GENESIS SYSTEM

DESIGN

&

INSTALLATION

DEALER MANUAL

Revised March 1999
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SAFETY INSTRUCTIONS

READ INSTRUCTIONS - All the safety and operating instructions should be read before the appliances are operated.

RETAIN INSTRUCTIONS - The operating instructions should be retained for future reference.

heed WARNING - All warnings on the appliances and in the operating instructions should be adhered to.

FOLLOW INSTRUCTIONS - All operating and use instructions should be followed.

WATER AND MOISTURE - The appliances should not be used near water - for example, near a bathtub, washbowl, kitchen sink, laundry tub, in a wet basement, or near a swimming pool, etc.

LOCATION - The appliances should be installed in a stable location.

WALL OR CEILING MOUNT - The appliances should not be mounted to a wall or ceiling.

VENTILATION - The appliances should be situated so that their location or position does not interfere with their proper ventilation. For example, the appliances should not be situated on a bed, sofa, rug or similar surface that may block the ventilation openings.

HEAT - The appliances should be situated away from heat sources such as radiators, heat registers, stoves, or other appliances that produce heat.

POWER SOURCES - The appliances should be connected to a power supply only of the type described in the operating instructions or as marked on the appliances.

GROUNDING - Make sure that the units in the system are always connected to a standard three-prong grounded outlet (the circular pin is ground). When operating this unit at a higher voltage with a different power cord configuration, consult your dealer for the proper power cord/outlet combination to use before operating this unit.

POWER CORD PROTECTION - Power supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, paying particular attention to cords at plugs, convenience receptacles, and the points where they exit from the appliances.

CLEANING - The appliances should be cleaned only with a polishing cloth or a soft dry cloth. Never clean with furniture wax, benzine, insecticides or other volatile liquids since they may corrode the face plates.

POWER LINES - An outdoor antenna should be located away from power lines.

PERIODS OF DISUSE - The power cord of the appliances should be unplugged from the outlet when the units are not in use for a long period of time.

OBJECT AND LIQUID ENTRY - Care should be taken so that objects do not fall and liquids are not spilled into the enclosures through openings.

DAMAGE REQUIRING SERVICE - The appliances should be serviced by an authorized service center or qualified service personnel when:

- The power supply cords or plugs have been damaged; or
- Objects have fallen, or liquid has been spilled into the appliances; or
- The appliances have been exposed to rain; or
- The appliances do not appear to operate normally or exhibit a marked change in performance; or
- The appliances have been dropped; or the enclosures have been damaged.

SERVICING - The user should not attempt to service the appliances beyond that described in the operating instructions. For all other servicing, contact the factory.

WARNING:

TO REDUCE THE RISK OF FIRE OR ELECTRICAL SHOCK, DO NOT EXPOSE THE APPLIANCES IN THIS SYSTEM TO RAIN OR MOISTURE. REPLACE FUSE ONLY AS MARKED.

CAUTION:

TO PREVENT ELECTRIC SHOCK, DO NOT PLUG THE UNITS IN THIS SYSTEM INTO ANY OUTLET OR EXTENSION CORD WITHOUT THE STANDARD THREE-PRONG CONFIGURATION, WHERE THE CIRCULAR HOLE IS USED FOR THE GROUND PLUG.

IMPORTANT:

The lightning flash with the arrowhead, within an equilateral triangle, is intended to alert the user of the presence of un-insulated “dangerous voltage” within the products’ enclosures that may be of sufficient magnitude to constitute a risk of electrical shock to persons.

CAUTION:

TO PREVENT RISK OF ELECTRICAL SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER-SERVICEABLE PARTS ARE INSIDE ANY OF THE UNITS IN THIS SYSTEM. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

The exclamation point within the equilateral triangle is intended to alert the user the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliances.

- 2 -
Introduction to the Genesis System

ADA's Genesis System incorporates everything that is required for a sophisticated multi-room home entertainment system. As the Genesis inherits the same flexible "Custom" features from its fabled forefather, System 100, the Genesis includes a full array of accessories permitting you to custom design a system to suit your client's lifestyle. As with any ADA system, the Genesis is engineered to provide these basic points - "ADA Guide-Lines":

1. Ease of Operation - The Genesis keypads' button layouts are intuitive, permitting anyone to quickly master the system's operation.

2. Exceptional Sound Quality - Often overlooked as an unimportant aspect of a multi-room stereo system and at times difficult to describe as a major selling feature, sound quality is a critical consideration. If you were spending thousands of dollars on an entertainment system, wouldn't you expect it to sound great. The Genesis delivers superb high-current amplification which will more effectively drive in-wall speakers. The switching and amplification stage of the Genesis are also very clean with an amplified output THD rating less than 0.09%.

3. Durability & Value - As with all major ADA components, the Genesis is constructed from an all-metal chassis and includes a caliber of parts rarely found in custom installed electronic products. Unlike some other multi-room system, the Genesis is engineered to perform for many years.

4. Flexibility & Design Options - The Genesis comes complete with an entire family of keypads, and accessories. While the most common keypad is the MC-1111, many other control options exist permitting you to design the system to better fit your client's lifestyle and design esthetic. Furthermore, many accessories allow you to truly customize a system without having to include expensive home-automation type controllers.

5. Ease Of Installation & Dependability - The Genesis is designed to be swiftly installed permitting you to proceed to your next project. In addition to being an installer's "dream system", the Genesis is extremely dependable, operating on a control system (System 10 (circa 1977) and System 100 (circa 1988)) that has been in use for nearly 20 years.
**Standard Features**

Based on a single chassis design, the Genesis includes everything that is needed for a full-function multi-room audio system. These features include the following:

1. **Source Input Switching** - Three source components can be included on a Genesis System. Button caps are easily interchangeable and a complete library of buttons are available from ADA.

2. **Record Output** - The Genesis includes a "Record Output" which can provide a fixed line level audio signal to a surround sound processor and/or cassette player (or other recording device). Since most systems will be installed to independently turn on source components only as needed, the Genesis front panel provides a "Record Power" switch that will provide power to all three switched source outlets for recording purposes, even if all rooms are off.

3. **Audio Processor Loop** - The Genesis includes a "Processor Loop" to permit you to include an external equalizer for additional acoustical contouring of the entire home's audio signal. This processor loop output can also be split to provide a preamplified audio signal to an external power amplifier used for sound reinforcement of a particular room. The split is necessary to not only provide a preamplified signal to this additional amplifier but also to return the preamplified audio signal (Loop In) to the Genesis for the other rooms' amplification.

4. **Source AC Control** - The Genesis system provides two levels of source AC control. The basic AC is built-in and will turn the three sources on, one at a time, when a particular source is selected.

5. **Main AC Switched Outlet** - The Genesis includes a "Main" switched AC outlet which can be used to engage an equalizer when any one room is turned on. This "main" switched outlet is also used when combining a Genesis System with a home theater system. The "main" switched AC outlet can be used to switch a transformer on (which provides a low voltage trigger to ADA's ACC-3 Dual Input Low Voltage Triggered Switched AC Outlet). The second trigger for the ACC-3 will come off of the home theater system such that when either the Genesis or home theater system are turned on, the sources common to both the Genesis and home theater system (those plugged into the ACC-3), will also turn on.

