

## A Modern Solution to Site Page/ Party Voice Communication

Page party has become a generic term for a combined voice broadcast and two way speech communication system. Paging or public address is effected by loudspeakers fitted to provide acoustic coverage over the site. Party or telephone style communications is incorporated by provision of telephone handsets fitted at strategic locations.



### Key Features

- ✦ Standard 2 wire telephone circuit connectivity - low cost installation & system expansion
- ✦ Utilisation of site PABX for Party communication - drastic cost reductions
- ✦ Radial wired system topology - easy to fault find, greater system integrity
- ✦ Multi party line speech paths - greater flexibility
- ✦ Multi zone paging capability - greater flexibility, efficient system usage
- ✦ Secure party line communication - conversations are private
- ✦ No line balance networks - easy to expand the system

The operating philosophy is :

- a) Page over the public address loudspeakers to solicit answer back.
- b) Subsequent two way communications via the party element of the system.

The system therefore provides public address and telephony in one dedicated communications package. This architecture was introduced over 50 years ago and was born in the days when selective telephony was impractical for non public network systems and the concept of secure supervised fail safe voice / alarm loudspeaker broadcast systems for safety of life had yet to be established. Today the limitations of "Page Party" compared to a modern voice communications & broadcast package are as follows:

- 1) The paging system cannot be monitored properly, i.e. a life dependant evacuation system needs all critical paths to be automatically supervised this includes all hardware and field cable that might prevent the distribution and broadcast of a vital warning message or alarm signal.

- 2) To achieve highest integrity, redundancy of hardware and associated power supplies is specified. Page party architecture does not lend it self to duplication of critical components.
- 3) Party telephone communications is non selective [or at best is limited to five non private communications channels only].
- 4) Party channel selection is manual and relies on the user to scan the party channels to locate the required speech path!
- 5) Page party channels are distributed at base band audio and hence utilise a cable pair per speech path. For example a five party channel and single page channel system would require a minimum of 6 twisted pairs in the field cable. Cable pairs must be balanced and so set up is required to achieve lowest cross talk between the channels.
- 6) The paging system does not have an integrated fail safe priority system thereby ensuring that alarm / routine broadcasts can be safely over ridden by higher priority calls.
- 7) The page party system cannot seamlessly integrate into other plant telecommunication systems ... e.g. the site PABX.

Today highly secure technology is readily available from Spector Lumenex that eliminate the limitations of the old Page Party type solutions whilst also providing major cost savings in both field cable / installation and equipment hardware. Virtually all sites are now equipped with a PABX based telephony system to which industrial and explosion proof telephone outstations can be easily connected. Wiring to these devices is a single pair of conductors.

Establishing telephone instruments in all positions where possible paging system access is required now eliminates the need for separate dedicated Page / Party style stations This now provides the possibility of private multiple private selective two way voice communications i.e. the "party element".

The paging facility is effected by industry standard interface between the PABX system and the paging equipment package. The implementation of Party communications is configured by providing an industry standard "Call Connect" interface between the site PABX and the Spector Lumenex ACE Public address system. The interface can be arranged to "look" like a telephone subscriber to the PABX or can be a 2 wire E & M standard telephony port enabling any regular telephone PABX to be used regardless of manufacturer.

The interface carries a digital store that eliminates acoustic feedback occurring due to the possible physical proximity of paging loudspeakers to telephone stations. By employing DTMF style telephone instruments zoned paging broadcasts can be initiated allowing discreet areas of the site to be independently paged thereby further enhancing the capabilities of the voice distribution package.