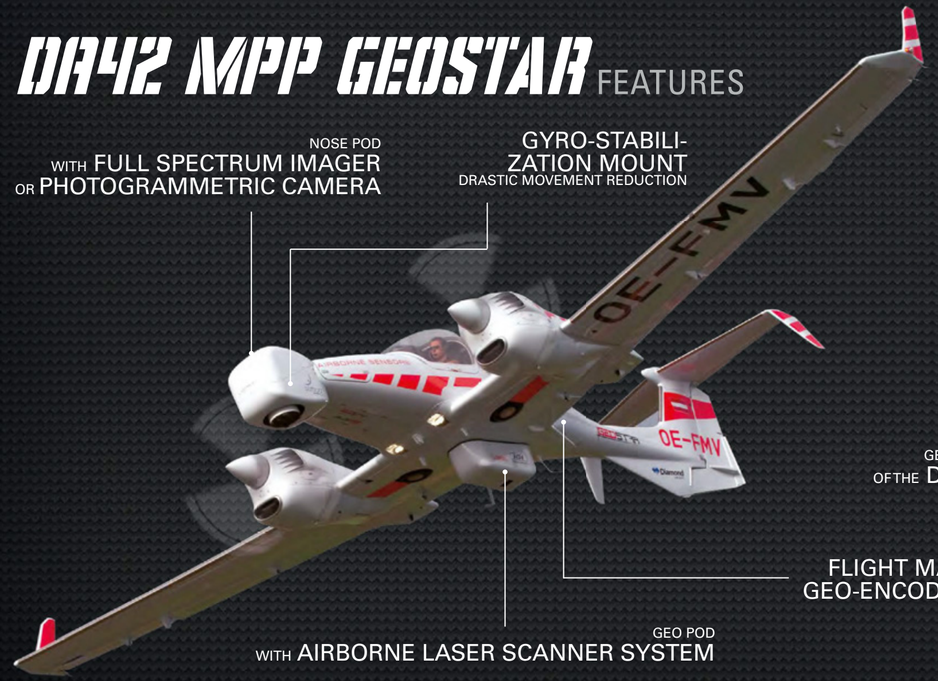
- Weight: 7.5 kg (16.6 lbs) • Rotation: 360°
- RPM: 24/36/48 • Max. Range: 36 nm (66 km)
- Frequency: X-Band (9410 Mhz +/- 30)
- Interface: Ethernet • TX Power: 4 kW peak
- Antenna: 25° vertical beam 4° horizontal beam

We have successfully tested the Neptun Radar and Kopernikus SATCOM over the Mediterranean Sea for about 200 hours. Results showed that with implemented AIS and nautical charts together with the radar and camera data it is possible to create a real situation map about current events on the sea.

DA42 MPP GEOSTAR FEATURES

NOSE POD
WITH FULL SPECTRUM IMAGER
OR PHOTOGRAMMETRIC CAMERA

GYRO-STABILI-
ZATION MOUNT
DRASTIC MOVEMENT REDUCTION



GENERAL FEATURES
OF THE DA42 MPP (PAGE 27)

FLIGHT MANAGEMENT &
GEO-ENCODING SOLUTION

GEO POD
WITH AIRBORNE LASER SCANNER SYSTEM

Diamond AIRCRAFT

DA42 MPP GEOSTAR

DA42 MPP GEOSTAR

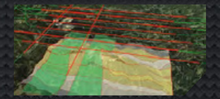
Collect laser-scanning and photo-grammetry data during one single flight or benefit from unparalleled hyper spectral detection capabilities. The DA42 MPP Geostar is perfectly suited for surveying cities, land areas, critical infrastructure, glaciers or snow fields, but also for mapping damages caused through natural disasters. The hyperspectral variant fits for ISR, mineralogy or environmental applications.

