Welcome to A-BUS™ Multi-Room Audio. When combined with your source equipment (receiver, CD player, etc.) and speakers, A-BUS™ creates a versatile whole-house audio system that will fill your home with high-quality sound for years to come.

**A-BUS SYSTEM OVERVIEW:**

1. FutureSmart Distribution Hub/s (MDADZ600):
The distribution hub is the core of the FutureSmart system. It is located in the Structured Wiring Panel, which may also distribute other services like telephone, video and data. The audio sources (Radio, CD, Tape, etc) are normally located in the main entertainment area. From there a CAT5 Cable is run to the input of the FutureSmart hub in the Structured Wiring Panel. The hub has six output ports (RJ-45) to connect up to six runs of CAT5 cable, that lead to a FutureSmart Power Module located in each room. If sound is required in more rooms, additional hubs can be installed into the Structured Wiring Panel. A CAT5 Patch Lead is required from the first hub's expansion output to the next hub's input. Each distribution hub is supplied with an APS-40 Power Supply, to power the FutureSmart Power Modules. Important Note: Substitute power supplies are not recommended.

2. FutureSmart Power Modules (AUDZ200)
The power modules are stereo amplifiers with level control which power the speakers in each room. Only one CAT5 cable is required between the distribution hub and the power module. Speaker cable is run from the module to the speakers in that room.

3. Infrared (IR) Repeating Module (AUDZ300):
The AUDZ300 is a power module with an infrared repeater that enables remote control commands to be relayed to the source components, for input track/channel selection etc. They handle 38KHz and 56KHz codes. The status LED flashes green when IR commands are received. The IR repeater system is always active.

4. Audio, IR Data and Status Connections:
a) A-BUS/READY™ amplifiers are equipped with A-BUS™ output/s (RJ-45) to connect directly to an FutureSmart hub. These amplifiers also have IR data outputs to relay commands to other source components. When purchasing a new amplifier look for the ABUS/ READY™ logo on the front.
b) Interface Module (AUDZ500):
If the amplifier is not equipped with an A-BUS/READY™ output, an AUDZ500 Interface Module should be located near the main audio components to connect and distribute audio output from the amplifier's tape output or second zone output, along with IR data and trigger system Status (See 5 Power/Status).

5. Power/Status:
The power modules in an FutureSmart system are on standby unless activated by:
a) A-BUS/READY™ amplifiers automatically activate the ABUS™ system when it is powered up (from standby mode).
b) Automatic Signal Sensing: The interface module (AUDZ500) activates the A-BUS™ system, when an audio signal is sensed, 30-seconds after the audio signal ceases the system returns to standby. In this format the red Status LED indicates when the A-BUS™ system is activated. System Power Sensing: To activate the A-BUS™ system when the main amplifier is powered up a 12Volt, 100 - 300 mAmp power pack should be plugged into the main amplifiers switched power outlet and the Status input of the Interface Module (AUDZ500). In this format the Automatic Signal Sensing is defeated and the red status LED will indicate when the FutureSmart system and the main amplifier are active.

6. FutureSmart Local Input Module (AUDZ700):
The LIM provides 'local' input capability FutureSmart power modules for sources such as TV sound, MP3 player, computer sound cards, etc. The LIM automatically switches to the local input when a local source is detected. 30-seconds after the local source ceases, the LIM automatically reverts to the main input source. The LIM is easy to install, however, care should be taken to run the CAT5 cable past the LIM installation point during pre-wiring if this facility is to be available. This is a requirement often forgotten, eg. in the case of a local TV, the CAT5 cable should be run past the room's aerial point.

**A-BUS COMPATIBILITY**
This product complies with the A-BUS™ format. The A-BUS™ format has also been adopted by other manufacturers who make variety of products which can give your system added flexibility and simplify operation. When looking to expand and/or upgrade your home entertainment and distributed audio system, be sure to look for products that carry the A-BUS™ trademark.

**PRODUCT INSTALLATION**

**IMPORTANT: Before installation, review the manuals included with each component in your system. If you are unsure of any of the installation procedures described herein, or elsewhere, it is recommended that you contact your dealer or a professional electronics installer.**

**Pre-Wiring:** All cabling between the A-BUS/READY™ amplifier/FutureSmart interface module and FutureSmart distribution hub should be Cat 5 Cable or better (eg. CAT5e). The maximum cable run should be 150 feet (30M). Speaker wire should be run from the FutureSmart power module to the in-wall or in-ceiling speakers. The power modules will accept up to 14 gauge cable. It is also recommended to run Category 5 cable from the FutureSmart power modules to the speaker points for future requirements. It is recommended that the CAT5 cable run to the main sound system be terminated with a wall mounted RJ-45 socket at the wall and a standard (568A) patch lead be installed between the wall socket and the A-BUS/READY™ interface module output.

**IMPORTANT: Local Input Module:** Before installing the CAT5 cables from the hub to the power module make sure a Local Input Module will not be required. Eg. in the case of a local TV, the CAT5 cable should be run past the room's aerial point. A 12” taped loop of cable for access is recommended. The same could be applied to a point in a child's room next to a desk where a computer maybe located.

**IMPORTANT NOTE:** These instructions contain directions to installers of A-BUS™ systems. LeisureTech or FutureSmart or its agents shall not be liable to any person or entity for loss or damage, including consequential loss or damage, arising out of any error or fault in the installation of the A-BUS™ system or any of its component parts.
IMPORTANT INSTALLATION GUIDELINES

During installation, do not connect power to the hub/s. Before powering up the system, make sure all volume levels are on minimum level. Power modules should be connected and left out of the wall for adjustment. Do not install the power modules into the walls before starting up the system.

SETUP

Follow these steps to give the volume control maximum flexibility.

