APPLICATION NOTES:
Adding Connections to ODIN

INTRODUCTION

The OMNEO Digital Intercom from RTS – ODIN – comes with connectors for OMNEO, AIO, and two-wire, also known as wired partyline. A single unit can handle a total of 128 ports. The rear of the unit is shown in Figure 1.

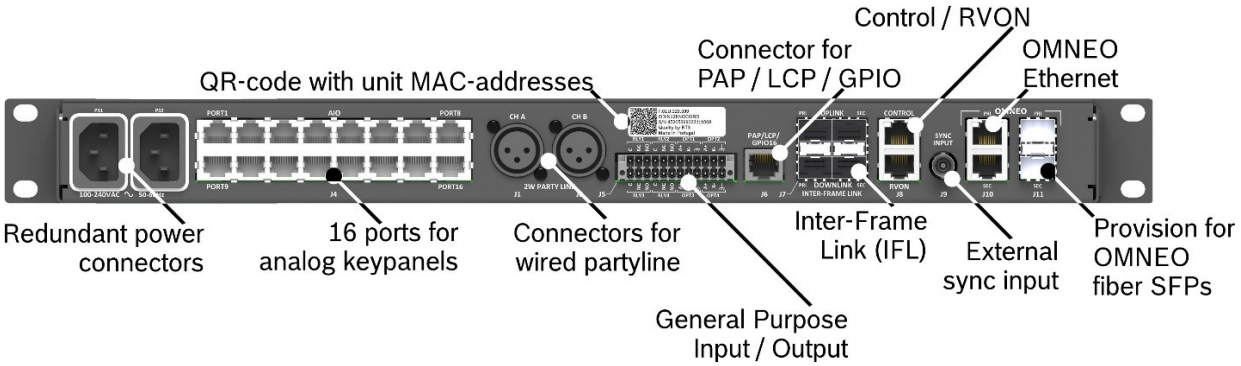
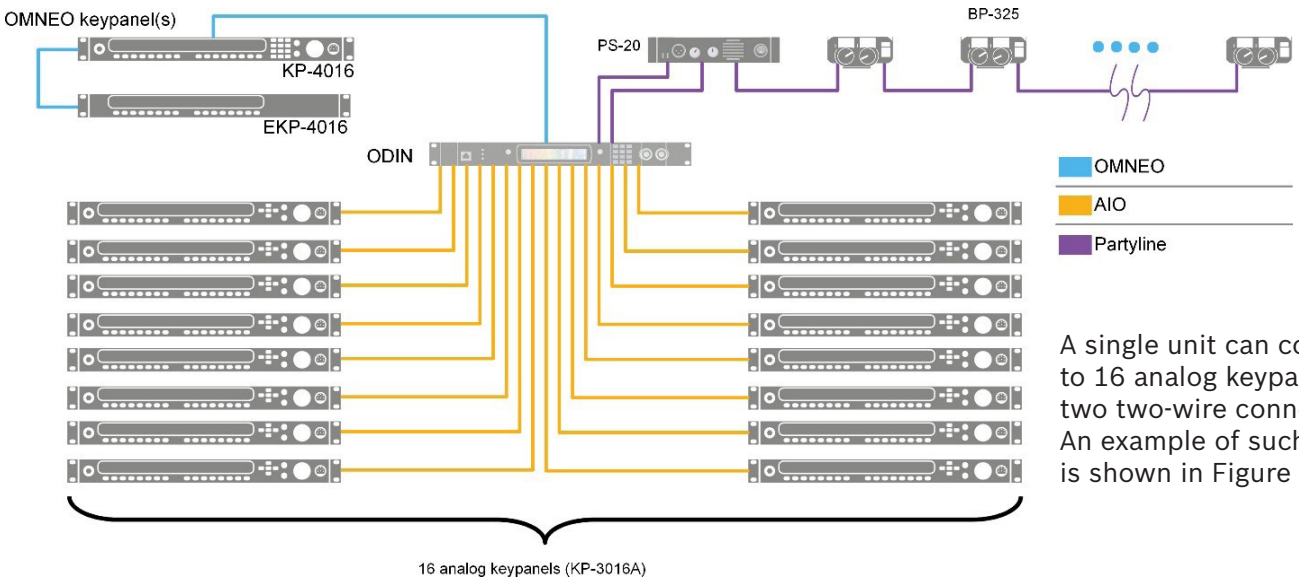


