OUR VISION. YOUR REALITY.
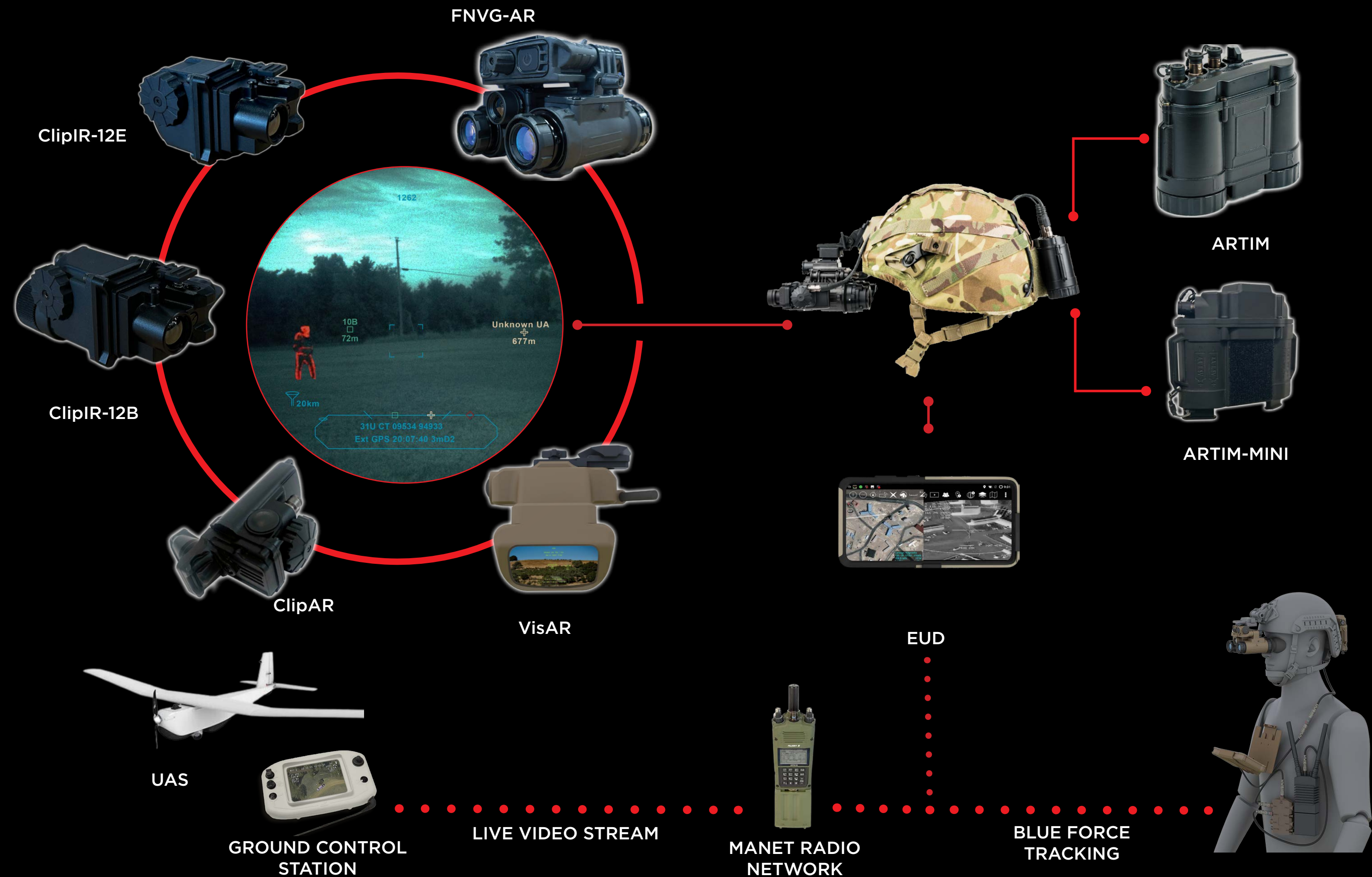
Next Generation Augmented Reality Systems

