

3 Unmanned Aerial Vehicle Solutions



UAV Solutions for Discovery and Surveillance

* **Multi-Rotor Wing UAV Solutions;**

- **AEROGARD Quadcopter - X4 / Hexacopter - X6 / Octocopter - X8**
- **Patrol Copter** (Megaphone, Lighting, Camera)
 - With LiPo Battery (Electric Motor and 30-60 minutes endurance)
- **AEROGARD T-100 Tethered Drone,**
 - Power Supply and Electricity from Ground (6-8 Hours)
 - Power / Data / Image Transfer over Fiber Cable from Ground
- **AEROGARD H-X8 Hybrid Copter,**
 - Hybrid (Electric + Liquid Fuel Engine), (2-4 hours)

Multi-Rotor Wing UAV (General / Technical Features)

Platform / Motor	AEROGARD Quadcopter - X4 (4 Engine)	AEROGARD Hexacopter - X6 (6 Engine)	AEROGARD Octocopter - X8 (Engine)
Model Year	2022		
Autopilot Software	Enhanced by us from open source platforms		
GPS System	Dual GPS/GNSS (Simultaneously use / Optional)		
Gimbal System	Originally Developed Electronic Card - With Connector		
Remote Control System	Tablet and Remote Control System or Only Tablet		
Body Width / Height	64 cm x 62 cm x 37 cm	68 cm x 87 cm x 37 cm	60 cm x 58 cm x 37 cm
Folding status of the arms	Available (34 cm x 30 cm)	Available (42 cm x 44 cm)	Available (37 cm x 33 cm)
Empty weight (w/out cam& battery)	2.75 kg	3.25 kg	3.85 kg
Take-off Weight	6.10 kg (22AH battery + 18x Zoom Cam)	6.60 kg (22AH bat. + 18x Zoom Cam)	7 kg (16AH battery + 18x Zoom Cam)
Maximum Payload	1-1,5 kg	3 kg	5-8 kg
Flight Time with specific camera*	50 min Thermal (± 5 min)		
Flight Time with specific camera*	45 min Zoom (± 5 min)		
Flight Mode	Manual / Automatic		
Horizontal Speed (GPS/Stable)	36 km/h		
Vertical Take off/Landing Speed (in GPS Mode)	8 m/s – 3 m/s		
Operation Temperature (Without Camera)	-10 °C / +60 °C		

* (Depending on frequency pollution, weather conditions and ground station location.)

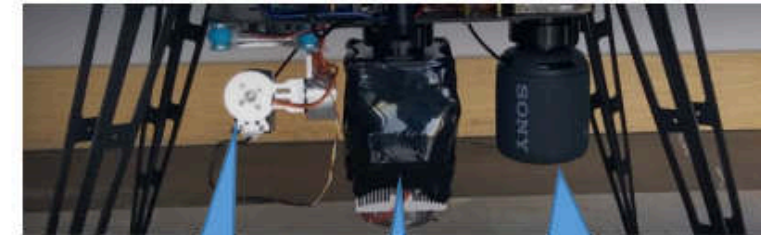
Multi-Rotor Wing UAV (General / Technical Features)

Platform / Motor	AEROGARD Quadcopter - X4 (4 Motors)	AEROGARD Hexacopter - X6 (6 Motors)	AEROGARD Octocopter - X8 (8 Motors)
Power (Battery)	Li-Po (1 x 22Ah, 1 x 16Ah, 2 x 12Ah)		
Battery Charging Time (Fast/Stand.)	30 min / 60 min		
Zoom Camera	30x or 36x Optic optionally		
Thermal Camera	640x512 Flir Vue Pro (30 hz)		
Communication Frequency			5.8 Ghz, 2.4 Ghz and 868 Mhz
Range of Control			8 km (±1 km)
Range of Telemetry*	8 km (±1 km)		
Range of HD Video Transmission *	8 km (±1 km)		
Soft Landing System	Up to 10 m 3 m/s		
	Below 10 m 0.3 m/s'		
Object Tracking	Lockable to Moving Target (30x /36x Zoom Cam)		
Systems usable in Gimbal	Zoom (18x, 30x, 36x), Thermal, Multispectral, Hyperspectral, Mapping Camera, Lidar, Led Lighting, Megaphone System		
Software	Control, Video Tracking, Mobile Object Tracking, Video Balancing, Video Transmission to Center, Center-Black Instant Messaging		
MSL Flight Altitude (Sea Level)	3500 m		
AGL Flight Altitude (From Departure)	1000 m		
Wind Endurance	50 Km/h		
* (Depending on frequency pollution, weather conditions and ground station location.)			

AEROGARD GEZGİN - X4 Patrol Technical Specifications

L.Nu	Talent Subject	Description-1
1	System Components	- Platform (Quadcopter-Technical Specification) - Payload (Camera, Led lighting, Speaker, Carrier device)
2	Power / Supply Reinforcement	Reinforcement with lithium basis battery
3	Maximum Altitude	3500 m
4	Performance Average Mission Altitude	2-200 m (light and sound start to disperse after 200 m)
5	Average Continuous Term of Office	- 45 minutes with camera only - 30 minutes on trilogy configuration duty(depending on payload)
6	Camera Optic Zoom	10x zoom, optional 18x / 30x zoom
7	Thermal Camera	640x512 pixel, (9 / 25 / 30) Hertz
8	Average Flight and Radius of Mission	5 Km (on the line of vision)
9	Target / Object Tracking	Available
10	Target / Object Coordinate Determination	Available, 3000 m (Manual)
11	Data and Telemetry Transfer (on the line of vision)	5 km (3 different frequency option)
12	Data , Telemetry and Flight Control (beyond the line of vision)	Over the 10 km (4.5/5G - LTE)
13	Situation of image recording and processing	- Record to ground station and camera real time - Facial Recognition, License Plate Reading
16	Usage on Jammer Setting	Unaffected, Auto return home.(working on it)

Bomb Destruction and Patrol Drone



Camera

Sky Megaphone

Led Light

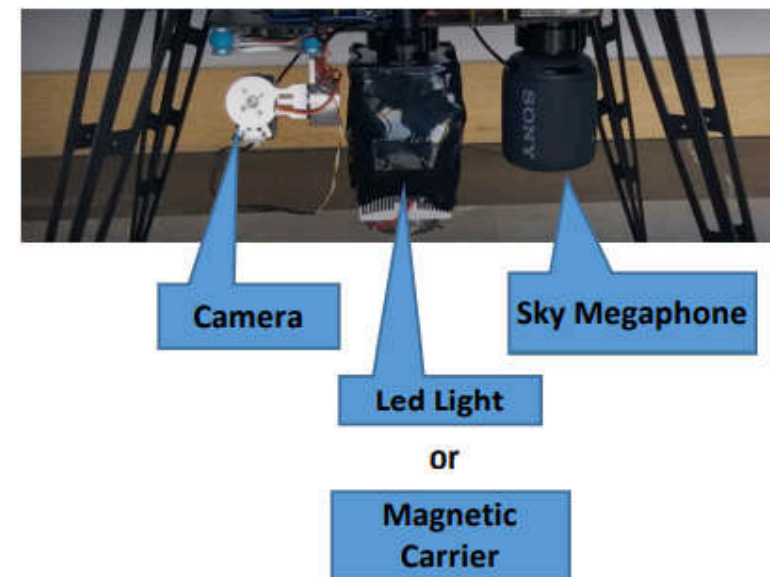
or

Magnetic Carrier

AEROGARD KUZGUN – X6 Patrol Technical Specifications

L.Nu	Talent Subject	Description-1
1	System Components	- Platform (Quadcopter-Technical Specification) - Payload (Camera, Led lighting, Speaker, Carrier device)
2	Power / Supply Reinforcement	Reinforcement with lithium basis battery
3	Maximum Altitude	3500 m
4	Performance Average Mission Altitude	2-200 m (light and sound start to disperse after 200 m)
5	Average Continuous Term of Office	- 45 minutes with camera only - 30 minutes on trilogy configuration duty(depending on payload)
6	Camera Optic Zoom	10x zoom, optional 18x / 30x zoom
7	Thermal Camera	640x512 pixel, (9 / 25 / 30) Hertz
8	Average Flight and Radius of Mission	5 Km (on the line of vision)
9	Target / Object Tracking	Available
10	Target / Object Coordinate Determination	Available, 3000 m (Manual)
11	Data and Telemetry Transfer (on the line of vision)	5-8 km
12	Data , Telemetry and Flight Control (beyond the line of vision)	Over the 10 km with 4.5/5G - LTE
13	Situation of image recording and processing	- Record to ground station and camera real time - Facial Recognition, License Plate Reading
14	Usage on Jammer Setting	Unaffected, Auto return home.(working on it)

Bomb Destruction and Patrol Drone



Multi-Rotor UAV Common Features

* Multi-Rotor UAV AEROGARD Hexacopter - X6

General Specifications :

- ✓ Max. Payload : 1-2 kg
- ✓ Average 45 min. Flight Time
- ✓ Aluminium + Composite Material
- ✓ Aerodynamic Design
- ✓ Approximate Weight 4-6 kg.
- ✓ Ground Station or Tablet with 10 'Display
- ✓ Gimbal 30X, 36X, 40X (Optional)
- ✓ Thermal Camera **640 Pixel**
- ✓ The photos taken by the UAV can be shown on the Google Earth with coordinates.
Targets are determined with coordinates in these photos.



