# Series 9900 Wireless Intercom System


## H9935 HEADSETS


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# Series 9900 Wireless Intercom System

Wireless Headset-Mic
Model No. H9935
(Part No. 40990G-02)

**H9935: Headset-Mic**

## DESCRIPTION

The Series 9900 Wireless Intercom System is the perfect solution for wireless intercom communications in demanding environments, especially in airline/airport ramp and maintenance operations or any application requiring robust, reliable and secure communications in and around high-noise areas.

The H9935 is a wireless, marine-grade version of our renowned H3530 ramp communication headset, providing superior dependability but designed for use with David Clark Wireless Belt Stations and incorporating the latest performance, comfort and durability upgrades.

It is a dual-ear, over-the-head style communication headset incorporating our newest M-2H microphone for even clearer speech clarity and industry-leading noise cancellation with a ruggedized boom for added reliability. Also featured are high-profile ear domes for increased noise reduction (26dB rating), while retaining the 9900 series superlative comfort features.

With superlative performance and unsurpassed comfort features, the H9935 is an ideal headset choice for use where high noise levels make it difficult to communicate and effective hearing protection is desired.

## FEATURES AND BENEFITS

- Crisp, clear communication in demanding environments
- All hardware marine-grade stainless steel for rust/corrosion resistance in harsh marine environments
- M-2H dynamic microphone, water-resistant protection and superlative noise-cancelling
- Over-molded flex boom assembly, non-rotating, for precise microphone positioning and rugged reliability
- Dual dynamic earphones (titanium nitride drivers) with stainless steel retainers
- Dual volume controls, water-tight, for variable left/right gain setting capability
- 6' extended coil cord with military-grade, 7-pin Belt Station connector
- Undercut, comfort-gel ear seals provide unsurpassed comfort and enhanced noise-attenuation
- 4-chamber, air-flow pillow head-pad affords long-term comfort, eliminates “hot-spots”
- Passive noise attenuation rating of 26 dB
- Rugged and reliable

## TECHNICAL DATA

| | |
|---|---|
| **Weight (w/o cord)** | 17.5 oz/496g |
| **Comm Cord** | 6 foot coil, with MAP-57-50 connector |
| **Certified NRR (3rd party)** | 26 dB |
| **Dome Type** | Hybrid, ABS |
| **Hardware** | Stainless-steel (18-8) |
| **Potentiometer** | 220 ohm +/- 20% (2 each) |
| **Ear Impedance** | 35 ohm +/- 10% @ 1kHz |
| **Ear Sensitivity** | 100 dB SPL/1mW @ 1kHz |
| **Ear Frequency Response** | 20Hz to 20kHz |
| **Microphone Principle** | Dynamic |
| **Mic Impedance** | 5Ω, nominal |
| **Mic Sensitivity** | 325uV +/-6dB into 5Ω load @ 1kHz for 114 dB SPL input |
| **Mic Frequency Response** | 150Hz to 8KHz |

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19548P-87 (12/17)

# Series 9900 Wireless Intercom System

Push-Back Gateway
Model No. U9920-GPB(EU)
(Part No. 40993G-02)


**U9920-GPB: Push-Back Gateway**

## DESCRIPTION

The Series 9900 Wireless Intercom System is the perfect solution for wireless intercom/radio communications in demanding environments and applications requiring rugged, secure and reliable communications in and around high-noise areas; ideal for push-back operations, wing-walkers, marshalling agents, maintenance mechanics or de-icing operations.

The U9920-GPB Push-Back Gateway is designed specifically for seamless integration with aircraft interphone systems. It acts as a relay for all intercom audio between multiple Wireless Belt Station/Headset users and the interphone system.

A single Gateway can accommodate up to four (4) connected wireless users at a time with hands-free, full-duplex intercom between a single work group, and Push-To-Talk (PTT) capability for communicating directly with the flight deck.

The U9920-GPB is powered by a Li-Polymer rechargeable battery, capable of 24 hrs of continual usage between charges, and removable from its water-tight compartment within the RF shielded, marine-grade enclosure.