6. **Source IR Control** - The Genesis incorporates a built-in IR learning device which can perform three transport functions for each of the three sources (typically FM, CD, & CASS). One of these three functions is sent to the source when the source is first selected, the second is accessed when the source button is repeatedly tapped, and the third function is accessed by holding down the source button. The Genesis learns these codes from the source's original hand-held remote control and can be continuously changed or added to.
Standard Features (cont.)

7 Room DC Trigger - The Genesis provides a low voltage DC output per room that is on whenever that particular room is on. This low voltage signal can be used to trigger an ACC-3 or CCS-4 which in turn is used to automatically engage an external room amplifier or home theater system. The DC trigger for each room is drawn from the room's 8 pin control connector where pin 1 is ground (-) and pin 4 is voltage (+).

8 Removable Screw Terminal Connectors - The Genesis rear panel has six removable 8 pin screw terminal connectors (control input/keypad feedback) and six removable 4 pin screw terminal connectors (speaker out), one set for each room.

9 Room Grouping - While the Genesis has a total of six independently switched rooms, more than one room can be connected to any one of the Genesis's room outputs. This permits you to create "room groupings", where each room will have its own keypad (with volume control). While the rooms that are grouped together will all turn on at once when any of the room's keypads select a source, each room will still have its own local volume control. This design aspect is ideal for rooms that are open to each other. As an example, you can group together the living room, dining room, and kitchen. Rooms that you would want to maintain as independent Genesis rooms would be, for example, the master bedroom and master bath, as one might want to turn on music in the bathroom without disturbing someone who might be sleeping in the bedroom.

10 6 Rooms to 36 Rooms- Each Genesis can provide independent audio to six rooms and as many as six Genesis units can be combined to provide audio to up to 36 rooms. When using multiple Genesis units in one system, you will want to specifically order all of the Genesis with the "Slave" modification. This modification will provide a clean interface for all the Genesis components.

11 Main Power Switch - The Genesis has a single "Main Power" switch which is typically left in the on position. When servicing the system or when the system will not be in use for prolonged periods of time (vacation), this switch can be turned off, thereby shutting down the entire system. This will also disable all function control from the Genesis's front panel or keypads.

12 Master Volume Control - The front panel of the Genesis includes the "Master Volume" control which sets the maximum volume level for the entire home. Rooms can reach this volume or tap down from it, using the local room volume controls. Please note, this volume control should be set once and then left alone.
Preamplification Controls - The front panel of the Genesis includes "Bass", "Midrange", "Treble", and "Balance" controls which set the acoustical parameters for the entire system. As with the "Master Volume" control, these should be set once and then left alone.

Loudness Contour Control - The front panel of the Genesis includes a "Loudness Contour" switch which when engaged provides an enhanced bass contour for the entire home. As with both the "Master Volume" and "Preamplification" controls, the "Loudness Contour" switch should be set once and then left alone.

Front Panel Room Control - The Genesis permits each room to be individually turned on and off from its front panel. To turn on a room, simply press the ROOM button for the rooms you wish to engage. To turn off a room, press the ROOM OFF button. To turn off all six rooms, press and hold any ROOM OFF button.

Front Panel Source Selector - The Genesis also permits you to select the source playing by pressing the desired SOURCE button on the Genesis's front panel. The SOURCE button's LED will be lit when that source is selected. If the "Record Power" switch is in the "on" position, all three source button LEDs will be lit indicating that all three sources have power, even though the system is set to play only one source. Please note, that the "Record Power" switch should typically be left in the "off" position.

Optional Features

In addition to the standard features found on the Genesis, there is an optional accessory available for use with the Genesis System.

Infrared Repeating - Since the Genesis has only one IR output and a system could include as many as three source components, ADA provides the IRS-8 Eight-Way IR Splitter. The IRS-8 connects to the Genesis through a mono-1/8" male-to-male mini-jack. Standard IR flashers then connect to the IRS-8 and run directly to each source component. The IRS-8 can split the Genesis's single IR output to up to eight flashers.
Control Options - Introduction

The following points detail the basic functions associated with the buttons on a Genesis System's keypad.

1  3 Source Selection Buttons - Pressing the source button the first time, turns on a room and selects that source. Sources with "timer-play" functions such as CD and cassette players, will automatically engage into play with the simple selection of that source. For sources lacking the "timer-play" function, the Genesis can be programmed to transmit an IR code for each of the three sources when that source is first selected. Thus, for any type of source that requires a play function (i.e. CD, Cassette, DAT, etc.), when that source is selected, it will also automatically engage into play.

Note: As with all the keypads, with the exception of the MC-100 OD All Weather Outdoor Keypad, the buttons are completely in-the-field interchangeable. While the standard source button format for the Genesis System is FM, CD, & CASS, Audio Design Associates has an entire library of source buttons.

2  Source In Play Indicator - Since the entire home will play only one of the three sources at any one time, if a room is off and the system is already in use elsewhere, it is important to know what source is already in use by someone else prior to turning on a room. The Genesis System controls will indicate what source is already in use by having that source button's LED on prior to the room being turned on. Thus, when entering a room which is off and seeing the CD button's LED on, you will automatically know that the CD player is in use elsewhere in the home. To listen to the CD player, simply press the CD button. To listen to a different source, press the alternate source button. Please note, this will change the source playing to other rooms.

3  Room On Indicator - When the Genesis System is completely off, no LEDs will be "on" on any of the system's keypads. When a room is on, not only with the selected source button's LED be on, but the ROOM OFF button's LED will also be on, indicating that the room is on.

4  ROOM OFF Button - The first time the ROOM OFF button is pressed (actually tapped), the room will turn off. If this was the only room on, both the ROOM OFF button and the SOURCE button LEDs will turn off. If a room is still on elsewhere in the home, only the ROOM OFF button's LED would turn off. The fact that the SOURCE button's LED where still on would indicate that the system was still on in another room.

5  All Off Control - If the room you are in is already off and the system was left on in another room (a SOURCE button LED is still lit), pressing and holding any keypad's ROOM OFF button will turn off the entire system. At this time, none of the keypad buttons LED indicators should be on.

