PROFICIENT™
Audio Systems

M4

Tuner - Source One
Tuner - Source Two

Zone Stereo FM − +   Zone Stereo FM − +
One-Six Mono AM Tuning   One-Six Mono AM Tuning

Z1 FM 106.5 MHz   Z1 FM 106.5 MHz
P01 Mo → ←   P01 Mo → ←

Zone Status

M6

Proficient Editor
Advanced Programming Guide

TABLE OF CONTENTS

TABLE OF CONTENTS

SYSTEM CONFIGURATION

Factory Default System

The Proficient Multi-Zone Audio Controllers come with a set of pre-configured PMKIR keypads, one for each zone. In addition, the Controller is pre-programmed at the factory with a default project so that the system will function "right out of the box." The installer can use this default as a base on which to build customized projects. The default project is named "M4_Default or M6_Default" in the Proficient Editor Project folder. When you alter it to build your own project, be sure to save it with a different file name (ie. "JonesHome").

The factory installed default project has the following functionality: (**Refer to Figures 1 & 8**), (When using the M6 with eight sources, use the default project M6X8).

1. Six Source keys: TNR1, TNR2, SAT, CD, CD2, MP3

2. Six Function keys: BASS, TREB, MUTE, PWR, VOL UP, VOL DOWN

3. The six Source keys are set as Zone Power ON keys and are programmed to select the rear panel Audio Source inputs as follows:

   TNR1 = Source 1, TNR2 = Source 2, SAT = Source 3, CD = Source 4, CD2 = Source 5, MP3 = Source 6. In addition, a Mute Off command is programmed under each Source key.

4. The six Function keys are programmed as follows:

   BASS: 1st press changes Vol UP/Down to Bass Up/Down. 2nd press = Bass Flat.

   TREB: 1st press changes Vol UP/Down to Treble Up/Down. 2nd press = Treble Flat.

   NOTE: *While in the Bass or Treble tone modes, the selected Source button will blink at a medium rate to indicate the tone setting mode. The tone setting mode is defeated by one press of any button other than the Tone and Volume buttons.*

   MUTE: Set for Internal Preamp Muting. Toggles ON/OFF. Pressing Source or Volume buttons also un-mutes. During Mute, selected source key blinks slowly.

   PWR: Set as Zone Power OFF. Will NOT turn the zone ON. Press and Hold for two seconds turns all zones OFF (Whole House).

   ▲: Volume Up command. Also serves as Bass or Treble Up after first pressing BASS or TREB keys.

   ▼: Volume Down command. Also serves as Bass or Treble Down after first pressing BASS or TREB keys.

Whole House/Party Mode

1. All zones are set for Whole House/Party Mode capability.

   Whole House/Party Mode: Forces all zones to the same source and allows volume and mute functions to operate all zones in unison from initiating keypad.

   – To engage Whole House/Party mode, press and hold a desired Source button for longer than two seconds. During press and hold, source button blinks rapidly (busy).

   – Release button when blinking stops. Source button then turns Amber in color, indicating system is now in Whole House/Party mode. Source selection, Volume Control and Mute functions will now operate in all zones from the initiating zone.

   – To transfer Whole House/Party mode control to another zone, above steps are repeated from the desired zone.

   – To cancel Whole House/Party Mode, press and hold a Source button from the initiating zone for longer than two seconds (until blinking stops).

   NOTE: *Zones other than the initiating zone will have red active Source buttons and will operate as normal independent zones.*

2. Priority is set to ON for all zones. This means that commands from any keypad in any zone will execute, regardless of previous command executions in other zones. See Priority section for details.

3. When a zone is first turned on, the volume will be at a default medium background level. After that, it will come on at the last volume used prior to zone turn OFF.

PROGRAMMING

PROGRAMMING WITH PROFICIENT EDITOR

NOTE: *Be sure the "Transfer Cable" is connected between the COM port on your computer (or the USB port with the USB/Serial Adapter) and the CONTROL PORT on the M4. Firmware upgrade switch should remain in the OFF position unless prompted by Proficient Editor. Power up the M4 and proceed as follows:*

Quick Start

1. Download Proficient Editor from proficientaudio.com/software. Call 877.888.9004 to obtain the password.

2. Double-click "Proficient Editor.exe."

3. Follow on screen instructions.

4. This will install the program and place a Proficient Editor icon on your desktop.

5. Double-click the Proficient Editor icon and launch Proficient Editor.

Serial Port Selection

1. At this point, Proficient Editor will search for a device on default Serial Port 1. If you get the message "No Device was found on Port 1," click OK. Click "Tools" in the Proficient Editor menu, then "Settings." In the "Proficient Editor Settings," click "Auto-Detect" or manually select a known Serial Port for your computer. When device is found, click OK.

2. You can begin programming by opening the default project;

   "File; Open; M4 Default" for M4 Multi-Zone Audio Controllers, or

   "File; Open; M6 Default" for M6 Multi-Zone Audio Controllers

   or by creating a new project (refer to **Figure 1**). It is highly recommended that you start with the default project that comes factory installed, since a good deal of the programming is already done. You can then modify it to suit the requirements of a given installation.
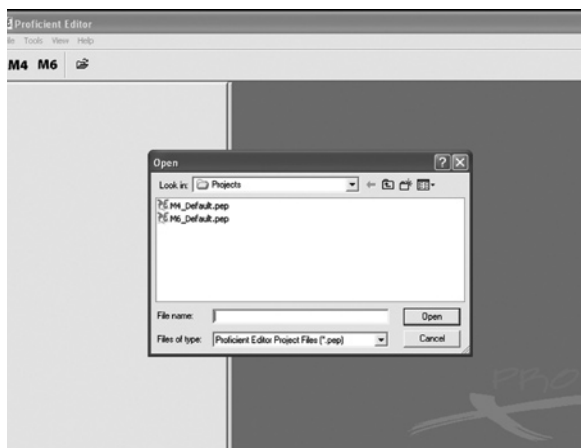
Figure 1 *Opening the Default Project*

3. If you want to start an entirely new project, click "**New … M4 (or M6) Project**" from the File menu or click the **M4 (or M6)** icon. Type in a Project Filename for your system, such as "**JonesHome**" and then click "**Save**." This places the filename in the "**Projects**" folder in the Proficient Editor directory. A typical path to the Projects folder would be "C:\Program Files\Proficient\Proficient Editor\Projects."

M4 Setup Menus

These menus can be used for initial Source Setup and other functions, or to modify them after the project is in progress. It consists of two menu tabs: **Source Assignments and System Configuration.**

Source Assignments

The default project that comes with Proficient Editor, will have source assignments already made. If you want to change them to suit your individual installation needs, or set them up from scratch without using the default project, proceed as follows:

1. Under **Project Content**, click SOURCE SETUP.

2. On the pop-up, click the **Source Assignments** tab. A list of six sources appears that correspond to the sets of SOURCE input jacks on the rear panel.

3. Click on any of the six inputs under "**Source Name**" that you want to change. A drop list of some 24 choices will appear. Refer to **Figure 2**.

4. Click on your choice and then **Apply**. Repeat this for each source, as desired.

Figure 2 *M4 Source Assignments*

Your choices will now show under **SOURCE SETUP** under the **Project Content** tab. Be sure to make a similar change on the actual keypad buttons. In some cases you may need to order additional buttons that are not included in the default set that come with the keypads.

5. When you finish making your selections, you can add identifying information for each source component in the fields under **Description**, such as make, model, etc., for future reference. See **Figure 2**.
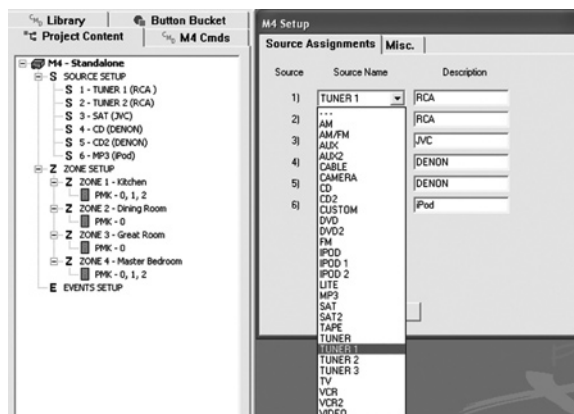
System Configuration

The settings under this tab include: **IR Code Group**, **System Configuration** and **Doorbell/Status … .**

IR Code Group

In rare instances, other components might respond to (or be "stepped on" by) one or more **Proficient Editor** key commands when taught to and used with learning remotes. If this happens, you can change the IR Code Group to a different one. To do so, refer to **Proficient Editor** under the "**Programming Learning Remotes With Proficient Editor System Commands**" section.
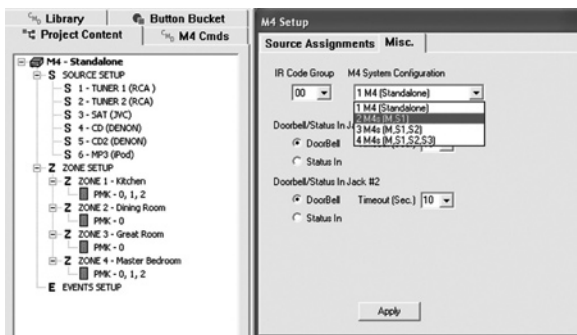

Figure 3 M4 System Configuration (Zone Expansion) Settings

In addition, **when using multiple controllers for zone expansion** that also use **Proficient Editor** key commands in learning remotes, each Controller should use a different **IR Code Group Setting**. This is necessary if you want to prevent commands from learning remotes in one group from controlling the same zones in the other Controller groups.

System Configuration (for Zone Expansion)

These settings consist of: **1, 2, 3, or 4 Controller Systems.** Refer to **Figure 3**. These System settings are necessary when using multiple controllers for zone expansion.

1 M4 (Standalone) is the default setting for single use of an M4 (four zones). For multiple M4 controllers you would make selections, depending on the total number of desired zones, as follows:

2 M4s (M, S1) (setting for 8 zones total)
3 M4s (M, S1, S2) (setting for 12 zones total)
4 M4s (M, S1, S2, S3) (setting for 16 zones total)

1 M6 (Standalone) is the default setting for single use of an M6 (six zones). For multiple M6 controllers you would make selections, depending on the total number of desired zones, as follows:

2 M6s (M, S1) (setting for 12 zones total)
3 M6s (M, S1, S2) (setting for 18 zones total)
4 M6s (M, S1, S2, S3) (setting for 24 zones total)

*Note: Refer to **ZONE EXPANSION** section for full details on programming and implementing zone expansion systems.*

Doorbell/Status In Jacks #1 & #2

Settings here allow doorbell or status selections and doorbell timing adjustments.

Refer to the "**Doorbell / Page Programming**" section and the "**Power Management/Events Programming**" section, steps 5 & 6, for details.

ZONE SETUP Menus

These menus can be used for initial zone setup and other functions, or to modify them after the project is in progress. It consists of two menu tabs: **Name/Sources**, and **Whole House**. Open the menu by clicking on **ZONE 1** under **Project Content**. Settings made here can be different for every zone or cloned from one zone to the next to make them the same.

Name/Sources

Click this tab to name the zone and/or enable/disable sources within a zone.

Name/Description

1. In this field type a name or description you want for this zone (ex. Kitchen).
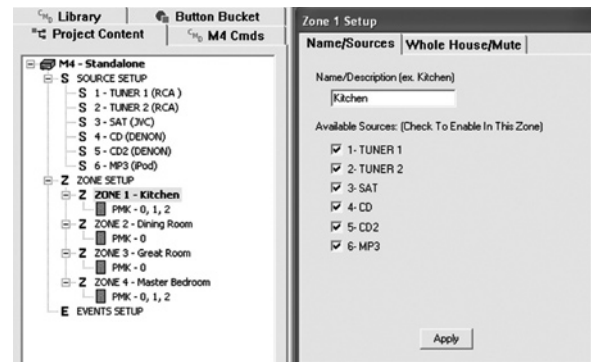
Figure 4 Zone (1) Naming

2. Click **Apply.** The name will now appear next to the zone number under **ZONE SETUP** within **Project Content**. Refer to **Figure 4**.

3. Repeat steps 1 & 2 for each zone and name them as desired.
Available Sources: (Check to Enable In This Zone)
The list of sources shown under this heading are those that have been assigned under **SOURCE SETUP.**

4. If you are programming from scratch, click to check each source that you want to play in the zone.

PROGRAMMING

5. If you are working from a default project and do not want to have a particular source play in a given zone, or you want to change them from Source to Function keys, uncheck them here. Refer to **Figure 5**.
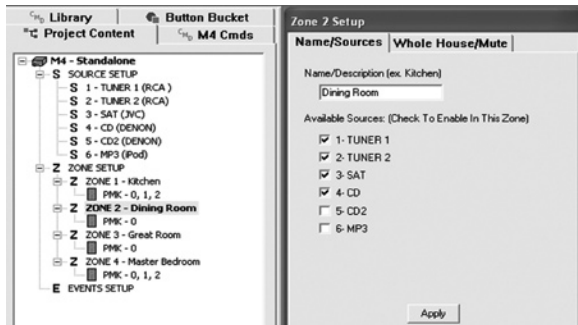
Figure 5 Unchecked Sources for Use as Functions

6. Click **Apply**.

7. If you want to use the two empty keys as Function keys, click each one in turn and place the desired function symbol on the keys from the **Button Bucket** tab. Refer to **Figure 6**.

8. Finish by adding the appropriate command(s) to the **Command** list for the function keys just added.

Figure 6 Adding Functions to Previous Source Keys

Whole House

This tab of **Zone # Setup** includes **Whole House/Party Mode** settings. Refer to **Figure 7**.

Whole House/Party Mode

These settings determine whether a zone is allowed to initiate and/or ignore **Whole House/Party Mode** key
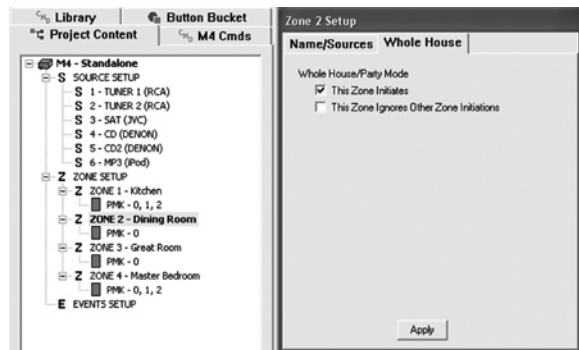
Figure 7 Whole House/Party and Mute Key Settings

presses. See "Whole House/Party Mode" under "**SYSTEM CONNECTIONS AND CONFIGURATION**" and "**Factory Default System**" section, for a discussion on Whole House/Party Mode functions

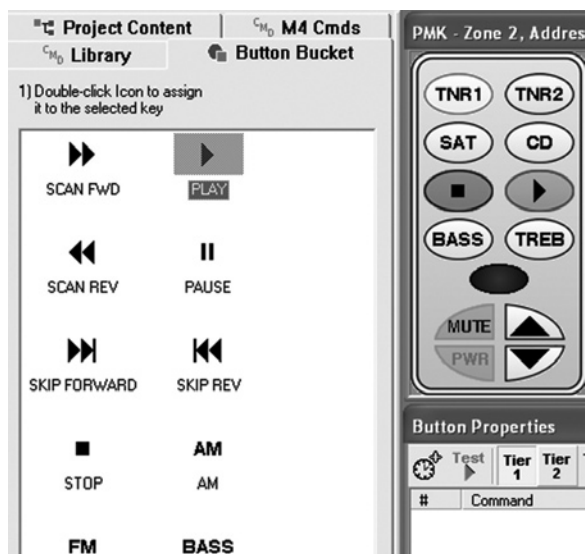1. Check "**This Zone Initiates**" if you want to have the selected zone capable of initiating a whole house/party mode key press (i.e., pressing and holding a Source button for more than two seconds forces all zones to the same source . Subsequent presses of Source, Volume and Mute actions will be effective in all other zones, except as noted in 2 below).

2. Check "**This Zone Ignores Other Zone Initiations**" if you want to have the selected zone NOT respond to whole house/party mode key presses of other zones (i.e., a room you want to keep quiet during a whole house party).

3. Checking both of these will allow the selected zone to send party mode commands, but not accept party mode commands from other zones.

4. Click **Apply** after your choices are made.

Assigning IR Commands to Button Keys

At this point, we will assume that the default project key choices will be used as is. IR Commands to control the source components can now be assigned. IR (and RS232) commands are obtained from the internal Command Library in Proficient Editor. You can also custom learn and place your own commands in the Library and use them in your projects. At this time we will use the existing commands in the library.

1. With the default project open, save it with a new file name, such as "**JonesHome**," by using "Save As…" in the File menu. This will retain the default project "as is" for future use

2. We will begin with the **Source buttons** in Zone 1. Right click PMK, select PMK setup. Adjust Backlight timeout from dropdown menu, to desired duration.

Addresses

Four keypads can be used in a common zone, when more than one PMK are used within a zone, a unique address must be assigned to each PMK. Address assigned on the back of the PMK itself, must match address assigned in PMK Setup.

Configuration and Layout

Default is the PMK, Numeric and Function. Choose appropriate keypad configuration for your project.

Click Apply

Under Zone 1, Left click PMK.

The default program already has internal non-IR commands (**red asterisk ***) programmed for source/zone routing so we only need to be concerned with source function IR commands. The IR commands will typically consist of commands for turning on a source component, placing it in Play, or turning on any other device you may want to come on with a single press of a Source button. Click on **CMD Library.** A Brands window appears with device folders just below. Refer to **Figure 8**.

1. Click a Source button (i.e. TNR1) on the virtual keypad. Then click and scroll the Brands list for the component brand you have for TUNER (i.e. RCA). You must select project content before the virtual keypad is visible.

2. Double-click the change to audio source folder. A list of Code Sets appears. At this point you may have to test the commands in more than one code set to find commands that work with the component.

