

What is a Remote Control Acoustic Hailing Device?

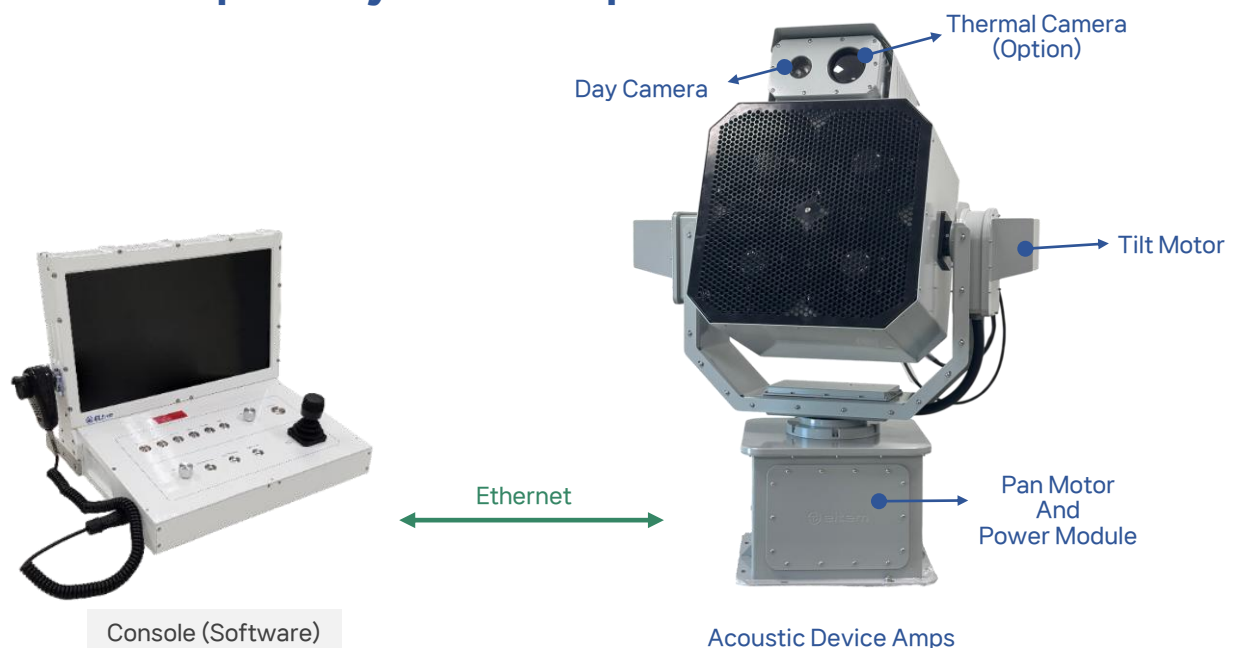
Eltem's unique and innovative technology allows operators to observe the situation on the spot remotely even during day and night and also clear command and highly effective warning broadcasts to be transmitted to long distances (1~3km). It consists of a high-powered Long Range Acoustic Hailing Device that is connected to the equipment via Ethernet and controls all functions remotely using dedicated control software, a motor that can be adjusted vertically and horizontally, a daytime camera and a thermal camera.

FEATURES

- Simultaneous Surveillance and Warning Broadcasting
- Superior Voice Intelligibility and Highly clear communication up to 3km on the ground (1.5km on the sea)
- Maximum range up to 3000 meters in ideal conditions. Operational range up to 1500 meters over 88dB of background noise. Ranges based on continuous output.
- => Environmental conditions : wind 0~2m/s, temperature 25°C
- Network sound source and microphone broadcasting
- 330°(left and right) rotation, 180°(up and down) rotation
- 32x optical zoom camera
- Network control
- All-weather use
- Thermal camera (option)
- Searchlight (option)