APPLICATIONS

• Surveys of cities, land areas, critical infrastructure, glaciers, snow fields • Mapping damages caused through natural disasters
• ISR Missions • Mineralogy • Environmental applications

MISSION PROFILE: COMBINED DATA ACQUISITION (SEE GRAPHIC BELOW)

A photogrammetric camera, installed in a special pod on the aircraft's nose, delivers accurate representations of the Earth's surface, called ortho-photos (aerial photos). A laser-scanner captures the terrain topography by firing a laser and measuring the time it takes for the laser to be reflected back from a point. The result of the collected measurements is a digital terrain model in the form of a point cloud. The scanner is mounted on the belly of the aircraft in a specifically designed pod. By merging the ortho-photo with the point cloud you get a precise, realistic 3D model of the object.



Flight planning / trajectory

Software application photos © by RIEGL

Orthophoto

ALS-3D point cloud

3D-digital terrain model / 3D-digital surface model

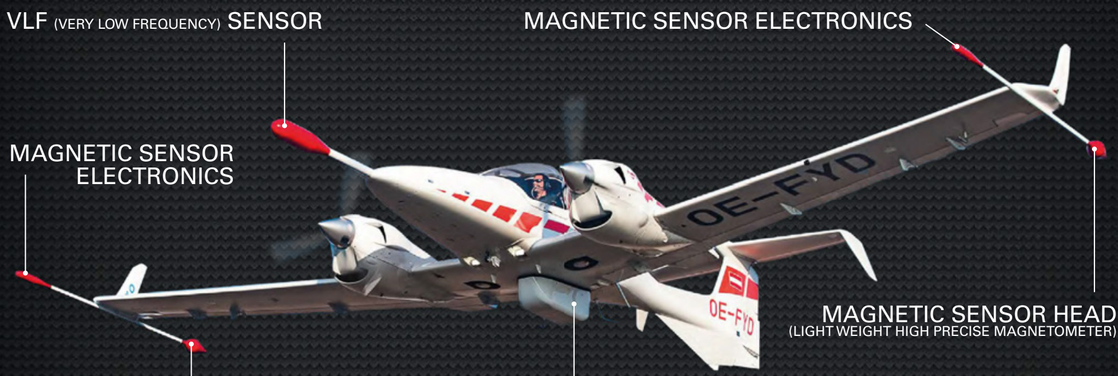
„Diamonds DA42 MPP is a highly innovative and efficient twin engine plane which makes the perfect carrier for our advanced LiDAR sensors to offer a turnkey, cutting-edge airborne LiDAR solution for the surveying market. RIEGL has been working closely with Diamond for many years and is proud to operate its own Diamond DA42 MPP as an excellent choice for system integration, testing, and customer demonstrations."

Dr. Johannes Riegl, CEO RIEGL Laser Measurement Systems, Austria

DA42 MPP TERRASTAR

RADIATION, MAGNETIC AND VLF SURVEYS

GENERAL FEATURES OF THE DA42 MPP (PAGE 27)



DA42 MPP TERRASTAR

DA42 MPP TERRASTAR

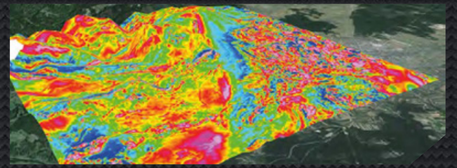
The first aerial turnkey sensor platform worldwide that carries VLF (Very Low Frequency), radiation detection and magnetometer sensors. Your benefit: you can conduct VLF, radiation and magnetic monitoring during one single flight - saving time and money.

