# "20 QUESTIONS ABOUT THE CON-SPACE HARDLINE COMMUNICATION SYSTEMS"

1. **Q.** How will using a CON-SPACE Hardline Communication System help me to Save Money?

   **A.** Current CON-SPACE users are reporting a marked increase in the productivity and efficiency of their workers after the introduction of the System. This was primarily due to an increase in the well being of workers while in hostile environments. Users have also found that with the addition of electronic voice communication, they have been able to re-configure tasks and reallocate workers and equipment, saving Time and Money!!

2. **Q.** How do the Systems help me to comply with regulations governing Confined Space entry?

   **A.** **U.S.A.** - The CSI-2000 & CSI-1000 Hardline Communication Systems meet and exceed the requirements laid out in OSHA regulation CFR1910.146.
   **Canada** - The CSI-2000 & CSI-1000 Hardline Communication Systems meet and exceed the requirements of the Workers' Compensation Board and Labour Canada.

3. **Q.** What does "Full Duplex Communications" mean?

   **A.** Put simply, full duplex communication means that there are no buttons to push or switches to activate in order to speak or hear other people on the System. Communication between users is hands-free and open (i.e. conference call).

4. **Q.** Can the Systems be used in conjunction with breathing apparatus?

   **A.** Yes! When using breathing apparatus use the Throat Mic, Speaker Mic Adapter and the Ear Piece Speaker. This combination will provide the user with quality communication that is free from regulator noise and performs well in all high noise applications.

5. **Q.** Are the Systems intrinsically safe?

   **A.** Yes! The CSI-2000 & CSI-1000 Hardline Communication Systems are approved to the highest level:

   **U.S.A.** - Factory Mutual - Class I,II,III, Division I, Groups A,B,C,D,E,F &G, T3C
   **Canada** - CSA - Class I, Groups A,B,C,& D, Class II, Groups G & Coal Dust, Class III, T3C
   **Europe** - CENELEC Approval - EEx ia IIC T3 (CSI-1000) T4 (CSI-2100)
   **MSHA** - The CSI-2000 meets requirements of Title 30, Code of Federal Regulations, Part 23 and is approved for use in gassy mines. Approval No. 9B-199-0

6. **Q.** How far can I go with the Systems?

   **A.** Factory Mutual, CSA and LCIE have approved the Systems for use up to 1500' on each line.

7. **Q.** How do I manage long cable lengths?

   **A.** CON-SPACE has devised a number of cable accessories to assist users in cable management:

   *Cable Reels* - available in a range of sizes to handle cable lengths up to 1500'. All Reels have slip rings incorporated into their design to allow the Entrant to maintain communication while the cable is being paid out or taken up.

   *Air Hose Reel* - incorporates the communication cable and a supplied breathing air hose on the same Reel. The cable and air hose can be joined together to create a single umbilical. The Reel contains slip rings, as above but also has a swivel joint incorporated to allow for the addition of the air hose. The capacity of this Reel is 200' using a 5/8" air hose and the CON-SPACE signal cable. This Reel comes equipped with pneumatic wheels and steering bar or can be truck mounted.

   *Cable Strain Relief* - allows the cable to be anchored to the Entrant's retrieval harness via a small carabiner, removing any pull on the Entrant's communication accessories.

   *Clothing Clips* - These accessories are used to keep the body worn cable out of the way and avoid snagging the wires while in the Space.

8. **Q.** What if I need to increase the distance of my current entry?

   **A.** Simply join additional cables to reach the required length. The cable connectors are totally waterproof and locking. (Length limited to 1500' to maintain intrinsic approval)

9. **Q.** What happens if the Systems get wet?

   **A.** All Modules and accessories have been designed to withstand water. Modules are completely sealed and will operate when wet. In addition, all connectors are 'O' ring sealed.

10. **Q.** Are the Systems portable and how are they powered?

    **A(i)** Yes, the Systems are very portable. The CSI-2100 Command Module complete with batteries weighs only 4.2 lbs. and the Alarm Module only 3.2 lbs. The Module Carrier accessory comes with a shoulder strap and improves portability considerably by combining the two main Modules into a single unit. The Modules are both powered using 'C' cell alkaline batteries. Command Module: 3 'C' Cell Batteries - Life 350 hrs of average use. Alarm Module: 4 'C' Cell Batteries - Life 1 year on standby

    **(ii)** The CSI-1100 Module, complete with batteries weighs 1.2 lbs. The Module is powered by 4 "AA" cell alkaline batteries with an average life of 100 hours of average use.