✓ Operation Concepts & System Components

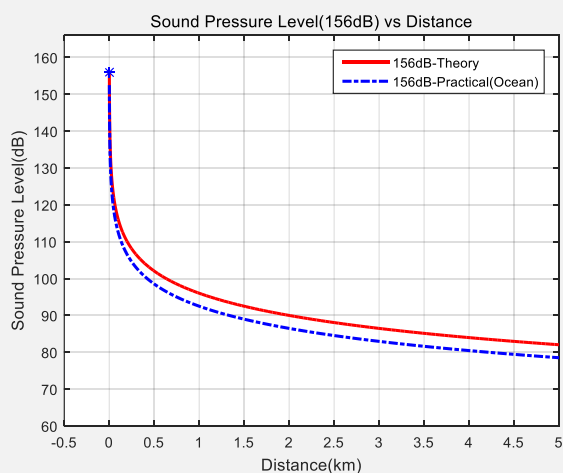


SPECIFICATIONS

Communications Range	≥3Km (82dB)	
Maximum Output	158dB SPL @1m	
Directivity	≤±15° (2kHz, -3dB)	
Dimensions	1170× 400× 1010mm	
Weight	110kg	
Power	110~230VAC(50~60Hz), 2.4kW	
Tilt	Range	-90° ~ +90°
	Speed	30°/s
	Resolution	0.01°
Pan	Range	-165° ~ +165°
	Speed	60°/s
	Resolution	0.01°
Camera	32x Optical Zoom, 1920×1080 pixel, 30 frame/sec	
Thermal Camera (Option)	100mm Optical Zoom, 640×480 pixel, 9 frame/sec	
Laser Pointer	Green Laser, 5mW	
Communication Interface	TCP/IP, Acoustic broadcast, Remote Volume Control, Control Program	
Operating Temperature	-31°C ~ +43°C	
Storage Temperature	-40°C ~ +70°C	



Sound Pressure Level vs Distance



30~50dB	Quiet library, noise in the woods, bedroom
50~60dB	General office noise
60~70dB	Noise on large ship deck
70~90dB	Small ship engine noise (above deck)
80~100dB	Noisy construction site, road noise
120~130dB	Jet noise (100m)
130dB	Above, we started to feel pain
160dB	Rocket firing noise

Environment Certifications

- ✓ Salt Fog : MIL-STD-810F, Method 509.4
- ✓ Water and Dust Protection : IP66
- ✓ Windproof Test :CT23-114652K
- ✓ Sound pressure Level : 158(dB)
- ✓ ICRT-TR-S230931-0A

Equipment Performance

✓ Day Camera



SPECIFICATIONS

XNZ-6320AG		
Video	Shooting Element	1/2.8" CMOS
	Display Resolution	1920x1080, 1280x1024, 1280x960, 1280x720 외
	Maximum Frame Rate	H.265/H.264: MAX 60fps/50fps(60Hz/50Hz) MJPEG: MAX 30fps/25fps(60Hz/50Hz)
	Lowest illuminance	Color: 0.05Lux (F1.6, 1/30s) Black and White: 0.005Lux (F1.6, 1/30s)
Lens	Focal Length	4.44~142.6mm(32x) Zoom Lens (digital 32x, total 1024x zoom)
	Optical Zoom	32x
	Maximum Aperture Ratio	F1.6(Wide Angle) - F4.4(Telephoto)
	Angle Of View	H: 64.66 ° (Wide Angle)~2.29 ° (Telephoto) / V: 38.08 ° (Wide Angle)~1.30 ° (Telephoto)
	Minimum Closest Distance	Wide Angle: 1.5m(4.92ft), Telephoto: 2m(6.56ft)
	Focus Control	Auto, One shot AF
	Lens Type	DC auto iris

✓ Thermal Camera (Option)

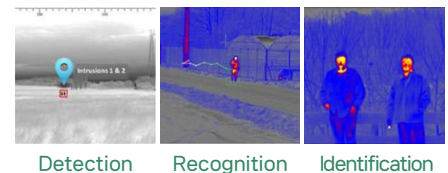


SPECIFICATIONS

12μm, 640x512		
Sensor	Image Sensor	Uncooled VOx
	Resolution	640x512
	Pixel Size	12μm
	Spectral Range	8~14μm
Lens	Focal Length	100mm
	Optical Zoom	N/A
	Lens Type(Focus)	Motorized
	Aperture	F1.0
	Field of View	4.4°x3.5°

DRI Range

Object	Conditions	Distances(m)	Object	Conditions	Distances(m)
Human	Detection	2,450	Vehicle	Detection	6,000
	Recognition	650		Recognition	1750
	Identification	330		Identification	900



