

HME MULTI-SYSTEM INTERCONNECT USING VCOM

Introduction

The wireless intercom systems available from HME are well known and accepted in many installations in a variety of markets. It is often desirable or necessary to interconnect two or more systems to cover a very large area or geographically diverse areas. The following describes a simple and universal system of interconnection and remote access. It is easily implemented, cost effective, expandable, and operates on existing data networks often already in place.

Implementation

The VCOM System from IntraCom Systems, LLC is a full function summing communications matrix that is implemented as a server/client architecture using standard computer and audio hardware interconnected via standard data networks.

A computer is located near one of the HME systems to be interconnected. This computer is connected to the data network and to an audio-to-USB or Firewire interface such as those used in computer audio. This computer runs a **VCOM Virtual Matrix Server** and a **Device Interface Client**. It may also run a **Control Panel Client** if desired for local access to the communications channel(s). The USB or Firewire audio interface is wired to the four-wire port on the HME wireless base station. In the case of a two channel wireless system either one or both of the channels can be connected as needed.

Another computer that is connected to the data network is located near each of the other HME wireless base stations to be interconnected and each of these machines runs only the **Device Interface Client** although a **Control Panel Client** may also be run in any or all of these machines if desired. Additional **Control Panel Clients** may be run on any computer or Windows Mobile handheld anywhere a network connection is available.

The **VCOM Virtual Matrix Server** is programmed using the **System Admin Client** which can be located on any networked computer or may be located in one or more of the computers running the **Device Interface Client**. In this manner full system control and monitoring is achieved from anywhere and the system can be expanded simply by adding a computer, interface, and, of course, additional wireless unit. In addition, any computer running a **Control Panel Client** with network access and a USB headset can become a "talker" and "listener" on the entire system or on just one of the wireless systems. In this manner an operator in an office or on the road can have full access. All access is controlled by the settings made using **System Admin Client** and all functions and access are password protected. On a football field, coaches and/or managers can talk and listen to the field from the control booth, their offices, or even from home. All system elements use DHCP data connections so non-technical personnel are able to easily use the system.

The **Virtual Matrix Server** and the **Device Interface Clients** can be programmed to auto start and re-connect after a power or network outage. In addition, the clients can be programmed to automatically look for a second server IP address in the event of a primary server failure allowing a duplicate **VCOM Virtual Matrix Server** to be created that will automatically take over if necessary. Since this back up unit can be located anywhere and administered from anywhere a new level of reliability and flexibility is available. Administration from anywhere allows the engineering staff to make changes very quickly even from a remote location.

In wide geographic areas there is no recurring use cost as the system is operating on the data network already in place for other purposes and the VCOM bandwidth requirements are very modest. The recurring use charges are eliminated and the level of convenience is greatly improved.

Conclusion

The IntraCom VCOM system provides a new and innovative method of interconnecting systems located over a wide area. It offers easy and rapid deployment and future expansion, avoids the installation time and cost of dedicated wiring, is easily administered from anywhere, and is highly cost effective.

System Block Diagram: HME Multi-System Interconnect Using VCOM