Figure 1. Rear of ODIN showing all the connectors

USING ALL THE CONNECTORS FOR ANALOG AND WIRED PARTYLINE



A single unit can connect up to 16 analog keypanels and two two-wire connections. An example of such a setup is shown in Figure 2.

Figure 2. An ODIN with 16 analog keypanels and two two-wire connections

The BP-325 is a binaural beltpack, meaning it uses two channels. That is why it uses both two-wire ports on the rear of ODIN. In some cases, it is necessary to add one or all of the following:

- A few additional analog keypanels
- Many additional analog keypanels
- Additional analog audio sources
- Additional wired partyline connections

ADDING A FEW ADDITIONAL KEYPANELS

The easiest way to do this is by using the OEI-2, the OMNEO External Interface. It converts between the AIO (analog) and OMNEO (digital) interfaces. Both the audio and the digital keypanel data are converted. A single OEI-2 can handle two analog keypanels. Figure 3 shows an example where an additional four analog keypanels are connected using OEI-2.

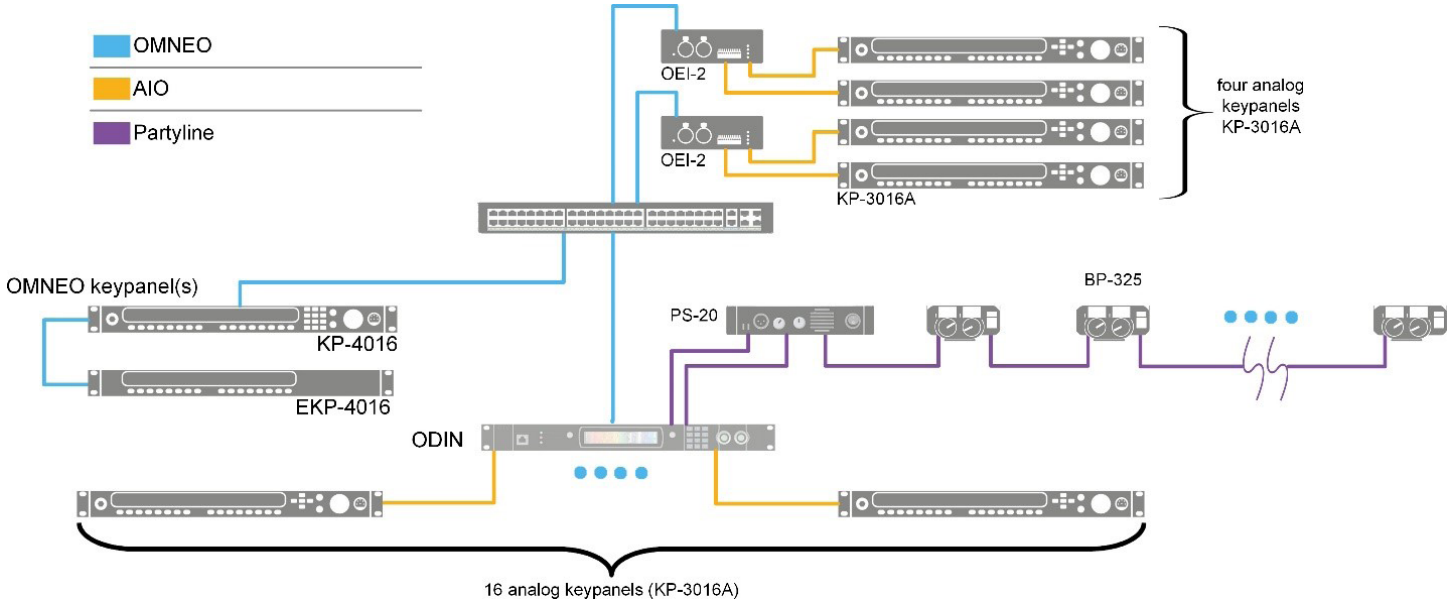


Figure 3. Example with OEI-2 box for adding analog keypanels

ADDING SEVERAL ADDITIONAL KEYPANELS

If you need to connect more than an additional 12 analog keypanels, it makes sense to purchase another 16-channel ODIN and connect the two matrices using the Inter-Frame Link (IFL). That is shown in Figure 4. To learn more about the IFL, read “Application Note: Interconnecting ODIN frames”.

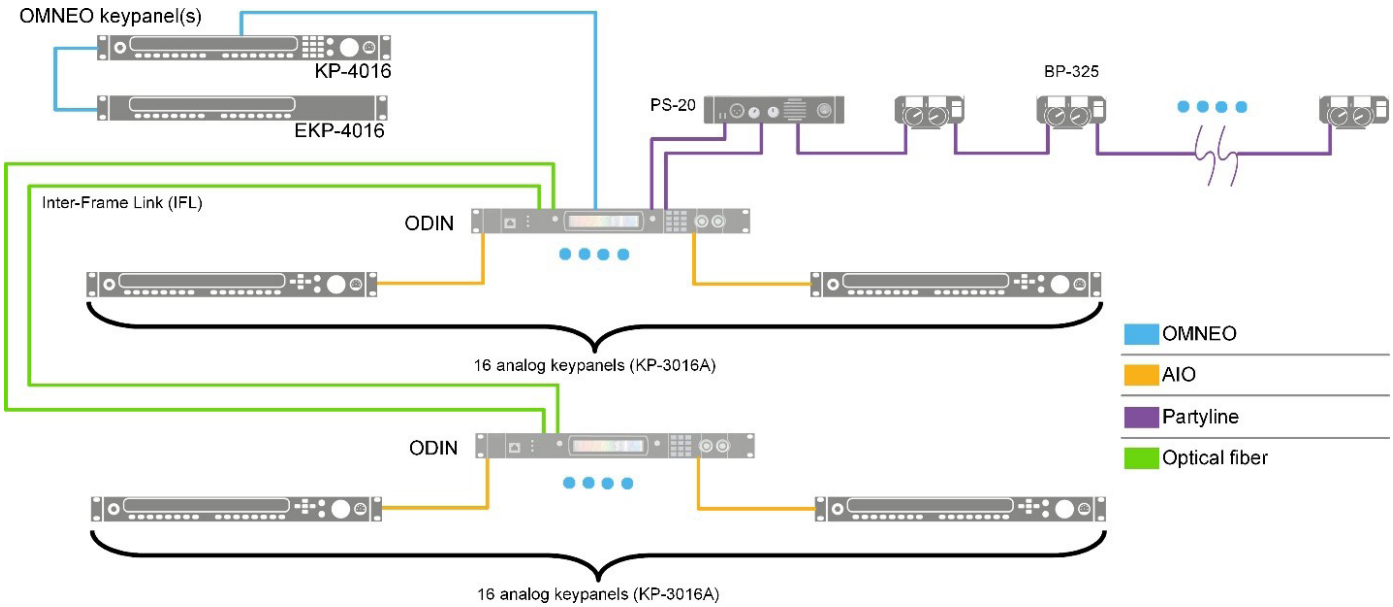


Figure 4. An expanded system using two ODINs

ADDING ANALOG AUDIO AND ADDITIONAL WIRED PARTYLINE

In some cases, it is convenient to bring external audio sources into the matrix. There is no keypanel data to worry about, so an analog to Dante converter can be used for this purpose. For the additional partyline connections, another external converter is used. It converts partyline into Dante (which is compatible with OMNEO). Figure 5 shows this application.