6  IR Transport Control - The Genesis can provide an IR "Play" code when a source is first selected. This is called the "Power On Code". There are also two additional IR functions per source ("1st IR code" and "2nd IR code") that can be accessed from any style Genesis keypad. To activate the "1st" IR function, tap the keypad's source button. To activate the "2nd" IR function, press and hold the source button.
Control Wire Options

The Genesis System is relatively simple to wire. The following wiring options exist.

a ADA recommends a 12 conductor, with a gauge of 20 or 22, and a foil shield with drain run home from each keypad location. **The keypads actually require only eight wires** providing four spare wires in addition to the shield. By using a 12 conductor cable, you can always upgrade to a Millennium System.

b In cases were there are only seven wires and the shield (with drain), you can use the shield/drain as the ground wire and the remaining seven wires for control.

c In cases were a 6 conductor with shield (& drain) are run and a four conductor speaker cable is run from the speaker location, through the keypad's location and then home, you can gather the seventh wire from the drain and the eighth wire from one of the four speaker wires. The remaining three speaker wires would be used for positive left channel, positive right channel, and right & left ground.

d In cases were a 5 conductor cable is run you can opt to use the five wires with any of the keypads for control without status feedback. In these cases, the LED indicators on the keypad will not illuminate at all.

e If you have a three conductor cable with shield (& drain), along with the speaker wires, run through the keypad's location, you can gather five wires using one from the drain/shield and one from the four conductor speaker cable as described in case "c". This will provide enough wires to offer option "d".

Control Options

One major factor which separates the Genesis System from all other systems in its class is the wide variety of keypads and plate finishes available with the Genesis. The following controls operate with the Genesis System.

1 MC-1111 Decora Keypad - The MC-1111 is the standard and most basic Genesis System keypad. The LED indicators on each source button illuminate to indicate which source is selected. Furthermore, the ROOM OFF button will indicate whether the room is on (on) or off (off). The MC-1111 is a single gang control and should be coupled with a rotary type autoformer for local volume level control. The MC-1111 permits slight lateral adjustments once the box is installed. The keypad does not include the Decora wall plate. Keypad bezels are available in white, ivory, and black. The keypad's buttons are black.
**Control Options (cont.)**

2 MC-1001 Single Gang Keypad with Volume Control - The MC-1001 is one of the most popular Genesis System controls in that both the control buttons and rotary volume control are housed in a single-gang wall box. The MC-1001 is fitted to an all-metal wall plate that has fixed screw holes. The wall box must be completely square as the MC-1001 provides no play once installed. The standard wall plates available for the MC-1001 are white and black anodized. Custom wall plates are available in brass, chrome, and blackchrome. The MC-1001 with a clear anodized wall plate is ideal for painting. Additional custom metal finishes such as gold-plated, nickel, and bronze are also available.

3 MC-1010 Double Gang Keypad with Volume Control - The MC-1010 Keypad fits into a double-gang box and also includes a rotary volume control. The MC-1010 is fitted to an all-metal wall plate that is mounted into a double-gang wall box. The wall box must be completely square as the MC-1010 provides no play once installed. The standard wall plates available for the MC-1010 are white and black anodized. Custom wall plates are available in brass, chrome, and blackchrome. The MC-1010 is also ideal for painting in a clear anodized wall plate. Additional custom metal finishes such as gold-plated, nickel, and bronze are also available.

4 The MC-11.5 Keypad is used in conjunction with the ZS-3 Zone Splitter to provide both room on/source selection, room off/system off, Genesis source transport control, and volume control of a specific Genesis Room (Zone Area). The MC-11.5 and ZS-3 combination also permits these same functions to be controlled via the wireless infrared remote control, the MC-0011. The MC-11.5 Keypad, in addition to the standard three source buttons and room off button, also includes both Volume Up and Down buttons as well as an IR receiver. The ZS-3 incorporates a stereo electronic step autoformer, and the IR decoder board for the MC-11.5. The MC-0011 IR Remote Control provides the same functions of the MC-11.5 in a wireless hand-held control. Please note, due to the additional IR and volume control aspects of the MC-11.5 require it to be wired with a twelve conductor control cable to the ZS-3. The ZS-3 connects to the Genesis using the recommended eight conductor cable. When using the ZS-3, it is important to remember that the ZS-3 operates exactly like a 50 Watt autoformer.
Control Options (cont.)

7. The ZS-3 is used exclusively with the MC-11.5 and will operate as 50 watt stereo autoformer, and IR decoder (for the MC-0011 IR Remote). The ZS-3 is typically located near the Genesis and one ZS-3 is required for every Genesis Room. No more than four ZS-3s or GRE-2s can be used on any one Genesis.

8. The MC-0011 is a light-weight plastic remote control that sends infrared commands to the MC-11.5. These IR signals are decoded inside the ZS-3. The MC-11.5 has the same functions as the MC-11.5 Keypad.

9. MC-100 OD All Weather Outdoor Control with Volume Control - The MC-100 OD is designed to be mounted and left outside without a box cover. The MC-100 OD should be mounted in a Waterproof double-gang electrical box. The MC-100 OD incorporates rubber button caps and is mounted on an all-metal wall plate in white. Sources and keypad functions are silk-screened in black on the white plate which is then coated for protection of the screening. The standard format for the MC-100 OD is:

   FM, CD, AUX

   If your source format differs from the above format, a custom silk-screened plate will need to be created. Each custom plate carries a surcharge.

10. GRE-2 Genesis Room Expander - The GRE-2 is used to break a particular Genesis room area into two rooms which turn on and off independently. This would permit you to take a single Genesis area (i.e. Room 6) and break into the Master Bedroom and Master Bath. Each room would have its own home-run keypad and volume control and turning on one room will not turn on both rooms. Also, rooms connected to the GRE-2 are not capable of being turned on from the front of the Genesis. Again, this may be beneficial for bedrooms where inadvertently turning on the bedroom from the front of the Genesis might wake someone up. Please note, that a single Genesis should hold no more than six GRE-2s or ZS-3s in any combination.
Genesis Update - March 1999
Programming Source IR Codes

The Genesis's IR Learner has been modified. The IR Learner module's memory no longer requires the use of a lithium battery to hold codes in memory during times where power is removed from the Genesis. However, the steps to load commands has altered somewhat from the older Genesis and the prompting IR leaner LEDs on the back of the Genesis, no longer match the silk-screen below them. Any mention of LEDs in this two-page addendum, refer only to this row of five LEDs.

Prior to programming the IR codes into the Genesis, make certain that the Geneis is on and that the source hand-held remote controls have fresh batteries.

When you first plug the Genesis in and turn on its front panel power switch, the center LED of the five LEDs is lit.

When you enter the Program Mode by pressing the Program button, the bottom two LEDs are lit.

If you exit the program mode and press no other front or rear panel buttons, the second and fourth LEDs are lit. Pressing any front panel transport button will turn all LEDs off.

To program IR commands (Steps 4 & 5 are time sensitive):

1 Turn the Genesis on by pressing a room button and then any source button.
2 Press the source button on the front of the Genesis that you wish to program.
3 Press the PGM (Program) button on the rear of the Genesis. The bottom two LEDs will be lit.
4 Press and release the transport button you wish to program on the back of the Genesis and the bottom LED will be the only one lit.
5 Aim the IR remote at the back of the Genesis and press the IR function you wish to learn. Note, that first the middle LED lights up indicating the function is being captured. Then the fourth LED, from the top, lights up indicating that the function has been loaded. Press the IR Learner button to lock in this command.