RADIATION SURVEY & MONITORING APPLICATIONS

- Mineral exploration: mineral deposits, uranium, rare earth elements • Hydrocarbon exploration: potassic/uranium alteration
- Baseline surveys: for mining and environmental monitoring
- Contamination mapping and detection of radioactive waste storage, industrial sites and nuclear power plants
- Emergency response: detection of fallout and nuclear contamination • Identification of radon prone areas: identifying areas where residents may be at risk to exposure to high levels of radon gas
- Detection and mapping of both natural and artificial radioactive emanations (gamma rays)

MAGNETIC SURVEY APPLICATIONS

- Exploration of oil, gas and mineral deposits• Geological structure mapping, mapping of non-magnetic lithologies, estimating unit thickness and continuity depth• Environmental monitoring
- Pipeline and sub surface infrastructure monitoring
- Discrimination between cultural and small geological sources such as Kimberlite • Detection of unexploded ordnance (UXO)



VERY LOW FREQUENCY SURVEY APPLICATIONS

- Detection of conductive bodies of fluid – containing water – in bedrock or in the vicinity of fractures • Mineral exploration – locating graphite and base metal conductors • Groundwater exploration • Exploration of contaminated sites • Mapping of geological features, including the apparent dip of fault zones and shear zones • Providing information for infrastructure planning

„All integrated sensors in combination with the aircraft composite construction deliver ideal measurement results of highest quality. The unique and simple operation is an additional benefit for a possible single pilot operation."

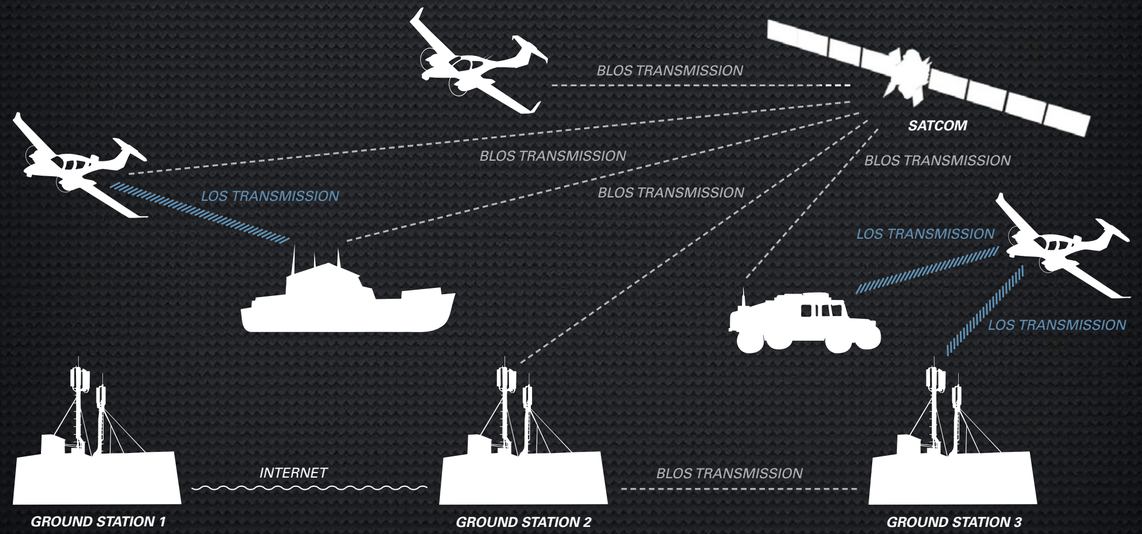
DI Michael Pregesbauer, CEO, Geoprospectors GmbH

DATA LINKS AND GROUND STATION SOLUTIONS

DATA LINKS

The DA42 MPP can be equipped with sophisticated Line of Sight (LOS) and Beyond Line of Sight (BLOS) Systems for live data transmission to decision-makers.

An onboard Airborne Transmitter delivers secure HD video, IP data and metadata from a wide variety of sensors to Ground Operation Centers, enabling real time situational awareness.



DATA LINKS AND GROUND STATION SOLUTIONS

GROUND STATION SOLUTIONS

Diamond Aircraft offers a number of customized ground stations - designed to operate as the counterpart to our Special Mission Aircraft. Easy setup for in the field operations and any type of mission is guaranteed. Command and control your mission from wherever you want!