## FEATURES AND BENEFITS

- Hands-free, full-duplex intercom communication
- DECT based technology, provides secure signaling, prevents unwanted interception and/or cross talk with other systems or work groups
- Accommodates up to four (4) wireless belt stations simultaneously connected with audio
- Controls include a power button for close-proximity linking, system volume control for proper overall system gain setting
- Aircraft interphone adapter cords required for flight deck communications (see below)
- High-visibility orange skin included for added impact protection (oil, water, UV resistant)
- "Remove Before Flight" warning banner and lanyard with nylon hook included
- Marine-grade, water-tight, impact-resistant enclosure for rugged durability and reliability
- Multiple Gateways able to function within same RF vicinity with no cross-talk
- Easy, seamless integration to aircraft interphone

## TECHNICAL DATA

| | |
|---|---|
| **Weight, Enclosure** | 10oz/280g (with battery) |
| **Frequency** | 1880 MHz - 1900 MHz |
| **Average Power Output** | 10mW (250mW peak) |
| **Range** | 150m (450') line-of-sight, typical |
| **Carriers** | 10 each (1,728 kHz spacing) |
| **Time Slots** | 2 x 12 (up and down stream) |
| **Operating Temp.** | -10°C to +45°C |
| **Storage Temp.** | -20°C to +60°C |
| **Power Source** | Li-Polymer rechargeable 3.7V cell, 2000mAh |
| **Power Consumption/ Current Draw** | 100mA, typical |
| **Dimensions** | 4" H x 2-3/4" W x 2-1/2 "D |
| **Aircraft Interface Cords (required for flight-deck communications)** | 41035G-02 (PJ-051 type plug)<br>41035G-03 (U-174/U, Civilian)<br>41035G-04 (Dual G.A. Plugs)<br>41035G-05 (U-174/U, Military) |

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# Series 9900 Wireless Intercom System

Belt Station/VOX
Model No. U9910-BSW(EU)
(Part No. 40992G-03)


**U9910-BSW: Belt Station/VOX**

## DESCRIPTION

The Series 9900 Wireless Intercom System is the perfect solution for wireless intercom communications in demanding environments, such as airline/airport operations, fire/rescue applications, marine intercom, or any application requiring rugged, secure and reliable communications in and around high-noise areas.

The U9910-BSW VOX Belt Station is designed as a wireless interface, or portable part, between a headset and a wireless system Gateway or Controller. Users link to the Gateway or Controller through close-proximity linking with their individual belt stations.

A Bi-Color LED, located on the on/off/link button, provides the status of the user's wireless link, radio or intercom PTT transmit (depending on application), and battery charge. Each belt station is powered by a replaceable, rechargeable Lithium Polymer battery, which provides 24 hours of continual use.

With it's valuable and practical versatility, robust construction and ease of use, the U9910-BSW provides crisp, clear communication with confidence.

## FEATURES AND BENEFITS

- Hands-free, full-duplex, voice-activated (VOX) intercom communication
- DECT based technology, provides secure signaling, prevents unwanted interception and/or cross talk with other systems or work groups
- Accommodates any Series 9900 Wireless Headset
- Controls include a power button for close-proximity linking, VOX adjustment for effective mic control, and a large PTT for VOX override/radio PTT (depending on application)
- VOX "helper" tone guides the user to optimal setting for any high-noise environment through rotary switch adjustment
- Black rubberized protective skin included for added impact protection (oil, water, UV resistant)
- Voice prompts help to ensure wireless link status
- Marine-grade, water-tight, impact-resistant enclosure for rugged durability and reliability
- 360º rotational belt clip for versatile attachment and access options
- Water-tight battery compartment houses easily removable, rechargeable Li-Polymer battery, allowing the Belt Station to stay in service with a spare cell while charging

## TECHNICAL DATA

| | |
|---|---|
| **Weight** | **10oz/280g (with battery)** |
| **Frequency** | **1880 MHz – 1900 MHz** |
| **Average Power Output** | **10mW (250mW peak)** |
| **Range** | **100m (300') line-of-sight, typical** |
| **Carriers** | **10 each (1,728 kHz spacing)** |
| **Time Slots** | **2 x 12 (up and down stream)** |
| **Operating Temp.** | **-10ºC to +45ºC** |
| **Storage Temp.** | **-20ºC to +60ºC** |
| **Dimensions, Enclosure** | **4" H x 2-3/4" W x 1-7/8" D (2-1/2" D with belt clip)** |
| **Power Source** | **Li-Polymer rechargeable 3.7V cell, 2000mAh** |
| **Power Consumption/ Current Draw** | **100mA, typical** |

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# Cord Assemblies

click to enlarge

## 41035G-02

*Push-Back Interface Cord, PJ-051 Plug*

**U9920-GPB Interface**

1/4" Stereo Plug for Commercial Aircraft, includes tether and hook for attachment to service panel doors for added strain relief

