



APPLICATION NOTE V2.2

Local BGM for Voice Alarm Router 1 and 2 channel use

Introduction

The previous application note (v1.0) already made Local BGM possible. Unfortunately it was not possible to use Local BGM sources with EOL boards for EVAC solutions. This version, V2.2, adds a more enhanced Local BGM which enables you to add Local BGM in a 2 channel system with use off EOL. The Local BGM can be made available on any Controller and / or router. This version, replaces all previous versions.

The addition of the Local BGM in a 2 channel system becomes more advanced because it also enables a BGM source selection over 3 channels and it enables a local plug-in for local sources like call stations, wireless microphones and / or other Local sources without loss of the EOL supervision.

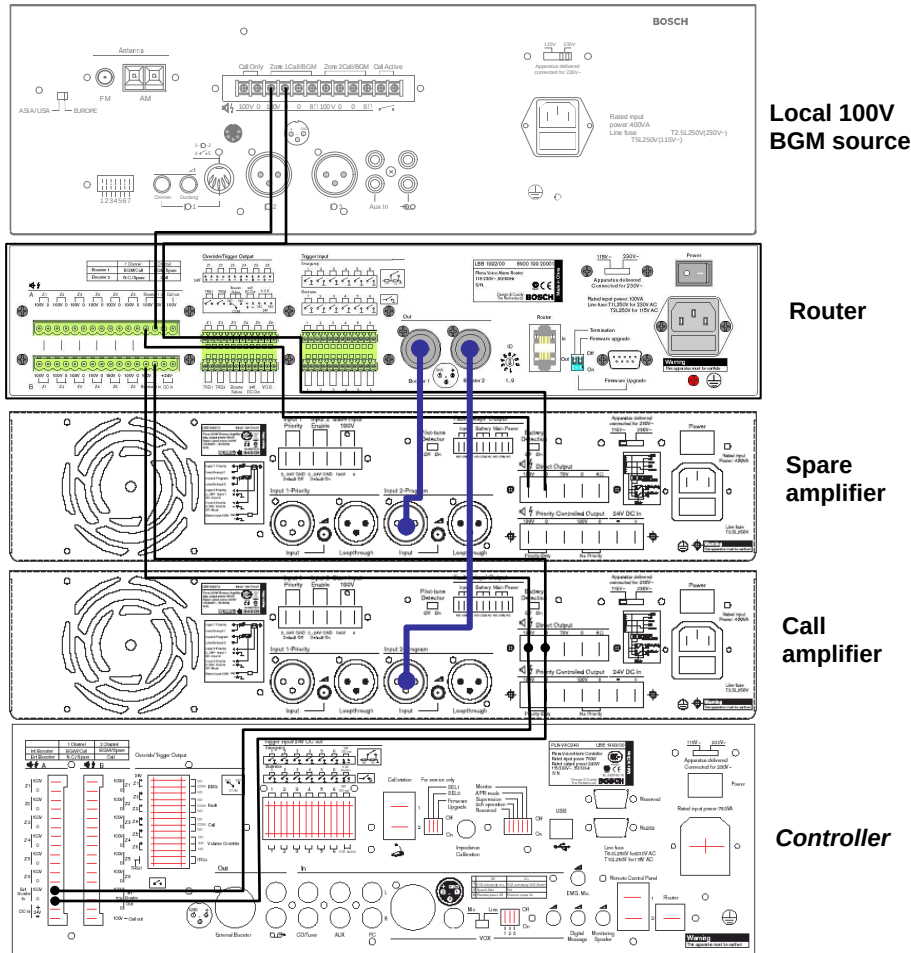
Different local BGM configurations are explained in this application note. With this application note, you should be able to build a full EVAC compliant Voice Alarm system. That means, you can add local BGM "with and without EOL supervision".

The Local BGM solutions can be applied in areas where people want to use and/or choose their own music channel or even no music at all. Some examples are: offices, shops in shopping centers, restaurants, hotel applications with e.g. congress centers, instruction rooms for aerobics in leisure centers, theatres or gymnasiums in schools.