Command Container

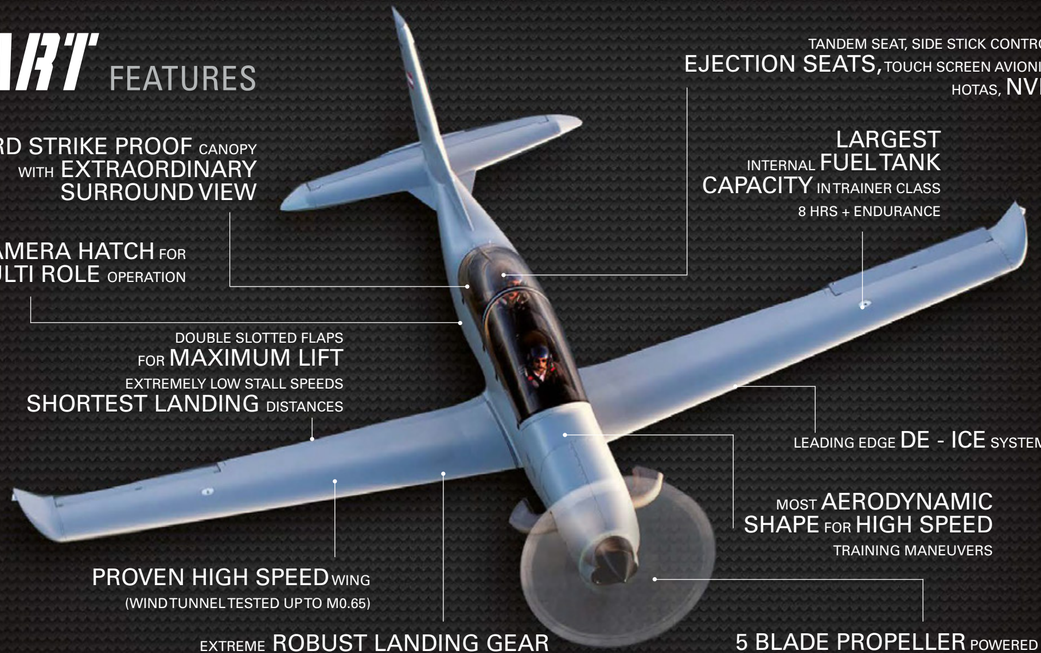
Diamond Aircraft saw the need of customers for easy deployable and reasonable solutions for time-critical decisions and developed a series of ground stations, which can be adapted according to the customer's mission needs - from handhelds to container solutions. Standard functions of each variant, amongst others are live video transmission from the airborne platform to the ground station(s) via different datalinks including META data, voice communications, mission planning and moving map, video management as well as secured connectivity with organizations' headquarters.

Command Compact Station

Command Vehicle

Command Station HQ:
We also offer customized ground stations for organizations' headquarters (no image).

DART FEATURES



BIRD STRIKE PROOF CANOPY WITH EXTRAORDINARY SURROUND VIEW

TANDEM SEAT, SIDE STICK CONTROL, EJECTION SEATS, TOUCH SCREEN AVIONICS HOTAS, NVIS

15" CAMERA HATCH FOR MULTI ROLE OPERATION

LARGEST INTERNAL FUEL TANK CAPACITY IN TRAINER CLASS 8 HRS + ENDURANCE

DOUBLE SLOTTED FLAPS FOR MAXIMUM LIFT EXTREMELY LOW STALL SPEEDS SHORTEST LANDING DISTANCES

LEADING EDGE DE - ICE SYSTEM

MOST AERODYNAMIC SHAPE FOR HIGH SPEED TRAINING MANEUVERS

PROVEN HIGH SPEED WING (WIND TUNNEL TESTED UP TO M0.65)

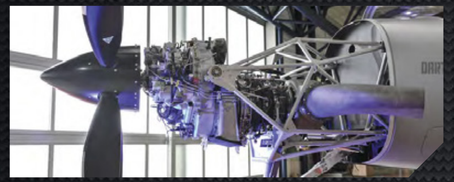
EXTREME ROBUST LANDING GEAR FOR UNPAVED SURFACE OPERATION

5 BLADE PROPELLER POWERED BY FUEL & COST EFFICIENT TURBINE

DART PROGRAM

DART-450 smoke on aerobatic flight

DART-450
Turboprop engine AI-450 SR (450 hp) manufactured by Motor Sich.