3. To **Test** the commands, open a Code Set folder and left-click a POWER command to highlight it. Press F9 to test the command. (When a command is sent by F9, the Source keys on all connected keypads will flash. The power command will be sent to the selected Source and Zone IR outputs as well as the common IR OUT). Once a power command is found to work, usually all the others for that device will work also (if not, try other code sets).

   NOTE: This test assumes you have the Transfer Cable (between your computer and the M4) connected, all source and system components connected, all IR emitters attached and plugged in, and all devices powered up.

4. When a Power ON command is found to work, double-click it to place it on the **Command** List under **Button Properties** for the selected Source key. Refer to **Figure 8**.

5. Once a command is on the Command List, you can also test it by clicking **Test** and then clicking the selected (Source) button on the virtual keypad. It acts just like you were pressing a button on the real keypad. Click **Test** a second time to turn the Test mode off.

6. If the command is a Discrete Power ON command, you do not have to use Power Management. However, if you do have a component that only operates with a toggle power command, see the **Power Management** section, beginning at step 2 in the following.
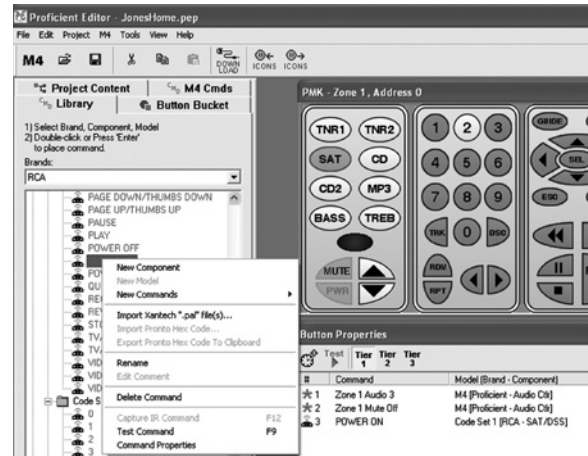
Figure 8 *Assigning IR Commands to Button Keys*

7. Repeat steps 1 - 6 for each of the remaining Source keys. Numeric and Function keypads program in the same manner. If you use a play command so that a CD, MP3, etc. starts playing when a source key is pressed, be sure to add it after the Power ON command, as shown in **Figure 9**. Numeric and function keypads program in the same manner.
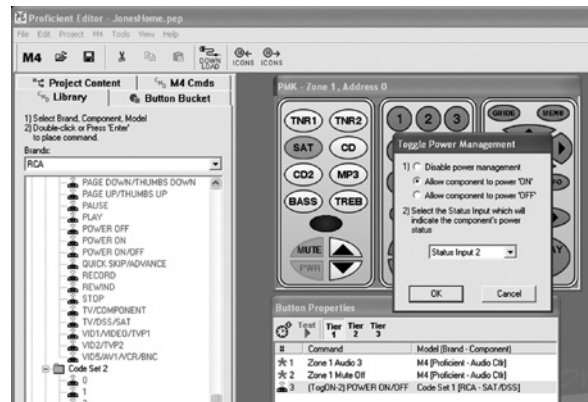
Figure 9 *Programming Toggle ON Power Management*

Cloning and Programming the Remaining Zones

1. Now that Zone 1 is programmed, we can proceed to the remaining zones. Since all zones share most of the same programming, we can simply clone Zone 1 to each of the remaining zones and save a great deal of time. The less extensive programming of each zone's differences can then be performed, if needed. Proceed as follows:

2. Left-click **Zone 1** under Project Content and drag and drop it onto Zone 2. Click "Clone" on the pop-up. Refer to **Figure 10**. You now have an exact replica of Zone 1 at Zone 2. Repeat this for each zone.

    NOTE: "Move" also shows on the pop-up. This allows a given zone to be moved to any different zone, without cloning. Be cautious with Move, however. It will leave the previous zone completely unprogrammed!
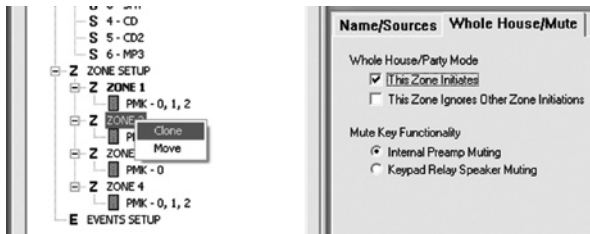
Figure 10 Cloning Zone 1 to Zone 2, etc

3. When done, all zones will now be identical. At this point, you can make individual zone-by-zone changes, such as Zone name descriptions for zone specific devices, if needed.

Downloading to Controller

When programming is complete, you must download the project to the Controller. Turn Power ON to the Controller and proceed as follows:

1. Plug the **Transfer Cable** from your computer into the **Control Port** of the **M4 (M6)** unit.

2. Click **M4 – Master** under **Project Content** in Proficient Editor, then click the **DOWNLOAD** icon in the Toolbar.

For other types of programming, see "**Advanced Programming**" section following.

ADVANCED PROGRAMMING

Proficient Editor, in conjunction with the PMK Keypads and M4/M6 components, is a very flexible and extensive programming and control system. The advanced options are as follows:

Power Management / Events Programming

1. Some components, where only Toggle Power commands are available, will require Power Management. Select PMK under Zone 1. We will consider the CD2 source, in this example, for the **Power ON** action of a Source key. Click CD2 on the virtual keypad and then go to the CMD Library for the CD brand you have (JVC in this example).

2. At JVC brand, go to CD and open Code Set 1. Left-click POWER ON/OFF command (a Toggle Power command) and test with F9. Double-click command to place it on the Command List.

3. Right-click POWER ON/OFF command on the **Button Properties List** and left-click "Toggle Power Management." On the pop-up, click "**Allow component to power 'ON.'**" Refer to **Figure 3**.

4. Next, select the Status Input number on the Doorbell/Status jacks on the rear panel of the controller to which you have a sense voltage connected (see Notes 1 and 2 below) that represents the CD2's ON or OFF condition (in this case, **Figure 3**, it is #2). Click OK. The command summary is now shown on the **Command List** as "(TogON-2) POWER ON/OFF Code Set 1 (JVC-CD)." This means that if the CD2 is OFF, the sense voltage will be low and therefore the power command will be allowed to pass to turn the CD2 ON when the CD2 button is pressed. Conversely, if the CD2 were already ON, the sense voltage would be high, thus prohibiting the power command from being sent when the CD2 button is pressed.

   NOTE 1 – The sense voltage would be connected to one of the DOORBELL/STATUS IN jacks on the rear of the M4. It needs to be in the range of 3 to 30 V AC or DC. This could be derived from a current-sensing module that has an output voltage that goes high (>3 V) when the component is ON or low (< 1 V) when the component is OFF.

   *Note 2 – The DOORBELL/STATUS IN jacks can be used for either doorbell input triggering or for component power status management. You must go in to System Configuration and set status for each. **See System Configuration.** The Controller allows for two doorbell triggers, or two component power management inputs, or one of each.*

5. Try to always use components that have discrete power ON and OFF commands available, so that you do not have to use power management. Many discrete commands are available on "remotecentral.com."

6. Now we need to program **Power OFF Management**. Pressing the PWR button should power off a zone, but not any of the sources until any given zone is the last to be powered off, or when a Whole House OFF command is executed (pressing & holding PWR for longer than two seconds). Proceed as follows:

7. To program power OFF management we will not place commands under the PWR key, but rather within **EVENTS SETUP**. (This allows you to program the Off events in one location rather than under every power key in each zone. Refer to Events Setup section for more detail).

8. Under **Project Content**, left-click **EVENTS SETUP**. Under "System Turning OFF (**Last Zone OFF**)" leftclick "**Source Output 5**," which corresponds to the CD2 as Source 5. Place the same JVC POWER ON/OFF command on the **Button Properties**. Now right-click the POWER ON/OFF command on the Button Properties and left-click "**Toggle Power Management**." On the pop-up, click "**Allow component to power 'OFF'**" and then click OK. Refer to **Figure 11.**

   The System Turning OFF is now programmed so that the CD will turn OFF when the last zone is powered OFF or when Whole House OFF is executed by pressing and holding any PWR key for more than two seconds.
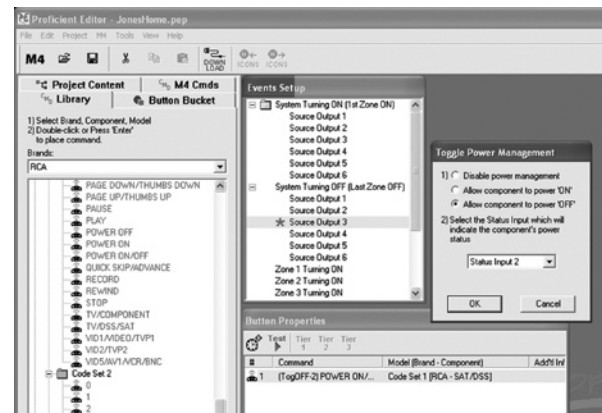
Figure 11 *Programming Toggle Power OFF under Events Setup*

9. The other source components must use **discrete power commands**. Place such discrete Power OFF commands under each of the remaining Source outputs in the **System Turning OFF** list.

   NOTE 1: When done, all Source Power OFF events will occur without the need to place them under the PWR keys in each zone. This results in easier programming and a much shorter Power OFF macro.

   *NOTE 2: If you have a zone component, such as an IR controlled amplifier, you will need to place its power OFF command under the PWR key of the zone that controls it, OR under the applicable **zone – Turning OFF** section in Events Setup.*

ADVANCED PROGRAMMING

Delays

1. In some cases a component may require one to four seconds to fully execute a Power On, Off, or other function. This is no problem unless the user presses the component's Source button very quickly after the power OFF command. Or, commands can execute so quickly in a Whole House On macro that Status is not established before the next Power command arrives. The keypad could then show an ON condition when in reality the component would be OFF.
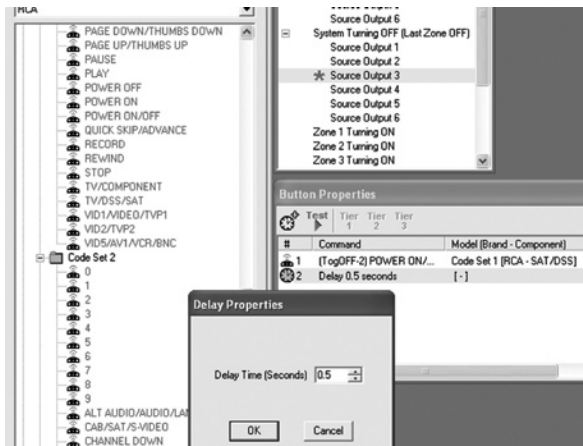

Figure 12 *Programming Delays*

2. To prevent this, place a delay just after the Power command for the related Source **Output** under **System Turning OFF** in **Events Setup** (and under the Source button, if needed at turn ON). To do so, **left-click the clock symbol** just above the **Command** List. A Delay line with a clock symbol will appear in the Command List. Refer to **Figure 12**.

3. Double-click the Delay line and adjust the Delay Time as necessary. Click OK.

   NOTE: *Keep delays to the shortest times possible to avoid long executions of the resulting macros.*

4. If you have several commands in any given list, left-click the Delay line and then drag and drop it into position within the list as desired.

Punched Commands

1. The **Punch** command allows you to instantly **Punch Through** common commands, such as Tone, Volume Up/Down, etc., to all source (bank) selections. This will save you a great deal of programming time and help reduce programming errors. Keep in mind however, that commands such as Stop and Play will be different for each source (bank) and should not be punched. Also, if you use the default project that comes installed on the Controller (and in Proficient Editor), the needed punch-throughs have already been done for the above mentioned commands.

2. If you need to do a **Punch Through**, say for volume, begin by left-clicking any one of the Source buttons. Place volume up and down commands on the Vol UP and Vol Down keys. These would be the internal Zone 1 Volume Up and Zone 1 Volume Down commands from the **Cmds** tab. Click Vol UP key so that it is highlighted blue.

3. Click **Cmds** tab then **Audio Level Commands**.

4. Double-click **Zone 1 Volume Up** command from the list (if you are programming Zone 1). Refer to **Figure 13**.
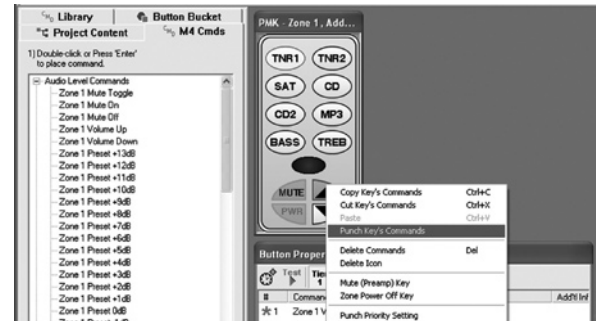

Figure 13 *Punch Programming*

5. To **Punch**, right-click the Vol Up button and left-click "**Punch key's Commands**" and "**Yes**" on the pop-up. Refer to **Figure 13**. Repeat this for Vol Down. The commands under these keys will now appear regardless of the source selected.

6. Repeat these steps for any other command that would make sense to Punch through.

Priority

There are times when you would like to select a source, such as CD, and have it play without interruption in a given zone, such as when dining. Other zones could listen to (leech) the same source, but not change discs, change tracks, stop the CD, etc.

In Proficient Editor, such priority can be given either on a "first come first served" basis or on an "equal access" basis. They can be assigned on a Global, Zone, Source or individual key basis. The options are as follows:

Priority – Equal

This is the default setting in Proficient Editor, before any priority programming changes are made. It means that all keys in all zones have the same priority (Priority On) and commands work regardless of the actions of others in other zones. It will likely be the most often used in installed systems. You can verify this by right-clicking any of the function or numeric keys. A check mark will appear next to the "Priority On" in the pop-up. See **Figure 14**.
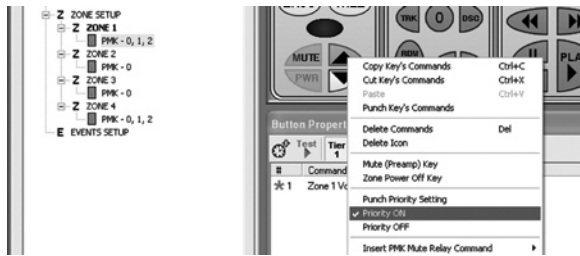
Figure 14 Check Mark Indicates Priority is Set to ON (Initial Default Setting)

Priority – First Come First Served

This type of priority would give controlling access (priority) to the first zone that selects any given source. For instance, the first person pressing CD source in any given zone would be the only one able to control the CD. Others in other zones could listen (leech) but not be able to control it until the first person released it by selecting another source. The next person pressing CD would then have priority control to the exclusion of all others. To program this type of priority, proceed as follows:

1. Right-click your controller under Project Content. Leftclick "**Force Global Priority Off**" and then click "**Yes**" on the pop-up. See **Figure 15**. This will force "Priority Off" on all function and numeric keys in all zones with the exception of keys checked as "Zone Power Off" keys. You can verify this by right-clicking any function key. You will see that "Priority OFF" is checked instead of "Priority ON."
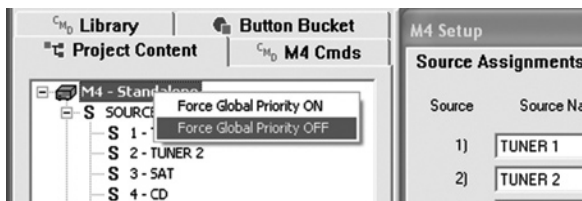

Figure 15 Forcing Global Priority OFF

2. **Restoring Priority to Common Commands**. The previous action even removes priority control from common commands like Bass/Treble and Volume. These will need to be restored as follows:

3. Right-click a Volume button in any zone and left-click "**Priority On**" in the pop-up. Right click Volume Button on any zone, Left click "**Punch Priority Setting**" and "**Yes**" in the pop-ups. This "punches through" "Priority On" for that key for every source (bank) in the zone.

4. Repeat steps 2 and 3 for the remaining volume and other common keys in the zone.

5. Now repeat steps 2, 3, and 4 for each of the remaining zones. This completes this type of programming.

Zone Priority

If you want one or more zones to have full priority in any

given zone (that is, you want to always override anyone else's "First Come First Served" selections for all sources within a zone), proceed as follows:
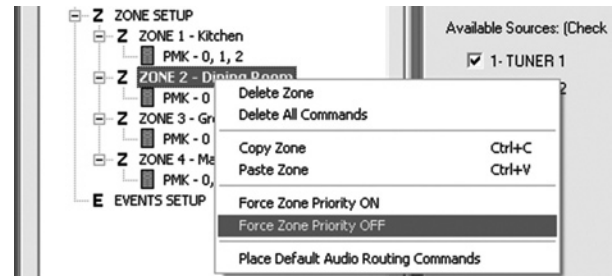

Figure 16 Forcing Zone Priority ON

1. First perform the above steps 1 through 5 for First Come, First Served above.

2. Right-click the desired zone (i.e. **Zone 2** under **Project Content**) and left-click "**Force Zone Priority On**" and "**Yes**" in the pop-ups. Refer to **Figure 17**. All function and numeric keys for all sources in that zone, where applicable, will now have all their "Priority On" options checked.

3. Repeat step 2 for any other zone where you want to have this action.
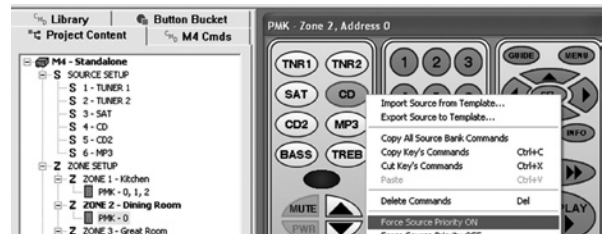
Figure 17 Forcing Source Priority ON

Source Priority

If you want one or more single sources to have full priority in any given zone (that is, you want to always override anyone else's "First Come First Served" selection for a given source but not all sources), proceed as follows:

1. Right-click the desired Source key (i.e. CD) and left-click "**Force Source Priority On**" and "**Yes**" in the pop-ups. Refer to **Figure 18**. All function and numeric keys for that source, where applicable, will now have all their "Priority On" options checked.