Installation Sheet 41035G-02

# Batteries/Chargers

click to enlarge

## 40688G-90

*Battery*

**Features**

- Li-Polymer battery pack
- 3.7V nominal voltage
- 2260mAh nominal capacity
- Used with all Belt Stations and Push-Back Gateway *(sold separately)*
- Operates for 24 hours continual usage between charges
- Charges from fully depleted state in 3-4 hours with A99-14CRG battery chargers
- Internal thermistor allows charger to constantly monitor battery temperature to ensure safe charging

Data Sheet, 40688G-90, Material Safety (MSDS, Battery)


click to enlarge

## A99-14CRG

*Charging Unit, 4-Bay*

**Features**

- Provides charge for up to 4 each Li-Polymer 3.7V batteries, universal for all Series 9900 Wireless battery-powered modules
- Built-in battery holders, NFPA compliant for fire/rescue market
- DC input range - accepts between 5 to 15VDC
- Individual multi-color LED indicators (4 each) provide visual status of charge state for each battery
- Li-Polymer batteries include internal thermistor, allowing the charger to independently monitor the temperature of each battery via the charger's internal thermal monitoring circuit for safe, proper charging
- 3-4 hour charge cycle provides full charge to depleted batteries, lasting over 24 operational hours between charges
- Power supply cord kits (sold separately) available for 110VAC, 230VAC, 12VDC and 24VDC power sources
- Includes permanent and portable mounting options via mounting brackets and/or rubber feet
- Rugged design provides years of reliable service
- Low-profile, space-saving enclosure permits installation flexibility

Data Sheet, A99-14CRG

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# Aircraft Push-Back System Cable P/N 41035G-02

## INSTALLATION SHEET

The aircraft push-back cable is used to interface between a wireless Push-Back Gateway, Model U9920-GPB (or regional variant), and a standard Aircraft Flight Interphone System. This establishes communication between the flight deck and ground-crew users of the Series 9900 Wireless Intercom System. One end of the cable connects to the Push-Back Gateway by lining up the orange dots on both Gateway and Cable mating connectors, pushing together and twisting clockwise to lock. The other end plugs into the interphone mating jack on the aircraft.

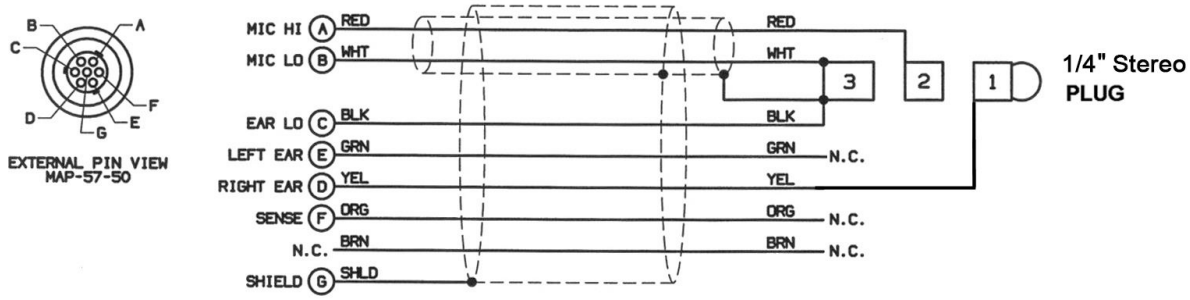
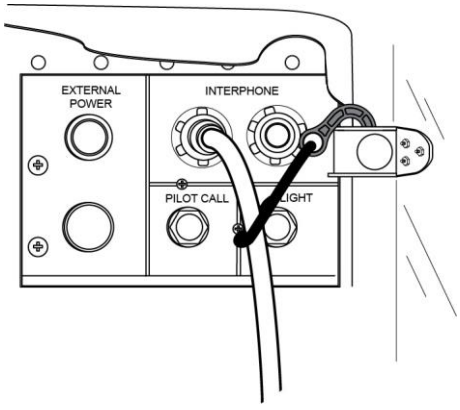



**Figure 1: Cable Schematic (41035G-02)**

This cable comes equipped with a tether and nylon hook. These items allow an enhanced degree of strain-relief for the aircraft plug when employed properly. The tether serves to attach the hook to the system cable behind the aircraft plug, and the hook allows attachment to the service panel access door or other appropriate co-located position on the aircraft (as level or higher than the mating aircraft jack as possible). This further relieves strain on the aircraft plug from the weight of the Push-Back Gateway hanging at the other end of the cord. The tether position on the cable can be adjusted to provide optimal strain relief for the aircraft plug when used on a variety of aircraft types. Care and judgment should be exercised when hooking to any part of the aircraft so that damage does not occur to the aircraft or the cord.