Note, in order to learn codes you will enter and exit the Genesis's IR learner program mode, every time you learn a new function.
If you did not send an IR command within six seconds, the IR learner will time-out indicating the 2nd, 4th & 5th LEDs. If this happens, press the IR learner button on the rear of the Genesis twice, once to exit the programming mode and the second time to re-enter the programming mode.

6 Once you have programmed the first function into the Genesis, continue programming the remaining functions for this source by repeating steps 4 and 5.

7 Once you have programmed the functions for the first source, proceed to program the second source by simply pressing the next source button on the front of the Genesis.

**Testing Programmed IR Codes**

After you have programmed all three sources into the Genesis, you can verify the functions providing the source components are available. To verify the programming:

1 Connect an IR flasher to the Genesis's IR output jack and aim it (stick it) at the front of the first component you wish to test.

2 Select the source button that this source's IR codes were programmed into on the front of the Genesis.

3 Press the function button (Power On, 1st, 2nd) on the back of the Genesis one at a time and verify the components response to each code. With each press of a transport function that was programmed correctly, the Genesis top LED will flash.

If a transport function is selected that has nothing programmed on it, the second from the top LED will flash.

4 After you have tested the first source, connect the second source to the IR flasher and press the corresponding source button on the front of the Genesis.
Trouble-Shooting IR Programming

If you are having problems verifying the IR programming with the sources and the Genesis, one of the following may be the cause:

1. Make certain that the source component is loaded with source materials (i.e. CDs, cassette tapes, etc.)

2. Make certain that the IR flasher is located over the IR receiver of the source component.

3. Have a few spare IR flashers handy as some flashers may not function even though they appear new and unused.

4. If no IR LED indicator on the back of the Genesis lights up, the IR flasher is dead (open).

5. Make certain that the source component you are testing has been programmed into the source button selected on the front of the Genesis.

6. Make certain that the source component is set to the proper IR setting. Some sources have multiple IR addresses. While you may have entered the codes for one address, the component itself may be set to an alternate address.

7. If you are using an unusual source component, consult with its owner's manual to see if the IR remote's carrier level is above the 40KHz IR range that the Genesis operates in.

IRS-8 IR Splitting to Multiple Sources

The IRS-8 permits the single IR output of the Genesis to be split to up to eight source components (the Genesis System will only use three). To connect the IRS-8 to the sources and the Genesis, follow these steps.

1. Obtain an 1/8" male-to-male mini-phono jack (mono).

2. Plug this 1/8" male-to-male mini-jack into the Genesis's IR Output port and the IRS-8's IR Input port.

3. Connect the IR emitters (flashers) to each source component making certain that you are placing the flasher over the component's IR receiver.

4. Plug the IR emitter's 1/8" mini-jack into any one of the IRS-8's IR Output ports.
Source Line-Level Audio & AC Power Connections

The Genesis is the heart of your multi-room home entertainment system. As it is the major central component, all three sources will have their audio line-level outputs (preferably fixed outputs) connected to the Genesis's audio inputs labeled 1, 2, & 3. Furthermore, the sources' AC power cords will also plug directly into the Genesis's three source switched AC outlets. Make certain that the proper sources have their respective AC power cords and line-level audio outputs connected accordingly.

Special Note

The Genesis requires that the processor loop RCA cables be in place in order for the Genesis to process (amplify) an audio source. If the Genesis does not arrive with a processor loop cable, you can provide one by simply using a stereo RCA cable. If the Genesis does arrive with a processor loop cable in place but you are not getting any audio out of the Genesis's amplifier, replace the processor loop cable with a stereo RCA cable.
**External Power Amplifier - Options**

While the Genesis's built-in amplifier is quite powerful and capable of handling several pairs of speakers (stable to 1/2Ω), it may be necessary to provide additional amplification for a room or several rooms should more power be required for a particular room (each room is rated to handle up to 4 pair of 8Ω speakers or 2 pair of 4Ω speakers). An additional power amplifier may also be used when a particular room(s) have a significantly low impedance load that when added to the rest of the rooms on the system, bring the Genesis below its 1/2Ω impedance load.

**A** If you require serious power for more than typical background music, ADA recommends using the PF-250 Power Amplifier. The PF-250 provides 150 Watts per channel at 8Ω and 250 Watts per channel at 4Ω. The PF-250 is stable down to 2Ω. The PF-250 is fan cooled and provides high-current output which more effectively drives any speaker, especially in-wall speakers.

**B** If you are running several speaker pairs where the overall impedance is below 2Ω (i.e. 6 pair of in-wall speakers) or you are running several speaker pairs where more power is required (i.e. 4 pair of outdoor rock speakers), ADA recommends using the PF-201 Low Impedance Power Amplifier. The PF-201 is stable below 1/2Ω and can run over 16 pairs of 8Ω speaker in parallel (32 speakers). The PF-201, while providing 60 Watts per channel at 8Ω, kicks out over 240 Watts per channel at 1/2Ω. The PF-201 is fan cooled and provides high-current output which more effectively drives any speaker, especially in-wall speakers.

**C** If you require more power, are running a speaker load down to 1Ω, and have limited rack space, ADA recommends using the PT-125 Single Rack Space Power Amplifier. The PT-125 Provides 50 Watts per channel at 8Ω, 100 Watts per channel at 4Ω, and is stable down to 1Ω. The PF-125 is fan cooled and provides high-current output which more effectively drives any speaker, especially in-wall speakers.

**D** If you are operating one or several passive sub-woofers, ADA recommends using a parametric bass amplifier which operates in the 20Hz to 200Hz frequency range. Special front panel controls permit adjustment of the bass level, frequency roll-off point, and the bandwidth of the roll-off curve. Thus, you can custom tune the bass signal after the room has been furnished. ADA manufacturers two different parametric bass amplifiers designed for different power requirements.

PBA-50 - 50 Watts Mono at 8Ω - Stable to 2Ω - Single Rack Space - Fan Cooled

PBA-500 - 500 Watts Mono at 8Ω - Stable to 2Ω - Triple Rack Space - Fan Cooled
**Power Amplifier Automatic AC Switching & Installation**

The Genesis System provides several built-in features, one of which is, the ability to easily integrate an external power amplifier and have it automatically turn on when a specific room is turned on. ADA recommends using the ACC-3 Low Voltage Triggered Switched AC Outlet. The ACC-3 has two AC outlets which switch on and off together. The ACC-3 can handle a 15 Amp load.

The following diagram details the connection of the ACC-3 to the system such that it receives a low voltage signal, emanating from the Genesis, when a specific room is turned on. This signal is derived from pin #1 (ground) and pin #4 (+5VDC) on the control cable connector for that room found on the back of the Genesis. The two conductor low voltage wire, going to the ACC-3, is connected to these two pins in conjunction with the keypad's control cable. Whenever that specific room is on, regardless of source selection, pin #4 is hot. This signal, in turn, will cause the ACC-3's two AC outlets to turn on, and subsequently, the power amplifier plugged into the ACC-3 (providing its power switch is left in the on position). When the room turns off, the ACC-3 will turn the power amplifier off.