2. Repeat step 1 for any other source in any other zone where you want to have this action.

Individual Key Priority

If you want just one or more function or numeric keys to have full priority for any given source in any given zone [that is, you want to always override anyone else's "First Come First Served" selection on an Individual key basis (i.e. Play, Stop, etc. on MP3)], proceed as follows:

Figure 18 *Forcing Individual Key Priority ON*

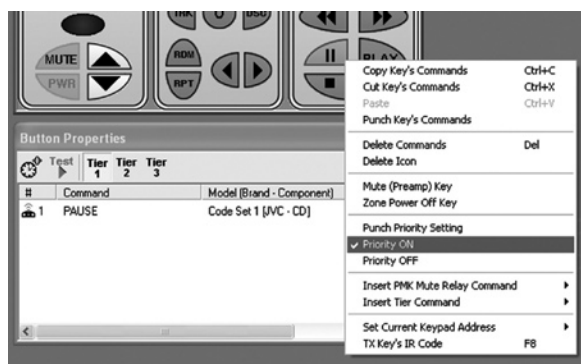1. Right-click the desired function or numeric key (i.e. Pause) and left-click "**Priority On**" in the pop-up. See **Figure 18**. The key will then have "**Priority On**" checked.

2. Repeat step 1 on any other function or numeric key for any source in any other zone where you want to have this action.

Learning IR Commands

There will be times when you will not find IR commands for certain brands or models in the internal Command Library within Proficient Editor. You can easily learn such commands, however, and make them part of the internal Command Library. The IR Learning Sensor system of the Command Interface (optional) permits you to do so in conjunction with Proficient Editor. Proceed as follows:

Using The Command Interface IR Learning Sensor System

The Command Interface (**Figure 22**) is an Installer's optional tool that permits the learning of IR code and other special functions in the shop, before programming the M4 or other Proficient models.

Learning IR Commands

1. Connect your computer's DB9 COM Port via the **Transfer Cable** to the **Command Interface** CONTROL PORT. (Refer to **Figure 22** for connections. Use the **USB / Serial Adapter** with the **Transfer Cable** for USB port interface, if necessary).

2. In Proficient Editor, click on **CMD Library**.

New Brands

1. If the Brand name does not already exist, right-click within the Brands space and left-click "New Brand." Type in the **new brand** name and then click OK.

2. Right-click the empty space below the brand name and left-click "**New Component**." Type in the new component name (i.e. MP3) and then click OK.

3. Right-click the new (MP3) folder and left-click "**New Model**." Type in the new model name (the model # of the component or it's remote, i.e., RM-MP340) and then click OK.

4. Right-click the new model # folder (i.e., RM-MP340). Go to "**New Commands**" and left-click "**IR Commands**." Type in command name (i.e., PLAY) and left-click right arrows (>>) to put the name in the New Command List. At this point, you can type in a whole list of command names (i.e., STOP, PAUSE, TITLE, MENU, etc.). Refer to **Figure 19**.
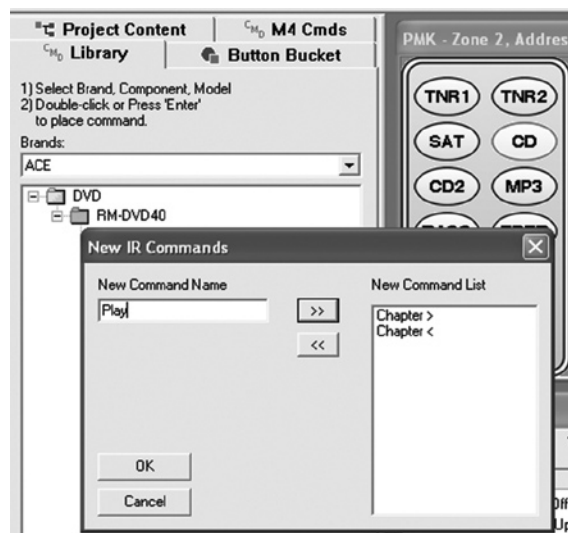

Figure 19 Adding New Command Names

5. When done, click **OK** and they will all be placed in and appear below the model folder in the CMD Library.

6. **To Learn a Command.** First have the "teaching" remote ready and pointed directly at the **LEARNING SENSOR** on the **Command Interface** (spaced about 1" away). Set the **SENSE** switch to **LO**. (If you have a weak remote, you may need to set this switch to HI).

7. Next, left-click the desired command and press **F12** (or right-click and then click "**Capture IR Command**"). Refer to **Figure 20**. An "**IR Command Capture**" pop-up will next appear.

8. At this point, press and hold the corresponding key on the "teaching" remote until the green ACTIVITY INDICATOR on the Command Interface turns off. The word "Capturing…" and two bars in the pop-up show progress and give you about five seconds to capture the command. If the command is learned, the words "Capture Successful" appear momentarily and the command name in the list will turn Red. If not, "**Capture Unsuccessful**" appears and the command name remains black.
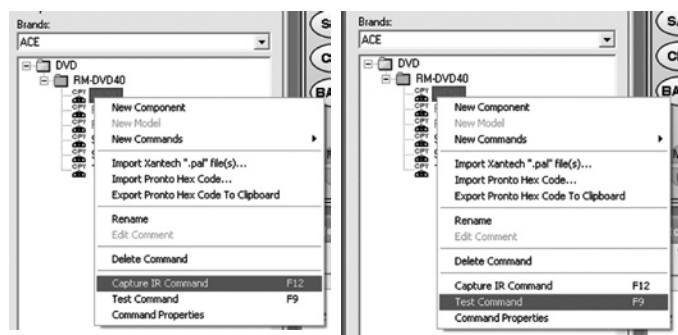
Figure 20 Capture IR (or press F12)   *Figure 21* Test IR (or press F9)

9. You may **test the command** now. Left-click the command and press **F9** (or right-click and then click "**Test Command**"). Refer to **Figure 21**.

    *NOTE: The ability to test commands assumes you have an **emitter** attached to the component under test and the emitter is plugged into the **IR OUT** jack on the **Command Interface**. Or you can simply aim the **BLASTER EMITTERS** on the **Command Interface** at the component under test (up to 30 feet or so away). **Remember, for the BLASTER EMITTERS to work, you must unplug the emitter from the IR OUT jack!***

10. Repeat steps 6 - 9 for all remaining IR commands you need. They can then be used in any of your projects in the normal manner.

Existing Brands

If you only need to add a new model to an existing brand, proceed as follows:

1. Select the brand in the CMD Library (i.e., Carver).

2. If you need to add a new component (i.e., MP3), do so as in step 2 above.

3. Add a Model Name as in step 3 above and Command Names as in step 4 above.

4. Repeat steps 6 - 9, as necessary, to learn all the desired commands.

Programming Learning Remotes With Command Interface System Commands

Proficient Editor has a unique capability whereby commands programmed into a Keypad project can be executed by a learning remote control. Special Proficient Code key commands can be taught to such remotes, which, when executed from the remote, will control the Audio system as if you were pressing the keys on the Keypads themselves.

These Code commands are actually single commands that merely trigger, if you will, the actual IR command(s) programmed under the related Keypad key. This is a decided

advantage in that long macros under Keypad keys do not have to be stored and executed by the handheld remote.

When programmed, the Code commands from the remote, in IR form, are picked up by the IR Receiver in the PMKIR Keypad, or a separate IR Receiver (i.e., IR Fisheye) in the room connected to the same IR bus as the Keypad. When executed, sources selected by the remote will be tracked and indicated automatically on the Keypad's lighted Source buttons.
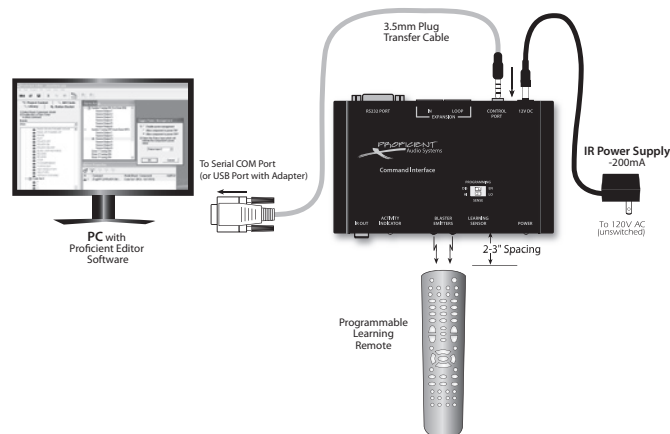

Figure 22 Programming Learning Remotes

Programming Procedure

First, you should complete all programming for your project. Once that is done, plug the **Transfer Cable** into the **CONTROL PORT** of the **Command Interface** Module as shown in **Figure 22**. Then proceed as follows:

1. Launch your Keypad project in Proficient Editor. Left-click a PMK under a zone, such as Zone 2 under Project Content and left-click a Source key (i.e. SAT).

2. Point the learning remote directly at the BLASTER EMITTERS on the **Command Interface** (spaced 2" to 3") and activate the learn mode.

3. Place the remote in the **learn mode**, for the desired Source key on the remote (i.e. TNR1). Follow the instructions supplied with the Learning remote being used.

4. In Proficient Editor, left-click the desired key (in this case the Source key SAT) and **press F8** (or right-click then left-click "TX Key's IR Code" on pop-up). This will transmit the SAT key's IR Code to the learning remote. Refer to **Figure 23**.

5. Repeat steps 3 and 4 for all remaining function keys that you want to control for that particular source. If the learn mode times out, repeat from step 3.

ADVANCED PROGRAMMING

6. Repeat for each additional Source key you want to program as well as all the related function keys. If the Learn mode times out, repeat from step 3 to select the new source.
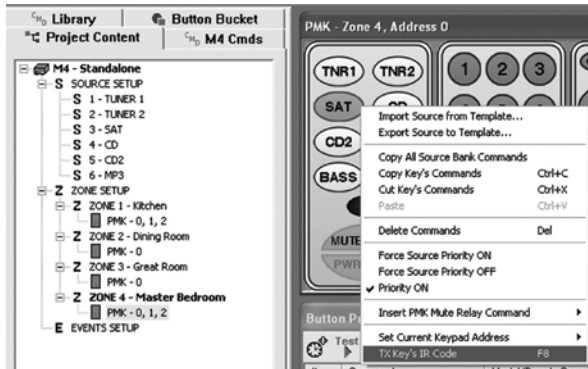

Figure 23 *Transmitting Key's IR-Code to Learning Remote*

NOTE: *Each Keypad zone has its own zone related Code. Therefore, the remote, after programming, will only control that one zone. Additional remotes, each programmed as above for each specific zone via Proficient Editor, is required, if you want remote control in other zones.*

Command Interface IR Code Group Settings

In rare instances, other components might respond to (or be "stepped on" by) one or more of these Code key commands. If this happens, you can change the IR Code Group to a different Code command Group. To do so, proceed as follows:

1. Click **M4** (or **M6**) under **Project Content** to open the **M4** (**or M6**) Setup window.

2. Click the **System Configuration** tab, then the down arrow under **IR Code Group**.

3. Select a different **IR Code** Group number (i.e., 02 instead of 00). Click **Apply**. Refer to **Figure 24**.

4. Click **DOWNLOAD** on the toolbar to make the new IR Code Group effective in the Controller.

5. Repeat the programming procedures previous for all keys on each Remote in each zone.

Programming Learning Remotes With Library IR Commands

You can program learning remotes with any of the normal IR commands from the Proficient Editor Command Library. Set up the **Command Interface** system as shown in Figure 16 and proceed as follows:

Programming Procedure

1. Launch a Keypad project in Proficient Editor. Left-click the **CMD LIBRARY** and choose the Brand.
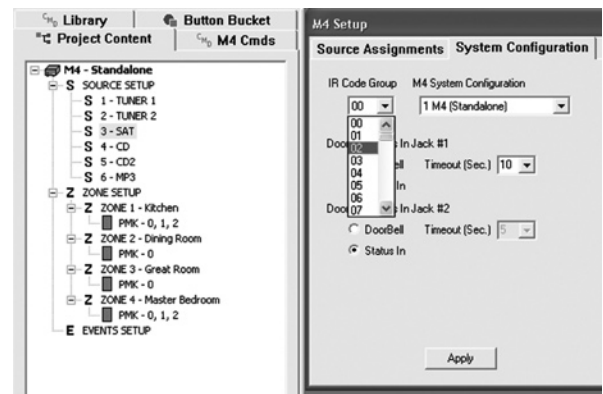

Figure 24 *Changing the IR Code Group Number*

2. Select the component type (i.e., CD) and the code set you want to learn code from.

3. Left-click the first code you want to learn (i.e., POWER ON).

4. Point the learning remote directly at the BLASTER EMITTERS on the **Command Interface** (spaced 2" to 3" as shown in Figure 22) and activate its **learn mode**.

5. In Proficient Editor, left-click the desired code (in this case POWER ON) and press **F9** (or right-click then left-click "**Test Command**" on pop-up). Refer to **Figure 25**. This will transmit the IR Code to the learning remote.
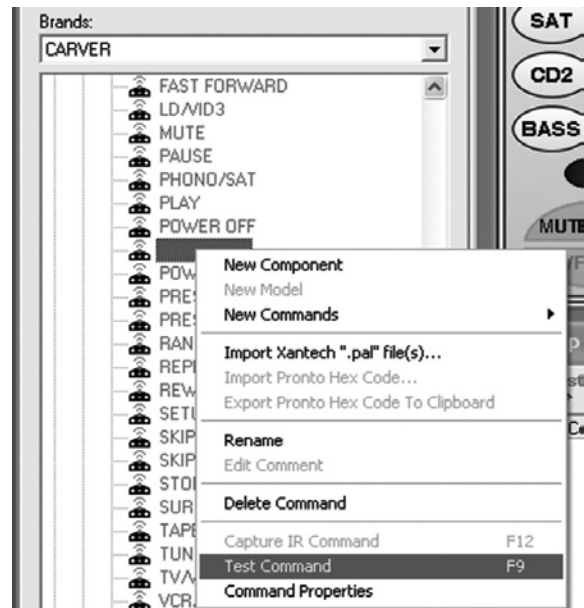

Figure 25 *Using Test Command (F9) to "Teach" Learning Remotes*

6. Repeat as needed, for all remaining keys that you want to learn code onto.

Templates

To save time on new projects, you can simply do a "Save As" from the File menu in Proficient Editor and save existing projects under different file names. You would then use them as "Templates" for new projects that have similar programming. In addition, Proficient Editor provides for the use of specific Templates to shorten individual Source and Icon Layout programming times within any given project.

Source Templates

After you have done one or two projects, you can export all the programming you have done for each source for use in other projects. Remember, when you do this, every command, macro, etc., that you have programmed under that source bank for all Numeric and Function keys, will be saved as a Template, including any commands under the Source key itself. When Imported into a new project, you can use the programming as is, or make custom changes, as necessary, to fit the particular needs of the new project. Proceed as follows:
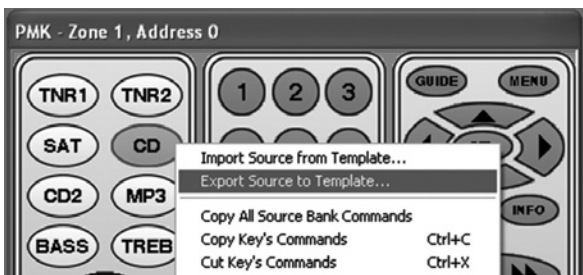
Figure 26 Exporting a Source To a Template

Exporting Sources as Template Files

1. Open the project from which you want to export source programming. Click on the Keypad icon in the desired zone (i.e., Zone 2) under **Project Content**.

2. Right-click the desired Source button and then click "**Export Source to Template…**" from the pop-up. See **Figure 26.**

3. At this point, type a File name by which you want to identify that particular source (i.e., "CD Player") and then click **Save**. This will add the file to the Source folder in the Templates subdirectory. Refer to **Figure 27**.

4. Repeat this for each source you want to save as a source template.

Importing Source Template Files

1. Start a new project by creating a new project file name and assign the basic keypad configurations with **SOURCE SETUP** and **ZONE SETUP.**
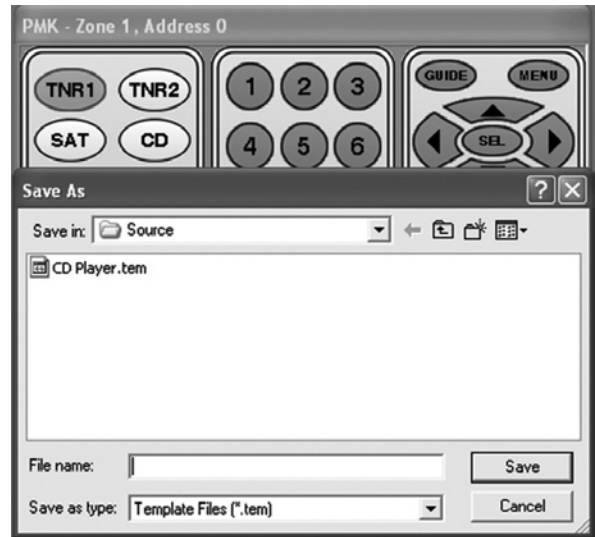
Figure 27 Saving a source template File

2. Once you have a zone keypad configured with the source names you want, right-click one (i.e., SAT) and then click "**Import Source From Template… .**" See **Figure 28.**

Figure 28 Importing a source template

3. Click on the file you want (i.e., SAT Receiver), and then **Open**. You will be prompted that this import assumes identical locations for all function buttons as they existed in the previous project from which the template was created, and that every button under this source will be overwritten (with the template commands). Click **Yes**.