Hawk X6



10 "Screen Tablet
Ground Control Station



15.6 " Touch Screen
Ground Control Station
Rugged Bag

CAMERAS SYSTEM



**Night Camera
(Thermal)**

THERMAL CAMERA (50 MMLENS, 640 X 480 PIXEL)

Weight	: 650 g (Including Gimbal)
Dimensions	: 100 x 146 x 141 mm
Gimbal	: 3 Axis
Operating Temperature	: -20° C ~ 60° C
Control Angle Range	: ± 360° (horizontal) / ± 170° (vertical)
Pixel	: 640 x 480
Target Detection (Human: 1.8x0.5m)	: 1000-1100 m
Target Diagnosis (Human: 1.8x0.5m)	: 350-500 m
Target Detection (Car: 4.2x1.8m)	: 2255 m
Target Diagnosis (Car: 4.2x1.8m)	: 1000-1200 m
Night Vision Limit	: Star Class (0.01Lux) Moonlight Vision
Anti-Glare	: Auto

CAMERAS SYSTEM



**Day Camera
(Zoom)**

GENERAL FEATURES OF ZOOM DAY CAMERA

Weight	: 876 gr (Including Gimbal and Tracking Module)
Dimensions	: 121 x 166 x 130 mm
Gimbal	: 3 Axis
Operating Temperature	: -20 ° C ~ 60 ° C
Control Angle Range	: 60° (horizontal) / -120° ~ 30°(vertical)
Protection Degree	: IP 43
Sensors	: 1/2.8 inch 2.0 Mega SONY CMOS
Automatic Motion Tracking	: Moving Object Tracking feature
Zoom	: 30X
Video Output Format	: 1080P, 25frames/1080P, 60frames
Resolution	: 1920x1080
Storage	: Micro SD, Max. 128G
Target Tracking Size	: 16*16 ~ 160*160 pixels
Diagnosis (Human: 1.8x0.5m)	: 350-500 m
Target Detection (Car: 4.2x1.8m)	: 2255 m
Target Diagnosis (Car: 4.2x1.8m)	: 1000-1200 m
Night Vision Limit	: Star Class (0.01Lux) Moonlight Vision
Anti-Glare	: Auto



**Dual Sensor:30X Zoom, 640X480 Thermal
& Laser Range Finder**

CAMERAS SYSTEM

Camera General Spec

Imager Sensor	SONY 1/2.8" "Exmor R" CMOS
Picture quality	Full HD 1080 (1920*1080)
Effective pixel	2.13MP
Lens optical zoom	30x, F=4.3~129mm
Digital zoom	12x (360x with optical zoom)
Min object distance	10mm(wide end) to 1200mm(tele end). Default 300mm
Horizontal viewing angle	1080p mode: 63.7°(wide end) ~ 2.3°(tele end)
	720p mode: 63.7°(wide end) ~ 2.3°(tele end)
	SD: 47.8°(wide end) ~ 1.7°(tele end)
Sync system	Internal
S/N ratio	more than 50dB
Min illumination	Color 0.01lux@F1.6

Camera Object Tracking

Update rate of deviation pixel	50Hz
Output delay of deviation pixel	5ms
Minimum object contrast	5%
SNR	4
Minimum object size	32*32 pixel
Maximum object size	128*128 pixel
Tracking speed	32 pixel/frame
Object memory time	100 frames (4s)



**Dual Sensor:30X Zoom, 640X480 Thermal
& Laser Range Finder**

CAMERAS SYSTEM

Thermal imager spec

Lens	35mm
Horizontal FOV	17.7°
Vertical FOV	13.3°
Diagonal FOV	22°
Detective Distance (Man: 1.8x0.5m)	1029 meters
Recognize Distance (Man: 1.8x0.5m)	257 meters
Verified Distance (Man: 1.8x0.5m)	129 meters
Detective Distance (Car: 4.2x1.8m)	3157 meters
Recognize Distance (Car: 4.2x1.8m)	789 meters
Verified Distance (Car: 4.2x1.8m)	395 meters
Working mode	Uncooled long wave (8μm~14μm) thermal imager
Detector pixel	640*480
Pixel size	17μm

Thermal Object Tracking

Update rate of deviation pixel	50Hz
Output delay of deviation pixel	5ms
Minimum object size	32*32 pixel
Maximum object size	128*128 pixel
Tracking speed	32 pixel/frame
Object memory time	100 frames (4s)

Laser Rangefinder

Laser Wavelengths	1550nm
Optical aperture	Transmit 13mm / Receive 17 mm
Resolution	0.75m

Cargo Handling Multi Rotor (Drone)

* Electric Motor Multi Rotor UAV (X8) 5 Kg Payload:

General Specifications :

- ✓ Maximum Payload : 5 kg
- ✓ Maximum Takeoff Weight : 24 kg
- ✓ Average 30 minutes Flight Time
- ✓ Ability to leave the load 10 km forward
- ✓ Octocopter, 8 units of brushless motors
- ✓ Engine to Engine arm length 100 cm
- ✓ Minimum 18 " Propellers
- ✓ Ground Control Stations (Options)
 - 15.6 ' Touch screen PC or
 - Tablet PC 10 " Screen or
 - 16 channel, 10 km range Remote Control,
- ✓ Gimbal **10X Zoom camera** (Options)
- ✓ Full HD or 4K Camera (Options)



Optional Parachute System

10 Km Range Control and
Image Monitoring System

Cargo Handling Multi Rotor (Drone)

* **Hybrid Motor Multi Rotor UAV (X8) 10-20 Kg Payload:**

General Specifications :

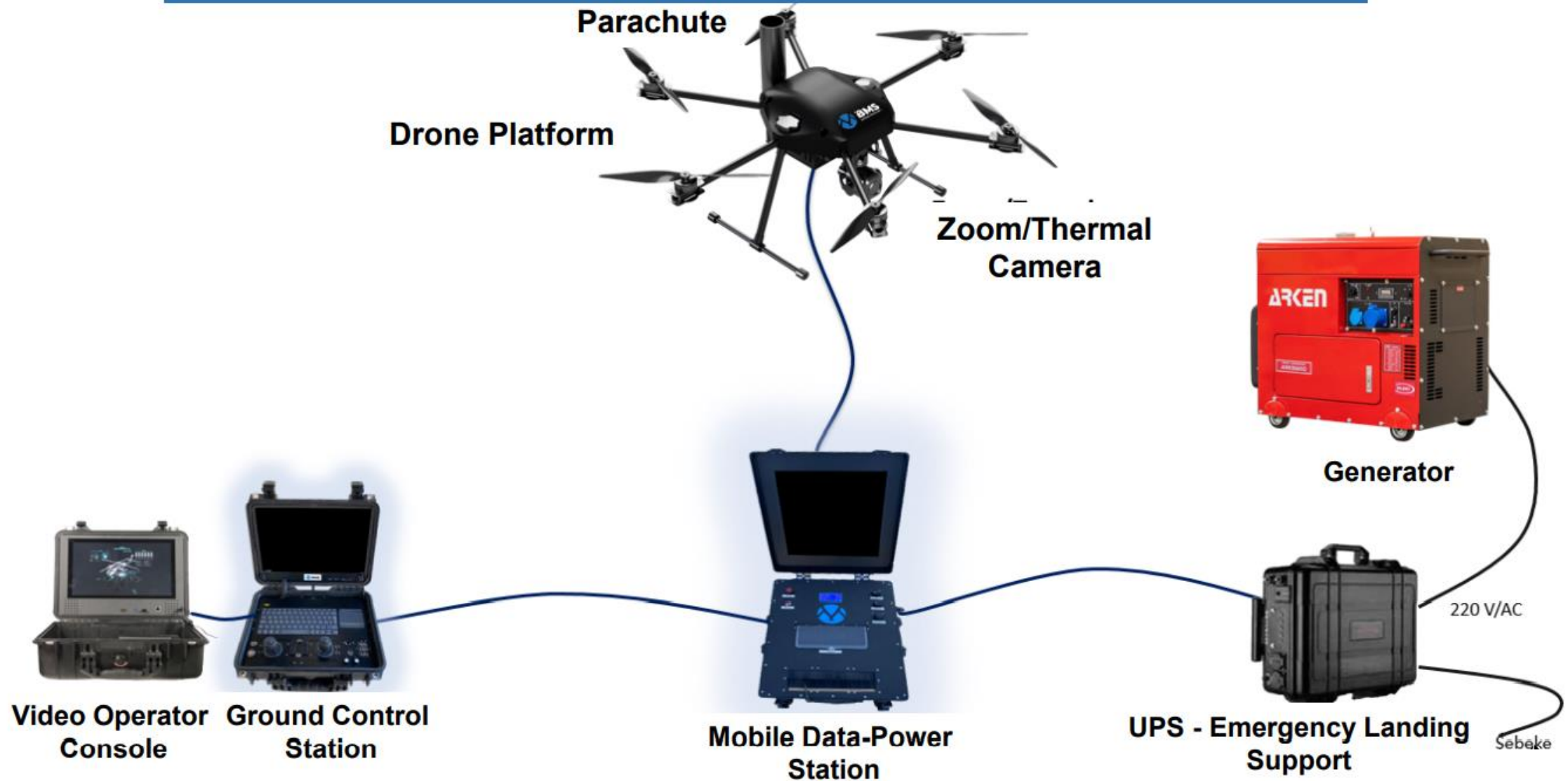
- ✓ Maximum Payload : 10 kg
- ✓ Maximum Takeoff Weight : 45 kg
- ✓ Average 30 minutes Flight Time
- ✓ Ability to leave the load 10 km forward
- ✓ Octocopter, 8 units of brushless motors
- ✓ Engine to Engine arm length 140 cm
- ✓ Minimum 28 " Propellers
- ✓ Ground Control Stations (Options)
 - 15.6 ' Touch screen PC or
 - Tablet PC 10 " Screen or
 - 16 channel, 10 km range Remote Control,
- ✓ Gimbal **10X Zoom camera** (Options)
- ✓ Full HD or 4K Camera (Options)



Optional Parachute System

10 Km Range Control and
Image Monitoring System

Cable Controlled Drone System (CCDS) Configuration (ERKIN T-100 Tethered Drone)



ERKİN T-100 Tethered Drone



Cable Controlled Drone System (CCDS) Technical Specs

1. **Model and Type:** Rotary Wing Drone System
2. **Total Weight** : 11,6 kg
3. **Cable Weight** : 2 kg
4. **Wind Resistance Speed:** 36 km/h
5. **Maximum Working Time:** 4-6 Hours (with Standard Single Aerial Platform)
24 Hours (with Dual Aerial Platform)
6. **Power and Data Transfer System:** Data and Power over Fiber
7. **Mission Altitude:** 100 meters
8. **Positioning System:** GNSS(GPS, GLONASS, BeiDou, Galileo)
9. **Operating Temperature:** -10°C ~ 50°C
10. **Dimensions** : 120x120x60
11. **Propeller** : 20x6 inch (Carbonfiber)
12. **Flight Controller:** Open Source, Original development
13. **Safety Battery** : 2x 6S 6200 mAhLi-Po Battery
14. **Flight Time with Safety Battery:** 5-8 minutes
15. **Zoom Camera** : 30x Optical Zoom
16. **Thermal Camera:** 50mm Lens, 640*480 pixels