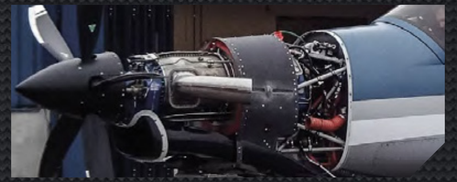
DART-450 KEY FACTS:

Load Factor	Max. Speed	Endurance	Max. Take-off power
+7 / -4	370 km/h or 200 kts	8 hours +	495 HP or 369 kW

AEROBATIC CONFIGURATION [1]

Load factor +7 / -4,0
MTOM 2,080 kg / 4,586 lbs

DART-550
Turboprop engine GE H75-100 (550 hp) manufactured by General Electric.



DART-550 KEY FACTS:

Load Factor	Max. Speed	Endurance	Max. Take-off power
+7 / -4	491 km/h or 265 kts	8 hours +	550 HP or 404 kW

UTILITY (MULTI ROLE) CONFIGURATION [1]

Load factor +5 / -2,4
MTOM 2,400 kg / 5,291 lbs

1) Applies to the complete DART Series

The DART-550 is the next massive push into being the only aircraft manufacturer in offering the full range for basic flight training, reaching its peek with this soon fully EASA certified DART-550 aerobatic trainer.

Diamond AIRCRAFT


OE-VDA
OE-VHS

OPTIONS FOR DA62 MPP AND DA42 MPP

Aircraft Options

TKS anti-icing system	25 kg	55.1 lbs
Auxiliary tanks (+ 26 USGal)	20 kg	44 lbs
Integrated oxygen system	14 kg	30.8 lbs
Mobile oxygen system	4 kg	8.8 lbs
Air condition RACC system	41 kg	90 lbs
Flight data recorder	4 kg	9 lbs
Electrical adjustable rudder pedals	N.A.	N.A.
Custom exterior striping	N.A.	N.A.

MPP Options

Noise & IR-signature reduction kit	7 kg	15 lbs
Operator console (replaces co-pilot seat)	0 kg	0 lbs
Mission generator 2.8 KW (28V/100 Amps)	10 kg	22 lbs
HF aircraft radio communication (2-30MHz)	5 kg	11 lbs
Garmin tactical software (Search & Rescue)	0 kg	0 lbs

Avionics Options

Honeywell KN63 DME	3 kg	6.6 lbs
WX500 Stormscope	3 kg	6.6 lbs
Avidyne TAS 605 traffic advisory system	7 kg	15.4 lbs
Garmin GSR 56 satellite receiver system	1 kg	2.2 lbs
Becker 3500 ADF	4 kg	9 lbs
Garmin synthetic vision	0 kg	0 lbs
Garmin chart view	0 kg	0 lbs
Garmin GWX70 Weather Radar	N.A.	N.A.