4. You now have all the programming loaded for the new source bank that exists in the template file.

5. Repeat this for each Source Template you want to import.

CAUTION: If your new project has different source assignments for the SOURCE INPUTS and the DOORBELL/STATUS INPUT, you will need to make changes in these also to have correct selection and IR control of sources and correct synchronization for Power Management.

Icon Templates

You can make and use icon file templates as well. In addition, Proficient Editor comes with an Keypad Default Layout template that matches the buttons that are factory pre-installed on the actual Keypads.

NOTE: These icon templates import and export icon sets only, not command sets. Also, icon templates apply to Function and Numeric buttons only, not to Source buttons.

ADVANCED PROGRAMMING

To save time, you can use these and then make a few changes as necessary, to match your real project, both in Proficient Editor and on the real Keypads.

Exporting Icons as Template Files

1. . Open the project from which you want to export an icon template. Click on the desired zone Keypad (i.e., Zone 2 PMK) under **Project Content**.

2. Click the "**ICONS--->**" (Export) symbol in the toolbar. At this point, type a **File name** in the **Save As** pop up by which you want to identify that particular icon template (i.e., "JonesHmZone2") and then click Save. Refer to **Figure 29.**
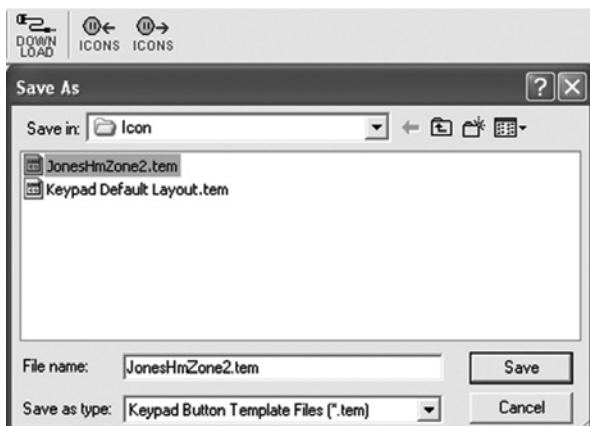

Figure 29 Exporting and Saving an Icon Layout Template File

3. This will add the file to the Icon folder in the Templates subdirectory.

4. Repeat this for each zone you want to save as an icon template.

Importing Icon Template Files

1. Start a new project by creating a new project file name and assign the basic configurations with **SOURCE SETUP** and **ZONE SETUP**.

2. Once you have a zone configured with one or more keypad gangs (without icons on the numeric or function buttons), click the "**ICONS<--- **" (Import) symbol in the toolbar. Refer to **Figure 30**.

3. Click on the file you want (i.e., "JonesHmZone2" or the "M4_Default Layout"), and then **Open.**

4. You now have all the icons in place on the virtual PMK (s) that exist in the icon template file for that zone. Repeat these steps for each remaining zone with the icon templates you want to import.
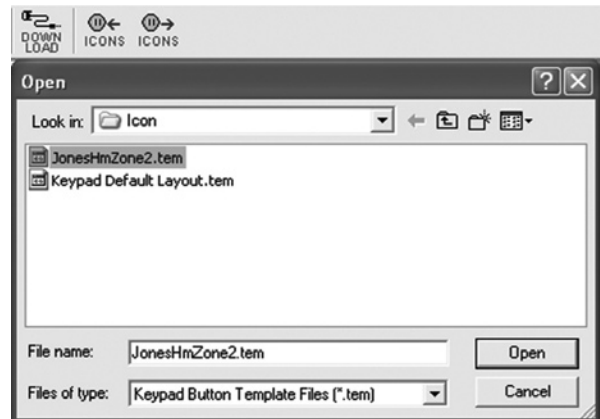

Figure 30 Importing an Icon Layout Template File

Doorbell / Page Programming

The **PHONE** (Page In) jack can be programmed to receive audio signals in response to a doorbell or other triggering event received at the **DOORBELL/STATUS IN** jack.

- The **PHONE PAGE IN** (audio input, line level) could be a ringer signal from a doorbell or chime device, sound from a door entrance mounted microphone, voice from a page microphone, ringer and/or voice audio from a phone system, etc.

Timeout and Momentary Page Control

Such audio signals can be programmed in Proficient Editor to interrupt current listening for a desired **Timeout** interval or for a **Momentary Page** controlled interval.

The **Timeout** action would be best for doorbell use, since doorbell button presses are unpredictable.

The **Momentary** controlled action causes the Page signal to be heard only while the trigger voltage is high, then ceases immediately after the trigger goes low. This would be best for predictable phone or microphone "press-to-talk" paging.

Timeout Programming

To program for a **Timeou**t action, proceed as follows:

1. Under **Project Content**, click **M4** (**or M6**) to open the **M4** (**or M6**) Setup window.

2. Click the **System Configuration** tab and select **Doorbell** under **Doorbell/Status In Jack #1**.

3. Just to the right, adjust **Timeout (Sec.)** to your preferred time value. A value of 8 to 10 seconds can be considered typical … allow enough time to hear the doorbell event without interrupting the program for too long. Click **Apply**. Refer to **Figure 31**.
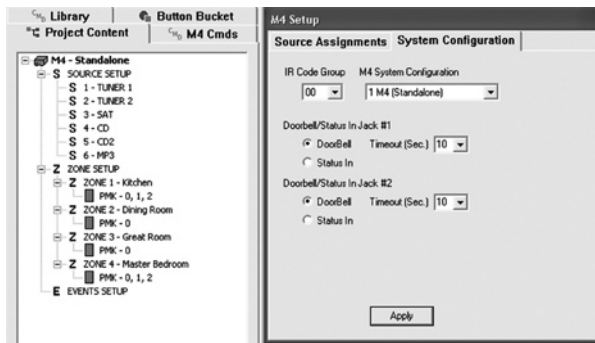
Figure 31 Selecting & Adjusting Doorbell Timeout

4. Under **Project Content**, click **EVENTS SETUP**, then scroll down and then click to highlight **Doorbell Trigger #1**.

5. Click **M4 CMDS** tab and double-click **Audio Routing Commands**.

6. Double-click **Zone 1 Audio Page, Zone 2 Audio Page, Zone 3 Audio Page**, etc., until you have all of these commands show up in the **Doorbell Trigger #1** Command list. Refer to **Figure 32**.

   NOTE: *If you want to exclude some zones from Doorbell or other forms of Paging, simply leave them out.*

This completes the programming.

In summary then, when a trigger is received at the **Doorbell/ Status** In jack the following will now occur:

   a) The Audio program material currently in progress will be interrupted.

   b) The doorbell or paging signals will play for 10 seconds, then return to the previous programming.

   c) Subsequent triggers will initiate the page action again.
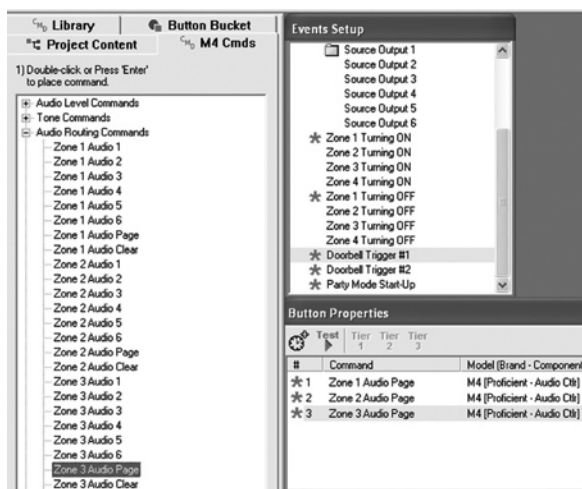

Figure 32 Applying Audio Page Commands to Doorbell Triggers

Momentary Page Programming

Use this type of programming when you want to have the page interrupt the listened-to program for only as long as the paging trigger voltage remains high at the DOORBELL/ STATUS IN jack, such as for telephone or microphone "push-to-talk" paging.

To do so proceed as follows:

1. Under **Project Content**, click **M4** (**or M6**) to open the **M4** (**or M6**) Setup window.

2. Click the **Misc.** tab and select **Doorbell** under **Doorbell/ Status In Jack**.

3. Just to the right, select 0 (zero Sec.) in the **Timeout (Sec.)** list. Click **Apply**. Refer to **Figure 33**.
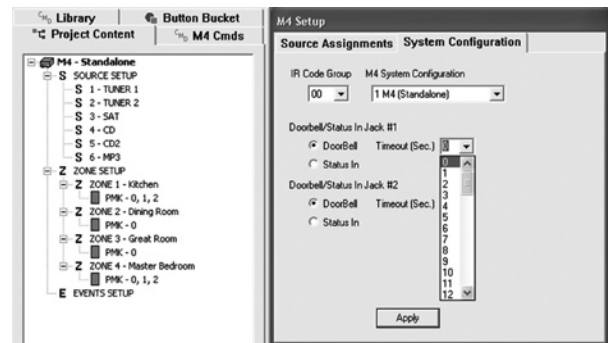

Figure 33 Selecting & Adjusting Time 0 for Momentary Page Action

 4. Refer to **Timeout Programming** above, to apply the **Audio Page commands** to the **Doorbell Triggers**.

This completes Momentary Page Programming. The M4 will now interrupt normal program listening with the Page signal when the trigger voltage goes high and remains high. It then reverts back to the original program immediately after the Page is over (trigger goes low).

Direct Door Listening

The Audio Page commands can also be placed under Source or Function keys. This allows direct listening to a door mic. with one button press. Apply the Audio Page commands to the keys of your choice in the same manner as under **Timeout Programming**.

Programming M4 Internal Commands

Since the Multi-Zone Controller has a preamp, Audio input switching, and a stereo digital power amplifier for each zone, it therefore has a full set of internal commands to perform all the functions related thereto. These commands are internal logic code, not IR commands and are located under the **M4 CMDS** tab in Proficient Editor. Since the Controller and Proficient Editor comes with a factory installed default project, most of these commands are

ADVANCED PROGRAMMING

already in place. If you use the "**M4 Default**" or "**M6 Default**" as a base, you can then add or alter it as needed to customize it to your own application and thus greatly reduce programming time.

The **Internal Commands** are divided into the following groups:

> **Audio Level Commands**
>
> **Tone Commands**
>
> **Tier Programming**
>
> **Audio Routing Commands**
>
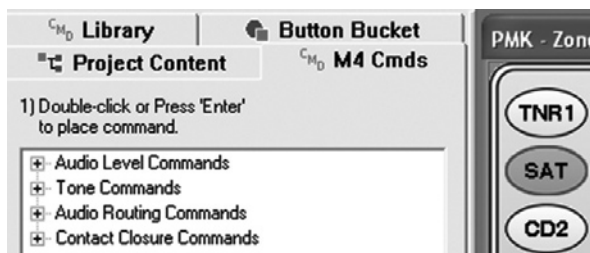> **Contact Closure Commands**

Refer to **Figure 34**.

Figure 34 *M4 Internal (non IR) Commands*

When placed in a key's Command list, they are prefixed by a large **red asterisk** (*) symbol as shown in **Figure 35**. A description for programming these commands follows:

Audio Level Commands

These consist of Mute, Volume and Preset Audio Level commands for each zone. Refer to **Figure 35**.

You would place them in the **Command** list for a given key in the same way as IR commands.

1. Select the desired Zone, Source and Key for the command, such as Volume Up (▲).

2. Double-click Zone 1 Volume Up to place it in the Command list. **See Figure 35**.

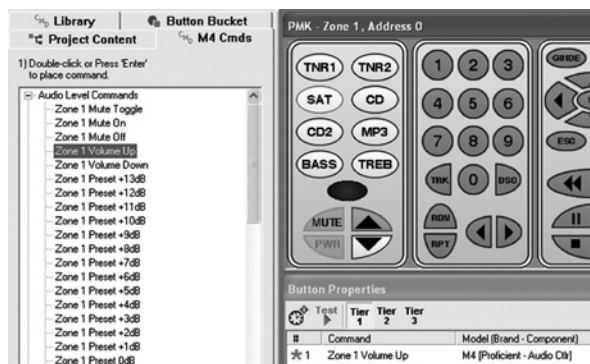3. Repeat this for other commands in Zones, Sources and Keys, as desired.

Figure 35 *Placing M4 Internal Commands on Key Command Lists*

NOTE: *Zone Preset level commands can be placed on any key where you want a specified fixed Volume level to occur. For instance, instead of programming the MUTE key as a designated Mute key, you could place a zone preset level of –30dB on it instead (or some other desired level). In this case the volume would be reduced to a low background level, rather than a full-off mute.*

Another application for a zone preset would be a Zone turn-ON level of your choice. It could be placed under a given Source key, or preferably under Zone_Turning ON in EVENTS SETUP so that it would apply to all sources within a zone with minimum programming. This is particularly useful to drive a constant audio level into two or more rooms within a zone where you have Wall Volume Controls for individual room volume. You may also wish to remove the Volume commands on the keypads in these rooms to avoid multiple volume actions. To do this, proceed as follows:

4. Under **Project Content**, click **EVENTS SETUP** and then **Zone 1 Turning ON** (or other zone of your choice).

5. Under **M4 Library**, double-click **Zone 1 Preset –6dB** to place it on the Command list for **Zone 1 Turning ON**. Refer to **Figure 36**.

    NOTE: *You may use any other Preset value you want. Just avoid overdriving the zone power amplifier that drives the multiple speakers within the rooms.*

6. Delete Volume UP/Down commands that may already exist on the keypads within the rooms for this zone.

7. Repeat this process for any other zone you want to have this action apply to.

Tone Commands

These commands permit programming of Bass and Treble Tone Control action for keys of your choice. They consist of Bass Up, Bass Down, Bass Flat, Treble Up, Treble Down and Treble Flat for each zone. No programming is necessary if you use the pre-configured default project and the PMK-IR keypads that come with the Controller. See Factory Default System section for a functionality description. However, if you want to use other keys in the keypad system, proceed as follows:

Placing Zone Preset Levels

1. Suppose you want to use the ▲▼ keys in the adjacent PNK (numeric) keypad for Bass and Treble up/down action instead of sharing it with the Volume keys. To do so will require the programming of Tiering Commands on the keys that handle the multiple functions of Bass and Treble control actions.
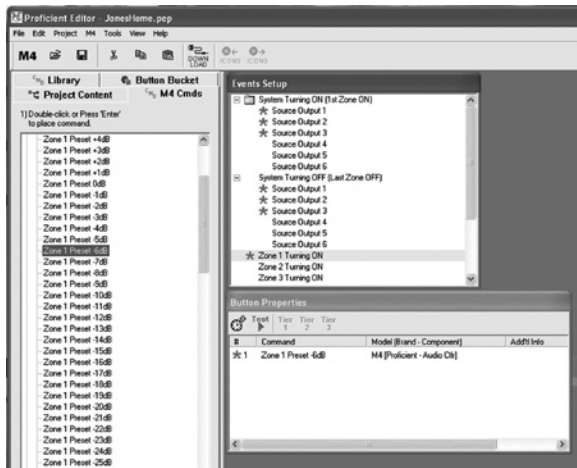
Figure 36 *Placing Zone Preset Levels*

Tier Programming

Tier Programming permits the same keys to perform more than one function and is done as follows, in this case, for the Bass and Treble example:

1. First, click any given Source key within the desired zone. Click the BASS button, then **Tier 1** under **Button Properties**.

2. Right-click the **BASS** button, **Insert Tier Command,** then left click **Tier 2** on the Insert Tier Command line of the pop-up. Refer to **Figure 37**. This will cause the first press of the BASS key to point to Tier 2 commands on the Bass and ▲ (Up) keys.
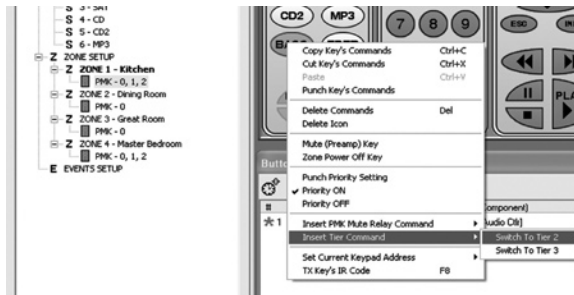

Figure 37 *Placing Tier Commands*

3. Now click **Tier 3**, right-click **BASS** and then **Switch to Tier 2** from the **Insert Tier Command** line. This will cause return to BASS action after pressing the TREB key.

4. Click the **Cmds** tab. Double-click **Tone Commands** to expose the list.

5. Click **Tier 2** under **Button Properties**, then double-click **Zone 1 Bass Flat** from the **Tone Commands** list. This will cause the 2nd press of the BASS key to execute the Bass Flat function. This completes the **BASS** key programming. Refer to **Figure 38.**
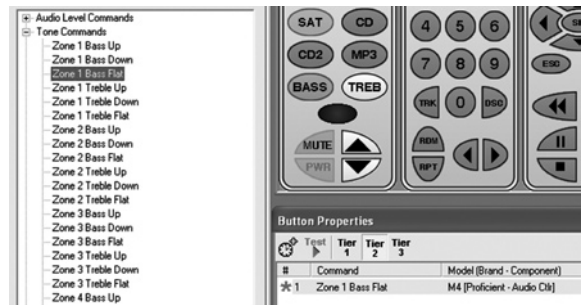

Figure 38 *Placing Zone1 Bass Flat Command*

6. Now we can program the **TREB** key in a similar manner. Click the **TREB** button, then **Tier 1** under **Button Properties**.

7. Right-click the **TREB** button, then left-click **Switch to Tier 3** on the **Insert Tier Command** line of the pop-up. This will cause the first press of the TREB key to point to Tier 3 commands on the TREB and ▲ (Up) keys.

8. Now click **Tier 2**, right-click **TREB** and then **Switch to Tier 3** from the **Insert Tier Command** line. This will cause return to TREBLE action after pressing the BASS key.

9. Click **Tier 3** under **Button Properties**, then double- click **Zone 1 Treble Flat** from the **Tone Commands** list. This will cause the 2nd press of the TREB key to execute the Treble Flat function. This completes the **TREB** key programming.