VTOL / Fixed Wings UAV Models

F2000-F



V2500-E



V2500-E (V2)



V3200-H



V3800-H

UAV Solutions for Discovery and Surveillance

* VTOL / Fixed Wing UAV Solutions;

- **AEROGARD BOZKUŞ-1 2500-E, VTOL , 60 mins, (Electrical engine,)**
- **AEROGARD BOZKUŞ 2500-2-E, VTOL , 180 mins, (Electrical engine,)**
- **AEROGARD GÖKTUĞ 3000-E, VTOL 300 mins, Electrical engine)**
- **3200-H CATAPULT 240 mins, Hybrid (Liquid Fuel Engine),**
- **AEROGARD GÖKTUĞ 3000-E, VTOL 300 mins, Electric engine)**
- **AEROGARD GÖKTUĞ 3400-E, VTOL 180 mins, Electric engine)**
- **AEROGARD GÖKTUĞ 3500-E, VTOL 24 mins, Electric engine)**
- **AEROGARD AYBARS 3800-H, VTOL 10 hrs, (Hybrid Electric + Liquid Fuel Engine),**
- **AEROGARD TYPHOON 6000-G, Fixed Wings Runway 12 hrs**

Liquid Fuel Engine

Model	VTOL V2500-E (BOZKUŞ-1)	VTOL V2500-E (BOZKUŞ-2)	VTOL S3000-E (GÖKTUĞ)	VTOL 3800-E (AYBARS)	TYPHOON-H-6000
Takeoff	VTOL	VTOL	VTOL	VTOL	RUNWAY
Wing Span	2.5 m	2.5 m	3 m	3,5 m	6 m
Body Lenght	1.5 m	1.26 m	1.8 m	2.5 m	3,5 m
Maximum Takeoff Weight	10 Kg	13 Kg	16 Kg	50 Kg	65 Kg
Max. Payload	1.2 Kg	1.2 Kg/1,5 Kg	2kg , Standard 1-1.5kg	Max. 10 Kg	Max. 20 Kg
Propulsion System	Brushless DC Motor	Brushless DC Motor	Brushless DC Motor	Internal Combustion EFI Engine+Brushless DC Motor	Internal Combustion EFI Engine
Alternator	--	--	--	Alternator (Opt)	Alternator
Material	Composite	Composite	Composite	Composite	Composite
Range /Data Link	25-30 Km	25-50 Km	25-100 Km	25-150 Km	25-200 Km
Flight Time	60-80 minutes	120 min/1.5kg, 150 min/1.2kg	5-6 Hours (1 Kg. Payload)	2 h 15kg payload, 4 h-10kg payload	12 h 20 kg payload
Operational Speed	50-60 Km / s	65km/h	70-80 Km / h	100-110 km/h	100-110 km/h
Maximum Speed	90 Km / s	105 km/h	110 Km / h	130 km/h	120 km/h
Wind Resistance	50 Km / h	60 Km / h	60 Km / h	45 Km / h	45 Km / h
Altitude	MSL 8.000 ft	MSL 10.000 ft	MSL 12.000 ft	MSL 12.000 ft	MSL 15.000 ft
Delivery Time	T0+4 Weeks	T0+6 Weeks	T0+8 Weeks	T0+12 Weeks	T0+20 Weeks

AEROGARD VTOL 2500-E (BOZKUŞ-V1)

Model	VTOL V2500-E
Takeoff	VTOL
Wing Span	2.5 m
Body Length	1.5 m
Maximum Takeoff Weight	10 Kg
Payload	1.2 Kg
Propulsion System	Brushless DC Motor
Material	Composite
Range /Data Link	25-50 Km
Flight Time	60-80 minutes
Operational Speed	50-60 Km / s
Maximum Speed	90 Km / s
Altitude	MSL 8.000 ft
Ground Control Station	5.5" or 10.1" Tablet
Camera	Dual Sensor 30x Zoom and Thermal 640 px
Delivery Time	T0+4 Weeks



Payload/Camera



Ground Control Station



Omni Panel Antenna Sys.



AEROGARD VTOL 2500-E (BOZKUŞ-V2)

Model	VTOL V2500-E
Takeoff	VTOL
Wing Span	2.5 m
Body Length	1.26 m
Maximum Takeoff Weight	13 Kg
Payload	1.2 Kg
Propulsion System	5xBrushless DC Motor
Stall speed:	16m/s
Material	Composite
Range /Data Link	25-50 Km (Optional)
Flight Time	120 min/1.5kg, 150 min/1.2kg
Operational Speed	65 Km / h
Maximum Speed	105 Km / h
Altitude	MSL 10.000 ft
Ground Control Station	Dual Screen Windows GCS
Camera	Dual Sensor 30x Zoom and Thermal 640 px& LRF



Payload/Camera



Ground Control Station



Automatic Antenna Sys.



AEROGARD VTOL 2500-E (BOZKUŞ-V2)

Camera spec

Imager Sensor	SONY 1/2.8" "Exmor R" CMOS
Picture quality	Full HD 1080 (1920*1080)
Effective pixel	2.13MP
Lens optical zoom	30x, F=4.3~129mm
Digital zoom	12x (360x with optical zoom)
Min object distance	10mm(wide end) to 1200mm(tele end). Default 300mm
Horizontal viewing angle	1080p mode: 63.7°(wide end) ~ 2.3°(tele end)
Exposure control	Auto, Manual, Priority mode(shutter priority & iris priority), Bright, EV compensation, Slow AE
White balance	Auto, ATW, Indoor, Outdoor, One Push WB, Manual WB, Outdoor Auto, Sodium Vapor Lamp (Fix/Auto/Outdoor Auto)
Shutter speed	1/1s to 1/10,000s, 22 steps

IR Thermal Imager Spec

Focus Length	19mm
Horizontal FOV	22.9°
Vertical FOV	18.4°
Diagonal FOV	29.0°
Detective Distance (Man: 1.8x0.5m)	792 meters
Recognize Distance (Man: 1.8x0.5m)	198 meters
Verified Distance (Man: 1.8x0.5m)	99 meters
Detective Distance (Car: 4.2x1.8m)	2428 meters
Recognize Distance (Car: 4.2x1.8m)	607 meters
Verified Distance (Car: 4.2x1.8m)	303 meters
Working mode	Uncooled VOx long wave (8µm~14µm) thermal imager
Detector pixel	640*512
Pixel size	12µm
Digital zoom	1x ~ 8x
Sync correct time	Yes

EO / IR Camera Object Tracking

Update rate of deviation pixel	30Hz
Output delay of deviation pixel	<30ms
Minimum object size	16*16 pixel
Maximum object size	256*256 pixel
Tracking speed	<32 pixel/frame
Object memory time	100 frames

IR Laser Rangefinder

Range	5~1500 meters
Resolution	0.5m



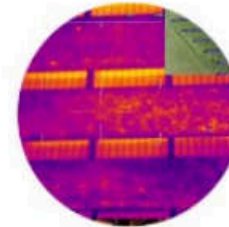
Firefighting



Police and Law Enforcement



Inspection



Search and Rescue



AEROGARD VTOL 3000-E (GÖKTUĞ)

Model	VTOL V3000-E
Takeoff	VTOL
Wing Span	3 m
Body Length	1.8 m
Maximum Takeoff Weight	16 Kg
Payload	1-2 Kg
Propulsion System (V)	4xBrushless DC Motor
Propulsion System (H)	1xBrushless DC Motor
Material	Composite
Range /Data Link	25-100 Km (Optional)
Flight Time	with 1Kg Payload 5-6 hours
Operational Speed	70-80 Km / h
Maximum Speed	110 Km / h
Wind Resistance	60 Km/h
Altitude	MSL 10.000 ft
Ground Control Station	Dual Screen Windows GCS
Camera	Dual Sensor 30x Zoom and Thermal 640 px& LRF



Payload/Camera



Ground Control Station



Automatic Antenna Sys.



AEROGARD VTOL 3400-E (GÖKTUĞ-V2)

Model	VTOL V3400-E
Takeoff	VTOL
Wing Span	3,4 m
Body Length	1.5 m
Maximum Takeoff Weight	16 Kg
Payload	3 Kg
Propulsion System	5xBrushless DC Motor
Stall speed:	16m/s
Material	Composite
Range /Data Link	50-100 Km (Optional)
Flight Time	180 min/3 kg,
Operational Speed	75 – 90 Km / h
Maximum Speed	110 Km / h
Altitude	MSL 12.000 ft
Ground Control Station	Dual Screen Windows GCS
Camera	Dual Sensor 30x Zoom and Thermal 640X512 px& 3.000 mLRF



Payload/Camera



Ground Control Station



Automatic Antenna Sys.



AEROGARD VTOL 3400-E (GÖKTUĞ-V2)



LEADING STABILIZATION

Over 100 Hz bandwidth, low gyro noise, less than 100 urad stabilization



EXCEPTIONAL IMAGING PERFORMANCE

1080 Full HD video at 30 fps with full processing



LEADING LWIR PERFORMANCE

<30 mK or 50 mK sensitivity sensor. Large aperture F1.2 Lens with 5x optical zoom and 15-75mm focal length



NON-ITAR

For maximum exportability



ENVIRONMENTALLY PROTECTED

Fully sealed, dry nitrogen filled structure



METADATA

MISB compliant video stream with KLV metadata



MOST POWERFUL IN CLASS ONBOARD PROCESSOR

With Onboard Target tracking, Scene steering & Moving Target Indicator



H.265 ENCODER

Enables longer radio link ranges and SATCOM operation with real time video. H.265 encoder is two times more efficient than H.264.



