AN/VIC-5(V) (VIS-X) Enhanced Vehicular Intercom System

The next generation of reliable, effective communications in any combat environment
AN/VIC-5(V) “Mix and Match” System Architecture

AN/VIC-5’s customizable, mix-and-match, modular architecture scales to accommodate virtually any platform requirements. This intuitive, flexible approach allows users to combine system components to provide clear, noise-free communications between crewmembers inside the combat vehicle and externally to dismounted users and combat net radios. Selecting from a variety of standard modules enables system scalability to support vehicle command post operations and tactical operations centers with up to 58 users and 16 combat net radios.

<table>
<thead>
<tr>
<th></th>
<th>Crew Access</th>
<th>Combat Net Radio Interface</th>
<th>Ancillary Connections</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Display</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>TCC</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>MCC</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>IOS</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>DOS</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>EOS</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>DEOS</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>RIT</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>HDI</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>ODI</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
</tbody>
</table>

AN/VIC-5(V) System Components

- **TCC – Tactical Control Console**
- **MCC – Mini Control Console**
- **EOS – Single-user Enhanced Operator Station**
- **DEOS – Dual Enhanced Operator Station**
- **IOS – Individual Operator Station**
- **DOS – Dual Operator Station**
- **RIT – Radio Interface Terminal Enhanced for remote radio control**
- **ODI – Operator Dismounted Interface**
- **HDI – Handset Dismounted Interface**
- **General Expansion Unit**
- **Wireless Expansion Unit**
Introducing AN/VIC-5(V) (VIS-X)

Fast, safe, secure and reliable communications are an essential element of mission success on today’s battlefield. In response to this need, the U.S. Army awarded Northrop Grumman Cobham Intercoms LLC (NGCI), a joint venture formed between Northrop Grumman and Cobham, with a five-year, plus five-option-year contract to provide the U.S. Army’s next-generation vehicular intercom; Vehicular Intercommunication System Extended (VIS-X). Subsequently, the US Army established AN/VIC-5(V) as the official nomenclature for VIS-X.

Proven Reliability and Advanced Communication Technology for Today’s Warfighter

AN/VIC-5(V) Intercom System Highlights

Backward Compatible With AN/VIC-3

AN/VIC-5 modules are form, fit and function replacements for AN/VIC-3 modules, allowing for module-to-module insertion or replacement without changing interconnecting cables. AN/VIC-5 also utilizes existing AN/VIC-3 and LV-2 headsets and mounting hardware to minimize installation and lifecycle support costs.

Superior Reliability

The unique ring architecture of NGCI’s Vehicle Intercom Systems provides dual paths for both signal data and power. This built-in redundancy results in superior reliability in the event of electronic or battle damage.

Increased Functionality Through Module Insertion

AN/VIC-5 modules offer customers increased functionality compared to the AN/VIC-3 and LV-2. This provides current customers with an easy upgrade path via module insertion for increased functionality and continued support over the system’s life cycle.

Future-proof Design

AN/VIC-5 incorporates an Ethernet Interface on all control consoles and operator stations, enhanced micro-processors, increased system memory, multiple CODECs, Gbit Ethernet and software upgradeable modules to provide additional communication capabilities and enable tailored future technology insertion based on the evolving needs of users.

Established Service and Support Infrastructure

NGCI has an established relationship with Tobyhanna Army Depot (TYAD), part of the U.S. Army’s Communications Electronics Command (CECOM) Life Cycle Management Command, and the largest, full-service electronics maintenance facility in the U.S. Department of Defense. The combined resources of NGCI and TYAD ensure the AN/VIC-5 is fully supported over the products life cycle.

AN/VIC-5 enables vehicle-mounted troops to communicate faster, safer and more securely even during the most demanding missions.

Proven Reliability and Advanced Communication Technology for Today’s Warfighter
AN/VIC-5 enables vehicle-mounted troops to communicate faster, safer and more securely even during the most demanding missions.

**AN/VIC-5(V) System Modules & Features**

AN/VIC-5 is available with a variety of control station and operator station modules. These modules enable users to scale the system to meet mission requirements and provide access to AN/VIC-5's advanced features.

**Control Station Features Include:**
- Centralized system power supply
- Programming of all system parameters
- Embedded crew stations
- Daylight-readable and NVG-compatible LED displays
- Ethernet connection for system programming and connection of a Graphical User Interface (GUI)
- Embedded SIP server for VoIP

**Crew Station Features Include:**
- Choice of single- or dual-user variant
- Ethernet / RS232 connection
- Daylight-readable and NVG-compatible alphanumeric LED displays (enhanced crew stations)
- Selective calling feature enables calling to individuals or groups
- Live / VOX / PTT selection
- Radio port with RS232 for serial control of radios
- Alarm port (IOS only)

**Radio Interface Terminal**
The radio interface terminal (RIT) enables system scalability by adding two additional radio ports. The RIT also provides two RS-232 connections to enable the radios to be remotely controlled from peripheral devices or a graphical user interface (GUI).