10. The next step is to program the ▲▼ keys in the adjacent PNK (numeric) keypad for Bass and Treble up/down action.

11. Click the ▲ key then **Tier 2** under **Button Properties**.

12. Double-click **Zone 1 Bass Up** from the **Tone Commands** list. This places the **Zone 1 Bass Up** command on **Tier 2** of the ▲ key. This will allow the ▲ (Up) key to increase Bass Boost after 1st pressing the BASS key.

13. Repeat steps 11 & 12, but this time place **Zone 1 Bass Down** on **Tier 2** of the ▼ key. This will allow the ▼ (Down) key to decrease Bass Boost after 1st pressing the BASS key.

14. Click the ▲ key then **Tier 3** under **Button Properties**.

15. Double-click **Zone 1 Treble Up** from the **Tone Commands** list. This allows the ▲ (Up) key to increase Treble Boost after 1st pressing the TREB key.

16. Repeat steps 14 & 15, but this time place **Zone 1 Treble Down** on **Tier 3** of the ▼ key. This allows the ▼ (Down) key to decrease Treble Boost after 1st pressing the TREB key.

17. Right-click the **BASS** key and left-click **Punch Key's Commands** on the pop-up. Repeat this for the **TREB** and ▲▼ keys as well. This will ensure that the Bass and Treble actions will apply to all sources in the zone.

In addition, you may Clone this Zone to all the other zones to save programming time. Refer to "**Cloning and…**" section and **Figure 5** for details.

18. This completes the Bass and Treble keys programming and it accomplishes the following:

> **BASS:** 1st press changes the ▲▼ keys to Bass Up/Down. 2nd press = Bass Flat.

> **TREB:** 1st press changes the ▲▼ keys to Treble Up/Down. 2nd press = Treble Flat.

You will note that Tier 1 on the ▲▼ keys (RMD and RPT) is still open and could be used for other functions, such as Random or Repeat commands for a CD source.

You may accomplish other types of Tier programming using the same basic procedures as above.

Contact Closure Commands

These commands operate the Contact Closure Relay. Refer to **Figure 39**. Definition of the 4 commands are as follows:

Contact Closure #1 – Open. When this command is sent, the relay contacts will open and stay open until a Close command is sent.

Contact Closure #1 – Close. Likewise, when this command is sent, the relay contacts will close and stay closed until an Open command is sent. These types of commands are often referred to as "Paired" commands and are useful to ensure an absolute open or closed condition when the related controlled action is not readily observable.
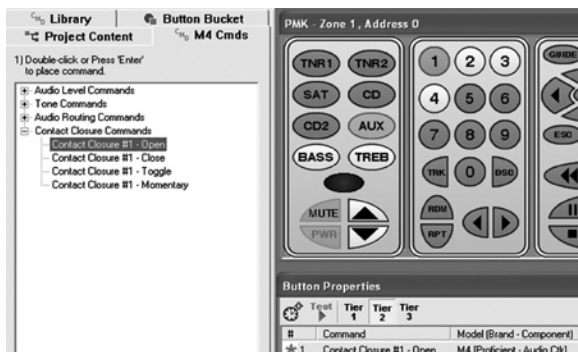

Figure 39 Contact Closure Commands

Contact Closure #1 – Toggle. When this command is sent, the relay will change state and remain so until another Toggle command is sent. Useful for simple ON/OFF control of a lamp, for example, and uses only one key button.

Contact Closure #1 – Momentary. This command will cause a contact closure only while the command is present. Useful for triggering of devices that will execute an action with a momentary closure, such as lifts, screen drops, etc.

These commands can be programmed under any desired key or placed in macros in the normal way.

Events Setup

This feature permits the programming of system and zone functions that occur with ON/OFF and other specialized events. It allows functions such as Power OFF macros to be programmed in one place, rather than having to place such commands under many keypad key locations. It can also result in much shorter macros to reduce execution times of Power OFF events.

Some Events programming has been covered in previous sections, however an explanation of each follows:

System Turning ON (1st Zone ON)

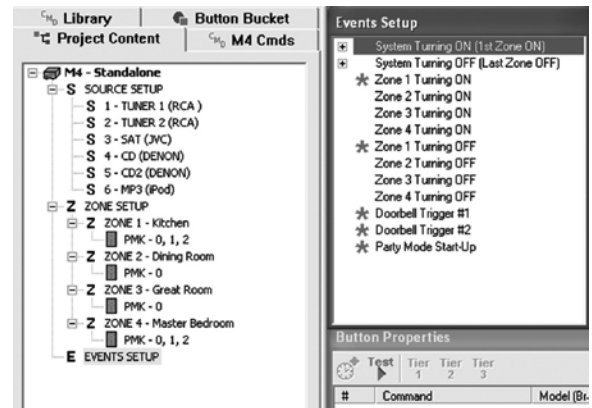1. To access, click **EVENTS SETUP** under the Project Content tab. Refer to **Figure 40**.

Figure 40 Accessing Events Setup 2.

2. Double-click **System Turning ON** (1st Zone ON) in the Events Setup pop-up. A list of Source outputs 1 through 6 appear. Commands placed on these will be sent from the Source IR OUT jacks on the Controller to turn ON or otherwise control the respective source (s) when the system is first turned ON (1st Zone ON).

3. For instance, a Power ON command for each could be placed here. As an example, click Source Output 1.

4. Double-click an IR command from the **CMD Library** for a typical source, such as Power ON for a SAT/DSS receiver, placing it on the **Command** list. Refer to **Figure 41**.

5. Other commands could also be placed here.

6. Repeat steps 3, 4 and 5 for each source as desired.

> **NOTE:** *Normally it would be preferable to place Power ON commands under each Source key of the keypad rather than under Events as just illustrated. Programming under the Source keys would mean Source components are turned ON only as needed rather than all at once (saving power, for example, if only the tuner is played all day).*
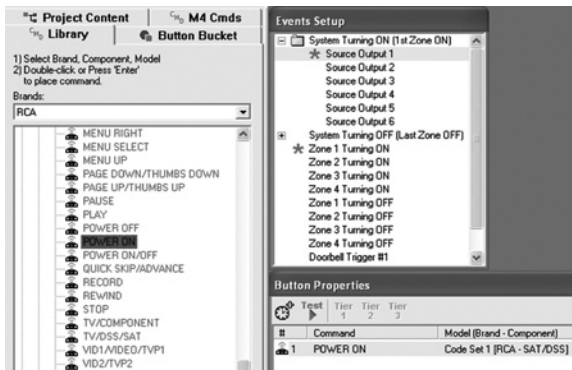
Figure 41 *Placing Commands on Source Outputs For System ON*

System Turning OFF (Last Zone OFF)

In a similar manner, all Source IR outputs can be programmed to execute OFF or other related commands when the last zone is turned OFF. This would occur when a designated Zone PWR button is pressed on the keypad of the last zone to go OFF, or is pressed and held for longer than two seconds even when other zones are still ON (Whole House OFF).
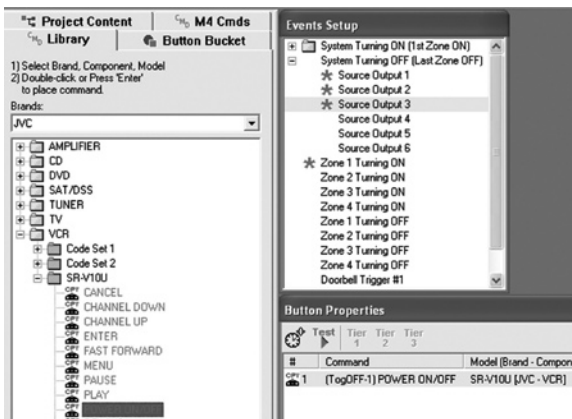

Figure 42 *Placing Commands on Source Outputs For System OFF*

1. To access, click **EVENTS SETUP** under the **Project Content** tab.

2. Double-click System Turning OFF (Last Zone OFF) in the **Events Setup** pop-up. A list of Source outputs 1 through 6 appears.

   Commands placed on these will be sent from the Source IR OUT jacks on the Controller to turn OFF or otherwise control the respective source(s) when the system is turned OFF (Last Zone OFF or Whole House OFF).

3. For instance, a Power OFF command for each could be placed here. As an example, click Source Output 1.

4. Double-click an IR command from the **CMD Library** for a typical source, such as Power OFF for for a CD2, placing it on the **Command** list. Refer to **Figure 42**.

5. Other commands could also be placed here.

6. Repeat steps 3, 4 and 5 for each source as desired.

For additional details on Power Management, refer to **Power Management/Events Programming** section.

Zone Turning ON & Zone Turning OFF Events

You would program these with events that relate to zones, such as the powering ON or OFF of external IR controlled power amplifiers dedicated to specific zones. It is also the place to program audio preset levels for zones that you want to come on at a specific volume level. For more information in this regard, see **Audio Level Commands** under the **Programming Internal Commands** section.

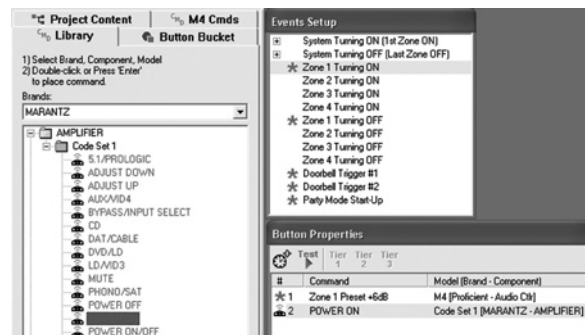1. To access, click **EVENTS SETUP** under the **Project Content** tab.

Figure 43 *Placing Commands on Zone 1 Turning ON and OFF*

2. Click **Zone 1 Turning ON** in the **Events Setup** pop-up.

   Commands (IR) placed on the **Command** list will be sent from the respective **ZONE IR OUT** jacks on the back panel. An emitter connected here would turn ON or otherwise control the respective device (amplifier) when the zone is turned ON. Internal (none IR) commands, such as a Preset level, will be directed to and set the volume of the preamp for that zone.

3. For instance, place a **Zone 1 Preset –6dB** command on the Command list by double-clicking it from the **Audio Level Commands** under the **M4 Library** tab.

4. Double-click a **POWER ON IR** command from the **CMD Library** for a typical IR controlled amplifier, placing it on the **Command** list. Refer to **Figure 43**.

5. Double-click a **POWER OFF** IR command from the **CMD Library** for the same IR controlled amplifier, placing it on the **Command** list under **Zone 1 Turning OFF**. Now, when Zone 1 is turned ON (by pressing any source key), the external amplifier will turn ON and play at the –6dB level you specified. When Zone 1 is turned OFF, the external amplifier will turn OFF.

   Repeat these steps for other zones as necessary.

ADVANCED PROGRAMMING

Doorbell Triggers #1 and #2

Refer to **Doorbell / Page Programming** section for details.

Party Mode Start-Up

Internal Controller commands (IR Commands not permitted) placed here will be executed only when a Source button is pressed and held for longer than two seconds for **Whole House Party Mode**. This is useful, for instance, if you want
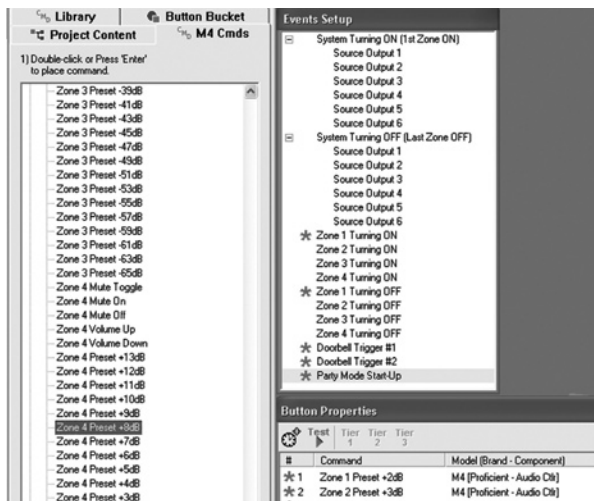

Figure 44 Placing Zone Preset Level Commands for Party Mode Start-Up

all the zones in Party Mode to come up to the same volume level. Or, to different levels, if desired. Other commands could be place here too, such as a CONTACT CLOSURE to turn on a lamp or other device. To program preset levels, proceed as follows:

1. To access, click **EVENTS SETUP** under the **Project Content** tab.

2. Click **Party Mode Start-Up** in the **Events Setup** pop-up.

3. From the **Audio Level Commands** under the **M4 Library** tab, double-click **Zone 1 Preset** (or any other Preset value you want) to place it on the Command list. Test for appropriate level. Refer to **Figure 44**.

4. Repeat step 3 for each of the other zone presets as desired.

Now, when pressing a Source button for longer than two seconds to initiate Party Mode, all zones will come on at the Audio volume levels just programmed.

NOTE: *You may need to download, test and repeat the above steps several times until you arrive at the "just right" volume levels.*

Zone Expansion

Controllers can be linked together to provide additional zones for large installations. This can be done for up to a maximum of **24 zones** (4 M6's), **16 zones** for M4 (4 M4's). See **Figure 45** for an illustration of the basic linking connections required.

Making Connections

Using **Figure 45** as a guide, proceed as follows:

1. Stack the units and do not apply power until all connections are made.

CAUTION: When stacking Controllers, be sure they have adequate ventilation. If mounted within a cabinet or other restrictive enclosure, a fan is recommended placed near the top of the units to circulate and exhaust warm air from the enclosure. Be sure an opening below the units allows the entrance of cool air.

2. Connect the IR LOOP jack of each source on the Master unit to the Slave units as shown. Use 3.5mm patch cables for this purpose.

3. Plug the IR Emitters that control the source components into the IR OUT jacks of each source on the Master Unit only, as shown.

4. Using Cat.5/RJ45 cables, connect the EXPANSION LOOP jack on the Master unit to the EXPANSION PORT jack on the Slave as shown. Likewise loop to additional slaves as needed. These cables permit control communication between the units.

5. Connect the source components to the Source R, L, jacks on the Master unit with appropriate RCA type interconnect cables, as shown.

6. Using RCA type interconnect cables, loop from the Master Source jacks to the Slave Source jacks as shown.

7. Connect keypads and speakers from all zone rooms to the Controllers, using home-run wiring, in the usual way.
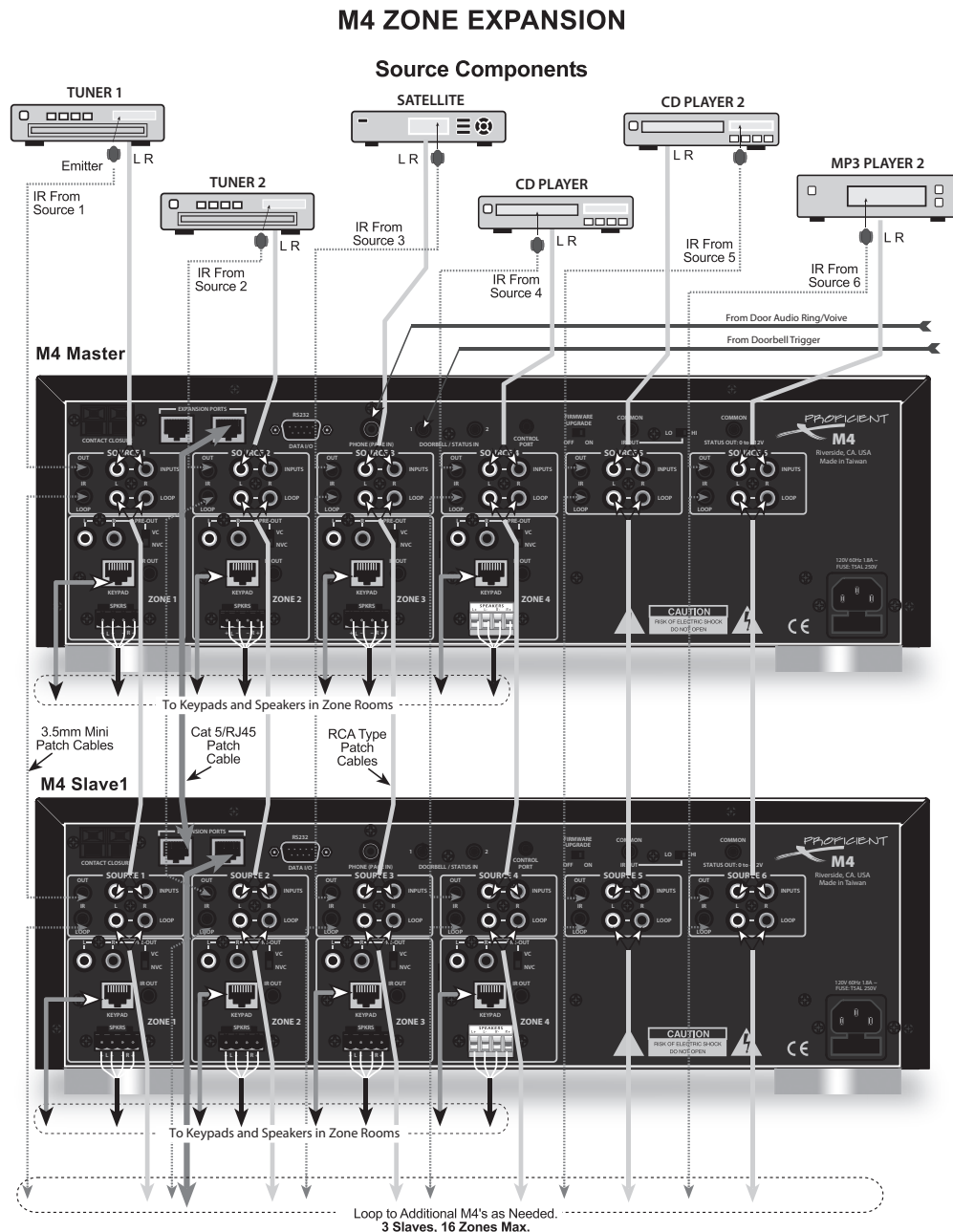
M4 ZONE EXPANSION

Source Components

Figure 45 *Basic Linking Connections for Zone Expansion*

Programming for Zone Expansion

The programming for the M4 Master and Slave units is done in Proficient Editor as follows:

1. Be sure you download the latest version from the Proficient web site.

2. Launch Proficient Editor and create a Filename for your project in the normal manner (i.e., JonesHomeExpansion. etp). This could be a project file you had previously programmed for just four zones and you rename it for use in an expanded system.