DA62 MPP - FACTS AND SPECIFICATIONS

Power plant

Engine	2x AUSTRO ENGINE AE330 (180 hp, turbo charged)
Propeller	2x MT 3-blade hydraulic constant speed propeller
Fuel grades	Jet A-1, Jet A, TS-1 (Russia, Ukraine), RT (Russia, Ukraine), No. 3 Jet Fuel (China), JP-8

Dimensions / mass / loading

Length / height [1]	9.19 m / 2.82m	30 ft 2 in / 9 ft 3 in
Wing span	14.55 m	47 ft 9 in
Crew	1 or 2 pilots	1 or 2 operators
Typical mission crew	1 pilots	1 operators
Empty weight	1,590 kg	3,505 lbs
Useful load	710 kg	1,565 lbs
Max. take off mass	2,300 kg	5,071 lbs
Max. usable fuel capacity main tank auxiliary tank	326 lt / 261 kg 189 lt / 151 kg 137 lt / 110 kg	86 US gal / 576 lbs 50 US gal / 335 lbs 36 US gal / 241 lbs

Performance (MTOM, ISA)

Max. cruise speed (14,000 ft, MCP)	352 km/h TAS	190 kts TAS
Min. operation speed	140 km/h IAS	76 kts IAS
Consumption at 35% power (loiter speed) in total	28 lt/hr	7.4 USGal/hr
Max. airborne operations time	11.7 hours	11.7 hours
Typical airborne operations time [2]	6 - 8 hours	6 - 8 hours
Max. range at 50% power in 14,000 ft (standard tank / incl. auxiliary tank)	1356 km / 2,341 km	732 nm / 1,264 nm
Takeoff performance (ISA, MSL, ground roll / take-off distance)	480 m / 883 m	1,574 ft / 2,897 ft
Landing performance (ISA MSL, ground roll / landing distance)	441 m / 779 m	1,447 ft / 2,556 ft
Max. service ceiling	6,096 m	20,000 ft

[1] Measurements can differ depending on the specific sensor equipment.
[2] With standard mission equippment and 2-man crew.

Specifications are based on clean aircraft without sensor or mission equipment. Specifications can differ depending on the specific sensor equipment. The above quoted data are approximately specifications and may change without notice.

DA42 MPP - FACTS AND SPECIFICATIONS

Power plant

Engine	2x AUSTRO ENGINE AE300 (168 hp, turbo charged)
Propeller	2x MT 3-blade hydraulic constant speed propeller
Fuel grades	Jet A-1, Jet A, TS-1 (Russia, Ukraine), RT (Russia, Ukraine), No. 3 Jet Fuel (China), JP-8

Dimensions / mass / loading

Length / height [1]	8.70 m / 2.49 m	28 ft 6 in / 8 ft 2 in
Wing span	13.42 m	44 ft
Crew	1 or 2 pilots	1 or 2 operators
Typical mission crew	1 pilot	1 operator
Empty weight	1,365 kg	3,008 lbs
Useful load	634 kg	1,398 lbs
Max. take off mass	1,999 kg	4,407 lbs
Max. usable fuel capacity main tank auxiliary tank	288 lt / 230 kg 189 lt / 151 kg 99 lt / 79 kg	76 US gal / 509 lbs 50 US gal / 335 lbs 26 US gal / 174 lbs

Performance (MTOM, ISA)

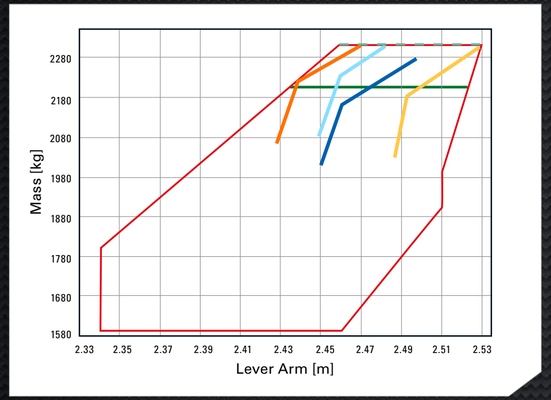
Max. cruise speed (16,000 ft, MCP)	317 km/h TAS	171 kts TAS
Min. operation speed	132 km/h IAS	71 kts IAS
Consumption at 35% power (loiter speed) in total	24.2 lt/hr	6.4 USGal/hr
Max. airborne operations time	12 hours	12 hours
Typical airborne operations time [2]	6 - 8 hours	6 - 8 hours
Max. range at 45% power in 14.000 ft (standard / incl. auxilliary tank)	1,292 km / 1,974 km	698 nm / 1,065 nm
Takeoff performance (ISA, MSL, ground roll / take-off distance)	565 m / 886 m	1,854 ft / 2,907 ft
Landing performance (ISA MSL, ground roll / landing distance)	388 m / 647 m	1,273 ft / 2,123 ft
Max. service ceiling	5,486 m	18,000 ft