Please note, that when using an external power amplifier, you will want the Genesis to provide a "variable" line-level audio signal to the amplifier. This variable line-level audio signal comes off of the Genesis's "processor loop" output. Since the Genesis also uses this variable audio signal (preamplified audio signal) for its own internal amplifier used for other rooms, you will need to split the processor loops output to both the external power amplifier and the Genesis's processor loop's input.
Keypad Control and Speaker Cable Wiring

The Genesis rooms wire in such a way that most every room's wiring is identical to the next. The most important consideration to remember when wiring a Genesis System's room, is that the speaker cable needs to wire past (through) the keypad's location and then back to the system mainframe (home). Since the volume is controlled locally in each room, using either the volume attenuator (autoformer) built into a Genesis keypad or controlled by a Decora style volume attenuator (you have provided) when using the MC-1111 Decora control (shown below), you will need the speaker's cable connected to the volume attenuator. Furthermore, the keypad's control cable is a separate cable from the room's speaker cable.

Note
Even when using the Millennium System's 12 Conductor Control Cable with overall Foil Shield and Drain for the Genesis, while there would be enough extra conductors available for use as a speaker cable, the 20 Gauge (or 22 Gauge) wire is not the ideal gauge for powering speakers. For the separate speaker cable, ADA recommends running a 4 Conductor/16 Gauge speaker cable. This cable should loop through the keypad's wall box and can be cut during wire termination. You can also opt to run a 4 conductor speaker cable to the keypad location from the mainframe, while running two separate 2 Conductor speaker cables to the speakers from the keypad location, one to the right channel speaker and one to the left channel speaker.
**Multiple Parallel Keypad & Speaker Connections**

In some systems, any one room on the Genesis may need to provide audio to several rooms. Typically, these rooms are common to each other such that it will not present an operation problem if all common rooms turn on at once. Furthermore, such a room area will have more than one keypad so that the system can be engaged from any one room. In addition, each room will most definitely have its own volume control for local volume attenuation.

**Example**

In a particular home, there are a total of nine rooms yet the Kitchen, Dining Room, Living Room, and Entry Hall are all open to each other. You can therefore, group these four rooms together as one "common room". They will connect to only one of the Genesis System's six independent room outputs. This will leave the remaining five Genesis room outputs open for use with other rooms. While some of the common four rooms could include only a volume control, all of them could also include a full keypad with volume control. Please note, that when one room is on, so are all the other common rooms. You can then lower the volume control to its lowest setting to eliminate the audio from playing in any one room.

**Note**

While this option can be repeated for several of the six Genesis room outputs, the overall impedance level of the Genesis’s built in amplifier is 1/2Ω. Thus you should connect no more than 16 pair of 8Ω or 8 pair of 4Ω speakers to any one Genesis. To determine your speaker load for the entire home when wiring speakers in parallel, use the following equation.

\[
\frac{1}{\text{Room 1's } \Omega} + \frac{1}{\text{Room 2's } \Omega} + \ldots + \frac{1}{\text{Room N's } \Omega} = \frac{1}{\text{Total } \Omega}
\]

When using more than one keypad per Genesis Room, ADA recommends running each keypad's control cable individually home to the system mainframe. This will permit some flexibility should the client wish to expand the system at some later date and will also provide for easy troubleshooting should a problem exist with one of the keypad wires. While you can daisy-chain both control cable and speaker cable, running from the equipment mainframe (home) to the keypads location, with each sub-room's speaker cable run individually to each room's keypad location, running each sub-room's control and speaker cable directly from the keypad location to the mainframe is the best option.
GRE-2 Genesis Room Expander Connections

The Genesis Room Expander (GRE-2) offers independent room on/off control for two rooms, each with their own keypad, that are connect to a single room’s output on the back of the Genesis. The use of the device is quite simple.

Connect a four conductor speaker cable and eight wires of the 12 conductor (recommended) control cable directly to the GRE-2’s inputs. Connect each rooms speaker cable to the GRE-2 and each room’s home run control cable to the GRE-2. That is all that is required.

When one of the two rooms selects a source, only its speakers turn on. The second room will remain completely off. Furthermore, these two rooms cannot be turned on from the front of the Genesis. If front panel control of remote rooms is essential for a particular room in the home, do not put that room on a GRE-2. However, for areas such as bedrooms and outdoor areas, where turning these rooms on inadvertently might be problem, the GRE-2 offers a unique function as it will defeat the front panel control for that room.

Please note, the Genesis provides the power to the GRE-2. As such, too many GRE-2’s (or ZS-3s, they use the same power) will cause the Genesis to malfunction. ADA suggests using no more than six of these devices on any single Genesis. You could for example use two GRE-2s and four ZS-3s or six GRE-2s or four GRE-2s and two ZS-3s, etc.
Typical Genesis System Room Configuration

Since a single Genesis can power as many as 16 speaker pairs (8Ω speakers) and since each room's output can switch up to 4 speaker pairs (8Ω speakers), just one Genesis can power the entire home. The last question to be determined is how to allocate the Genesis's six independent room speaker switches. The diagram on the following page details a suggested use of room speaker switches ("Areas"). When planning your Genesis System, you will want to take note of the specific rooms (or areas) which are typically preferred to switch on and off independently of other areas.

Master Suite
The most common design flaw when planning a home is to include the Master Bedroom and Master Bath on the same Genesis speaker relay (Genesis Room). It is usually preferred to have the Master Bath turn on and off independently from the Master Bedroom. Thus, the user can turn the system on in the bathroom without having to worry that it will also engage in the bedroom should someone still be sleeping.

Outdoor Areas - Patio, Pool, and/or Deck
As with the Master Suite, the Outdoor areas should also be on a specific Genesis speaker relay (room) independent of other interior rooms. Thus, the outdoor areas will remain off when indoor rooms are turned on. This is especially important if the system were to be used late at night. Furthermore, some design options exist regarding outdoor area keypad location. ADA provides the MC-100 OD Weather Proof Outdoor Keypad. Should your client be concerned that kid's from the neighborhood may be running through the backyard and thereby open to toying with the system, you could locate an MC-1111 Keypad inside the home near the doorway to the outdoor area and only locate volume controls outside.

Guest Bedroom & Bath
The Guest Bedroom and Guest Bath can be grouped together on one Genesis speaker relay (room) where the Guest Bedroom would have a full function keypad while the Guest Bath would simply have a volume control. This is typically enough to razzle and dazzle most ordinary guests.

Home Office, Den, Library, or Family Room
When setting up a Home Office room, again the ideal design consideration would be to provide a separate Genesis speaker relay (room) for this area. Thus, the office would not automatically engage with any other room.