3. Under **Project Content**, click **M4 or M6 Standalone**, then **System Configuration** in the **Setup** pop up. Refer to **Figure 46.**

4. Under **System Configuration**, select **1 M4 (M6) (Standalone)**. Click **Apply**.

5. At this point, program all zones of this "standalone" Controller in the normal manner. It will become the "master" Controller later.

6. When you are satisfied with all programming, you are ready to select your desired Master and Slave

ADVANCED PROGRAMMING

configurations. Under **Project Content**, click **M4 (M6) - Standalone**, then **System Configuration** in the pop up. Refer to **Figure 47.**
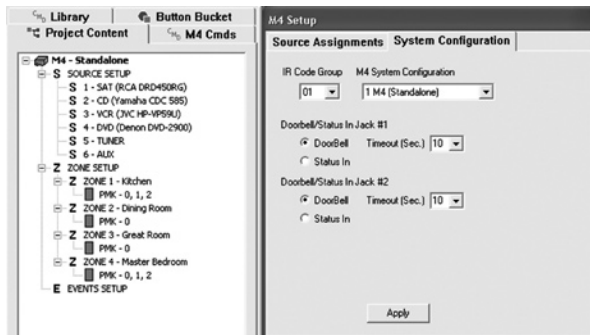

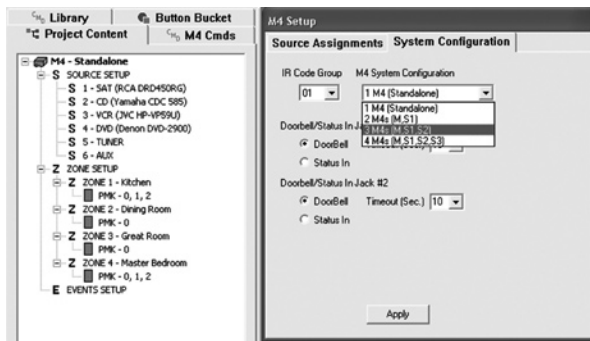*Figure 46* *Select M4 Standalone*

Figure 47 *Select Master/Slave Configuration*

7. Under **M4 (M6) System Configuration**, you have 3 Master/Slave choices. Select the appropriate number of Controllers to be used in the project. Click **Apply.**

8. When you click Apply, three actions occur. First, **M4 (M6) - Master** will appear just under Project Content. Second, icons with **M4 (M6) - Slave 1, Slave 2**, etc., will appear at the bottom of the list. Refer to **Figure 48**. Third, all programming you have done on the Master is **cloned instantly** to the Slave units within Proficient Editor, saving you a great deal of programming time.

9. At this point, you can make customized changes to any of the zones in the Master or Slave units. Such changes will NOT be cloned.

10. For instance, to customize zones within Slave 1, click **M4 (M6) - Slave** 1. This places it just under the Master near the top. In this position, all changes made will apply to Slave 1 only. Refer to **Figure 48**.

11. Repeat step 10 for each of the remaining Slave units, if used.

12. If you find later that you want to make massive programming changes that you want to apply to all zones, do so by repeating all steps from step 4 through 11 above.
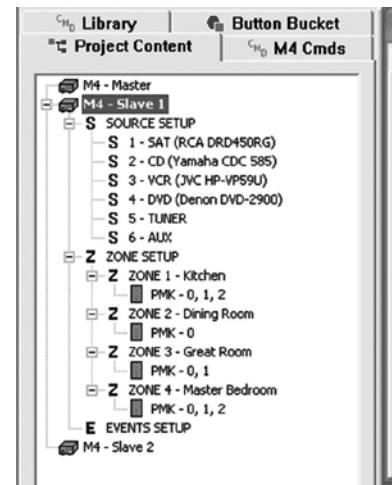

Figure 48 *Customizing Slave Zones*

CAUTION: Remember, if you do this, you will eliminate all customized changes that you may have made to zones within the Slave units

Downloading to Master & Slave Units

When programming is complete, you must download the project to the Controller. Turn Power ON and proceed as follows:

1. Plug the **Transfer Cable** from your computer into the **Control Port** of the **M4 (M6)** unit.

2. Click **M4 – Master** under **Project Content** in Proficient Editor, then click the **DOWNLOAD** icon in the Toolbar.

3. Plug the **Transfer Cable** from your computer into the **Control Port** of the M4 **Slave 1** unit.

4. Click **M4 – Slave 1** under **Project Content** in Proficient Editor, then click **DOWNLOAD** again.

5. Repeat steps 3 and 4 for slaves 2 and 3, if used in your system.

This completes connections and programming for basic zone Expansion.

Additional Expansion Options

You will note that the basic expansion connections shown in **Figure 45** do not include the PAGE, DOORBELL, COMMON IR OUT, or COMMON STATUS OUT functions and jacks. In other words, these functions, in the basic expansion system, operate independently for each M4. This can be satisfactory for some types of systems, but in others, such as doorbell/ page actions, you may want them to operate on the system as a whole. To "expand" or Loop any or all of these items, proceed as follows:
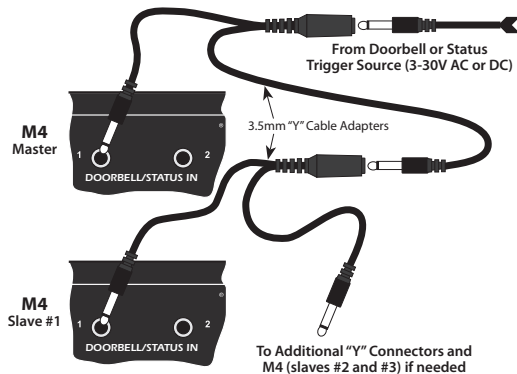
Figure 49 Using 3.5mm "Y" Adapters to "Expand" or "Loop" the DOORBELL/ STATUS Jacks

PHONE PAGE IN Jacks

The PHONE PAGE IN jack is audio line level and can be simply paralleled and looped from one M4 to the next with standard RCA phono-type "Y" connectors.

DOORBELL/STATUS IN Jacks

These trigger inputs can be looped with standard 3.5mm (1/8") "Y" adapters, such as the Radio Shack # 42-2158. When connected, the Doorbell or Status trigger voltage will drive all M4 controllers simultaneously. Refer to **Figure 49**, which shows looping of the #1 jacks. You would loop the #2 jacks in like manner.

COMMON IR OUT Jack

This IR output can also be paralleled and looped with standard 3.5mm (1/8") "Y" adapters. When connected, the common IR output from any one of the Controllers will drive a common emitter or the IR input of a device that can be common to all zones. Refer to **Figure 50.**
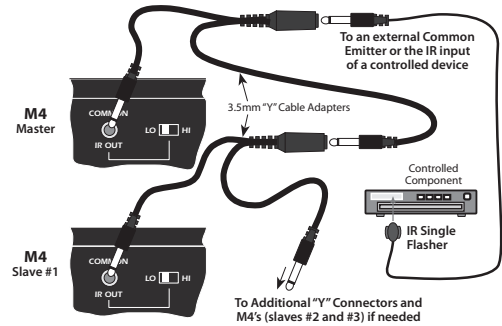
Figure 50 Using 3.5mm "Y" Adapters to "Expand" or "Loop" the Common IR OUT Jacks

COMMON STATUS OUT Jack

Again, this jack can also be paralleled and looped with standard 3.5mm (1/8") "Y" adapters. When connected, a Status "12V DC high" output from any one of the Controllers will trigger, for instance, a device common to all zones. Refer to Figure 51.
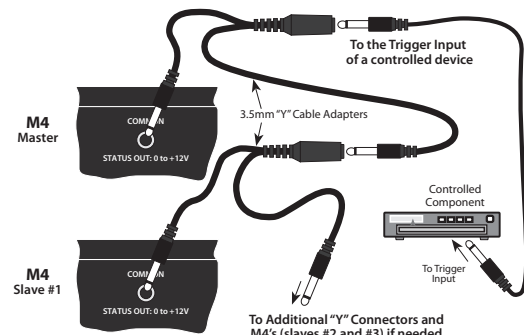
Figure 51 Using 3.5mm "Y" Adapters to "Expand" or "Loop" the Common Status OUT Jacks

PRINTING PROJECTS

PRINTING PROJECTS

You can print projects after completion of a system installation for your client's files. Or you can print a project at any time during your development to more easily review where commands are placed. Before printing, if desired, you may enter the client's and your installation company's information so that it prints out with the project. Proceed as follows:

Installation Information

From the Project menu, click "Installation Information." Type in the relevant information and then click OK. Refer to **Figure 52**.
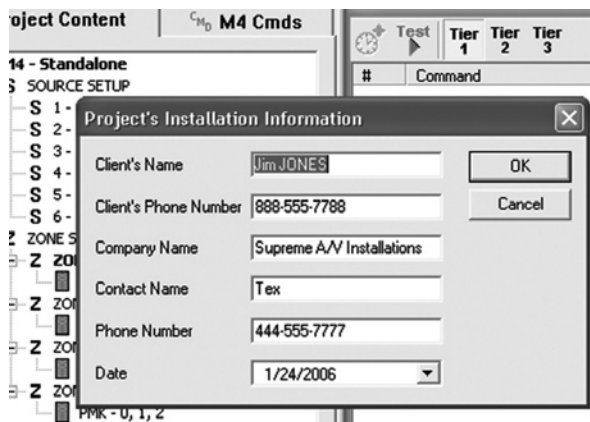

Figure 52 *Entering Project's Installation Information*

Printing the Project

From the File menu in Proficient Editor, select Print. Set up your printer properties in the usual manner and then click OK. The project will print out showing information in the following sequence:

1. Installation Information, including the Filename of the project.

2. Controller Properties: A list of source assignments and the IR Code Group number.

3. Next are the Zone Properties, followed by Zone Keypad Layout displays. Zone 1 is shown first with its Properties, followed by illustrations of each key button and the command descriptions next to them. See **Figure 53** for a typical print out of the first page.

You will note that two keypads are illustrated. The left one shows the actual icons you chose for the keys. The right one is a numeric position reference for each key and is listed next to the key icons in the printout.

You can now review all key assignments on each page for possible errors or extraneous commands, or simply use it as a hard copy record for your client's file.
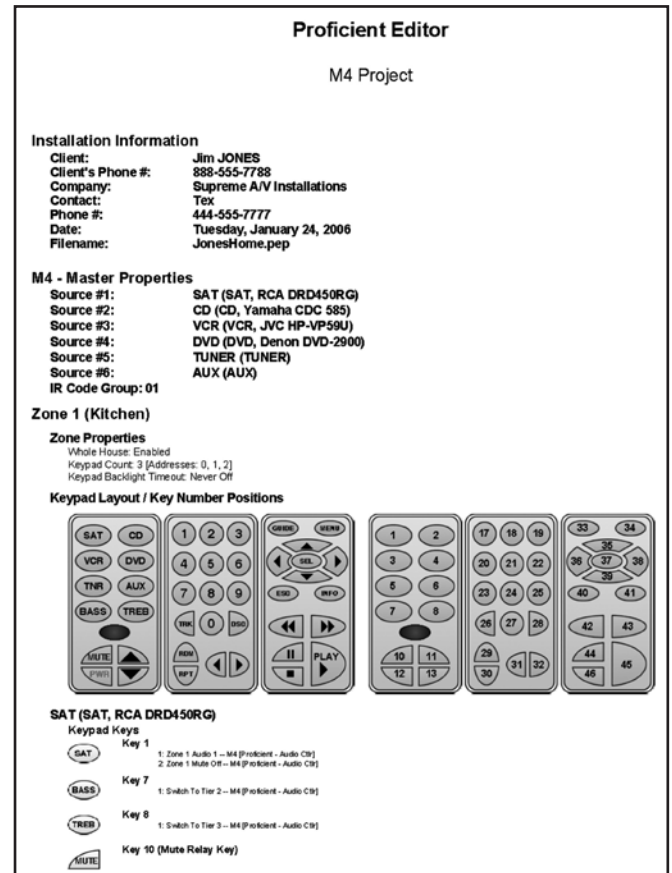

Figure 53 *Project Printout, 1st Page*

NOTE: *If you have Acrobat Distiller or other .pdf creator, you can also make a .pdf document of the project. In this way, you can view the entire project on screen, without physically printing it out. To do so, select "Acrobat Distiller" in the Print menu. Click OK and follow the prompts. You will have to add a filename for the .pdf file.*

SAVING AND BACKING UP KEYPAD FILES

There are a number of folders in the Proficient Editor subdirectory that contain your Projects, IR Command Codes and Template data. Such data can be automatically stored to these folders on your hard drive as you perform your work in Proficient Editor. In addition, to guard against the possible loss of your hard earned data in the event of a hard drive failure, you should make frequent back-ups to a CD-ROM, a 2nd hard drive, external storage media, etc.

AutoSave

This feature saves Proficient Editor project data automatically to your hard drive. The save interval is adjustable as follows:

1. In the **Tools** menu, click **Settings**.

2. Adjust **AutoSave Interval** as desired (from 1 to 10 minutes). Refer to **Figure 54**.
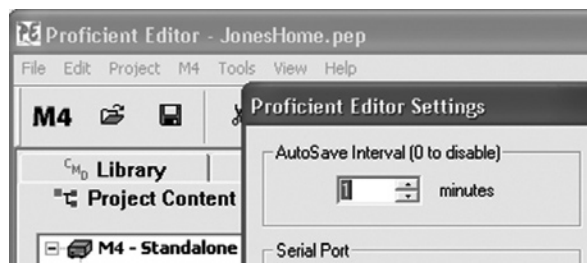

Figure 54 *Adjusting AutoSave Interval*

Since AutoSave on a fast computer is virtually transparent in use, it is recommended that you adjust it to the fastest setting (1 minute) for best data security.

CAUTION: The 0 interval disables AutoSave and therefore leaves frequent file saving up to you. In any case, you will be prompted to Save (Ctrl+S) when closing Proficient Editor, if the file had not been saved.

Back Ups

With the following folders backed up, you will be able to restore your work in the event of a hard drive failure. Proceed as follows:

1. Close Proficient Editor (if open).

2. From "**My Computer**" double-click your **C: drive**, then "**Program Files**."

3. From the folder list double-click "**Proficient**," then "**Proficient Editor**."

4. Copy and Paste or Drag and Drop the **Controller, Library** and **Projects** folders to a CD-ROM or other storage media. Refer to **Figure 55**.
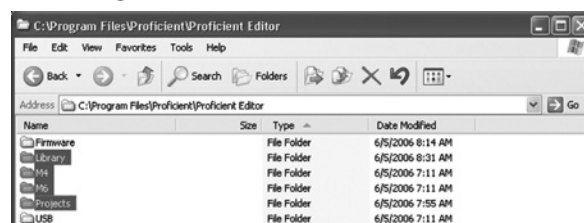

Figure 55 *Selecting Files for Backup*

5. If you need to use them later, simply Copy and Paste or Drag and Drop them back into the Proficient Editor folder. They will overwrite the basic folders that already exist if a new Proficient Editor installation becomes necessary.

FIRMWARE & PROFICIENT EDITOR UPGRADES

A major advantage of the Proficient Editor system is that operational improvements or changes can be implemented, in the field, at any time. The latest versions of the Firmware for the M4 and M6 (and the Command Interface and other future models) plus the Proficient Editor Application software, are available on the Proficient web site. To install updates, proceed as follows:

Firmware Updates

The first thing you should do before the installation of any Proficient control product, is download the latest firmware for that product from the Proficient website. This will ensure that you have the latest functionality updates and fixes. To do so, proceed as follows:

1. First, check to see that you have the "**Transfer Cable**" connected to the M4 (or other Proficient product - refer to **Figure 22**).

2. If you want to observe the currently installed firmware version, click "**Tools**" in Proficient Editor and then "**Get Product and Firmware Version**." Refer to **Figure 56**.

Figure 56 *Observing Current Firmware Version*

3. To download the latest firmware, go to proficientaudio.com/software. Call 877.888.9004 to obtain the password. Click on the Firmware Update that you want to download (i.e., M4, Command Interface, etc.). Refer to **Figure 57.**

Figure 57 *Downloading Firmware Updates From the Proficient Website*

4. Click "**Save**" and select a location on your hard drive for the downloaded file.

5. After the download, double-click the "**Firmware Updater….exe**" file to launch the update and then click "OK."

6. On the pop-up, you will be informed that "All files have been installed successfully." This means they have been placed in the "Firmware" folder of the Proficient Editor directory. Click **OK**. Refer to **Figure 58**.