INTEGRATED HIGH PRECISION GPS/INS

Providing platform location, target location and slant range



DIRECT DRIVE STABILIZATION

Brushless motors with low-friction, custom bearings



RELIABLE OPERATION

Mature design proven in demanding environments



ARTILLERY FIRE ADJUSTMENT

Integrated software for artillery fire correction



SUPER RUGGED DESIGN

Advanced Magnesium structure (no 3D printed parts used)



67X Dual Sensor Camera

EO Sensor Specifications

- CMOS: Yes
- FOVs: 63.7° to 2.3° @ 1080p (h)
- Resolution: FULL HD 1080p (1920x1080px)
- Optical zoom: 67x (for SD video quality)
- Digital zoom: 4x

IR Sensor Specifications

- Type: LWIR uncooled
- IR lens: 5x optical zoom lens 15 - 75mm
- FOVs: 43.3° - 8.2° (h) x 30.9° - 6.7° (v)
- Resolution: SD (640x512px)
- Frame rate: 30 fps
- Sensitivity: <30mK, <50 mK, <60 mK versions

System specifications

- Stabilization: <100 μ rad
- Weight: E140Z G2: 1.40 kg (3.09 lbs)
- Size: Diameter - 140 mm / 5.51 in Height - 189 mm / 7.44 in
- Environmental protection: IP64 [sealed and dry gas filled structure]
- Operating temperature: -40°C to +55°C
- Rotation limits: 360° continuous pan, -80° to +10° elevation
- Slew rate: 120 deg/sec
- Power: 17W typical, 75W peak
- Voltage: 24 VDC
- Video out: Digital H.264/H.265 encoded video, analog, PAL, or NTSC
- Control interface: RS 232, Ethernet

AEROGARD VTOL 3500-E (GÖKTUĞ-V3)

Model	VTOL V3500-E
Wing Span	3.5 m
Body Length	1.9 m
Maximum Takeoff Weight	30 Kg
Max. Payload	5 Kg
Propulsion System	5xBrushless DC Motor
Stall speed:	16m/s
Material	Composite
Range /Data Link	50-100 Km (Optional)
Flight Time	240 min/1.5kg, 180 min/3 kg 120 min/5 Kg
Transponder	MODE S ADS-B Transponde
Anti Jamming	Anti-Jam GNSS CRPA System 8 Ant.
GSM-LTE Modüle	LTE-FDD B1/B3/B5/B7/B8/B20
Operational Speed	65 Km / h
Maximum Speed	108 Km / h
Altitude	MSL 12.000 ft
Ground Control Station	Dual Screen Windows GCS Dual Sensor 67x Zoom and Thermal 640X512 px& 5.000 LRF
Camera	



Payload/Camera



Ground Control Station



Automatic Antenna Sys.



AEROGARD Fixed Wing 3200-H



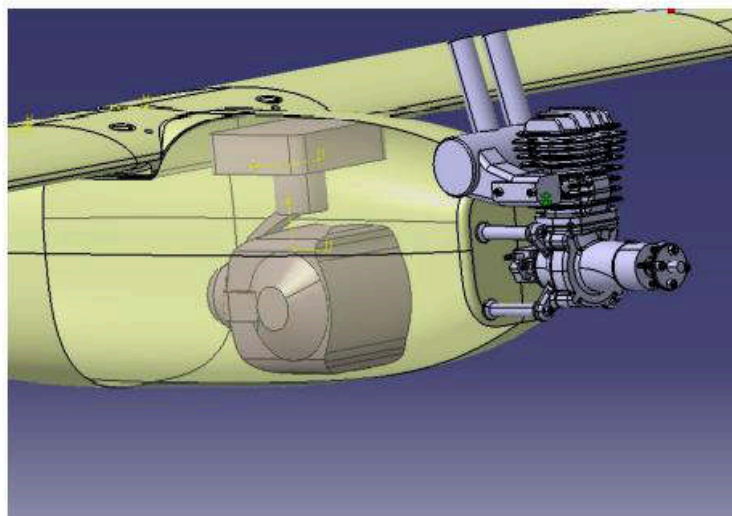
Model	Fixed Wing V3200-H
Takeoff	Catapult
Wing Span	3.2 m
Body Length	1.8 m
Maximum Takeoff Weight	18 Kg
Payload	1.5 Kg
Propulsion System	Internal Combustion EFI Engine Alternator (Optional)
Material	Composite
Range /Data Link	25-100 Km
Flight Time	6 Hours
Operational Speed	60-70 Km / s
Maximum Speed	120 Km / s
Altitude	MSL 10.000 ft
Ground Control Station	5.5" or 10.1" Tablet Dual Sensor 30x Zoom
Camera	Thermal 640 px
Delivery Time	T0+8 Weeks



10 " Screen 15.6 " Screen
Ground Control Station



Automatic Antenna Sys.



AEROGARD VTOL 3800-H (AYBARS)

Model	VTOL V3800-H
Takeoff	VTOL
Wing Span	3,8 m
Body Length	2,5 m
Maximum Takeoff Weight	50 Kg
Payload	10-15 Kg
Propulsion System (V)	4xBrushless DC Motor
Propulsion System (H)	1X100 cc EFI Engine
Material	Composite
Range /Data Link	25-150 Km (Optional)
Flight Time	2h-15kg payload, 4h-10kg payload
Operational Speed	100-120 km/h
Maximum Speed	130 km/h
Altitude	MSL 12.000 ft
Ground Control Station	Dual Screen Windows GCS
Camera	Dual Sensor 30x Zoom or 50x Zoom and Thermal 640X480 px & LRF



Payload/Camera



Ground Control Station



Automatic Antenna Sys.

Discovery / Surveillance of Runway UAV Solutions

AEROGARD TYPHOON-H-6000

General Features :

- ✓ Wing Span 6.0 m
- ✓ Body Length 3,5 m
- ✓ Approximate Weight 65 kg,
- ✓ Max. Payload : 20 kg,
- ✓ Average 10 hrs Flight Time,
- ✓ Flight Range: 150-200 km,
- ✓ Laser Designator (Optional),
- ✓ Composite Material,
- ✓ Aerodynamic Design,
- ✓ Ground Station 15.6' Display and Tablet with 10" Display,
- ✓ Gimbal **30X, 36X, 40X, 50X** (Optional),
- ✓ Thermal Camera **640X480 Pixel**.
- ✓ 3.000 m Laser Range Finder
- ✓ Operational Speed 100.Km/h
- ✓ Maximum Speed 120 Km/h
- ✓ Flight Altitude MSL 12.000 Ft

On the Manufacturing Phase



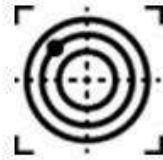
Automatic Antenna Sys.

Ground Control Station
Dual Screen

GROUND CONTROL STATION & SOFTWARE

Autonomous Flight Feature

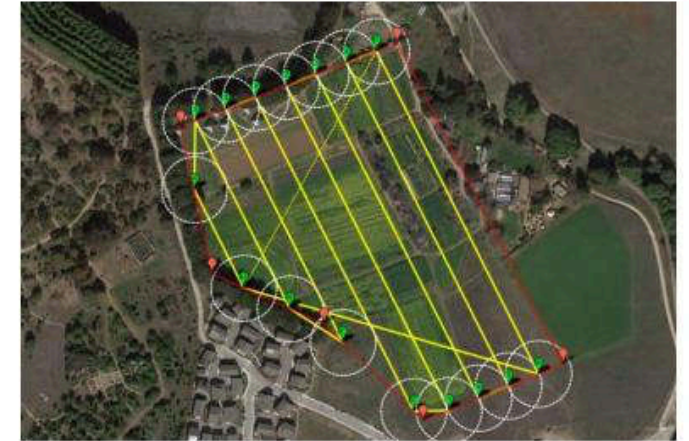
You can plan the flights with the autonomous flight feature that allows the device to perform the coordinates and tasks correctly.



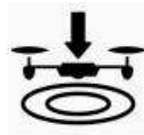
Object Tracking



Target /Object
Coordinate Determination



Safe Return to
Home



Safe Landing



Ground Control Station
10.1 " & 15.6" Screen

Emergency Modes

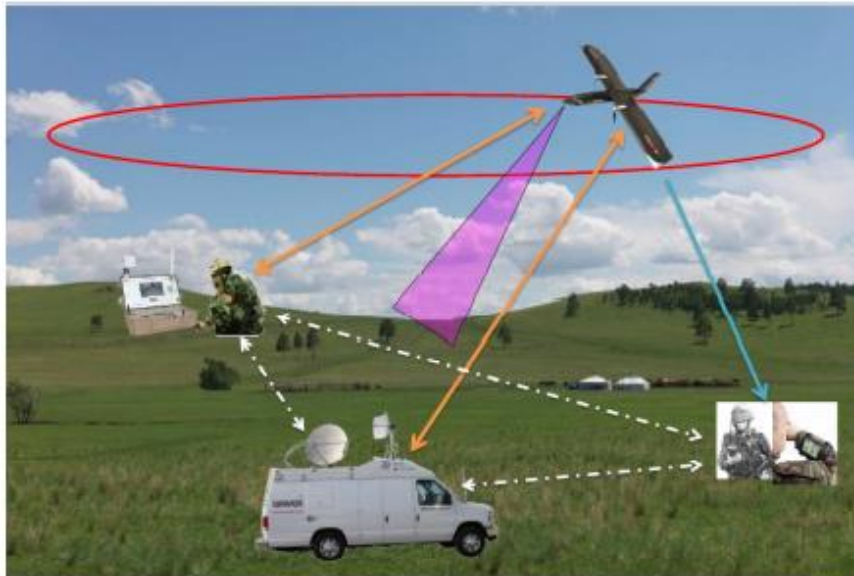
With Failsafe Landing and Return to Home modes, in cases of emergency, our UAV takes its own security and has the features of emergency landing or returning home.

Secured Video Sharing

Internet Supported Live Broadcasting Feature (Optional)

Snapshots from VTOL or Drone can be viewed on the ground station by the video pilot, sent to the remote platform via internet or network, and can be viewed and recorded simultaneously on the platforms.