Local BGM Solutions explained:

- Full EVAC compliant setup – 2 Channel setup – impedance supervision
- *Local BGM per Controller / Router (6 zone) -*
- Full EVAC compliant setup – 2 Channel setup – EOL supervision
- *Local BGM per Controller / Router (6 zone) -*
- Non-EVAC setup – 1 channel

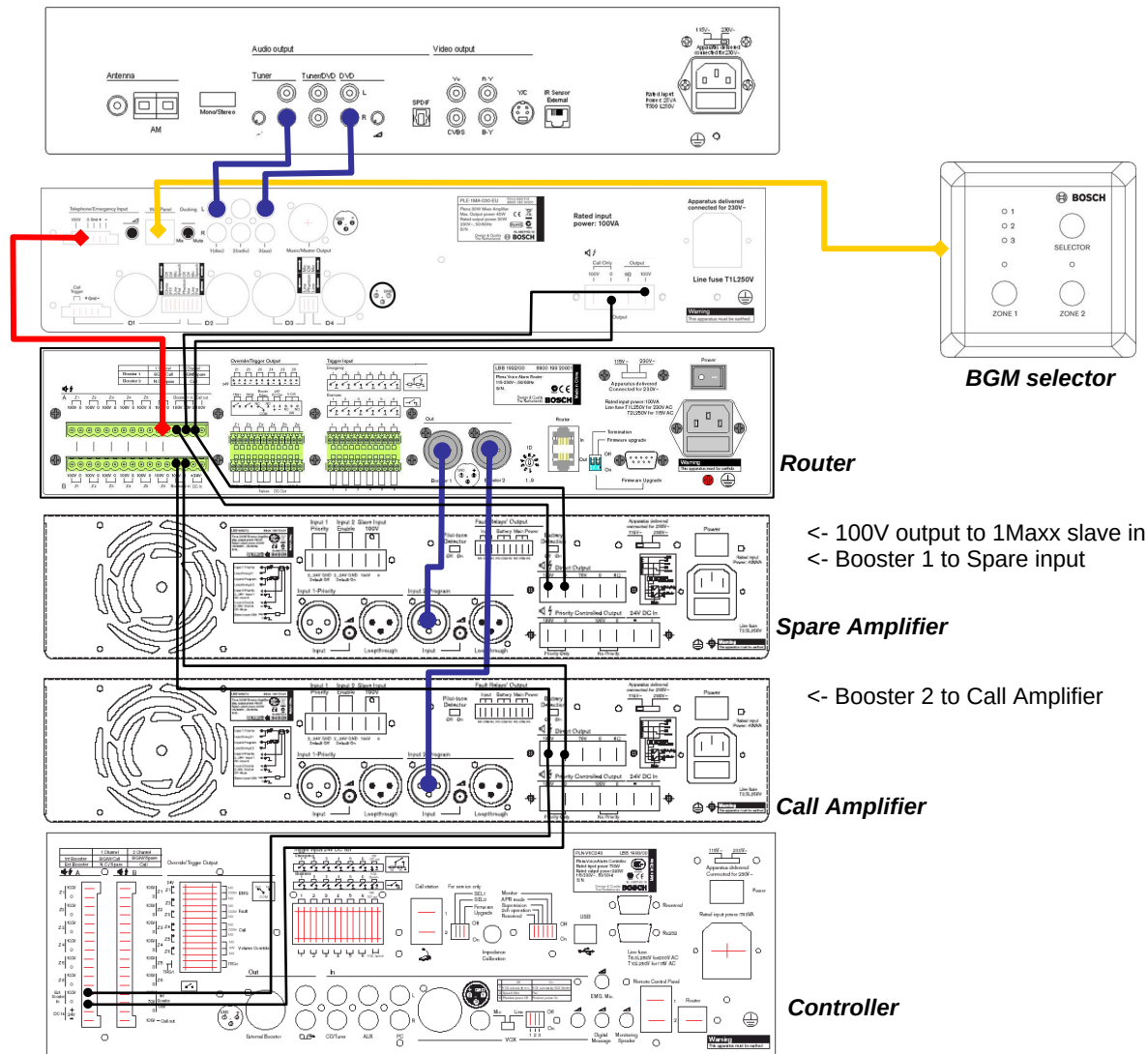
Below is the setup to connect a local 100V BGM source besides the call and the spare amplifiers. The system must be setup as a 2-channel system.



The Call Amplifier or Amplifier 2 is connected in the normal way. The Spare Amplifier is connected in nearly the normal way. The difference to the normal way is that only 100V and 0V are connected. The Spare Amplifier can also be used to spare more than one Call Amplifier. To enable this don't connect the Line input of the Spare Amplifier to the Booster 1 output on the Router, but connect it to the Program Loop-through output. This solution for local BGM **cannot be used with EOL supervision**, due to the lack of pilot tone on the local BGM signal. Only use this solution with impedance supervision.