Thermoteknix

Next Generation Augmented Reality Systems

FNVG-AR

ClipIR-12E

ClipIR-12B

ClipAR

VisAR

ARTIM

ARTIM-MINI

EUD

1262

10B
72m

Unknown UA
677m

20km

31U CT 09534 94933
Ext GPS 20:07:40 3mD2

UAS

GROUND CONTROL
STATION

LIVE VIDEO STREAM
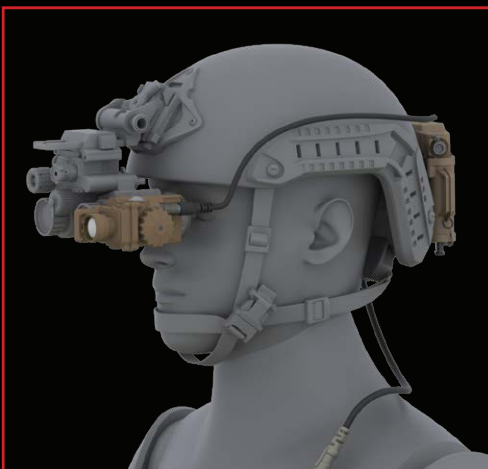
MANET RADIO
NETWORK

BLUE FORCE
TRACKING

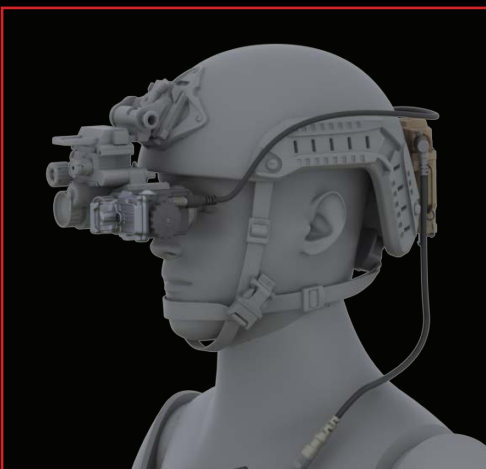# Next Generation Augmented Reality Systems

FNVG-AR

Fused night vision binocular with AR

ClipIR-12

Thermal imaging clip-on with AR for existing NVGs

ClipAR

AR HUD clip-on for existing NVGs

VisAR-HUD

Daytime AR HUD

ARTIM

AR-generating intelligent battery module with 8x AA batteries
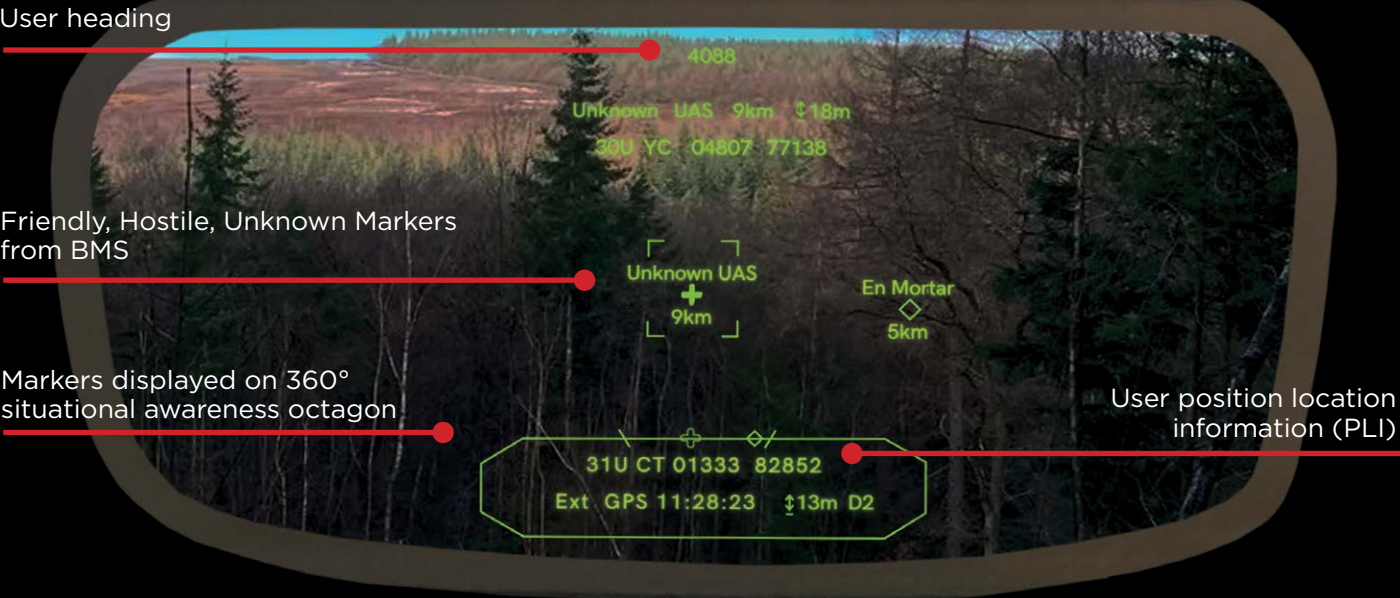
ARTIM-MINI

AR-generating intelligent battery module with 4x AA batteries

Flexible configurations with or without a network

Next Generation Augmented Reality Systems

Day Operations

User heading

Friendly, Hostile, Unknown Markers from BMS

Markers displayed on 360° situational awareness octagon

User position location information (PLI)

Unknown UAS 9km ‡18m
30U YC 04807 77138

Unknown UAS
9km

En Mortar
5km

31U CT 01333 82852
Ext GPS 11:28:23 ‡13m D2

4088

Night Operations

User heading

Friendly, Hostile, Unknown Markers from BMS

Markers displayed on 360° situational awareness octagon

Real-time augmented reality displayed as overlay on NVG

User position location information (PLI)

1262

10B
72m

Unknown UA
677m

20km

31U CT 09534 94933
Ext GPS 20:07:40 3mD2

Augmented Reality key features

- AR processor and embedded smart computer with GPS providing ultra low latency 60Hz update rate with zero lag