Common Areas - Kitchen, Living Room, Dining Room, Entry Hall
In most homes, the common areas can be grouped together to occupy only one Genesis speaker relay (room), reserving the remaining five speaker relays for rooms/areas that are more design sensitive to independent room on/off control. Furthermore, in a great deal of modern architecture, these rooms are already open to each other. While some may argue that these rooms would still require independent room on/off control, this could still be accomplished by turning the room's volume control all the way down. Furthermore, you would not necessarily require a keypad for control (you still need a volume control), in every room on this area. Thus, the obvious benefit of this area's configuration is that all rooms in this area will turn on with the touch of just one button, thereby providing instant music.
4 COND. SPEAKER CABLE
MULTI-CONDUCTOR CONTROL CABLE (MIN. 8 WIRES)
The Genesis System and Home Theaters

Option 1 - The Home Theater is one of the Genesis System's Six Rooms
The Genesis System permits the inclusion of a home theater system on any room. You can include either a home theater receiver or high-end component home theater system. As with any high-end home theater decoder it is best to pass a fixed line level signal to the processor for both music, TV, and film. ADA's SSD-66 Dolby ProLogic Surround Sound Decoder, SSD-66THX LucasFilm Home THX Controller, or SSD-66 (5.1) Dolby Surround AC-3 Controller operate as a room’s preamplifier while the Genesis for that room would merely act as a source selector for the music sources. This allows a user to select a source on the room’s keypad. Volume can then be controlled using the SSD-66's hand held remote control (SSD-66 REM). The PTM-6150 Home THX Six Channel Surround Sound Amplifier is illustrated in the following diagrams. Other multi-channel power amplifiers are also available from ADA including the PTM-650, MPA-5, MPA-6, and MPA-500/BPA-500 High Powered Theater Amplifiers (THX).

The most common application for a home theater system is based around SSD-66 (5.1) Dolby AC-3 Preamplifier, the RFD-1 AC-3 RF Demodulator, and the PTM-6150 Lucasfilm Home THX Power Amplifier. The SSD-66 (5.1) has a total of seven audio and four video inputs. To leave as many inputs as possible open for local home theater video source components, the music source components, common to the entire home, will be routed through the Genesis. The SSD-66 (5.1) will select any one of the four video sources or the source component selected on the Genesis. The diagram to the right details these connections. You can even add an additional audio-only source component to the home theater system. Please note, that while the house-wide Genesis System is listening to either FM, CD, or CASS, the theater could be viewing and listening to one of its local sources, TV, VCR, SATELLITE, or LASER.

Benefits of Home Theater Option 1

1. Since the Genesis System is routing all of the music sources common to the entire home, the built-in source AC switching on the Genesis would not need to be bypassed. This will result in a simplified selection format for both the home and the home theater. Please note, that while no volume control is needed in the home theater (the SSD-66 (5.1) will control volume), a Genesis keypad (MC-1111) should be located in the home theater so that this room could select a music source. You could avoid placing a keypad in this room if the Genesis were to be located in this room and the user instructed to select music sources from the Genesis’s front panel.

2. Since the SSD-66 (5.1) can accept only six inputs when connected to an AC-3 laser disc player (max), by using the Genesis to select the music sources, you will only be using one audio input on the SSD-66 (5.1) for music sources, leaving the remainder of the inputs open for local video or audio sources.

3. In this scenario, you can opt to have the SSD-66 (5.1) and PTM-6150 automatically engage when either the TV was turned on or this particular Genesis room. Since the SSD-66 (5.1) and the PTM-6150 are an extension of this room’s audio system as seen from the Genesis, an automatic sequence for turn on from either the room’s music system keypad or the TV will work when using the CCS-4 and ACC-3 ADA Black Box Switching devices.
DIGITAL I/O
ON HOME THEATER
PREAMPLIFIER
OUT TO INPUT
FIXED LINE
THX AMPLIFIER
SIX CHANNEL
DOLBY AC-3
PTM-6150
(MUST USE)
STEREO
LEVEL
LOOP
AMP
OUT
VAR
IN
AUDIO INPUTS
1 3
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R        L
R        L
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Option 2 - The Home Theater is Independent sharing only music sources

An alternate home theater configuration for a home theater system would permit splitting the three Genesis source components to both the Genesis and the home theater preamplifier. Thus, one of the three central music sources could be playing in the home theater while one of the other two central music sources is playing throughout the house. This setup is perfect when working with ADA's SSD-66 (5.1) Dolby AC-3 Preamplifier, permitting you to setup a two zone system. This setup will also be ideal when working with an A/V Receiver type of home theater system.

Benefits of Home Theater Option 2

1. The home theater can listen to one central music source while the house listens to another, in effect creating a two-zone system.

2. The Genesis System's six rooms can be used for six rooms (areas) not including the home theater room.

Installation Notes

In this type of home theater system, the three central sources are shared by both the Genesis System and the home theater system. If your home theater preamp/receiver has most of its inputs utilized for local video sources, you may wish to share only one or two of the music sources (some A/V receivers will already have a built-in radio tuner).

Apart from "Y" splitting the shared music sources, the only system configuration consideration that needs to be addressed is the music source's AC switching. Since the Genesis incorporates independent source switching in its most basic setup, this source switching will need to be bypassed somewhat, permitting the home theater system to also engage the sources whenever it is turned on.

To accomplish this, ADA recommends using the ACC-3 Dual Low Voltage Triggered Switched AC Outlet. This device can accept one of two low voltage signals (3-24V AC or DC) and engage its two switched AC outlets. Thus, when the ACC-3 receives a low voltage signal triggered by the Genesis, the ACC-3 will turn on. When the ACC-3 receives a low voltage signal from the home theater preamplifier (SSD-66 (5.1) as shown), its switched AC outlets will also turn on, thereby engaging the sources. Since the Genesis is capable of providing a single IR command for each of the three music sources when they are first selected, sources with "timer play" functions should have their timer-play switch set to the "off" position. Thus, even though all three sources will turn on at the same time when either the Genesis or the home theater system are turned on, the sources will not engage into play unless they are specifically selected from the Genesis. The user in the home theater room would need to engage the source by directly pressing the "play" button on the source or via its IR remote control (assuming that the sources are open to the home theater room or that an independent IR repeater system has been setup in the home theater).

Since the Genesis does not have a low voltage output like the SSD-66 (5.1), you will need to plug a low voltage transformer into the Genesis's "Main" Switched AC Outlet. This outlet
engages whenever the Genesis is on regardless of source selection and the low voltage output of this transformer is then run to one of the ACC-3’s two low voltage input triggers. Please note, that when working with an AV receiver that also has only a switched AC outlet (no low voltage output), a second transformer will be needed.
**Installation of ADA Keypads**

Most ADA Keypads are provided on a custom plate which is 1/8" thick. Typically, screws provided with these plates are 1" long. The plates do not provide any play once installed. It is therefore essential that the box in which the keypad is mounted into is completely square. If the box is even slightly off-angle, the keypad, once installed will appear crooked.