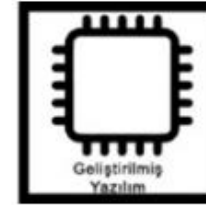
4G
NETWORK



Video and Telemetry Transmission

Advanced Telemetry System

With its advanced signal structure, datas and videos can be transferred properly up to 25 km and up to 100 km with Auto Tracking Antenna System.



**Advanced
Software**



Strong Wind Resistance



**Technical Support and
Maintenance**



Quieter Working Technology

Original Design

A durable and lightweight UAV with its domestic and national aerodynamic design and composite body structure.

Anti-Jam GNSS CRPA System 8 Ant.

Internal GNSS Receiver;

BeiDou (B1C), Galileo (E1,E5a),
SBAS GLONASS (L1,L2),
GPS (L1,L2), QZSS (L1

Simultaneous Active Bands

GPS L1, GPS L2
GLONASS G1, GLONASS G2
GALILEO E1
BEIDOU B1C SBAS

Nominal Wideband Suppression

>50 dB

Internal GNSS Tracking Sensitivity

-164 dBm



The system eliminates interference by applying novel beamforming techniques. With an 8-array CRPA antenna, the system can assure the normal operation of GNSS receiver in presence of multiple jamming sources.

Cameras



30/40/50X Zoom & 640x480 Pix. Thermal
Dual Sensor and Laser Range Finder
Camera



OCTOBUS 67XDual Sensor
(Zoom-Thermal)+ LRF
Camera



30x/36x Optic
Zoom Camera



Mapping Camera
24mp-36mp-42mp



Thermal Camera
640*480



With Heating Sensor
Thermal Camera



Laser Distance Meter
Zoom Camera

30X Dual Sensor Zoom + Thermal Camera

- 1/2.8 inch 2.13 MP CMOS sensor, 30X optical zoom,
- 1080P/60 HD-SDI (standart) or HDMI output (optional),
- 1080P/30 H.264 video recording feature,
- Thermal camera: 640*480, 25 HZ, 1X, 3X digital zoom,
- 360 degree yaw, 90 degree pitch movement,
- Object Tracking and mapping features,
- Waterproof
- 2 axis stable gimbal,
- Easy integrated module,
- Return to the starting position with one touch.

- 30X EO/IR
- For Fixed-wing
- Geo-referencing
- 360° Rotation
- 1200g



Dual Sensor Camera (Zoom & Thermal)

Specifications

- ✓ 1/2.9 inch 2.13MP CMOS sensor, 10X optical zoom,
- ✓ 1080P/30-60fps HD-SDI (standart) or HDMI output (optional),
- ✓ 1080P/30fps video recording on SD card,
- ✓ Thermal camera: 640x480, 25Hz, 1X, 3X digital zoom,
- ✓ 360 degree yaw, 90 degree pitch movement,
- ✓ Object Tracking (Option),
- ✓ Mapping features (Option),
- ✓ Waterproof,
- ✓ 2 or 3 axis stabilized gimbal,
- ✓ Easy integrated module,
- ✓ Return to the starting position with one key



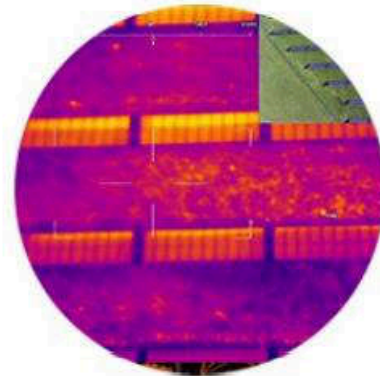
Firefighting



Police and Law Enforcement



Inspection

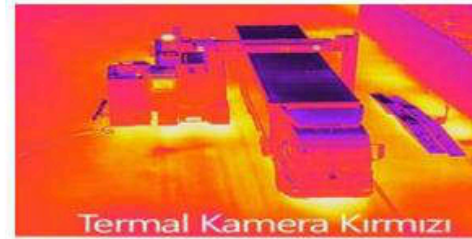


Search and Rescue



Thermal Camera

- 800 gr weight,
- 640 x 480 Resolution,
- 25 hz, 35 or 50 mm Lens
- Digital Zoom: 1X, 2X, 4X, 8X,
- HDMI and Ethernet video output,
- 150 degree Yaw, 90 degree Pitch,
- 45 degree Roll movement,
- Automatic Object Tracking,
- 3 Axis detachable Gimbal,
- 2 Axis stable Gimbal,
- Easily integration,
- Return to the starting point with one touch,
- Operating Temperature -20 to 120 degrees,
- Sharp imaging with its 50mm lens.



Termal Kamera Kırmızı



Termal Kamera Yeşil



Multispectral Kamera



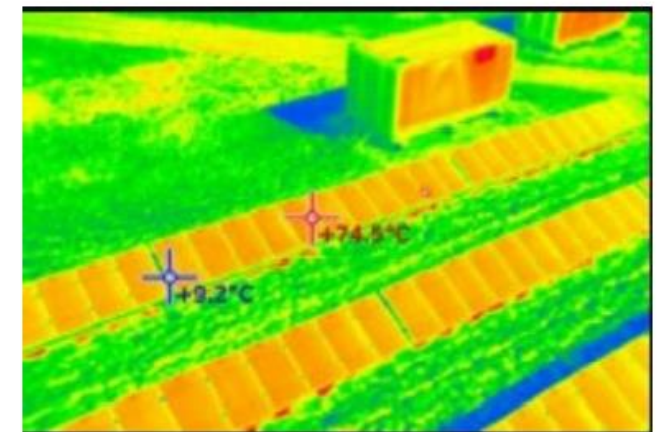
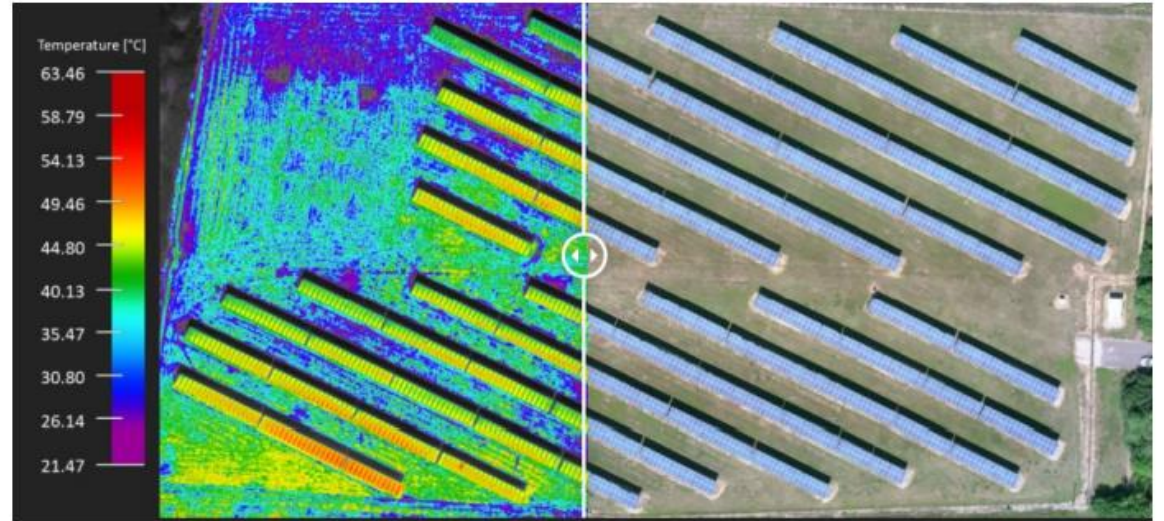
Termal Kamera Siyah

- Thermal camera
- 50mm lens
- Geo-referencing
- Tracking



Radiometric Inspection Thermal Camera

- Fully radiometric thermal camera that has been specially designed for use with unmanned aerial vehicles (UAVs),
- -25 °C to +150 °C Temperature Ranges,
- 0.05 °C Temperature Sensitivity,
- 640 x 512 Resolution,
- 9 Hz or 30 Hz ,
- 10x Zoom camera for daylight (RGB)
- 3 Axis detachable Gimbal,
- 2 Axis stable Gimbal,
- Easily integration,.