- ARTIM mounts to the rear of the helmet and tracks the user location and direction of sight, delivering a real-time AR overlay to the user

- Real-time routes, waypoints or team members displayed (blue force tracking)

- Integrates with ATAK and other Battle Management Systems (BMS)

- Flexible configuration options; with or without a network connection

- Internal data storage enables operation with or without connection to End User Device (EUD)

- Displays live BMS video feed from connected sensors, such as a UAV or target location device, either as Picture-in-Picture or full screen formats

Adjustable filters to reduce cognitive overload

- AR filters enable the user to:

  - Select routes/markers
  - Limit distances of markers displayed
  - Limit level of AR displayed
  - Filter by teams

- User-selectable display modes include thermal only, AR only, or thermal and AR being displayed at the same time

Configurable either on EUD or using scroll wheel

ARTIM Configuration
ARTIM   Connected
L Battery   70%
R Battery   30%
GPS   0
Bearing   143.7°
Routes
Markers

Thermoteknix intuitive ATAK plug-in

ARTIM

Model	ARTIM	ARTIM-MINI
Battery	4x or 8x AA Lithium batteries	4x AA Lithium batteries
Size (L x H x W)	134 x 102 x 47mm (47mm max. projection from helmet)	121 x 102 x 39mm (33mm max. projection from helmet)
Weight	<320g (exc. batteries)	<200g (exc. batteries, additional 100g counterweight optional)
Operating time (thermal only)	>24 hours	>10 hours
Operating time (thermal and AR)	>11 hours	>5.5 hours
Power input	4.5V to 5.5V	
Video input/output	Yes, through ATAK / BMS	
Compass	Internal	
GPS	Internal (ARTIM) or external (EUD, radio or DAGR), user selectable	
Internal GPS	BeiDou, Galileo, GLONASS, GPS / QZSS, user selectable	
AR update rate	60Hz	
AR filters	4x user selectable AR filters displaying different levels of information	
3D AR display	Information displayed in 3D incorporating real-world elevation	
AR without BMS	Capable of displaying AR information without connection to BMS	
Interface	USB 2.0	
Supported software	ATAK / various Battle Management Systems (BMS)	
Environmental	MIL-STD-810G	

FNVG-AR

Image Intensifier	
Tube Diameter	16mm
Field of View (FOV)	40°
Figure of Merit (FOM)	2200 typical (other options available)
Tube Phosphor	Onyx (white or green)
Thermal Imaging	
Resolution	640x480
Pixel Pitch	12μm
Diagonal Field of View (FOV)	37°
Man Detection	785m
Man Recognition	195m
Man Identification	95m
Framerate	60Hz
NUC	Patented XTi shutterless technology with no NUC required
Operating Modes	Image intensifier only, image intensifier fused with thermal and/or AR
Fusion Modes	Outline & Full Thermal
Display	
OLED Display Resolution	800 x 600 pixels
Thermal/AR Overlay Colour	Full visible spectrum
Display Side	Right eye
Weight	<580g (excluding helmet mount)
Dimensions	103 x 116 x 89mm

ClipAR

Model	ClipAR
Power supply	Provided by ARTIM or ARTIM-MINI
Size (L x H x D)	92 x 42 x 75mm
Weight	<90g
Display resolution	800 x 600 pixels
Frame rate	60Hz
FOV	40°
Video input	Yes
Compass	Internal
Environmental	MIL-STD-810G
Operating temperature	-32°C to +55°C

ClipIR-12

Model	ClipIR-12B	ClipIR-12E
Power supply	1x CR123 battery, 1x AA battery, or external power	External power
Size (L x H x D)	88 x 42 x 62mm	56 x 37 x 62mm
Weight (exc. bracket & lens cap)	<90g (exc. battery)	<75g
Operating time (IR only)	>3.5 hours - Internal (1x CR123)	N/A
Non-uniformity correction (NUC)	Shutterless with no calibration ever required using patented XTi	
Detector	LWIR, 12μm, 640x480	
Latency	<5 ms	
Frame rate	60Hz	
Field of ViewOV	40° Horizontal, 30° Vertical	
Video input	Yes	
Start-up time-to-image	<1 second	
Compass	Internal	
Man detection	Approx. 450m	

VisAR-HUD

Power supply	Provided by ARTIM or ARTIM-MINI
Size (L x H x D)	110mm x 77mm x 97mm
Weight	<150g
Display Type	OLED, monochrome
Resolution	800 x 600 pixels
Brightness	6000 cm/m2
Frame rate	60Hz
Mount	Left or Right Eye (User Changeable)
AR Display FOV	40°
Video input	Yes
Compass	Internal
Environmental	MIL-STD-810G
Operating temperature	-32°C to +55°C

OUR VISION. YOUR REALITY.

Thermoteknix®

UK Head Office

Thermoteknix Systems Ltd.
Teknix House, 2 Pembroke Avenue,
Cambridge, CB25 9QR, UK
Tel: +44 (0)1223 204000
Email: sales@thermoteknix.com
Web: www.thermoteknix.com

Jun 2024

Thermoteknix