Furthermore, the box used, should be checked against a keypad to make certain that the keypad and circuit board will fit into the box. The box should be close to flush with the surface of the wall but should not extend beyond the surface of the wall. The plate should rest flush on top of the wall. The dimension of an MC-1010’s circuit board (double gang keypad) 3.5” wide by 2.8 inches tall and will fit some double-gang masonry boxes but may not fit all types. For MC-100 OD All Weather Outdoor Keypads (double gang keypad), ADA suggests using a watertight masonry box.

When installing a keypad, be extremely careful with the handling of the plate and screws. The plates can easily be scratched if handled improperly.

When wiring the keypad, you can remove the screw terminal connector from the keypad's circuit board and first connect the wire to the connector. The shield (or ground) wire is typically completely exposed (without a jacket) and will require taping. This protection will prevent the ground wire from making contact with circuit board traces once the keypad is installed. Since the other wires are not exposed when they are inserted into the connector, they will not require taping.
Rack Rail & Hardware and Rack Mounting Source Components.

ADA makes available to dealers, custom cut rack rail sections and rack hardware. Unlike most rack rail available, ADA Rack Rail is 4.5" deep, capable of mounting inside the cabinet, not just along the front edge, but firmly against a larger section of the cabinet's wall. Furthermore, ADA's Rack Rail is not pre-threaded, but rather, has holes spaced at EIA Rack Mount Standard intervals for rack nuts which clip onto the rack rail. Thus, if a hole is stripped, the stripped rack nut clip can be removed and a new one can be inserted in its place. Furthermore, the clip-on rack nuts provide some play, permitting you to adjust the component as it is inserted into the rack. ADA provides the rack nuts, rack screws, and rack washers by the dozen and rack rail by linear inch. Please note, if your rack height is 21 inches tall, you will need to order two 21 inch rack rails for a total of 42 inches of rack rail.

If you wish to provide the same 1/8" thick quality plate finish for sources (and other non-ADA components), complete with rack handles (some units cannot be rack mounted with handles), ADA can custom rack mount source components to match the look of the ADA rack of equipment. These surround plates are custom cut to a component's dimensions and are mounted to the plate itself, permitting easy installation into the rack using the functional rack handles to position the component into place. Unlike other rack plate manufacturers, components rack mounted by ADA are completely mounted to the plate and do not just sit on a shelf and slide through an opening. Also, because the plate is custom cut to the specific source component, the fit is much tighter than plates provided by other manufactures. To properly manufacture and mount the non-ADA components, ADA will require the sources in-house for a period of two to four weeks. As with all ADA components, custom rack plates for non-ADA components can also be made in Brass, Chrome, and Black Chrome.

When combining ADA components and other components (such as sources) which are racked in another manufacturer's rack plate, ADA recommends you allow a space between the other rack plates and the ADA components. This space can be small and could be filled with a piece of wood from the cabinet, providing a separation between the two types of plates. Even though another manufacturer's rack plates and ADA plates are both black anodized, there are usually definite differences in plate finish and thickness which may be noticeable. The cabinet separation will limit these difference from being obvious.
**Genesis System Wiring**

There are several different types of wire and accessories required to install a Genesis System. Depending on your system's configuration they may include:

- Control Cable - 12 Conductor/20 gauge with overall Foil Shield or at least a shielded 8 conductor 20 or 22 gauge control cable.
- Speaker Wire - Typically 4 conductor wire.
- Line Level Wire - Stereo RCA wires.
- Low Voltage Wire - 2 Conductor Wire (Zip Cord).
- IR Flashers - Mini IR Emitters (For control of sources)
- AC Extension Cords - For connecting components to AC outlets.
- AC Power Strips - Multiple AC Outlets.

Prior to initiating an installation, it will be helpful to assemble all the required cables, source control connectors, and AC connectors/extension cords.

Whether you are using ADA's cable or a suitable substitute, make certain that all connections are clean. Any frays or loose strands may short a data line and can cause the system to lockup or function poorly. Tone out all cable runs to make certain that you have both, continuity and that none of the wires are shorting into each other. The most common problems result from sloppy wire termination.

**Home Run Wires**

Prior to installing any of the equipment into the rack, ADA suggests toning out the keypad, IR, speaker, and any other cables run from remote rooms to the equipment mainframe. Any short in the control and IR cables will cause problems when you start installing the system mainframe. Shorts in the speaker wire will cause the amplifiers safety fuse to blow. Connecting a speaker pair such that one speaker positive connection is to a negative amplifier connector will make the speaker pair sound poor.

**Keypad & IRs Tips** - You can remove some of the screw terminal connectors from the Genesis and connect the keypads' and speakers' cables that are run to the equipment mainframe after you have tested their wiring. Label all of your home run wires.

**Speakers Tips** - The Genesis provides removable four pin screw terminal connectors which are connected directly to your home run speaker cables. Follow the markings on the Genesis as to polarity and right vs. left connections.

**Rear Access**

If you have rear access to the equipment rack, you are in luck. This access will permit you to wire the system after the components are racked. If there is a problem with any of your wire terminations, it will be easier to locate and repair the wire when you have rear access.
No Rear Access
If you do not have rear access to the equipment rack you will need to carefully plan the equipment layout such that components which take up large rack space and have few wires running to them are located at the bottom of the rack. These components can be left out while you install, wire, and test the system. Furthermore, you can locate non-rack mount units behind the lowest components such as ACC-3s and AC Power Strips. Since wires will always hang downward (gravity), they will be in reach of these devices. Components, such as amplifiers, can be located at the bottom of the rack when racks begin near floor level. Components, such as sources, can be located at the bottom of the rack when racks begin at counter top levels.

Genesis System Standard Keypad Termination

The Genesis controls and the Genesis itself have matching screw terminal connectors which are completely removable to facilitate installation. It will be significantly easier to insert and lock the wire strands into these screw terminal connectors if the connectors are removed from their circuit boards.

The screw terminal connectors may vary in style depending on the unit they are for. Thus, simply removing all screw terminal connectors and placing them in a single box for termination, may cause problems when on the job site. For example, the connectors for the MC-1001 control will differ from the MC-1111 control. ADA recommends:

1. Taking the entire component or keypad, to the job site prior to installation.
2. Unpack the component in the room it is to be used in.
3. Remove the screw terminal connector once in the correct room and connecting it to that room's control cable lead.
4. If these steps are being done prior to final installation of any hardware (i.e. the room walls still require painting), re-box the control minus the screw terminal connector already on the control cable, label the box, and return to a secure equipment lockup room or you office.
5. For control cable leads at the mainframe or at a location with multiple keypads, it is strongly recommended to label the wire. Thus as you return to the job site for the final installation, you will be able to easily identify the control cable home runs as they zone specific.

Keypad Connections
The standard Genesis controls require only eight wires for proper connection. The numeric order for these eight wires are identical on both the keypad and Genesis. Prior to installation, it will be useful to establish a color key such that for example, Red is pin 1, Orange is pin 2, etc.