General Purpose of Fixed Wing UAVs Use

A. Military Purposes;

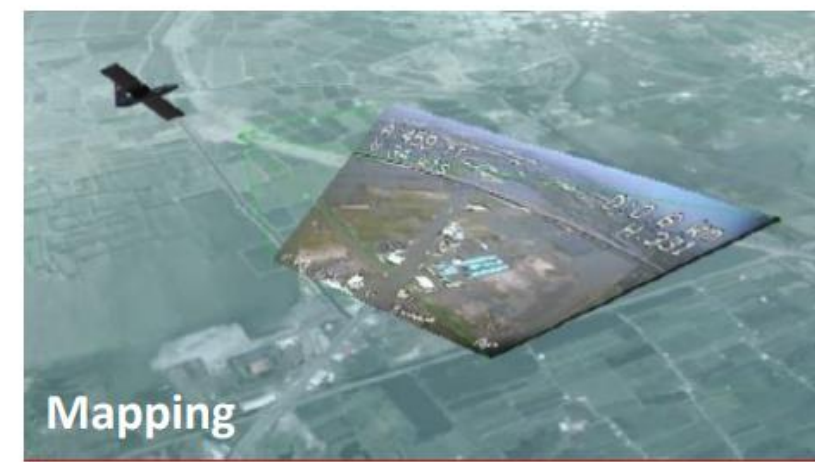
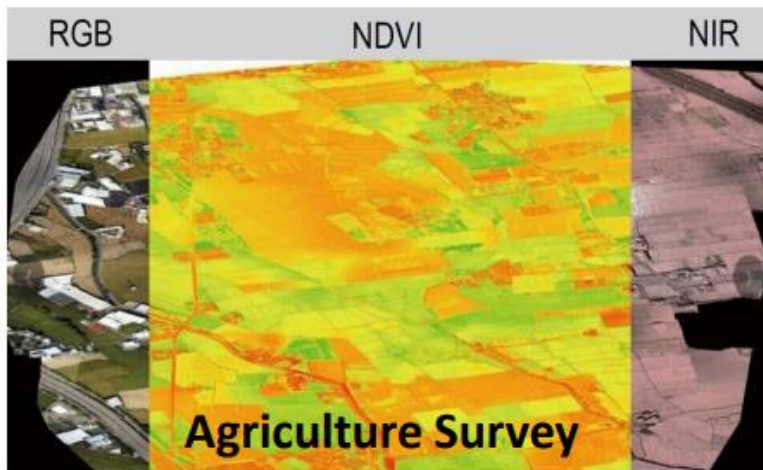
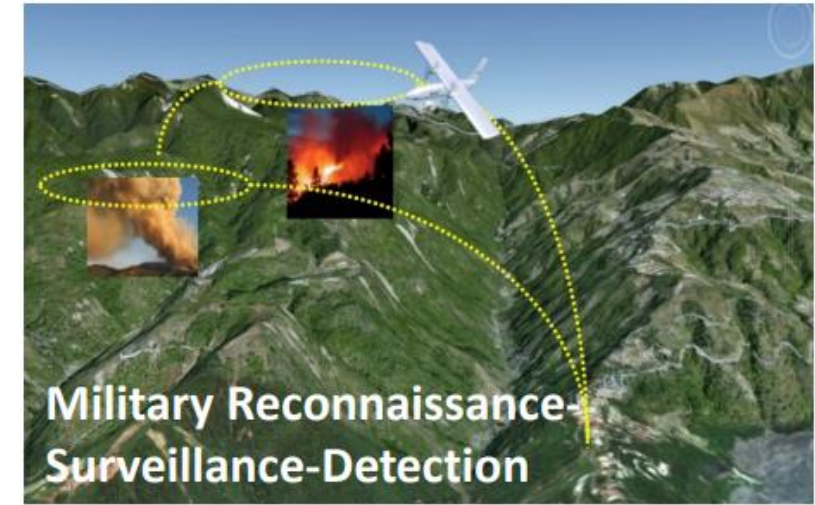
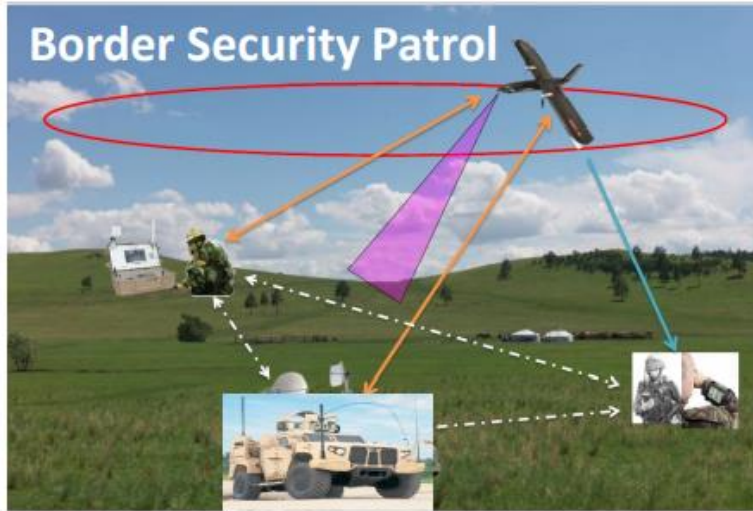
1. Company-Battalion-Brigade - Division level, reconnaissance and surveillance,
2. Reconnaissance, surveillance and control on the border line, detection of border violations,
3. Identifying and tracking targets by flying under the Cloud, determining their coordinates, transferring them to response units,
4. Detection, tracking and coordination of military units at the enemy or operational level posing a threat in a wide area,
5. Gathering more detailed info about the enemy situation and area during the operation,
6. Manual or autonomous patrol duties,
7. Providing remote security to the Coast Guard and Navy,
8. Identifying and mapping areas contaminated with chemicals,
9. Monitoring and control of the border line under the Cloud,
10. To conduct reconnaissance and surveillance in a wider area for a longer period of time,
11. Like any other military use.

General Purpose of Fixed Wing UAVs Use

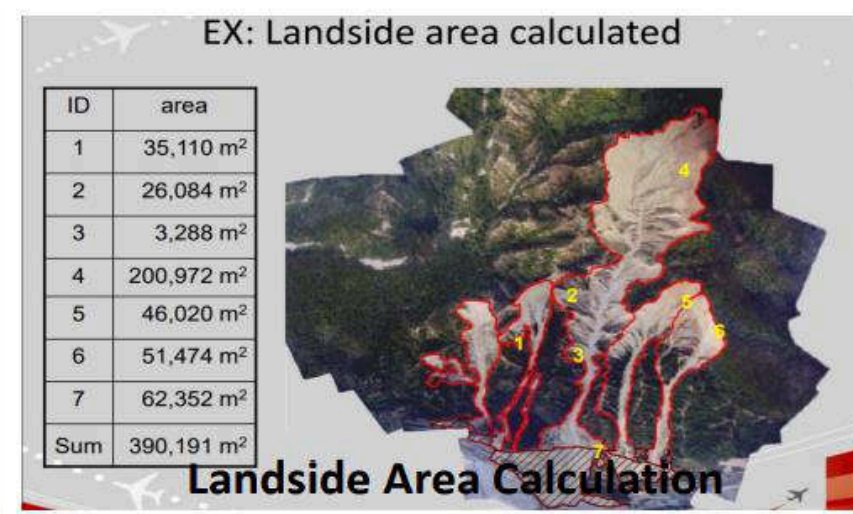
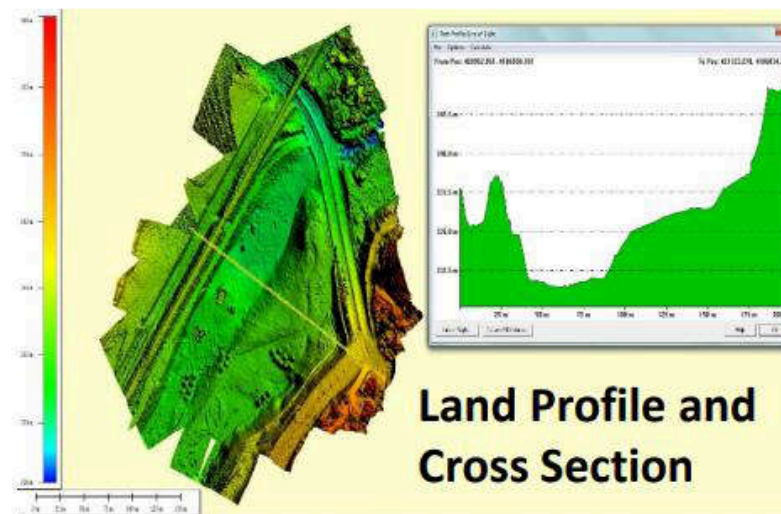
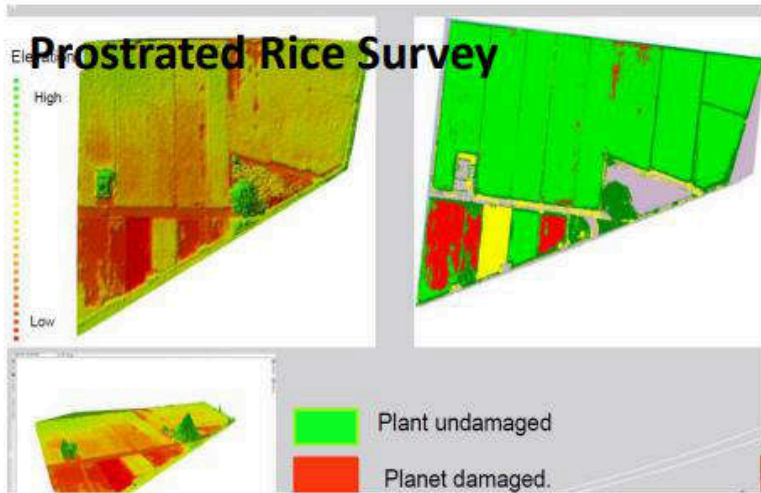
B. Construction and Engineering Purposes;

1. Monitoring, control and measurement of mining sites, forests,
2. Detection and measurement of irrigated agricultural areas,
3. Detection of diseased plants and marking of diseased areas on the map,
4. Aerial control of disaster areas and damage assessment,
5. Monitoring, control and security of oil pipelines,
6. Monitoring, control and security of critical civilian areas such as factories, petrochemical plants, granaries, rivers and reservoirs,
7. aerial monitoring and traffic control,
8. City planning, 3D terrain modeling, orthophoto mapping and mapping,
9. search and rescue missions,
10. Determination of environmental pollution.
11. City planning, 3D terrain modelling, orthophoto mapping and mapping,
12. Aerial control of disaster areas and damage assessment,
13. Determination of coastal boundaries and marine pollution,
14. Monitoring, monitoring and damage detection of energy transmission lines.

General Purpose of Use



General Purpose of Use



General Purpose of Multi-Rotor UAVs Use

1. Military Purposes;

- Tactical level (Team, Company / Battalion and Regiment) military units, reconnaissance, surveillance, target detection and tracking tasks,
- Close security, point and narrow zone reconnaissance missions in military and police stations, border stations,
- Manual or autonomous patrol duties along the border line in border units,
- Destruction of handmade explosives, without risking staff,
- In the Coast Guard and the Navy; close safety and search and rescue missions, airborne life vest and audible alerts, night search and rescue activities,
- Duty to interfere in suspicious situations grenades, explosive or rocket dropping missions in airborne.

General Purpose of Multi-Rotor UAVs Use

2. Civil and Engineering Purposes;

- Monitoring, control and measurement of point and narrow zone mining sites,
- Determination and measurement of irrigated agricultural areas,
- Detection of diseased plants and marking diseased areas on the map,
- Airborne spraying of identified diseased agricultural areas,
- Airborne control and damage detection of disaster areas,
- Monitoring, control and security of oil pipelines,
- Ensuring close safety of civil critical areas such as factories, petrochemical plants, granaries, rivers and reservoirs,
- Detection and monitoring of migrant smuggling and trafficking,
- Search and rescue missions,
- Determination of environmental pollution.