DRI Definition

- Johnson Criteria
- Detection : ability to distinguish an object from the background(1±0.25 line pairs OR 2±0.5 pixels)
- Recognition : ability to classify the object class (animal, human, vehicle, boat ...) (4 ± 0.8 line pairs OR 8 ± 1.6 pixels)
- Identification: ability to describe the object in details (a man with a hat, a deer, a Jeep ...) (6.4± 1.5 line pairs OR 13 ± 3 pixels)
- A line pair is defined as one white line adjacent to a black line.
- <https://www.hgh-infrared.com/FAQ/Perimeter-Security/Definition-of-DRI-Detection-Recognition-Identification-ranges>

Equipment Performance

✓ Laser Pointer or Dazzler

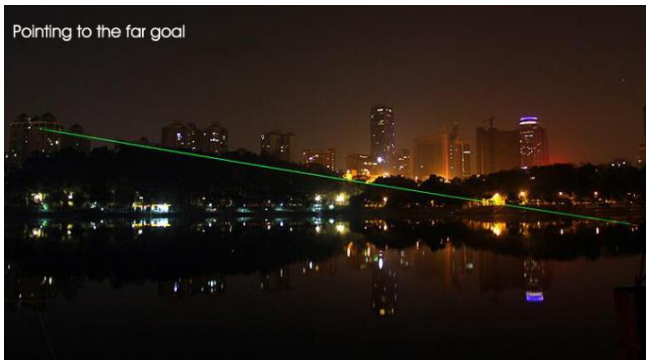


✓ 5mW / 50mW Laser Pointer



✓ 50mW Laser Dazzler

- 532nm Wavelength Green Laser
- Optical Power for Laser Pointer
 - 5mW / 50mW
 - Effective Distance : 1~2km
- Dazzler
 - 50mW
 - Effective Distance : 2~3km



✓ Laser Pointer



✓ Laser Dazzler

- NOHD(Nominal Ocular Hazard Distance)
 - It specifies the distance from the laser source at which the intensity of a single laser beam becomes safe by not exceeding the MPE (Maximum Permissible Exposure) any more.
- NOHD is calculated at this site : <https://www.laserworld.com>
- NOHD as Power
 - Divergence : 1.2mrad, Diameter at aperture : 3mm

Item	Optical Laser Power	Distances(m)
Laser Pointer	5mW	11
	50mW	39
Dazzler	50mW	129

Equipment Performance

✓ Searchlight(Optional)

- Two or Three Searchlights(360W) are mounted on PROPA-1000R.



LED	LED 10W (12EA)
Size	180 x 207 x92mm
Divergence Angle	15°
Power Consumption	120W
Power	DC 12~60V
Brightness	10000LUMEN
LED Color	White
Water Proof	IP67



- ✓ The beam of a searchlight is arrived to about 1km



✓ Console with Control Program

CONSOLE LAYOUTS AND SPECIFICATIONS

Control Panel

- Joystick for PTZ
- Thermal Power On button
- Laser Pointer On button
- Main Window exchange button
- Motor Speed Control
- Audio File Play/Stop/FWD/FWD
- Toggle Microphone
- Amp Power and Volume Control
- Monitor 17.3inch TFT-LCD
- Resolution : 1920x1080
- Brightness : 400 cd/m²
- CPU Intel 20th Gen i7(2.4GHz)
- 16GB RAM
- SSD 256GB



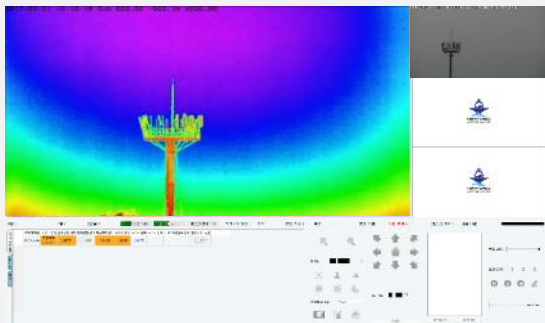
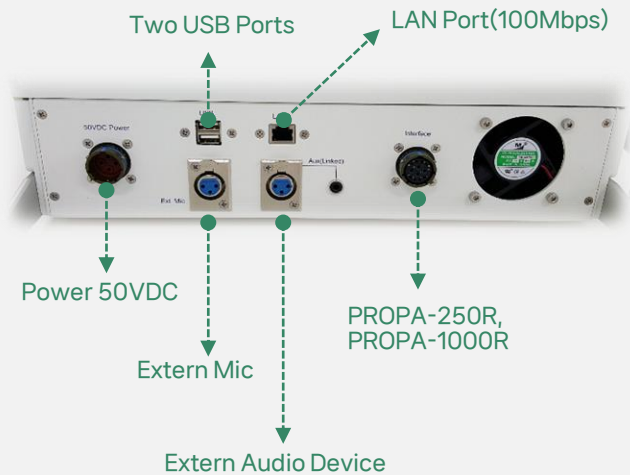
✓ Equipment Performance