Once you have a color key set, make certain that each control cable connection to the screw terminal connector matches you color code.
Genesis Installation Steps with Page References

Step A - Programming IR Source Codes into the Genesis
Prior to installing the system rack, it is suggested to program and test the sources function with the Genesis. Since you will need access to both the rear of the Genesis and the front of the Genesis while programming, this step is most easily accomplished with the Genesis placed on a table. For information on the programming of the Genesis, see pages 11-12.

Step B - Installing the Rack
The first aspect to installing the system is to plan the placement of all the ADA rack equipment, amps, and source components. Typically, the equipment is best racked starting at the top and working downward. If you do not have rear access to the equipment, wires can be connected to components as they are installed permitting the wires to hang while the next component is added. Also, by lifting components into position rather than resting them on the component below, you are protecting the face plates and rack handles from knocking together. When racking from bottom to top, components can be easily dented and scratched.

ADA suggests planning your equipment rack such that sources are followed by the by the first Genesis, then the Slave Genesis's (if used), then the SSD-66/PTM-6150 (or other surround amps), and then all other additional power amplifiers (PF-201's). This format for racking the equipment will provide a cleaner flow of components and the respective wires and cables which interconnect all the components. For more information on rack hardware available from ADA, see page 27.

Step C - System Mainframe AC Wiring
Running the high voltage cables prior to adding any line level wires gives you the opportunity to locate the heavier AC cords out of harms way. While wiring the AC is the first recommended step, the main switching components (i.e. Genesis’s & ACC-3s) should be left unplugged from an actual AC outlet at this time. For information on AC wiring options, see pages 14-17.

Step D - Sources - Sources to Genesis
All central sources will need to connect their line-level wires to the Genesis. For more information on these connections, see page 14.

For source control, the sources will need to connect to the Genesis or IRS-8 if used. Use either an 1/8" male mini jack to 1/8" male mini jack wire for connecting the Genesis to the IRS-8 and use standard IR flashers which connect to the Genesis or IRS-8 (if used). For more information on the connection of the IRS-8, see page 13.

Step E - Connection of External Power Amplifiers
In many cases, additional power amplifiers are used to engage with a single zone. For the various amplifier options available, see pages 24 - 25. At this time, you can connect the line-level audio wires from the Genesis (variable line-out) to the power amplifier making certain to "Y" split the processor loops output to both the external power amplifier and the Genesis's "Loop Input". You can also connect the low voltage wires from the Genesis's Control Cable (Pin 1 (-) & Pin 4 (+)) to the ACC-3 for AC control of external amplifiers. For more information on the installation of external power amplifiers, see pages 16-17.
Step F - Connection of Home Theater Systems
The Genesis system provides several different options when it comes to home theater systems. These options are discussed on pages 22-25.

Step G - Speaker Wires
Connect the speaker wires to the Genesis or other power amplifiers. Use the screw terminal speaker connectors on the Genesis and the banana connectors common found on most ADA power amplifiers. The banana connectors have a tab on one side marked "GND" for ground. This tab will permit you maintain polarity even if you cannot see the wires as you plug them into ADA power amplifiers. For the four pin screw terminal connector on the Genesis, follow the format as printed on the rear of the Genesis. For a diagram of the Genesis's rear panel connection, go to pages 18-19.

Step H - Control Cable Connections to Keypads & Genesis
At this time, you should have already toned out control cable lines to verify that no shorts exist on the cables and that continuity across all wires is OK. At this time you can proceed to connect (if not done previously) the removable screw terminal connectors to the control cable at both the mainframe and remote room. Make certain that you have properly labeled all wires as they are room specific. Once you have the cables connected to the screw terminal connectors, plug the connector into the appropriate keypad or Genesis control port. For more information on proper keypad and Genesis connections, go to pages 18-19.

Step I - Main AC Connections
Once your system is properly connected, you can proceed to plug the main AC components into an AC outlet. These devices include the Genesis, ACC-3, and any other AC components that may as yet not have been plugged in.
Appendix A - MC-11.5 & ZS-3 Wiring Options

Note - Do not use more six ZS-3s or GRE-2s (in any combination) on a single Genesis.

Option 1 - Using the MC-11.5 when it is the only keypad in a Genesis Room.
You can use the combination of the MC-11.5 and ZS-3 in place of a standard Genesis Keypad in any room. This is an ideal option when the speaker wires have been run directly from the speakers to the system mainframe. The MC-11.5 controls use the same control cable as the Millennium System.

Option 2 - Using two or more MC-11.5s in a single Genesis Room.
This option is ideal for rooms where multiple keypad locations are required in a single room. In such a situation, any of the keypads can control that room's volume level, an option absolutely not available when using rotary volume attenuators. This option is also ideal for the master bedroom, where his and her night table keypads would best suit the clients needs.
Appendix B - MC-1001 Pin Connections

The MC-1001 is ADA's single gang control for the Genesis System. As it incorporates both the Genesis control and a local volume control (10 step stereo autoformer), all behind a single gang plate, the depth of the wall box should be sufficient enough to accommodate both keypad and speaker wiring.

This Genesis keypad does not include a screw terminal for the eight conductor control cable (note, some control cable marked as "Genesis Cable" may have more than just eight wires). Since the keypad design is very compact, control cable connection to the keypad's circuit board must be made using the adaptor cable provided by ADA and included with the MC-1001. One end of this cable has an eight pin female "Molex" type connector. This connector plugs into the bottom of the MC-1001.

When holding the keypad such that the back of the keypad is facing you, the connector should plug in such that the "Black" wire (pin 1) is facing to the left side. Furthermore, the connector is inserted on the MC-1001 "Molex" connector pins (male) such that the wires emerge from the "Molex" connector away from the circuit board.

The color coding for the eight-pin molex connector is as follows:

- Pin 1 Black
- Pin 2 Brown
- Pin 3 Red
- Pin 4 Orange
- Pin 5 Yellow
- Pin 6 Green
- Pin 7 Blue
- Pin 8 Purple

These color codes are specific only to the MC-1001 "Molex" connector and will most likely not match the color coding you are currently using. To properly connect these wires, using the Pin Numbers to match your color coding.
Appendix C - Genesis Control Cable Pin Description

The following details the pin specific functions for the Genesis. The MC-11.5 uses all twelve wires to the ZS-3 and its pin-outs will vary from the table below. Please note, that if you are short on control wires for a particular room or all rooms, you can get the Genesis System keypads to operate with only five conductors. In this case the three wires used for readout would not be used. While the control functions would remain the same for a keypad wired with only five conductors, the keypad's LEDs would not light up at all. If you are planning to wire a Genesis keypad with less than eight conductors, leave off all three wires associated with readout.

Pin 1  Common (-)
Pin 2  Room Off Button (Normally Open) - ROOM OFF
Pin 3  Input 3 Button (Normally Open) - CASS
Pin 4  Room LED Signal Indicator Readout (+24VDC)
Pin 5  Input 2 Button (Normally Open) - CD
Pin 6  LED Signal Indicator "B" Readout (+24VDC)
Pin 7  Input 1 Button (Normally Open) - FM
Pin 8  LED Signal Indicator "A" Readout (+24VDC)