Assult UAV Models

BORAN-R ASSULT DRONE



BORAN-M ASSULT DRONE



H-3800 AYBARS
VTOL Mini Kamikaze Drone Carrier UAV



BORAN-R Assault Drone (Rocket Launching)



BORAN -R General Features :

- It is designed as an OCTOCOPTER, **payload up to 10 kg, 20 knot wind resistance.**
- Body dimensions are **90x90x70 cm**. It is made of composite material. It shows a light and durable performance.
- Propulsion sys. **8x DC electric engine and 22-24 inch propellers.**
- **Autonomous** and **manual** flight and the ability to go to the target.
- The maximum take-off weight is **22 kilograms**,
- **As ammo payload, 6X40 mm Rocket**
- **Cameras Payload**, Day Camera or Thermal Camera or Dual Sensor (Day+Thermal Camera) can be integrated.
- Data Link Range of **10 Km**, an Operational Range of **5 Km**,
- Flight Time of 30 Min. and uses a **2X22.000 mAh battery**.
- Its operational speed is 36 km/h. The maximum speed it can reach is 40 km/h.



BORAN-R Assult Drone (Rocket Launching)



Rocket Launch Pod:

- 6 X40 mm Rocket Pod
 - 2 Axis Gimbal,
 - Target Camera,
 - Gimbal + Pod Aluminum Material,
 - Single or multiple Electronic ignition,
-
- Target Detection, Tracking and Coordinate Acquisition Software



BORAN-R Assault Drone (Rocket Launching)



GCS General Features;

- 1080P Digital Video Transmission + Data Transmission + Telemetry all in one datalink together GCS
- 7" FHD high-brightness touch screen with a resolution of 1920*1200, Max. brightness can reach 1800nit, it can use in full sunlight
- Android operating system.
- RJ45 network, Type-C USB and OTG interface
- 5-10 km Range for Video & Telemetry Transmission
- 8-10 hours working hours with 2 hours of chargings
- Dust-free and waterproof in the fuselage, control switches, and various peripheral interfaces,
- Autonomous navigation to the given target coordinate (Guidance Mode),
- Autonomous navigation to a selected coordinate on the map,
- Single and multiple shot options,
- Ability to take real-time target and flight images.



GROUND CONTROL STATION



BORAN-R Assult Drone (Rocket Launching)



Camera General Features;

Day Camera Spec	
SONY 1/2.8" "Exmor R" CMOS	SONY 1/2.8" "Exmor R" CMOS
Full HD 1080 (1920*1080)	Full HD 1080 (1920*1080)
2.13MP	2.13MP
30x, F=4.3~129mm	30x, F=4.3~129mm
12x (360x with optical zoom)	12x (360x with optical zoom)
10mm(wide end) to 1200mm(tele end). Default 300mm	10mm(wide end) to 1200mm(tele end). Default 300mm
Object Tracking	50 Hz., Min.Obj.Size. 32*32

Thermal imager spec	
Lens	35mm
Horizontal FOV	17.7°
Vertical FOV	13.3°
Diagonal FOV	22°
Detective Distance (Man: 1.8x0.5m)	1029 meters
Recognize Distance (Man: 1.8x0.5m)	257 meters
Verified Distance (Man: 1.8x0.5m)	129 meters
Detective Distance (Car: 4.2x1.8m)	3157 meters
Recognize Distance (Car: 4.2x1.8m)	789 meters

Laser Rangefinder	
Laser Wavelengths	1550 nm
Measure ability	3000m (Typical value 1: · Object size: the target surface is larger than the laser spot area · Reflectivity: 60% , Accuracy rate: 90%
	2300m (Typical value 2: · Object size: 2.3*2.3 m · Emissivity: 30% , Others same as Typical value 1)
Vehicle target measuring	



30X, 640X480 THERMAL &
LASER RANGE FINDER

40 mm Rocket System



- 6 X 40 mm Rocket,
- Particle-effect high-explosive warhead ,
- Composite material,
- Length: 600 mm,
- Effective radius; Ground: 15 m, Air: 30 m,
- **Effective range: 100-800 m,**
- **Deviation Measure : up to 3-5 m for 800 m**
- **Max range: 1200 m,**
- Rocket weight: 500 gr.,
- Rocket specialty: 7500 m / sn pbx 40 gr.,
- 700 pcs 4,5 mm steel ball,
- Pre-flight setup, timed electronic.



BORAN-M Assault Drone with 60 & 81/82 mm (Short Type)



BORAN –M General Features :

- It is designed as an OCTOCOPTER, **payload up to 10 kg, 20 knot wind resistance.**
- Body dimensions are **90x90x70 cm**. It is made of composite material. It shows a light and durable performance.
- Propulsion sys. **8x DC electric engine and 22-24 inch propellers.**
- **Autonomous** and **manual** flight and the ability to go to the target.
- The maximum take-off weight is **22 kilograms**,
- **As ammo payload, 4X60 mm or 2x81/82 mm (Short Type) Mortar Ammo.**
- **Cameras Payload**, Day Camera or Thermal Camera or Dual Sensor (Day+Thermal Camera with Laser Range Finder) can be integrated.
- Data Link Range of **10 Km**, an Operational Range of **5 Km**,
- Flight Time of 30 Min. and uses a **2X22.000 mAh battery**.
- Its operational speed is 36 km/h. The maximum speed it can reach is 40 km/h.



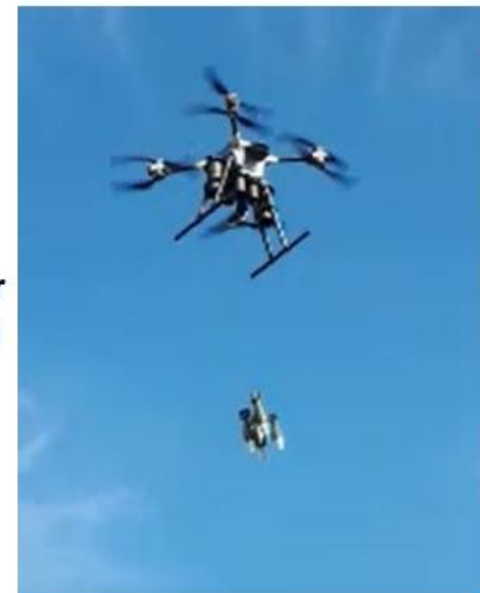
BORAN-M Assault Drone with 60 & 81/82 mm (Short Type)



4X60 mm Mortar Ammo Payload



**One by One or
Quad Release**



2X81/82 mm Short Type Mortar Ammo Payload



BORAN-M Assault Drone 81/82 mm Mortar Ammo Long Type



Technical specifications

Total Weight	: 4820-5200 gr.
Total Length	: 500 mm
Weight of TNT Explosive:	800 gr
Type	: Destruction (HE)
Fuze	: AZDM 111 A2 or K510
Lethal Radius	: 30 m

81/82 mm Mortar Ammo Long Type

Description:

Normal Use Launch from a Mortar, Drop from a Drone with precision Fuze,

BORAN-M Assault Drone THERMOBARIC MINE 81mm AIR DROP

81 mm TB



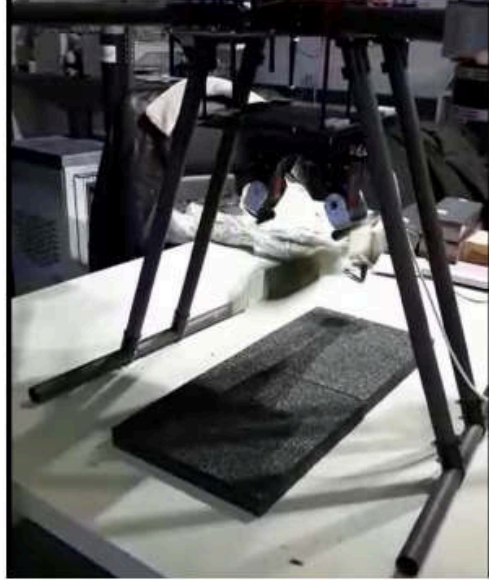
Technical specifications

- ✓ Total Weight : 4000 gr.
- ✓ Total Length : 478 mm
- ✓ Weight of PBX Explosive : 700 ± 10 g
- ✓ VoD of Explosive Mixture : 7600 m/s
- ✓ Density of Explosive Mixture : $1,68 \text{g/cm}^3$
- ✓ Over Pressure at 5m : 0,5 bar
- ✓ Effective Combustion Temperature : min. 3200oC
- ✓ Lethal (kill) radius : min.30m

81 mm TB Thermobaric Air Drop Bomb

BORAN-M Assault Drone THERMOBARIC MINE 81mm AIR DROP

81 mm TB



Application:

- ✓ Mortar Shell 81mm with thermobaric loading and special fuse UT M18 is intended for the destruction of enemy troops and equipment, by dropping from unmanned aircrafts (drones)
- ✓ It have a strong destructive power as a result of polymerized, insensitive, thermobaric explosive, PBX as per Mil-STD-2105B which, when activated provides strong overpressure and high temperature. The shock wave follows
- ✓ the configuration of the terrain and passes through trenches and field fortifications.

Description:

- ✓ The body of the mine is made of steel, cylindrical shape, filled with a thermobaric explosive. Ignitor is UT M18, impact, with two levels of protection. Instead of classic, metal fin, shell is designed with plastic.



BORAN-M Assault Drone with 60 & 81/82 mm (Short Type)



GCS General Features;

- 1080P Digital Video Transmission + Data Transmission + Telemetry all in one datalink together GCS
- 7" FHD high-brightness touch screen with a resolution of 1920*1200, Max. brightness can reach 1800nit, it can use in full sunlight
- Android operating system.
- RJ45 network, Type-C USB and OTG interface
- 5-10 km Range for Video & Telemetry Transmission
- 8-10 hours working hours with 2 hours of chargings
- Dust-free and waterproof in the fuselage, control switches, and various peripheral interfaces,
- Autonomous navigation to the given target coordinate (Guidance Mode),
- Autonomous navigation to a selected coordinate on the map,
- Single and multiple shot options,
- Ability to take real-time target and flight images.
- Drop Elevation 300 m..