Trip Pots (L & R), located on the back of the FutureSmart/A-Bus™ Power Modules, that can fine tune the output level in each room to compensate for the length of the cable run, the efficiency of the speaker or the size of the room. There are also situations where the output level should be limited. The main volume control of the system should be set to about 2 o’clock. The trim pots should then be adjusted to a point just below the amplifier’s clipping point, using a popular music source. (Clipping is the point where the sound begins to distort.) Using the included hardware, install the power module into a standard UL/CSA approved J-Box as shown.

FAULT FINDING

- Check all connections carefully
- Make sure all speakers are wired in phase
- Check for status (red LED) indicator on AUDZ300
- Disconnect power modules from hub and check operation one by one
- A short in the speaker wire will cause the output to shutdown until fixed
- Some second zone outputs have their own command.

FEATURES AND SPECIFICATIONS

**Power Module (AUDZ200)**
Speakers: Drives one pair of speakers (6-8 ohms) >88dB
Control: Rotary
Wall plate: Designed to fit Decora™ style wall plates
Terminals: Input: CAT 5 Punchdown
Output: screw terminal (up to 14 gauge)
Size: Depth: 2.8” (70mm) Height: 4.2” (107mm) Width: 1.7” (44mm)

**Power Module (AUDZ300)**
Infrared Repeating 38KHz and 56 KHz
Speakers: Drives one pair of speakers (6-8 ohms) >88dB
Control: Rotary
Wall plate: Designed to fit Decora™ style wall plates
Terminals: Input: CAT 5 Punchdown
Output: screw terminal (up to 14 gauge)
Size: Depth: 2.8” (70mm) Height: 4.2” (107mm) Width: 1.7” (44mm)

**Interface Module (AUDZ500)**
Inputs: Audio - Phono Sockets (1pr.) Status - 2.1mm DC (+ve centre)
Outputs: Infrared - 3 x 2.5mm TRS jacks to hub - RJ-45
Size: Length 4” (100mm) Width 2.8” (71mm) Height 1.3” (32mm)

**LIM (AUD700)**
Inputs: Audio - RCA Phono Sockets (1pr.) From hub - Punchdown
Output: To power module - Punchdown
Size: Depth 1.8” (25mm) Height 4.2” (107mm) Width 1.7” (44mm)

**HUB (HBADZ600)**
Inputs: From Interface Module - RJ-45
Power - 2.5mm DC (+ve centre)
Outputs: To rooms (zones) - RJ-45
RJ-45: Expansion port - RJ-45
Wiring format - 568A
Size: Depth 1.8” (25mm) Height 4.2” (107mm) Width 1.7” (44mm)

**Cable**
Cable: Interface module to hub to power modules Category 5 (or equivalent)
Patch leads: 568A only

**Power Supply (APS-40)**
Inputs: 108 - 264 Volt AC 115w
Output: 4 Amp
Size: Length 5.9” (151mm) Height 1.4” (36mm) Width 2.8” (70mm)

A-BUS™ is a Registered Trademark of LeisureTech Electronics Pty Ltd, Sydney, Australia. International Patent Pending LeisureTech Electronics Pty Ltd, Sydney, Australia.
A-BUS products will conform to all relevant local electrical standards including, but not limited to, those concerning the use of Cat5 data transmission products.

The color code for terminations shall be as follows:

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<th>Color</th>
<th>Code</th>
<th>Description</th>
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<td>Power</td>
<td></td>
</tr>
<tr>
<td>Brown/white</td>
<td>Ground</td>
<td></td>
</tr>
<tr>
<td>Blue</td>
<td>IR signal</td>
<td></td>
</tr>
<tr>
<td>Blue/white</td>
<td>Status</td>
<td></td>
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<tr>
<td>Green</td>
<td>Green/white</td>
<td>Left audio ground</td>
</tr>
<tr>
<td>Orange</td>
<td>Orange/white</td>
<td>Right audio</td>
</tr>
</tbody>
</table>

Terminations
The following terminations shall be used:

**AUDZ500 INTERFACE**
- Audio input: RCA sockets (Red for right channel, white or black for left)
- Power: 2.5 mm DC socket, tip positive
- Status input: 2.1 mm DC socket, tip positive
- IR output: 3.5 mm Jack socket, tip positive
- Expansion outputs:
  - Audio only: RCA sockets (As per audio input)
  - A-BUS generic: RJ-45 8-pin socket as per Molex FCC-68 modular socket. Minimum current rating 1.5 amps. Pin outs as per T568A

**MDADZ600 HUB**
- Outputs to modules (one connector per module to be provided)
  - Freestanding unit: RJ-45 8-pin socket as per Molex FCC-68 modular socket. Minimum current rating 1.5 amps. Pin outs as per T568A
  - In-wall unit: 8-way 110 punch-down connector (color coded)

**AUDZ200/AUDZ300 VOLUME CONTROLS**
- Input: 8-way 110 punch-down connector (color coded)
- Speaker out: 4-way screw terminal to suit max 14AWG cable
- Wall plates: To conform to CAT5 specifications, sockets rated to 1.5 amps (minimum). Terminations as per T568A.
- Patch leads: To conform to CAT5 specifications, sockets rated to 1.5 amps (minimum). Terminations as per T568A. (RJ-45 connectors)

**AUDZ200/AUDZ300 VOLUME CONTROLS**
The purpose of the A-BUS interface hub is to provide the interface between the audio components, the A-BUS power supply and the various A-BUS modules in the system.

In order to interface with the audio source components the A-BUS interface hub has an audio line input, IR emitter outputs and a Status input. For details of the various connectors used see the relevant section of this document.

As well as an aid to termination, the A-BUS hub also contains an audio buffer and line driver circuit to boost the audio signal going out to the A-BUS modules.