

## Master/Slave Modes in the XAP800/400

### Introduction

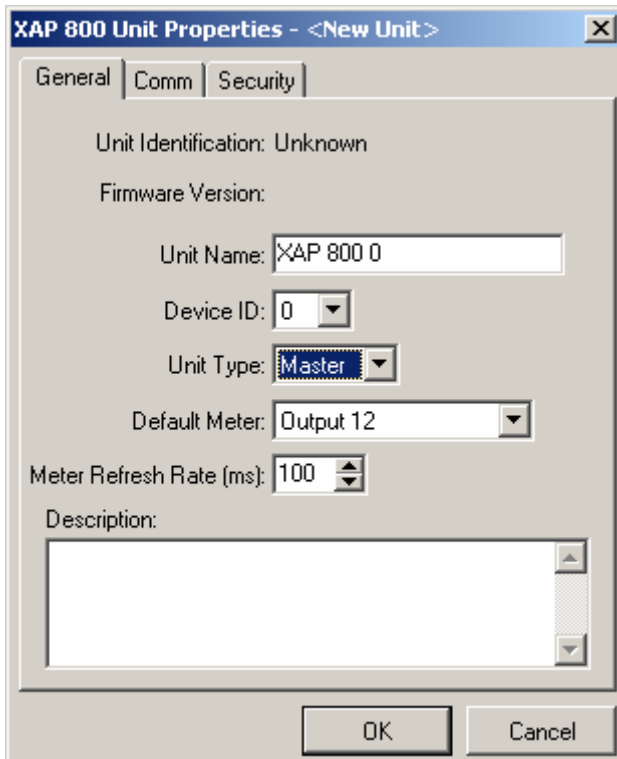
This document describes the functional changes of an XAP when in Master Mixer Mode.

### Description

This technical note explains the differences between Master and Slave modes and the changes that take place in an XAP unit when it is configured as a Master unit. It covers the effects on audio and the expansion bus.

### Mixer Modes

There are two Mixer Modes available in the XAP: Master and Slave. The mixer modes can be configured from the front panel LCD screen on the XAP unit, under the system settings menu. You can also configure a unit for Master Mode in G Ware in the Unit Properties screen in the Unit Type drop down menu.



### Slave Mode (Default)

XAP units are set as Slave by default from the factory. All audio and control functions are shared across the expansion bus to all units, this allows for easy integration without changing mixer modes when linking multiple units together using the Expansion Bus. The audio flow on the Expansion Bus is a digital mix minus signal that allows an XAP to pass its' microphone or line level audio to any connected unit without that audio being returned to the originating unit. Control is also passed across the Expansion Bus requiring only one RS232 connection to control all devices.

**Master Mode**

When an XAP is configured for Master Mode it will only transmit serial control data. All other data is interrupted as explained below.

- **Audio**  
When the XAP is set to Master mode any audio from the units upstream from that unit will not be accepted or retransmitted to units below the Master unit. In effect the audio stops at the IN port on that unit.
- **Microphone Gating and Global Gating Group Settings**  
Global gating groups allow for multiple linked XAP's to share microphone gating information for Global Gating Groups such as Maximum Number of Mics On, First Mic Priority and Last Mic Mode as well as Number of Open Microphones (NOM) count across the expansion bus to all linked units. Once a XAP800 or 400 is changed to Master mode the Gating Group settings are then divided between any units upstream of the master unit and devices downstream and connected to the master units OUT bus. Each group of units will then refer to the gating control functions within the smaller global group.
- **Echo Cancellation Expansion Bus Reference**  
When a linked XAP system is configured with all units in Slave mode they have the ability to share an Echo Cancellation Reference across the expansion bus. This allows all the units to share an echo cancellation reference output that is sending the audio to the power amplifier. When an XAP is changed over to Master Mode such as in a room divide mode, the expansion bus will no longer refer to the unit upstream from it. This requires the echo cancellation reference to be configured in the Master unit to allow for proper echo cancellation.

**Master Mixer Mode Example**

Master Mixer mode can be used as a configuration change for room combining systems. If an XAP is located in the middle of a group of XAP devices you can use a preset or macro command to set that unit to Master and break the audio flow from the devices linked to the IN port on that XAP. This provides a clean break in the audio to create two smaller system for the divided rooms. Changing the unit back to slave mode will then link all the units together and allow audio to pass throughout the system.