Full evac compliant setup with local BGM – 2 Channel setup – “with EOL board supervision”

The example below is the setup to connect a local BGM source besides the call and the spare amplifiers in a 2 channel system. In this application, the system will be supervised with EOL boards. Therefore a Plena Easy line 1Maxx amplifier is needed. One zone of the Voice Alarm System must be offered to get a continuous pilot tone for EOL supervision available.



In this example the 1Maxx is taken as local BGM source, you cannot change this unit with another 100V system.

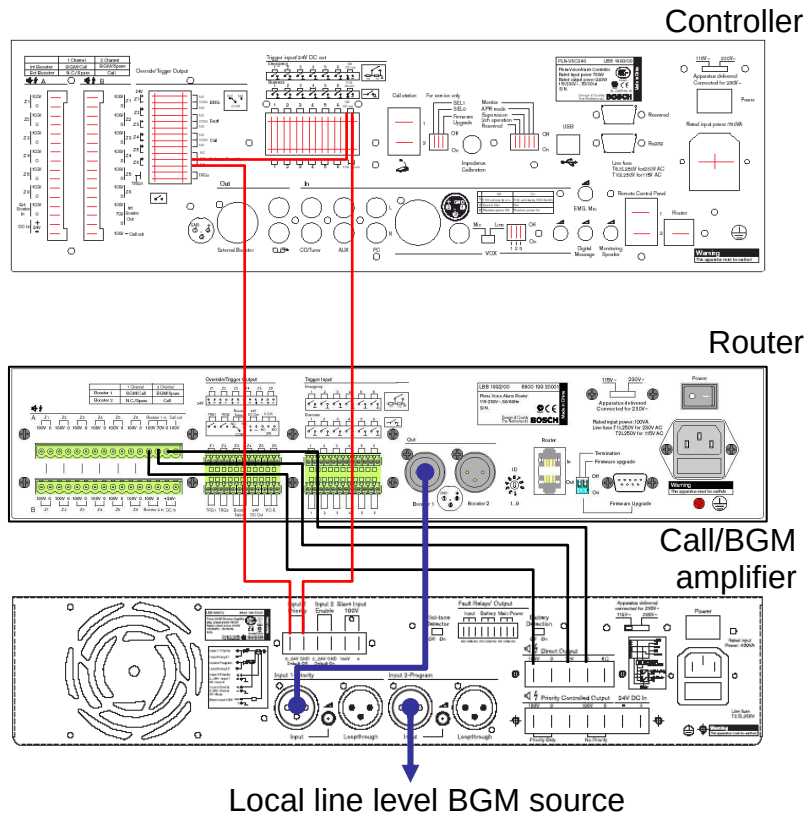
The local BGM source must be connected to the 70V/0V Booster Input 1. Although this input is intended to be connected with a 70 Volt output of an amplifier, it can also be connected to the 100 Volt output of the 1Maxx. Note that the total amount of power used by the router does not exceed total power of the 1Maxx. More power can be added by adding a Plena power amplifier to the 1Maxx (up to 1000 Watt is possible)

The Call Amplifier is connected in the normal way. The Spare Amplifier is connected in nearly the normal way. The difference to the normal way is that only 100V and 0V are connected. The Spare Amplifier can still be used to spare more than one Call Amplifier.

To ensure the EOL check, a pilot tone must become available on the BGM source. Therefore one zone of the Voice Alarm System must be offered. This zone provides a pilot tone that shall be added to the BGM sources. This zone output, with pilot tone, must be connected to the 100V slave input of the 1Maxx. The slave input of the 1Maxx has a 20kHz pass-through filter. This way the Pilot tone will be mixed with the BGM signal into the 1Maxx and pilot tone supervision is realized during local BGM. This solution for local BGM is intended for EOL supervision.

Non-evac setup with local BGM – 1 channel system

This low cost non-evac setup for local BGM can only be applied in 1-channel mode. You must use the /20 version Plena Amplifiers, because the switching possibility of these amplifiers is used. The Call output relay of the Voice Alarm Controller is used to switch between Call and (local) BGM and connects to the Priority enable input on the amplifier. Refer to the drawing below for all the connections.



This option uses a line level BGM signal, and not a local 100V BGM source. This solution has one serious limitation. **It is not possible to supervise the Call/BGM amplifier**, neither by impedance supervision, nor with EOL supervision. Therefore it is of no use having a spare amplifier.

Contact information:

Bosch Security Systems B.V.

Sales Support Organization PA
(Product) Application Specialist EMEA
Wilbert Maximus, B.Sc.
P.O. Box 90106
4800 RA Breda, The Netherlands
www.boschsecurity.com