External Connection Layouts

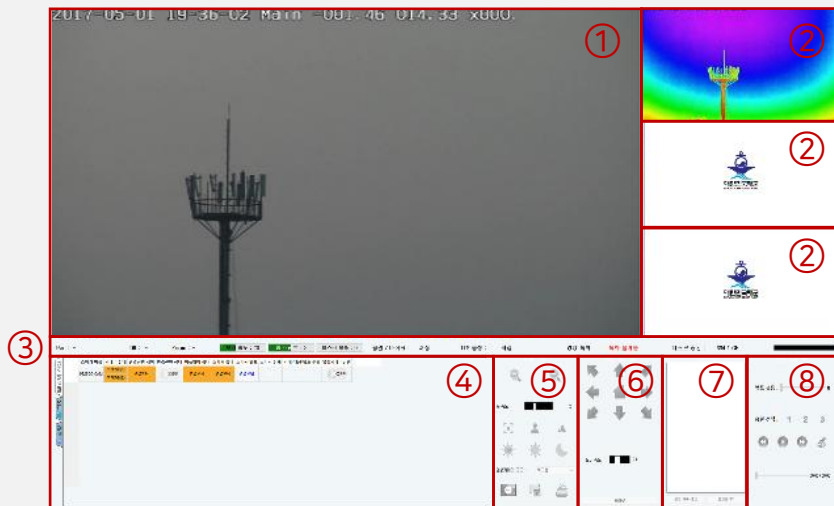
- Can connect external audio devices (MP3 Player, Wireless Microphone etc.) to the back panel of console.

Control Program

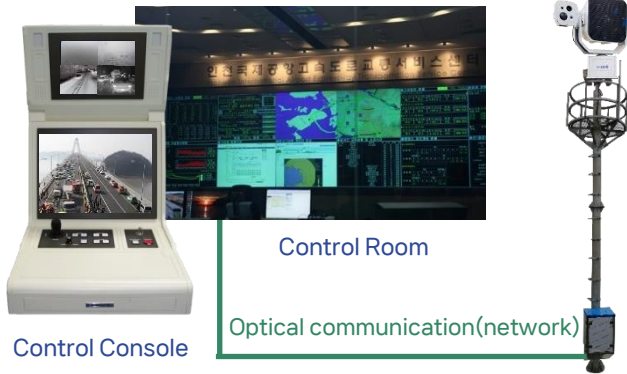
- Video Recording and Image Saving
- Display of the video of day camera and thermal camera simultaneously
- PTZ control with motor speed control
- Playback and Stop audio files, voice sound out with a toggle microphone
- Laser Pointer Power ON/OFF



- ① - Main Camera View
- ② - Sub Camera View
- ③ - Status bar
- ④ - Display and select current equipment status, TTS, Setting
- ⑤ - Camera Control
- ⑥ - Pan-Tilt Control and preset functions
- ⑦ - Show music source list
- ⑧ - Sound source , Microphone broadcast



Applications of Acoustic Hailing Devices



✓ Emergency Warning & Fire Rescue

Fire Evacuation Broadcast, Public Place Guide and Evacuation Broadcast, Valley Evacuation Broadcast due to heavy rain, and Coastal Accident Prevention & Evacuation Broadcast



✓ Law Enforcement, Homeland & Border Security

Illegal Activity Warning, Beach Announcement, Access Control Broadcast, Crowd Control



✓ Military, Maritime, Security & Protection

Military Training control, Anti-Piracy, Major Facility Intruder Warning, Preserving Wildlife & Protecting Assets



✓ Traffic Accident Broadcasting, Traffic Control

Traffic Control, Prevention of Secondary Accident, Traffic Accidents and Foggy Broadcast, Emergency Evacuation Broadcast.



✓ Installation in Ships, Vehicles and Drones

Mounting on Warships, Ships, Fire Trucks, Ambulances, Police Cars, Helicopters, Drones