Figure 58 *Firmware Update*

7. Now to install the updated firmware in the device (M4, etc.), click "**Tools**" In Proficient Editor and then "**Update Product's Firmware**..." Refer to **Figure 59**.
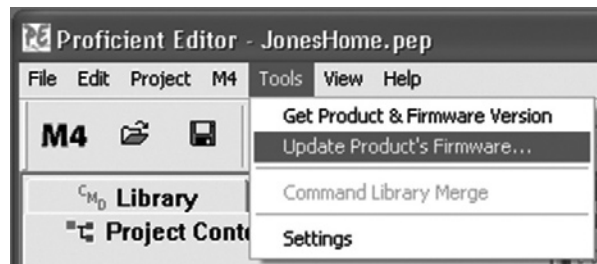

Figure 59 *Updating Product's Firmware*

8. The "**Firmware Upgrade Wizard**" appears. Refer to **Figure 60**. Read the text and then click **Next**.

A page showing the Product Model No. and the new Firmware Version automatically appears for the connected device. Also, Product, Firmware and Date information are shown, with a list of Issues and Solutions that pertain to the new firmware version. Refer to **Figure 61**.
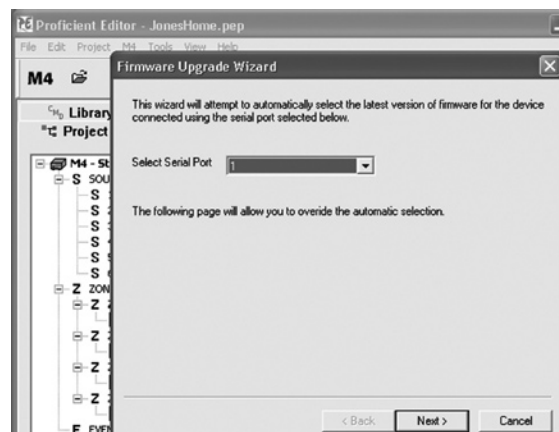

Figure 60 *Firmware Upgrade Wizard*

Note: Both the Model No. and Firmware versions are selectable at this point. Normally, unless you wanted to return to an older firmware version, you would not make changes in these selections.
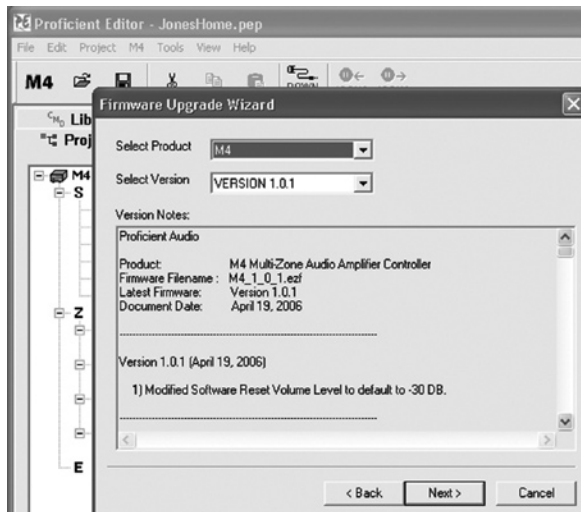
Figure 61 Model, Firmware & Update Information

9. To proceed with the update, click **Next** and follow the prompts.

10. Be sure to set the **FIRMWARE UPGRADE** switch back to **OFF** on the M4 (or other device) after you are prompted that the firmware upgrade was successful.

Proficient Editor Upgrades

As with firmware upgrades, you should check frequently to see that you have the latest Proficient Editor version before installing any of the Proficient control products. You can do so by downloading the latest version from the Proficient website. This will ensure that you have the latest updates and functionality. To do so, proceed as follows:

1. You can observe the Proficient Editor version you currently have by clicking "**Help**" in Proficient Editor and then "**About Proficient Editor**…"

2. To download the latest version, go to proficientaudio.com/software. Call 877.888.9004 to obtain the password. Refer to **Figure 58**.

3. Click the **Proficient Editor software** line and proceed to download it to a location on your hard drive.

4. On your hard drive location, double-click "**Proficient Editor.exe**" to launch the installation. Follow the prompts of the Installation Wizard.

5. The new version installation will replace just those files necessary for the upgrade and will leave all of your Projects, Templates and custom learned IR codes intact.

Command Library Merges

There may be times when you have learned commands on one computer (such as the laptop you take to the installation site) that you will want to merge into the Command Library on a 2nd computer (such as your desktop) without overwriting existing custom learned commands on the 2nd computer. In addition, updated Command Libraries will be made available, from time to time, on the Proficient web site. These you will also want to merge into your existing library without loosing custom learned commands. To perform these merge actions, proceed as follows:

1. On the 1st computer, open the Proficient Editor Library folder in the Proficient Editor directory.

2. Copy or drag and drop the **Library.lib** file to a removable storage media (i.e. USB "Mobile Drive," "Jumpdrive," CD-R, etc). Refer to **Figure 62**.
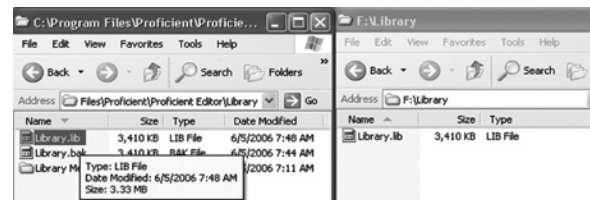

Figure 62 Copying Library.lib File to/from Removable Storage Media

3. Now, plug or insert the removable storage media into the 2nd computer.

4. Open the Proficient Editor Library folder in the Proficient Editor directory on the 2nd computer.

5. Copy or drag and drop the **Library.lib** file from the external storage media into the **Library Merge** folder within the Library folder.

6. Launch Proficient Editor on the 2nd computer (do NOT open a Project). Left-click **Command Library Merge** under **Tools**. See **Figure 63**. Click **Yes** on the pop up. You will be prompted when the Library files are successfully merged. Click **OK**.

Figure 63 Command Library Merge

7. When downloading a Command Library update from the Proficient web site, it will be in the form of a Setup file. When you run the Setup file after the download, it will place the new **Library.lib** file automatically in the **Library Merge** folder.

8. After that, follow the prompts to automatically perform the merge.

Note: *An open project must be Closed before library merges are allowed.*

APPENDIX

Proficient Editor Menu Items

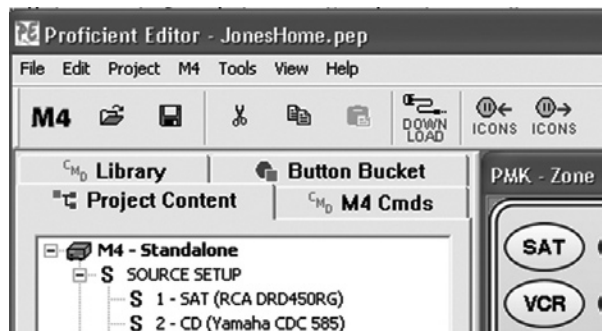The following are basic descriptions of the Menu and Toolbar Items.

Figure 64 Menu & Toolbar Items

File

New > M4 Project
For creation of a new M4 Project File (and for other models as listed). Same as "**M4 (M6) Project**" icon on the toolbar.

Other items under "File" follow normal Windows convention.

Edit

Undo – Reverses up to four of the last changes or actions you made.

Redo – Restores up to four Undos.

Project

Installation Information
A place to record basic client and installer information for any given project. Refer to Printing Projects section, Installation Information and **Figure 65** for details.
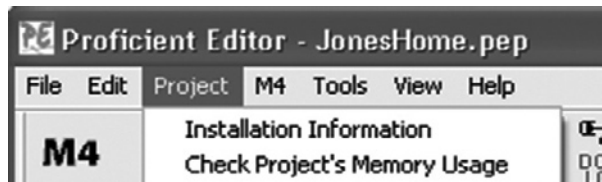

Figure 65 Project Menu Items

Check Project's Memory Usage
Gives Project size, Total Commands, Unique Commands and percentage of Controller's Memory Usage, if connected. This advises how close you are getting to the device's maximum memory capacity.

M4

Download   Ctrl+D
Launches download of your project from Proficient Editor to the M4 and is the same command as **DOWNLOAD** on the toolbar.

Figure 66 M4 Menu Items

Verify to Current Project
Tests whether the current project in Proficient Editor matches that already existing in the M4.

Figure 67 Tools Menu Items

Tools

Get Product & Firmware Version
Shows which Proficient product is connected (i.e., M4, Command Interface, etc.) and the existing Firmware version installed on that product.

Update Product's Firmware…
Launches a Firmware Upgrade Wizard so that factory improvements and changes in the functionality of the product can be accomplished in the field at any time. Refer to Firmware and Proficient Editor Upgrades section for details.

Command Library Merge
Permits user commands created on one computer to be merged into the CMD Library of another computer. Refer to Command Library Merges section.

Figure 68 Proficient Editor Settings

Note: An open project must be Closed before library merges are allowed.

Settings
Permits AutoSave and Serial Port assignments and Miscellaneous Program Options. Refer to **Figure 67**.

For **AutoSave** details, refer to **AutoSave** under the **SAVING AND BACKING UP KeyPad FILES** section.

For **Serial Port** details, refer to **Figure 68**.

Auto-Protocol (IR Learning). When checked, causes certain IR code, when learned, to conform to a recognized code protocol. Particularly useful to obtain "clean code" and enable toggle bit operation for learned RC5 & RC6 codes.

Audible Feedback (Beeping). When checked, enables audible beeping during IR learning and other Proficient Editor programming actions.

View
Hides or displays the toolbar at the top and/or the **Status Bar** at the bottom. Hiding these bars will give more room for Proficient Editor when working with low monitor-screen resolution settings (such as 800x600). The **Status Bar** gives context sensitive descriptions, (you must select Project Content to add or remove toolbar) of many Tool Bar and Pop Up Menu programming actions in Proficient Editor. Refer to **Figure 69**.
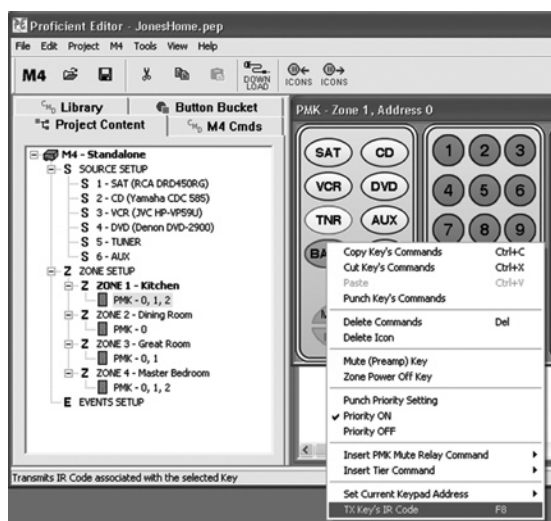

Figure 69 Status Bar Descriptions of Menu Items

Help

Help Topics
Gives Instructional help when working with the total KeyPad system.

About Proficient Editor
Provides Proficient Editor Version and Copyright information.

Importing Pronto Hex Code

There may be times when you will need special IR commands to perform certain functions, such as discrete power ON/OFF code for AC Power management. The "**Remote Central**" web site is a good source for such IR commands in Hex Code. To access and use these commands in your Proficient Editor IR command lists, proceed as follows:

1. Under **CMD Library**, select the Brand, Model and Code Set of the component for which you want to add such commands (i.e., JVC, CD2, Code Set 2).

2. Right-click the **Code Set 2** folder, for example, and point to **New Commands** in the drop down, then left-click **IR Commands**. Refer to **Figure 70**.
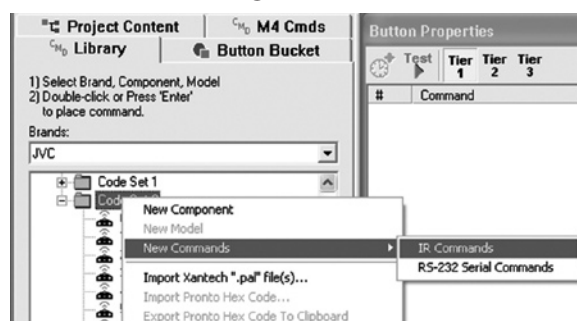

Figure 70 Accessing the New IR Commands Fields

3. A **New IR Commands** window appears. In the **New Command Name** field, type the desired name for the command (i.e., PWR ON (discrete).

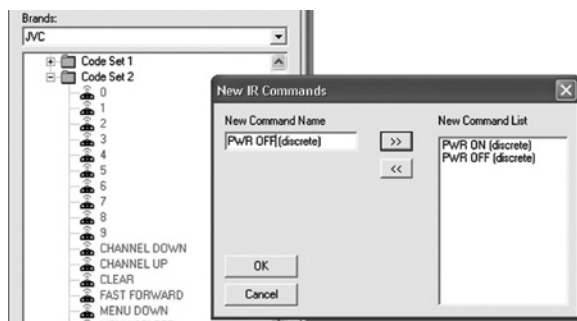4. Click the >> arrows to place the new command name in the **New Command List**. Refer to **Figure 71**.

Figure 71 Adding New Command Names to a Command List

5. Repeat this for any other commands you want (i.e., PWR OFF (discrete). When finished, click **OK**. The new command names will appear at the end of the commands under **Code Set 2** (in black print).

6. At this point, retrieve the Hex Code for these commands from Remote Central.

7. Go to the **Remote Central.com** web site and then click on **Files**.

8. Click on **Philips Pronto & ProntoPro** and then scroll down and then click on the folder that says " Discrete Infrared Hex Codes … ."

9. Under the Discrete Infrared Hex Code listings, click on the manufacturer of your choice (in this case JVC…), then on CD2s …. .

10. At this point, you may have several binary code sets to choose from for each of the commands you want. (You may need to try more than one set to find one that works, since many are not model specific).

11. Drag across the entire Hex code data to highlight it and **copy** it to the Windows clipboard with **Ctrl C**. Refer to **Figure 72**.
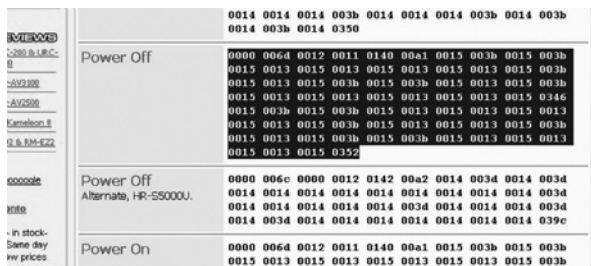
Figure 72 *Highlighting and Copying Hex Code From Remote Central*

12. Go back to Proficient Editor and right-click the **PWR OFF (DISCRETE)** command.

13. Left-click I**mport Pronto Hex Code**… and place curser in the **Enter/Paste Pronto Hex Code** field of the **Import Pronto Hex Code** pop-up. Refer to **Figure 73**.
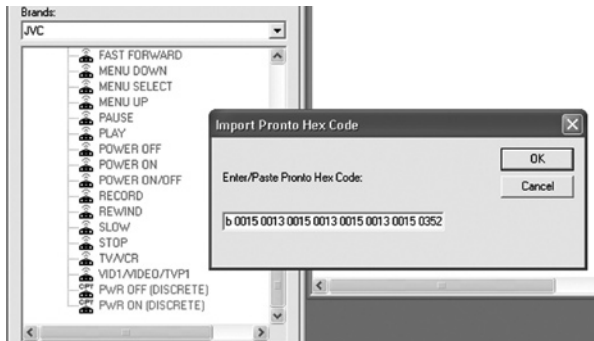
Figure 73 *Importing/Pasting Pronto Hex Code for Special IR Commands*

14. Press **Ctrl V** to paste the code into the field, then click **OK**. The command name in the list [PWR OFF (DISCRETE)] will turn red, indicating the code is saved and ready for use.

15. Repeat steps 7 through 14 for any additional codes you may wish to download from Remote Central.

Importing Xantech Palette (."pal") Files

This feature allows you to import and use any of the IR codes contained in Xantech palette files. These include any palettes you may have created yourself in the Dragon Drop software system for Xantech projects or other specially created code palettes placed on the Xantech web site.

To use these IR commands in Proficient Proficient Editor projects, proceed as follows:

1. Locate the Xantech palette file with the .pal extension on your hard drive, or, download it to a known location on your hard drive from the Xantech web site.

2. Under **CMD Library** in Proficient Editor, select the Brand name that is the same as the .pal file you are importing (i.e., JVC). Refer to **Figure 74**.
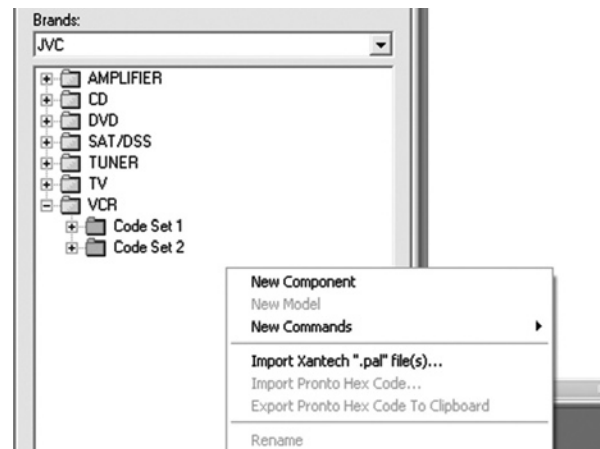
Figure 74 *Selecting 'Import Xantech ."pal" file(s)…'*

3. Right-click in the white space under the last component name in the list (i.e. CD2) and left-click **Import Xantech ."pal" file(s)…** in the pop-up. Refer to **Figure 75**.

4. In the **OPEN** window, locate your desired .pal file (i.e. JVC-CD2.pal) in a location on your hard drive. Click it once to place it in the File name field, then click OPEN.

5. At this point, a caution note regarding file name overwrites appears. Read this, then click **Yes**.

6. An **IR Command Import Information** pop-up occurs, listing basic naming information derived from the .pal file. You would usually leave **Step 1 and 2** fields as is (although you can change them), but you must type in a **Model name** of the component in the Step 3 field. Refer to **Figure 75**. Click **OK**.

7. A new blue folder with the chosen Model name will appear in the list, containing the complete IR command set from the .pal file. Refer to **Figure 76**. These commands are then ready for use in any of your projects.

