DIAMOND
Intercom and Radio Combiner System

Drumgrange has developed a digital intercom and radio combiner system for use on land and maritime platforms. An ideal solution for patrol craft and vehicles, Diamond provides voice connectivity between multiple users and on-board radios and allows for the integration of engine and system alarm ensuring platform and crew safety.

Driven by the toughest user requirements in the harshest of environments, the Diamond system balances intuitive functionality and ease of use with a robust, low-maintenance design. In the most challenging situations, crew members can be confident of independent access to both secure and non-secure communications, uninterrupted intercom facilities and voice-activated comms.

Diamond's modular design and intuitive interface allows for rapid fault finding and module replacement with no need for complicated and expensive diagnostic equipment.

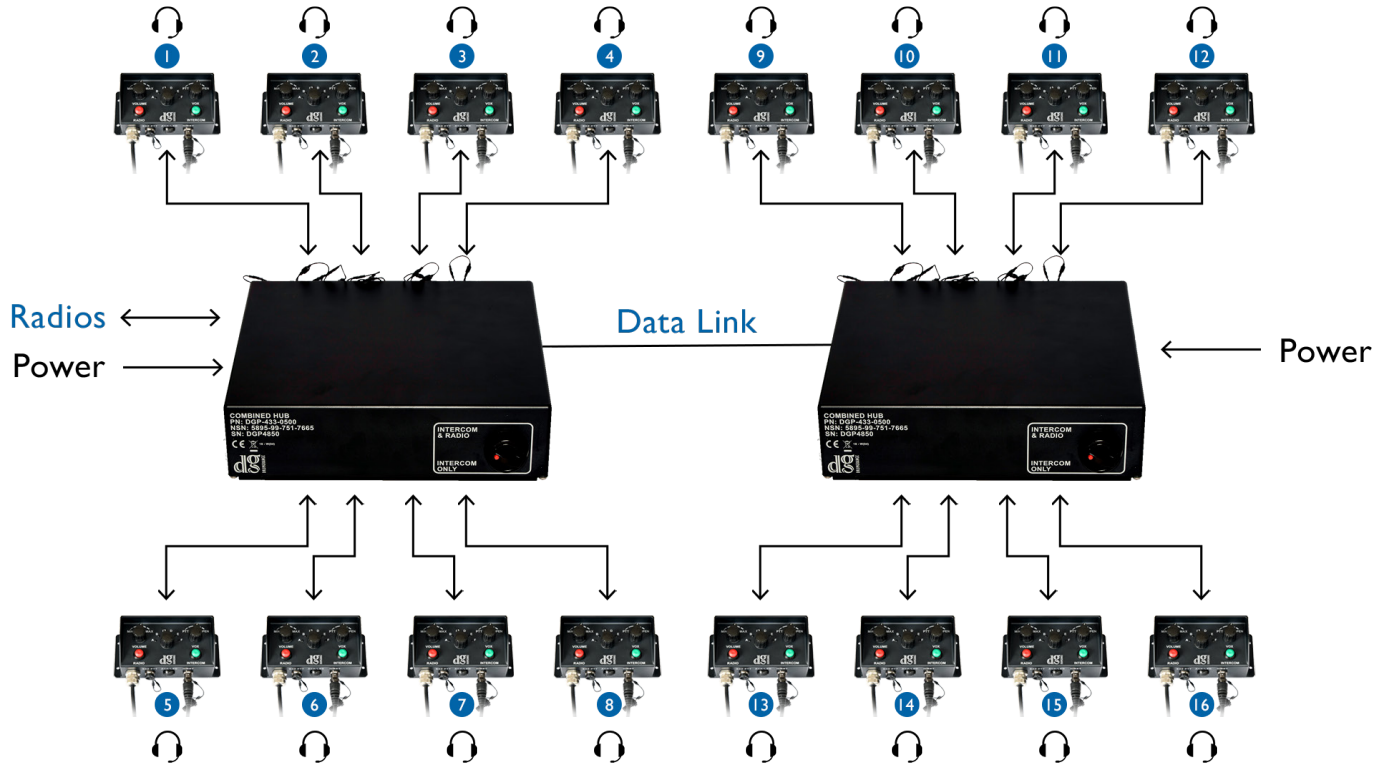
Crystal-clear communications among crewmembers

Ruggedised to withstand harsh environments

Key Features

- Designed for single hand operation under high-speed transit
- User-specific VOX sensitivity control. User can personalise voice-activated comms at any time
- Designed to Def Stan 00 35 Environmental Requirements
- Designed to Def Stan 59-411 and EN60945:2002 ACI:2008 EMC
- Can accommodate up to 8 users and 6 radios with an additional 2 configurable digital outputs
- Clear, reliable communications
- Simple operation/Compact footprint/Lightweight/Low power/Fast, easy maintenance
- Headset agnostic through the use of smart cables
- 8 user-defined audible alarm inputs e.g. engine alarm, engine temperature and low battery warnings

Expanding the DIAMOND Intercom Network



Diamond Combined Hubs are able to be linked together to expand the wired intercom network. Each hub features two data ports which, among other functions, allow hubs to be linked together to share intercom audio and expand the intercom network.

The above diagram shows a 16 position system with two hubs linked together. The audio from the radio is maintained within the hubs network, allowing subnet segregation. In the above example User Nodes 1-8 would have access to the radios, whereas User Nodes 9-16 would not. In addition, although the above diagram depicts one Hub connecting to one other Hub, each Hub can be connected to a maximum of two additional Hubs. However, it is important to keep in mind that speech intelligibility will be inversely proportional to the number of users talking at the same time.

Headset

Anodised User Node

Combined Hub

Technical Specification

General	
Audio Interfaces and Processing:	High quality, digital audio (300Hz – 8kHz). User-controllable VOX function.
Power:	9-32 VDC 700mA @12V
Weight (ea):	Hub: 2.5kg User Node: 0.7kg
Size (W x H x D):	Hub: 220mm x 160mm x 89mm User Node: 100mm x 120mm x 40mm

STORAGE / OPERATING ENVIRONMENT	
High Temperature:	Storage: 70°C Operating: 55°C
Low Temperature:	Storage: -34°C Operating: -25°C
Sealing	IP66 / IP67 Protected against dust, powerful water jets and temporary immersion in water Tested in accordance with DEF-STAN 00-35 Part 3, Issue 4, Test CL25, Blowing Dust and Blowing Sand 3 CL5.
Random Vibration:	Tested in accordance with DEF STAN 00-35, Issue 3, Part 3, Test M1 Annex A, Figure A26 + A27 - Light Vehicle - Material on Sponson or Installed in Hull, Tracked Vehicle - High Level Test (Vertical Level Only) Annex A, Figure A29 - Material Deployed in Ships Smaller than Mine Sweepers
Shock	Tested in accordance with DEF-STAN 00-35 Part 3, Issue 4, Test M3, Table 1

Interfacing	
Headset interface:	Flexible headset options for different microphones and sensitivities Monaural or binaural options.
Radio interface:	Flexible radio input/output allows use of any radio. Fully isolated analogue output to radio audio and PTT lines.
Alarm interface:	8 user-definable audible alarms (spoken, tonal, etc.).

User Controls	
Control Subsets on User Node:	Radio Selection Volume(Min/Max) VOX Sensitivity (PTT/Open) Push-To-Talk button (Selected Radio) Push-To-Talk button (Intercom) Illumination activation button to check radio selection
Radio TX Inhibit.	Single switch places system in radio "listen only" mode.

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