GROUND CONTROL STATION



BORAN-M Assault Drone with 60 & 81/82 mm (Short Type)



POSSIBLE CAMERA TYPES



Day Camera+Thermal Camera + LRF

3 Axis Gimbal, 30X Zoom, 1920X1080 P Day Cam., 640X480 Pixel Thermal & 2.000 m Laser Range Finder, $\pm 360^\circ$ (Horizontal) / $\pm 170^\circ$ (Vertical)



Day Camera+Thermal Camera

3 Axis Gimbal, 30X Zoom, 1920X1080 P Day Cam., 640X480 Pixel Thermal, $\pm 360^\circ$ (Horizontal) / $\pm 170^\circ$ (Vertical)



Day Camera

3 Axis Gimbal, 30X Zoom, 1080P, 25 Frames / 1080p, 60 Frames, 1920x1080 Day Cam. $\pm 360^\circ$ (Horizontal) / $\pm 170^\circ$ (Vertical)



Thermal Camera 3 Axis Gimbal, 50 MM Lens, 640 X 480 Pixel, $\pm 360^\circ$ (Horizontal) / $\pm 170^\circ$ (Vertical)

BORAN-SMG Assault Drone (Submachine Gun)



ON GOING PROJECT

BORAN –SMG General Features :

- It is designed as an OCTOCOPTER, **payload up to 10 kg, 20 knot wind resistance.**
- Body dimensions are **90x90x70 cm**. It is made of composite material. It shows a light and durable performance.
- Propulsion sys. **8x DC electric engine and 22-24 inch propellers.**
- **Autonomous** and **manual** flight and the ability to go to the target.
- The maximum take-off weight is **22 kilograms**,
- **As ammo payload, 6X40 mm Rocket**
- **Cameras Payload**, Day Camera or Thermal Camera or Dual Sensor (Day+Thermal Camera) can be integrated.
- Data Link Range of **10 Km**, an Operational Range of **5 Km**,
- Flight Time of 30 Min. and uses a **2X22.000 mAh battery**.
- Its operational speed is 36 km/h. The maximum speed it can reach is 40 km/h.

Concept Capabilities :

- Usable SMGs: 5.56x45
- Maximum Ammunition Can Carry:
Average Bullet Weight ;
 - 7,62X39 :17.8 gr. X100 = 1.78 Kg (MKE)
 - 5.56x45 : 12.2 gr. x100= 1.22 Kg (MKE)
- Under these conditions, it can carry an estimated **150-200 rounds.**
- Point shooting or rapid shooting against fixed and moving targets,
- Possibility of single, pulsed or serial firing,
- The SMG to be used will be determined in coordination with the needy.

BORAN-SMG Assault Drone (Submachine Gun)

Possible SMGs to Use



MFR56 SMG

- ✓ NATO 5,56X45 mm
- ✓ Barrel Length : 14,5 INCH (368 mm),
- ✓ Weight without Charger : 3900 g
- ✓ MFR56 (MULTIFUNCTIONAL MACHINE GUN) is produced with 5.56x45mm caliber.
- ✓ It uses linked ammunition and drums.
- ✓ It is in NATO Standard.
- ✓ Made in Turkey



5.56 mmx45
CARTRIDGE

Ball (SS109)

Cartridge Length	57.4 mm
Cartridge Weight	~ 12.2 g
Velocity (23.7 m)	814.4 ± 12.2 m/sec
Mean Port Pressure	min. 1030 bar (Port+3sd)
Mean Case Mouth Pressure	max. 4450 bar (Port+3sd)
Accuracy (100 m)	S _x and S _y max. 2.2 cm
Bullet Extraction Force	min. 20.4 kgf
Action Time	max. 3 ms
Case Model Number	5.56 mmx45 Case
Case Material	Brass (CuZn28 or CuZn30)
Bullet Material	Gliding Metal, Steel Core and Lead Core (Lead-Antimony Alloyed)
Primer	5.56 mm Primer, Boxer
Link Type	M27 Link
Type of Propellant	Ball Powder
Weapon to be used	MPT-55, M 16A2, HK 33 E, MINIMI etc.
Bullet Weight	4 g
Ballistic Coefficient (BC)	0.35 (G1)
NATO Design Number	AC/225-141A
Packing	30 Cartridges in a Cardboard Box, 15 Cardboard Boxes in a Pvc Bag, 5 Pvc Bags in a Wooden Box, 30 Wooden Boxes in a Pallet (Total 67500 Cartridges)
Penetration (RHA)	At least 80% of the bullets completely penetrate through 3.5 mm steel plate (SAE 1010 or 1020) at a range of 232 meters.

Assult H-3800 AYBARS

ON GOING PROJECT

VTOL Mini Kamikaze Drone Carrier UAV

VTOL Technical Spect

- Body length : 2.5m
- Wingspan : 3.8m
- Maximum takeoff weight: :50kg
- Maximum payload : 15kg
- Life time: 2h-15kg payload, 4h-10kg payload
- Flying radius: 200-400km (depending on the amount of oil)
- Ground station control (depending on the distance of the digital transmission): 20-100 km
- Maximum speed: 130km/h
- Cruising speed: 100-120km/h
- Maximum oil load: 12L
- Lift limit: 4000m
- Maximum wind resistance: 12m/s (6 wind)
- Use environment:-10 °C +45 °C; anti-light rain



Assult H-3800 AYBARS

VTOL Mini Kamikaze Drone Carrier UAV



Mini Kamikaze Technical Spect

- 2/4 Mini Kamikaze Drones (depending on weight) are placed under the carrier UAV wing,
- The target is destroyed by GPS locking from the air,
- Approaching the target area 2-3 km.
- Three types of destruction heads (Anti Personnel, Armored Search, Building Concrete Shelter) can be used depending on the type of target.
- Hit target deviation rate 2-3 m depending on the quality of the GPS Signal,
- Detonation at a specified altitude over the target,
- Explosive selection flexibility,
- Electronic ignition,



2X5 Kg

OR



4X2 Kg

Agricultural Spraying UAV

* Multi-Rotor Agricultural UAV :

HAWK-AG



Agricultural Spraying UAV

* Multi-Rotor Agricultural UAV :



Agricultural Spraying UAV

* Multi-Rotor Agricultural UAV (Technical Specifications):

AIRCRAFT BODY	
Body Type	Octocopter (X8)
Dimensions	1425 mm x 1425 mm x 500 mm
SPRAYING SYSTEM	
Tank Capacity	10 L
Nozzle Number	4
FLIGHT PARAMETERS	
Total weight	10.5 kg
Standard Takeoff Weigh	23 kg
Max Takeoff Weight	26 kg (Mean Sea Level)
Power Battery	14000 mAh 377Wh 22.2 V)
Max Power Consumption	11200 W
Flight time	30 min
Max Operation Speed	8 m / s
Max Flight Speed	10 m / s
Max Flight Height	3000 m
RADAR MODULE	
Detection Range	2 - 20 m
Operating Range	1.5 - 3.5 m
Precision	<10 cm

* Detection and mapping of diseased or damaged plants will be carried out with a **Multispectral Camera mount. VTOL or Multicopter.**

Agricultural Spraying UAV

* **Multi-Rotor Agricultural UAV (General Specifications):**

* **Productivity:**

- Thanks to its powerful flight system, it can carry approximately **10 / 20 liters of** liquid. It can easily carry insecticide, liquid fertilizer and disinfectant.
- With the combination of power and speed, it can complete an area of 4000-6000m² in about 10 minutes and 40-60 times faster and more effectively than manual spraying.
- The intelligent spraying system can **automatically** adjust the flight rate and spray quantity , thus ensuring even spraying regardless of speed.

* **Ease of Use:**

- The advanced flight control system responds promptly and accurately to the pilot's commands. With three different flight modes, it provides the flight choice that suits your needs. Intelligent mode, Assisted mode, Manual mode.

* **Smart Memory:**

- Agricultural Drone can record its all coordinates of its flight over the area automatically.
- If the operation is interrupted for some reason, for instance; When the spray liquid runs out, it can resume at the touch of a button when the battery is low.

* **Surface Tracking:**

- With the optional Microwave Radar System; The aircraft can maintain its height in centimeters by scanning the ground in real time.
- It can maintain the spraying density by adapting to the height of the field and can apply the ideal amount of liquid.

- Undersecretariat for Defence Industries (90 Sys. Rotary Wings (R/W))
- National Intelligence Service (3 Sys. R/W)
- Ministry of Customs and Trade (3 Sys. R/W)
- Ministry of Envoriment and Urbanization (3 Sys. VTOL, 2 Sys. R/W)
- Balıkesir Municipality (1 Sys. VTOL)
- Aksaray Special Provincial Administration (1 Sys. VTOL)
- Turkish General Directorate of Forestry (2 Sys. VTOL)
- Republic of Yemen (3 Sys. VTOL, 7 Sys. R/W Assult BORAN)
- Republic of Uzbekistan (1 Sys. R/W Assult BORAN)
- Governorship of Tokat Provincial Disaster and Emergency Directorate
- Governorship of Artvin Provincial Gendarmerie Command
- Governorship of Nevşehir Provincial Disaster and Emergency Directorate
- Governorship of Gaziantep Provincial Security Directorate
- The General Directorate of İstanbul Water and Sewerage Administration
- Adapazarı Municipality Development Directorate / Illegal Housing
- Çorum Provincial Special Administration (Public Housing and Civil Works)
- The Regional Directorates of State Hydraulic Works : Regions of Erzurum
- Şanlıurfa Viranşehir District Police Department
- Mardin Dargeçit Gendarmerie Command
- Harran University – Faculty of Agriculture
- Konya Sugar (Torku)- Konya
- ENK Map Construction Estate – Antalya
- Utek Engineering – Ankara
- MTC Energy Company – Ankara
- Kale Mining Inc. – Canakkale
- Lacin Mapping Inc. – Ankara

4 References



**TÜRKİYE CUMHURİYETİ
ÇEVRE VE ŞEHİRCİLİK
BAKANLIĞI**