8. Repeat the above process, steps 1~7, for import of other .pal files as desired.

   NOTE: *To save time, several .pal files can be selected in step 4. They will be placed in the correct brand locations automatically after completing step 6.*
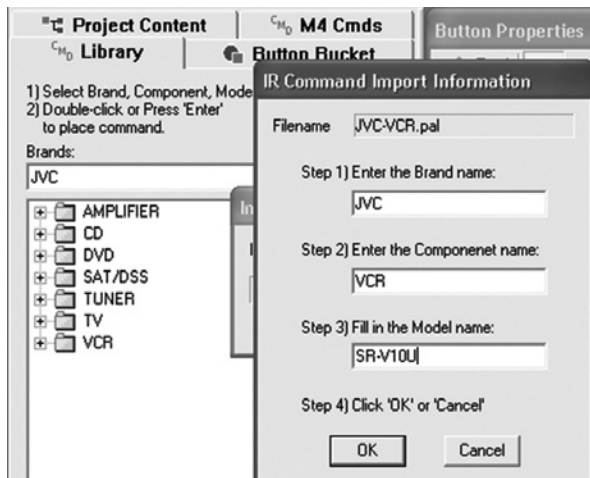
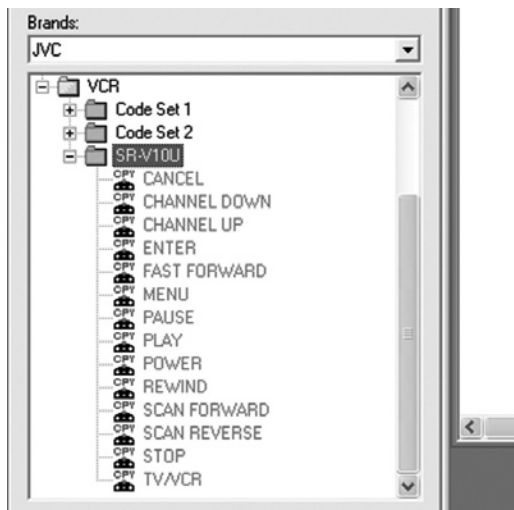*Figure 75 Brand, Component and Model Fields for .pal Command Sets*

Figure 76 Imported IR Command Set from a Xantech .pal File

Command Properties (IR)

This properties menu allows you to observe and make certain adjustments to the parameters of learned or imported IR codes as follows:

- Command Protocol Name & Data Displays
- Burst Width Adjustments
- Minimum Output Time (Seconds)
- Frequency (25k-470kHz, IR Carrier) Display & Adjustment
- Graphical IR Code Displays - Original & Preview
- Capturing and Testing of IR Codes
- Repeating Data Frames
- Entry of Custom Data Codes, in Hex or Decimal

NOTE: *All of the above functions apply to learned or imported IR code (code that has the blue letters CPY just to the left of the code name in the command list. Refer to* **Figure 77**). *Code in the*

existing internal Command Library within Proficient Editor (sans CPY letters) can be adjusted and tested for Min. Output Time (Sec.) only!

To access the **Command Properties Menu**, right-click the desired command in the **CMD Library** under **Brands** in the command list. Refer to **Figure 77**. Then left-click **Command Properties** in the pop-up.
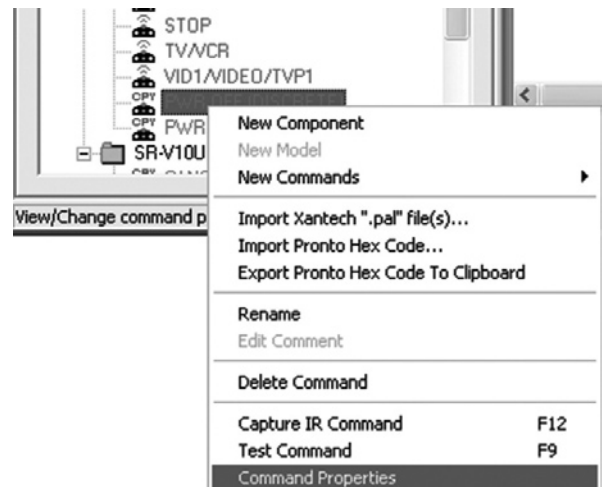

Figure 77 Selecting Command Properties

A discussion of each of these command functions are as follows:

Command Protocol & Data
When **Command Properties** is opened, it will immediately compare the code data of the selected learned or imported IR command against several known IR command protocols within Proficient Editor. The result will be displayed in the **Protocol** and **Data** fields. If the code does not conform to any of the known protocols, "**Unknown/Not Recognized**" will be displayed. Refer to **Figure 78**.
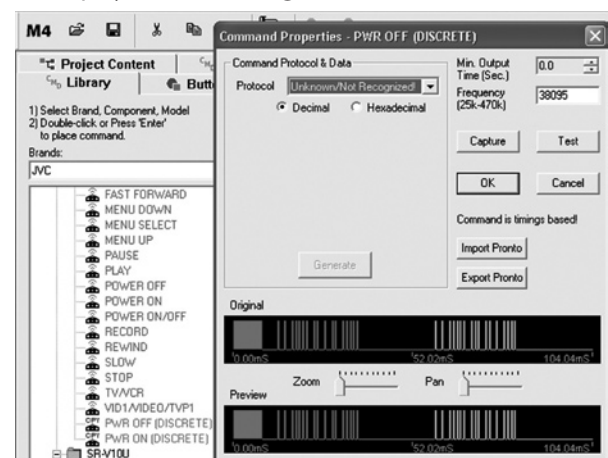

Figure 78 Command Properties Display – Unknown/Not Recognized Protocol

APPENDIX

In the case of unrecognized code, the only modifications that can be made to them are adjustments to the Min. Output Time and the Carrier Frequency, and in some cases, Burst Widths.

If it is a recognized protocol, it will be displayed in the **Protocol** field as shown in **Figure 79**.
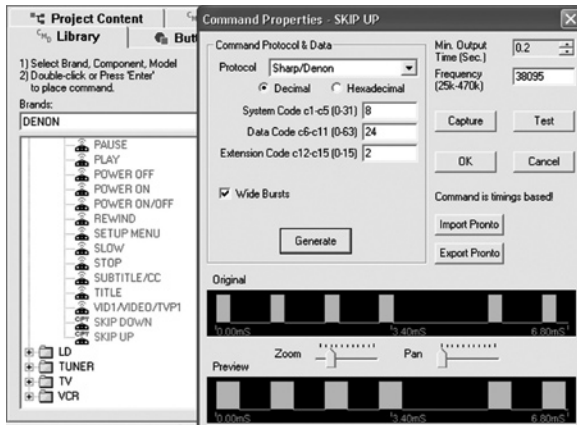

Figure 79 Command is a Recognized Protocol

With a known protocol, clicking **Generate**, then **OK**, will force the selected command to conform exactly to that protocol. This means that certain timing, burst/space sizes and carrier frequency errors that may have occurred during the learning process, will be eliminated. This creates "clean code" for flawless command executions on the controlled component.

Wide Bursts

Some code protocols, such as Sharp/Denon, have short burst times. When used with certain IR Plasma receivers in repeater systems, intermittent or poor execution of commands will sometimes result. Checking the **Wide Bursts** box, then **Generate** will add sufficient burst width to the original code to result in perfect execution of the command.

You can observe the change in burst widths by comparing the **Original** bursts in the code to the **Preview** bursts in the display. Use the **Zoom** and **Pan** controls to see the code details. Refer to **Figure 80**. Click OK to leave Command Properties and to make the change effective on the selected command in the command list.
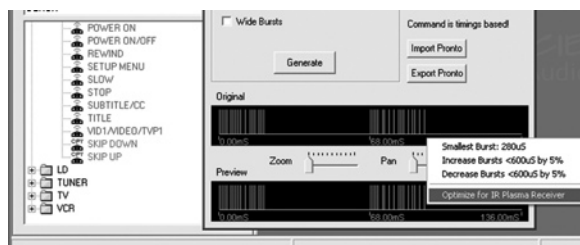

Figure 80 Adjusting Burst Widths

You can also use a pop-up menu to increase or decease or optimize burst widths by right-clicking anywhere within the code display area. Refer to **Figure 80**.

This menu allows you to increase or decrease burst widths in 5% increments, or to a **400uS** value that is optimized for Proficient **Plasma** Block type **IR Receivers**. When you click the latter, **400uS** will show for the Smallest Burst in the menu and Wide Bursts will automatically be checked. At this point, you can **Test** the command, but **do not click Generate**. Click **OK** for the change to take effect or Cancel to leave without any change.

Minimum Output Time (Sec.)

Sometimes a code will not contain sufficient frames for the component to respond properly, or, it may have been learned with too many frames, causing excessive execution times in a macro. To correct this, use the **up/down** arrows to set a longer or shorter time. Use the **Test** button to verify correct operation. Usually, a time setting of 0.2 to 0.3 Sec. will give the right amount of time for robust execution and still have a quick response time. When done, click OK. When adjusting imported or learned commands, refer to **Figure 79 or 80**. When adjusting internal Library commands (without the blue **CPY** symbol), a different pop-up menu appears, but works the same. Refer to **Figure 81**.
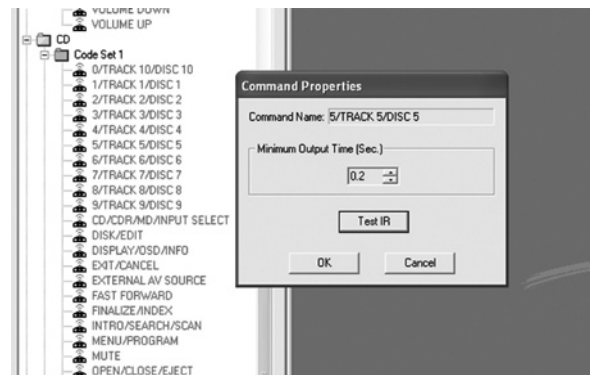

Figure 81 Adjusting Minimum Output Time (Sec.)

Frequency (25k-470k)

This field displays the carrier frequency of the selected IR command code. Refer to **Figure 79 or 82** see markup. A different frequency can be typed in for special applications, if desired. Click **OK** after a change to make it effective.

Capture

This permits learning new code from within Command Properties. Refer to **Learning IR Commands** section for details.

Repeating Data

Some code protocols only transmit one data frame followed by repeater bursts when the command is issued

for ramping purposes. This is usually OK when working in noise free environments. However, if noise or other environmental factors cause the IR signal to be interrupted momentarily, the controlled component's processor will lose the command instruction and the action stops. This is particularly true for volume up/down actions, which depend on ramping. Only repeated pressing of the keypad or remote key, for instance, will restart the command, but in an undesirable stepping action.

This condition can be alleviated by repeating the full frame each time, instead of just repeating the repeater burst. In this way, the data instruction, if interrupted, is repeated immediately without the need of continuous represses of the command key(s).

To change the code to do this, **check** the box next to Repeating Data and then click the Generate button. You can observe the repeated frame in the **Preview** section of the code display. Refer to **Figure 94**. Test the code, then click **OK** to make the change effective.

Custom Code & Data Code Fields

You can enter data in these fields for advanced use. Refer to **Figure 82**. If you have access to a manufacturer's Code Data, you would be able to enter such data in either Decimal or Hex form. If you have programming knowledge, you can even enter trial code to "discover" desired control actions.
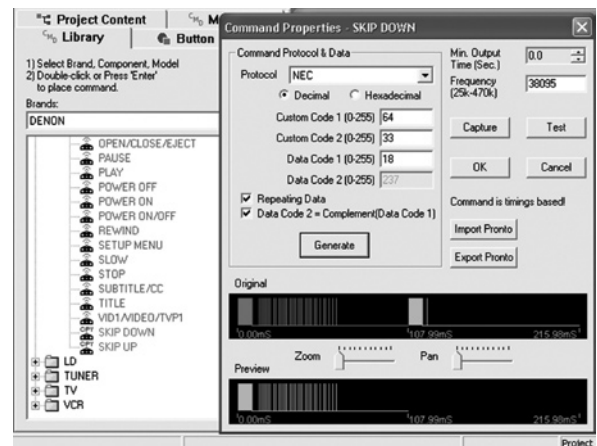
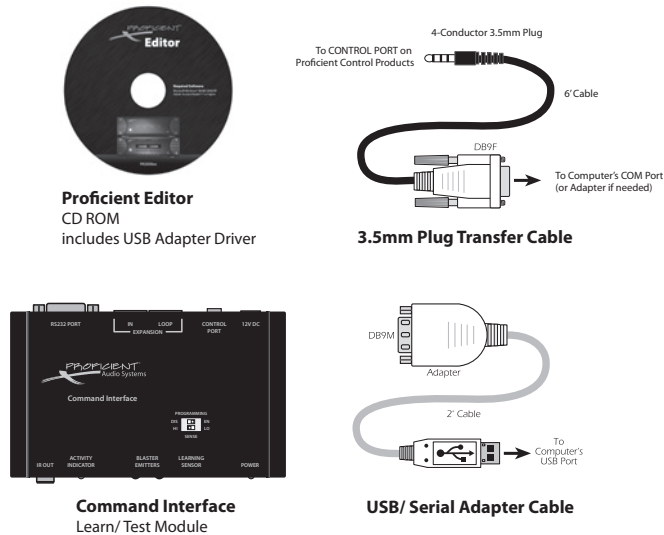*Figure 82* Repeating the Data Frame For Better Ramping

These capabilities are useful to create custom code for special functions, for instance, that are not included on the set of buttons of a handheld remote control. Such code could be discrete power ON/OFF commands, direct source selection commands, etc.

FEATURE DESCRIPTIONS

FEATURE DESCRIPTIONS
Proficient Editor, Command Interface and Transfer / Adapter Cables

Command Interface (optional) comes packaged together with the items illustrated in **Figure 83**.

Proficient Editor
CD ROM
includes USB Adapter Driver

3.5mm Plug Transfer Cable

Command Interface
Learn/ Test Module

USB/ Serial Adapter Cable

Figure 83 Command Interface and Cables Package

Proficient Editor is a Windows® based software program. It is available as a free download from the Proficient web site (proficientaudio.com/software). **Proficient Editor** provides for the complete configuring and programming of Keypad and Controller systems.

Some of its many features include: Key button choice and placement, single and multiple zone assignments, Command Library, IR learning and testing capability in conjunction with the **Command Interface**, single and macro command programming, status/power management, priority commands management, code length timing, delay settings, events programming, etc.

See item 3 below for details regarding use of the **Transfer Cable** and the **USB / Serial Adapter Cable**.

The **Command Interface** is primarily an installer's tool and serves as an IR learning, IR teaching, and command test module. Refer to **Figure 84**. It includes blaster emitters so that learning remotes, used in conjunction with the Keypads, can be programmed with system commands. Also, special Proficient Commands are similarly taught so that keypad sources track automatically with sources selected by the remote.

1. **RS232 PORT** – DB9M jack allows RS232 commands to be tested with RS232 controlled system components.
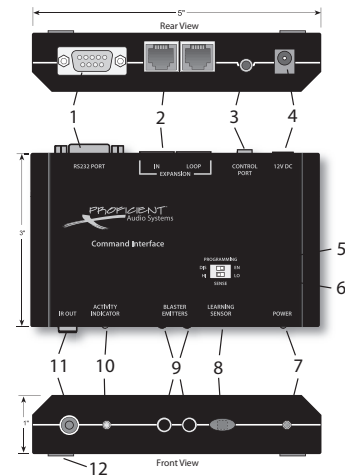
Figure 84 Command Interface Features

2. **EXPANSION PORTS** – RJ45 jacks provide for the connection and testing of commands for future RS485 controlled products.

3. **CONTROL PORT** – 3.5mm 4-circuit phone jack is a serial port that provides several control functions. All command learning and testing functions are accomplished via this port, using Proficient Editor, in conjunction with the mating Transfer Cable (included). Firmware updates for the Command Interface are also accomplished via this port.

   NOTE: *You would normally connect the **Transfer Cable** to the DB9 COM Port on your computer. However, if your computer does not have a DB9 COM Port, use the **USB / Serial Adapter**. When using a USB port, connect the USB / Serial Adapter and the **Transfer Cable** together.*

4. **+12 VDC REGULATED** – 2.1mm DC power jack powers the **Command Interface**. Use the Proficient 12VDC 200mA power supply (included).

5. **PROGRAMMING SWITCH** – The upper DIP switch Disables or Enables internal Command Interface factory firmware updates. Leave this switch in the DIS position at all times, unless you are doing a firmware update and **Proficient Editor** prompts you to do otherwise. Such updates are accomplished via **Proficient Editor** through the CONTROL PORT and ensure that improved functionality can always be accomplished in the field.

6. **SENSE SWITCH** – The lower DIP switch sets the sensitivity of the internal IR Learning Sensor. Normally, set it to the LO position. However, if the teaching remote has weak output, move it to the HI position.

7. **POWER** – Red LED indicates power supply is connected and system is active.

8. **LEARNING SENSOR LENS** – Internal IR sensor receives IR command data from external handheld remotes for learning purposes. Works with **Proficient Editor** for the learning and storage of IR commands that are not available in the internal command library. Point the "teaching" remote at this lens from a distance of about one to four inches when "learning" commands.

9. **BLASTER EMITTERS** – These high power emitters output IR commands for testing and "teaching" purposes. When testing commands, the controlled device(s) can be 30 feet or more away. When "teaching" commands into a learning remote, point the "learning" remote toward these emitters at a distance of about one to four inches.

    NOTE: *These Blaster Emitters are automatically disabled whenever an emitter or any mating 3.5mm mini phone plug is inserted into the IR OUT jack (item # 11).*

10. **ACTIVITY INDICATOR** – Green LED indicates IP learning mode activities. Also flashes during activation of internal command data.

11. **IR OUT** – 3.5mm 2-circuit mini phone jack will drive any of the Proficient or other compatible emitters at medium power levels for operational tests of IR commands.

    NOTE: *The Blaster Emitters are automatically disabled whenever a mating 3.5mm mini phone plug is inserted into this jack.*

12. **Non-Skid Foot Pads**

For technical inquiries please call 877.888.9004 or email us at techsupport@proficientaudio.com. We are available to assist you every weekday, except holidays, between the hours of 7:00 a.m. and 5:00 p.m. PST.

PROFICIENT™
Audio Systems

940 Columbia Avenue, Riverside, CA 92507
877.888.9004 • Fax 951.787.8747 • proficientaudio.com

1300-72400