**Key AN/VIC-5(V) System Features & Capabilities**

AN/VIC-5 is an integrated intercom system that supports Internet Protocol (IP) and is comprised of a range of control consoles, operator stations, cables and headsets. The system's cost effective modular design, fit-to-mission scalability and enhanced intercom features make AN/VIC-5 the best value for new military vehicle platforms and for vehicle upgrades. New features include:
- Graphical User Interface Support
- Remote radio control
- Embedded Built-in-Test (BIT)
- Multiple CODEC support
- Alphanumeric displays for system setup and control
- Embedded SIP server
- In-field software upgradeable modules
- Binaural headset compatibility
- Ethernet interfaces to support IP-based digital VoIP and IPv4 / IPv6 networks
- Additional radio and headset ports support up to 58 users and 16 combat net radios
Configurable, Modular System Architecture

AN/VIC-5’s modular architecture is comprised of one Tactical Control Console (TCC), one Enhanced Operator Station (EOS), and one Individual Operator Station (IOS). Using only three system modules, this system provides the following capabilities:

- Ports for connection of CNRs (4)
- Turret and chassis alarm inputs (6)
- Programming of all system parameters
- Headset connections (4)
- Loudspeaker connection (1)
- IP connection to external network or other AN/VIC-5 equipped vehicles

Customer Support Services

NGCI supports the government and OEMs by providing field-proven products and services to meet the full spectrum of your vehicle intercom system needs. Additionally, NGCI has an established relationship with Tobyhanna Army Depot (TYAD), part of the U.S. Army’s Communications Electronics Command (CECOM) Life Cycle Management Command, and the largest, full-service electronics maintenance facility in the U.S. Department of Defense. The combined resources of NGCI and TYAD are able to provide parts and services including:

- Established Army Repair Depots
- Full NSN, nomenclature for VIC-5 system components, cables and installation kits
- Vehicle surveys
- Fully equipped vehicle system kits
- Integrated logistics support (ILS)
- Installation and design support
- Operator and maintenance training
- Depot repair
- Equipment spares
- Technical publications

A Partnership Built on Legacy of Proven Performance

Northrop Grumman Cobham Intercoms (NGCI) is a joint venture between Northrop Grumman and Cobham Defense Systems and brings together two of the most trusted names in vehicle communication systems.

With a combined 125,000 systems in service globally, Northrop Grumman and Cobham are recognized market leaders in Vehicle Intercom Systems.

Understanding the need for reliability, quality and performance in the field, the companies have built a reputation as global leaders in digital vehicle intercom systems (VIS). Combined, Northrop Grumman and Cobham have designed, developed and delivered more than 125,000 vehicle intercom systems to customers around the world.

The companies’ integrated family of VIS products provides effective, reliable and trusted command and control solutions for a wide range of platforms and configurations, from light vehicles to tactical operation centers and command posts.
The Growing Cost of Auditory Disability for Veterans

An armored vehicle in motion can subject crew members and passengers to average noise levels ranging from 95 dBA SPL to more than 115 dBA SPL, creating the potential for permanent hearing loss. As the chart below illustrates, this issue has been of growing concern as the cost of auditory disability for all veterans has risen exponentially in the last decade.1

An effective form of protection for crewmembers from high vehicle noise environments can be the intercom headset. VIS-X operates with headsets that incorporate Passive Noise Reduction (PNR) and Active Noise Reduction (ANR) technologies. However, typical passive headsets provide little attenuation at the low frequencies prominent in vehicle noise, resulting in residual noise at the ear as high as 102 dBA. At this level, exposure for only 10 minutes could be hazardous.2

Speech signals are also masked by the noise, making it difficult for crew members to understand commands. This can lead to resends, indecision, mistakes and fatigue.2

To overcome these challenges, NGCI offers a wide variety of VIS-X compatible headsets that incorporate ANR technology. ANR reduces vehicle noise well below the 85 dBA safety threshold, making it possible for the crew to operate safely and effectively for extended periods.


For more information, please contact:

Northrop Grumman Cobham Intercoms LLC
7055 Troy Hill Dr
TH3 Suite 300 - MS 8824
Elkridge, MD 21075
(410) 471-7540
e-mail: vis@ngc.com