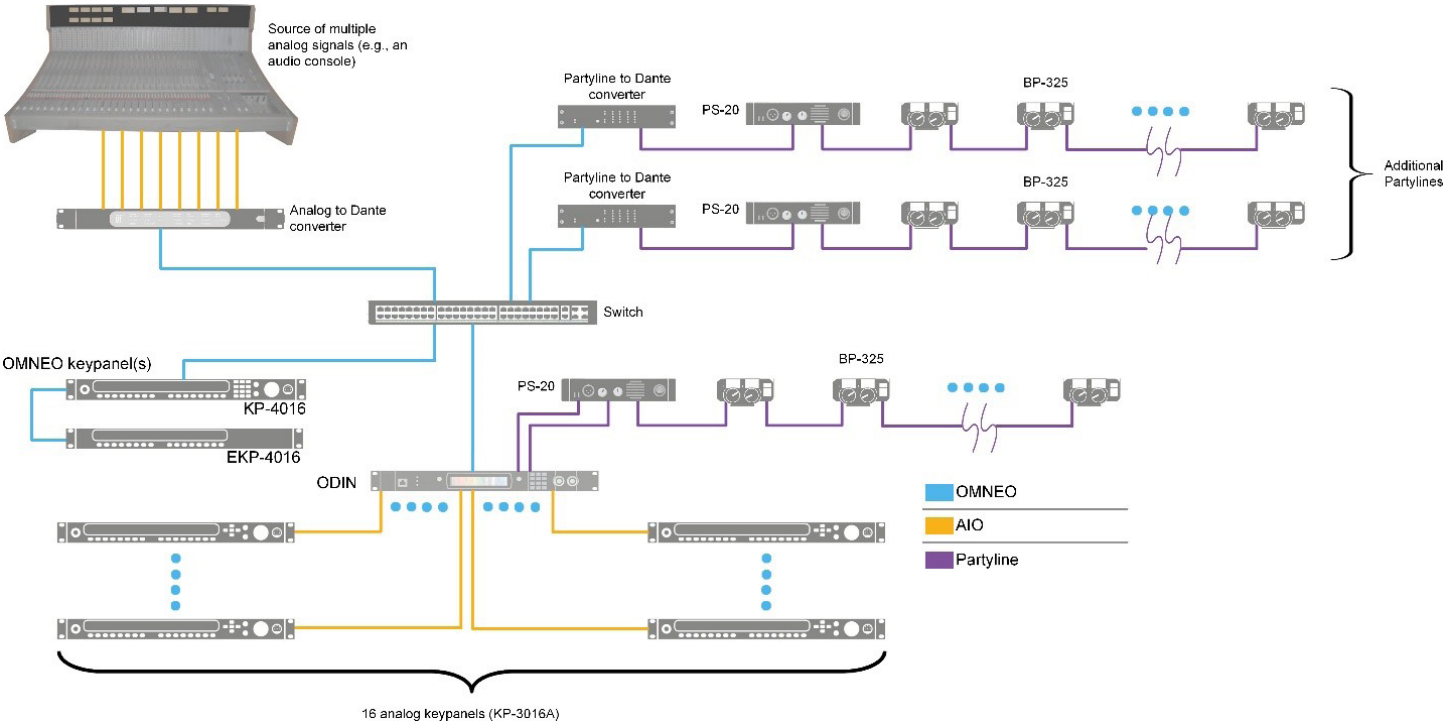


Figure 5. An ODIN system with several external analog audio sources

Converters are available from multiple third-party suppliers. Analog-to-Dante converters are available from Focusrite, Solid Stage Logic, Atterotech and others. The example uses a Focusrite RedNet A16R. The partyline to Dante converter is a Studio Technologies D45R, which works with the RTS two-wire signal format with one or two channels. For information about these products, please refer to the website of the respective manufacturers. RTS has two products that convert two-wire to AIO: the DSI-2008 and the SSA-324.

CONCLUDING REMARKS

ODIN has connectors for a multitude of external device types. Combined with the ability to interconnect multiple matrices (using the IFL), the variations are virtually limitless.