As an added feature, a low battery indicator that gives a 12 hr warning before battery replacement is needed. (Use Eveready E-93 or Duracell MN-1400 to maintain intrinsic approval)

11. Q. Are the Systems durable?

A. The Systems were specifically designed for use by workers in Confined Spaces. The CSI-2100 Module housing is constructed of compression moulded fibreglass and has stainless steel hardware. The CSI-1100 is constructed out of die-cast aluminium. All signal connectors have gold contacts, are fully sealed and housed in passivated stainless steel. Many of the components used in the manufacture of the Systems and its accessories are MIL-SPEC components and built in conjunction with a MIL quality standard. Additionally, all Modules were subject to drop testing by FM, CSA, and LCIE, which they passed.

12. Q. Can the Systems be used while wearing hardhats or helmets?

A. Yes! CON-SPACE recognised the need and designed accessories specifically for use by workers required to wear hardhats or helmets.

13. Q. What are the switches on the accessories for?

A. The switches are called Personal Alarm Buttons (PAB). They are a standard item on all CON-SPACE communciations accessories. The purpose of the switches is to activate the Alarm capability. This Module when included with a System gives Entrants the ability to call for help if for some reason they cannot contact the Safety Attendant.

CSI-2100 Configuration: When the PAB is depressed for 1.5 seconds it sets off a two stage alarm on the CSI-2140. The first alarm is a localized (heard within 10-15 ft). The alarm sounds for 7 seconds then switches to a louder alarm (approx. 110 db) which will sound until it is reset by someone on the outside of the Space.

**Note**: Alarm Module can be activated even when the Command module is switched OFF.

14. Q. Why a Two stage alarm on the CSI-2140?

A. The first stage of the alarm sounds to give the Safety Attendant an opportunity to reset the localized alarm before the major alarm sounds and assess the need of the Entrant by voice contact. If the Attendant cannot contact the Entrant, he can activate the major alarm by pressing a button on the Alarm Module (**NO** 7 second delay). This prevents the major alarm from being sounded unless it is absolutely necessary.

**(Remember the boy who cried wolf!)**

15. Q. Can the Alarm Module be used as a stand alone device?

A. Yes! The CSI-2140 Alarm Module is approved for use either in conjunction with the communication System or as a stand alone device. By utilizing one of the alarm switch accessories, the alarm can be activated from a remote location.

A typical application for this configuration would be on privately owned farms in a grain storage silo or container. The farmer could mount the Alarm Module onto the outside of the structure and take the switch into the Space with him. If there was a collapse or difficulties arose, by activating the switch, the alarm would sound indicating that help is needed.

16. Q. What is the Pass-Thru Connector used for?

A. The Pass-Thru Connector was developed for users who have a need for the communication cable to be passed through a wall, plate or class A suit.

17. Q. Why do some of the cables have Mic Mute Switches installed in them?

A. The Mic Mute Option was designed to allow the Safety Attendant or hole watch person to switch OFF his/her microphone while still monitoring the Entrants. This accessory, when used properly eliminates any confusion or misunderstanding on the part of the Entrants while the Attendant is conversing with someone on the outside.

18. Q. Why not a radio system?

A. Radios are an excellent means of communication under the right conditions. Unfortunately when dealing with Confined Spaces those conditions are not always present. Following are some of the reasons users have abandoned their radio systems in favour of a hardwire system for their Confined Space applications:

- Radios are not hands-free (push-to-talk)
- VOX accessories are not reliable in high noise
- Radio signal is primarily line of sight
- In Confined Spaces radio transmissions are effectively shielded
- Radio frequency can affect other equipment i.e. gas detectors
- Radios are frequently damaged and have high repair costs
- Radios can be monitored by outside sources i.e. the Press

19. Q. What if the job requires more than 3 Entrants?

A. The CSI-2000 System can be expanded to a total of 10 persons to communicate by adding all of the expansion options.

20. Q. Why should I buy a CON-SPACE Hardline Communication System?

A. The CON-SPACE Hardline Systems are the only communication Systems on the market that were built for use in Confined Space and hazardous areas. From the initial design through to the finished product, workers, rescue teams, safety managers/consultants, regulators (OSHA/WCB) were included in the process. The result of this effort is the safest, most rugged pieces of industrial communication equipment available today. The intrinsic approvals allow workers to enter into any environment without cause for concern. This equipment not only meets and exceeds all North American safety regulations but provides workers with an avenue to increase productivity, efficiency and cost savings. The CON-SPACE equipment will actually Pay For Itself!!!!!

**For more information call us on the**

**CON-SPACE Helpline
(800) 546-3405 or (604) 244-9323**

**Check out our website at
www.con-space.com**