Spare Parts

41090G-32: 1/4″ Stereo Plug Kit

13195P-03: Nylon Hook, Black

13376P-04: Tether, Day-Glo Orange

**Figure 2: Example of hook attachment to aircraft**

# Digital Intercom System
# Model A99-14CRG
# Charging Unit

On land or at sea; for facilities or mobile platforms, in harsh, noisy environments or in quiet areas over long distances; for single or multi-channel system needs; with wired security and wireless mobility, the Series 9100 Digital Intercom System provides communication clarity for the working world.

The A99-14CRG is a next generation four-bay battery charger designed for 3.7V Li-Polymer batteries (David Clark p/n 40688G-90), used with 9100 and 9900 Series Wireless Belt Stations. Power cable options are sold separately and are available in a variety of AC and DC configurations.

Each battery is charged independently of the others, and anywhere from one to four batteries may be charged at a time, with charge status indicated by a multi-color LED next to each battery bay. A full charge to a completely discharged battery is attained within 3-4 hours and allowing operation for over 24 hours between charges.


**P/N: 41034G-02**

| WHAT IT HAS… | HOW IT HELPS… |
|---|---|
| 4 independent battery bays | Provides independent charging cycles for up to four (4) Li-Polymer batterires (p/n: 40688G-90), in order to ensure a charged battery is always available when it's |
| Separate LED indicators | Each bay is provided it's own tri-color status indicator, so you can always tell the progress of any battery's individual charge cycle |
| Articulating battery holders | Four (4) Spring-loaded, detented holder mechanisms ensure constant contact with charging terminals and remain secure in the charging bay in mobile applications during sudden stops or motion shifts |
| Fail-safe operation | Ensures proper chargign through current/voltage stages, constant monitoring of battery's internal thermistor to determine and alert (via red LED) of low/high termperature states |
| Multiple application options | Desktop and surface mount bracket kits included; numerours power cord kits available for differing power sources (see back page), resulting in a truly versatile charging solution |

*The A99-14CRG is designed for interior use only, and is not intended to be used outside or anywhere excessive moisture or temperature extremes may exist. Not suitable for marine or other corrosive environments without appropriate protective measures.*

# A99-14CRG - Technical Data

| PHYSICAL | |
|---|---|
| Weight | 10.4 oz/295g |
| Dimensions (general) | 4.75"L x 3.25"W x 3.5"D |
| Power Connection Scheme | DC power jack, mates with C99-14xxx Series Power Cord Kits |

| ELECTRICAL | |
|---|---|
| Input Voltage | 5 to 15VDC |
| Input Current | 5A (max) |
| Output Voltage | 4.2VDC |
| Output Current | 850mA per battery (max), 4A total (max) |
| Battery Compatibility | Li-Polymer 3.7V, 2260mAh (P/N: 40688G-90) |

| MECHANICAL | |
|---|---|
| Mounting Method | Surface-mount or desktop mount kits (both included) |
| Enclosure Material | Polycarbonate (enclosure), ABS (battery holders) |
| Operating Temperature | 32° to 100°F (0° to 38°C) |

| POWER CORD KITS | |
|---|---|
| | **C99-14AC1** |
| Components | Power cord and power converter |
| Cord Length(s) | 7.5ft/2.3m (power cord); 4.9ft/1.5m (power converter) |
| Power Source | 110VAC |
| | **C99-14AC2** |
| Components | Power cord and power converter |
| Cord Length(s) | 6.5ft/2m (power cord); 4.9ft/1.5m (power converter) |
| Power Source | 230VAC |
| | **C99-14DC1** |
| Components | Power cord, with waterproof fuse-holder and 5A fuse |
| Cord Length(s) | 20 ft/6.1m |
| Power Source | 5 to 15VDC |
| | **C99-14DC2** |
| Components | Power lead, power cord w/plug, converter (8 to 34VDC input, 5V output) |
| Cord Length(s) | 20ft/6.1m (source to converter); 10ft/3m (converter to charger) |
| Power Source | 8 to 34VDC |
| | **C99-14DC3** |
| Components | Power cord, with waterproof fuse-holder and 5A fuse |
| Cord Length(s) | 10ft/3m |
| Power Source | 5 to 15VDC |

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