

### INTRODUCTION

Theaters often use a combination of partyline and matrix to coordinate light, stage technicians, stage managers, actors, as well as announcements to the audience, communications with the ticket booth etc.

### A REAL EXAMPLE

Figure 1 shows a real-world example from a European theater located in Poland.

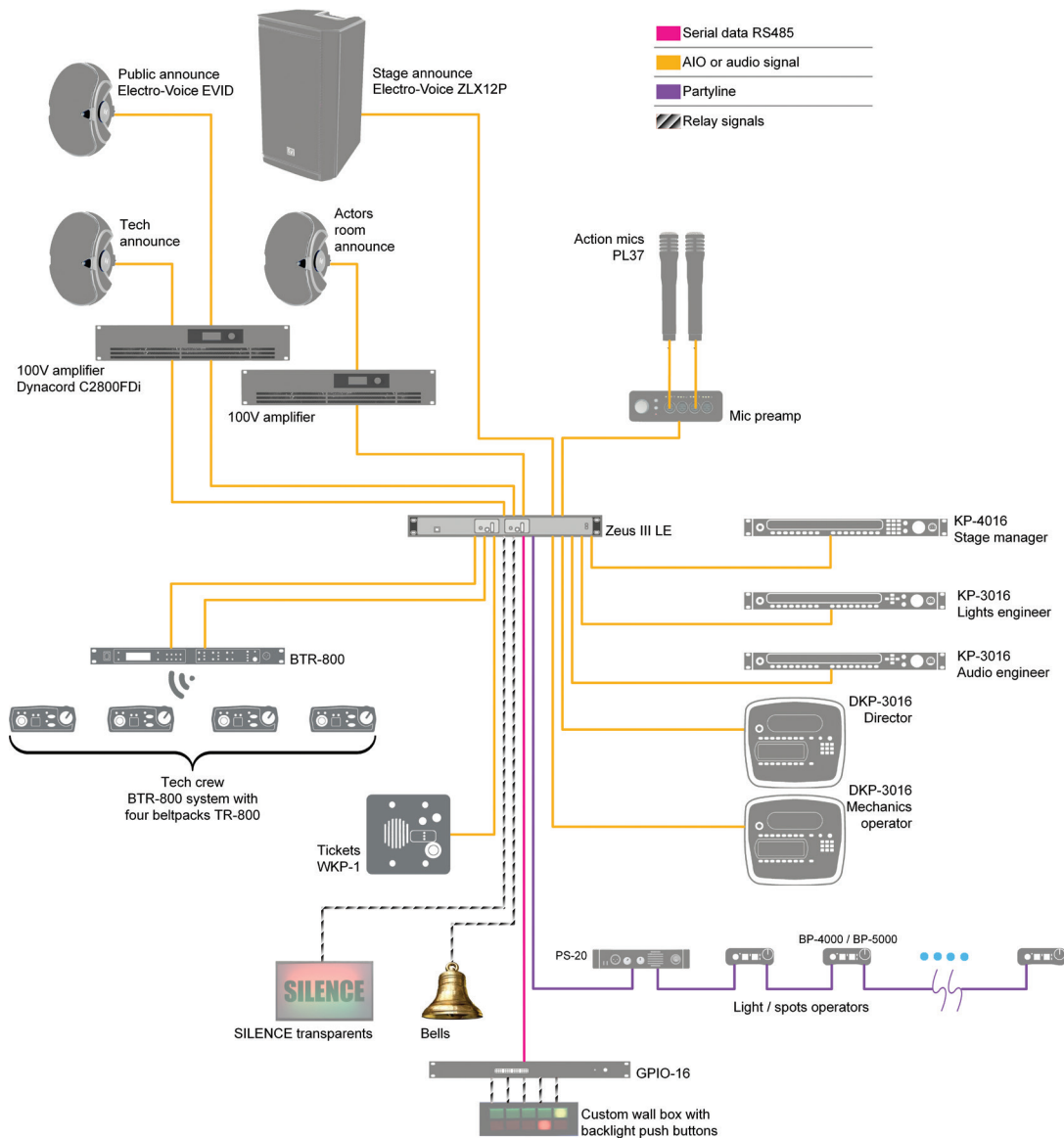


Figure 1. Intercom setup at a European theater

At the heart is a Zeus III LE, a 1RU matrix with 16 ports and support for two-wire analog partyline. Six keypanels are attached in this system: KP-Series keypanels are used for Stage Manager, Lights Engineer, Audio Engineer, Director, and Mechanics Operator. The ticket booth has a WKP-1, a ruggedized single-button keypanel that fits in a very compact form factor. A wireless partyline system, the BTR-800, is used for the Tech Crew. The system has two channels. The light and spotlight operators have wired beltpacks. BP-4000 is a single-channel beltpack and the BP-5000 is a dual-channel beltpack. The power for the partyline is provided by a PS-20.

For audio announcements to the Public, Technician Crew, and Actors' room, this theater uses speakers from Electro-Voice, the EVID, which is powered from a 100V amplifier, in this case a Dynacord C2800FDi. For Stage announcements the ZLX12P is used. It has a built-in amplifier so it connects directly to the matrix. For action microphones, Electro-Voice PL37 is used. The signal goes through a microphone preamp before it goes into two of the matrix.

Finally, a separate GPIO-16 general purpose input/output device is used for a couple of customized functions. First, relay outputs from the GPIO-16 control the Silence transparents (lamps). Second, there is a custom wall box in the Actors' room. It has a set of backlit push buttons which can be used both to send indications, as well as allow actors to provide an acknowledgment (for example get ready to go on stage). The GPIO-16 communicates with the matrix through an RS-485 serial data connection. The keypanels are programmed to allow Director or Stage Manager to send signals to the Actors' room by actuating keys on their panel.



*Figure 2. House of Culture in Poland - exterior view (top) and rehearsal of a theater production (bottom)*