[1] Measurements can differ depending on the specific sensor equipment.
[2] With standard mission equippment and 2-man crew.

Specifications are based on an aircraft configuration with universal nose, underfloor pod, satcom radome and gimbal camera equipment. Specifications can differ depending on the specific sensor equipment. The above quoted data are approximately specifications and may change without notice.

Facts and specifications are based on the latest aerodynamic improvements of DA42 MPP.

DA62 MPP - MASS & BALANCE



Maximum take off mass	2,300 kg	5,071 lbs
Empty weight	1,590 kg*	3,505 lbs*
Payload available in TOTAL	**710 kg**	**1,566 lbs**
Typical airplane standard options	58 kg**	128 lbs**
Crew (2 men)	160 kg	353 lbs
Fuel (86 US gal/ 326 lt Jetfuel)	265 kg***	576 lbs***
TKS anti-icing fluid (3.9 US gal/ 15 lt)	16 kg	35 lbs
Payload mission equipment	**215 kg**	**474 lbs**

* Average empty weight, excl. airplane standard options **TKS anti-icing installation, Auxiliary tanks, DME, WX500 stormscope, Avidyne TAS605 *** Specific fuel weight 0.8 kg/lt

Payload examples:

- Law enforcement lite: 85 kg / 187 lbs (4 men crew with full fuel)
- Law enforcement premium: 140 kg / 309 lbs (4 men crew with 78 US gal fuel or 3 men crew with full fuel)
- ISTAR/coastal surveillance/search & rescue: 160 kg / 353 lbs (4 men crew with 72 US gal fuel or 3 men crew with full fuel)
- Mapping configuration: 190 kg / 419 lbs (3 men crew with full fuel, 3 seats available in this configuration)

Limitations:

- M&B envelope @ 2,300 kg / 5,071 lbs MTOM
- MZFM @ 2,200 kg / 4,850 lbs
- Max. landing mass

DA42 MPP - MASS & BALANCE

Maximum take off mass	1,999 kg	4,407 lbs
Empty weight	1,365 kg*	3,008 lbs*
Payload available in TOTAL	**634 kg**	**1,399 lbs**
Typical airplane standard options	58 kg**	128 lbs**
Crew (2 men):	160 kg	353 lbs
Fuel (76 US gal/ 287 lt Jetfuel)	230 kg***	507 lbs***
TKS anti-icing fluid (3.9 US gal/ 15 lt)	16 kg	35 lbs
Payload mission equipment	**170 kg**	**376 lbs**

* Average empty weight, excl. airplane standard options **TKS anti-icing installation, Auxiliary tanks, DME, WX500 stormscope, Avidyne TAS605 *** Specific fuel weight 0.8 kg/lt

Payload examples:

- Law enforcement lite: 85 kg / 187 lbs
- Law enforcement premium: 140 kg / 309 lbs
- ISTAR/coastal surveillance/search & rescue: 160 kg / 353 lbs
- Mapping configuration GEOSTAR: 190 kg / 419 lbs

Limitations:

- M&B envelope @ 1,999 kg / 4,407 lbs MTOM
- MZFM @ 1,835 kg / 4,045 lbs
- Universal nose aft CG limit
- Nose pod aft CG limit

AVIATION AS UNIQUE AS YOU ARE

Diamond AIRCRAFT

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