C2
Communications Controller

INSTALLATION MANUAL

ELAN® HOME SYSTEMS

Preface

Purpose of This Manual

This manual provides step-by-step installation instructions and connection examples, along with basic user information for installation and ongoing use of the C2 Communications Controller. This manual is written for the installer of this equipment.

Organization

The following information is contained in this manual:

Safety Information	Provides a comprehensive list of safety practices and procedures allowing for the safe installation and operation of the C2 Communications Controller.
Introduction	Provides a description of C2 Communications Controller front panel controls and indicators, special features, an explanation & description of the Quick Reference Telephone Features Guide and front panel adjustments and switch settings.
C2 System Design Overview	Provides a system design application overview of the C2 Communications Controller when used in the following applications; Stand-Alone, S66A, S86A/P, S128P, trigger input and outputs and relay design.
C2 System Connections Overview	Provides C2 Communications Controller system connections to trigger output connections, volume control connections, door station connections, relay connections and telephone connections from the phone company and to the inside phones.
Troubleshooting	Provides a troubleshooting table to help fix common discrepancies that maybe associated with the C2 Communications Controller.
Specifications	Appendix A provides equipment specifications for the C2 Communications Controller.
Door Stations	Appendix B provides installation instructions for mounting the ELAN DSF3, DSC3 and DSS3 Door Stations.
Rack Mounting	Appendix C provides installation instructions for mounting the C2 Communications Controller.

Safety Information

WARNING

RISK OF ELECTRIC SHOCK
DO NOT OPEN!

CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

The lightning flash with arrowhead symbol within an equilateral triangle is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

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

WARNING: TO REDUCE THE RISK OF FIRE OR SHOCK, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.

CAUTION

SOME DETACHABLE POWER CORD SOCKETS HAVE THIS FUSE SYMBOL WHICH INDICATES THERE IS A REPLACEABLE FUSE WITHIN THE SOCKET. FOR SAFETY PURPOSES REPLACE ONLY WITH SPECIFIED FUSE.

IMPORTANT SAFETY INFORMATION

When using your telephone equipment, basic safety precautions should always be followed to reduce the risk of fire, electric shock and injury to persons, including the following:

Read Information—All the safety and operating information should be read before the appliance is operated.

Follow Information—All operating and use information should be followed.

Retain Information—The safety and operating information should be retained for future reference.

Heed Warnings—All warnings on the appliance and in the operating instructions should be heeded.

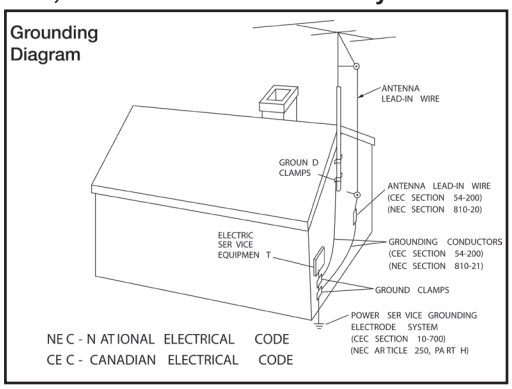
Wall Mounting—Mounting of this appliance should be done only by an authorized installer.

Ventilation—The appliances should be situated so that their location or position does not interfere with their proper ventilation.

-These appliances should never be placed near or over a radiator or heat register. These appliances should not be placed in a built-in installation such as a bookcase or cabinet that may impede the flow of air through the ventilation openings.

WARNING
RISK OF ELECTRIC SHOCK
DO NOT OPEN

Water and Moisture—To reduce the risk of electric shock or fire, these appliances should not be used near water---—for example, near a bathtub, washbowl, kitchen sink, laundry tub, in a wet basement, or near a swimming pool.
Power Cord Protection—Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles and the point where they exit from the apparatus.
Telephones—Avoid using a telephone (other than a cordless type) during an electrical storm. There may be a remote risk of electrical shock from lightning. Do not use a telephone to report a gas leak if the leak is in the vicinity of the ELAN electronic equipment because of risk of fire or explosion.
Cleaning—Unplug the apparatus from the power outlet before cleaning. Use only a dry cloth to clean the apparatus.
Power Lines—An outdoor antenna should be located away from power lines. When installing an outside antenna system, extreme care should be taken to avoid touching power lines or circuits, as contact with them may be fatal.
Outdoor Antenna Grounding—If an outside antenna or cable system is connected to these audio products, be sure the antenna or cable system is grounded so as to provide some protection against voltage surges and built-up static charges. Section 810 of the U.S. National Electrical Code, and Section 54 of the Canadian Electrical Code, provide information with respect to proper grounding of the mast and supporting structure, grounding of the lead-in wire to an antenna discharge unit, size of grounding conductors, location of antenna-discharge unit, connection to grounding electrodes, and requirements for the grounding electrode. See the grounding diagram (right).



Overloading—Do not overload wall outlets and extension cords, as this could result in fire or electric shock. Object and Liquid Entry—Never insert objects of any kind through the openings of these appliances, as they may touch dangerous voltage points or short-out parts that could result in a fire or electric shock. Care should be taken so that objects do not fall and liquids are not spilled into the appliance through openings in the enclosure.
Servicing—Do not attempt to service these appliances yourself, as opening or removing covers may expose you to dangerous voltage or other hazards. Refer all servicing to qualified service personnel.
Damage Requiring Service—These appliances should be serviced by qualified service personnel when:

- A power supply connection or a plug has been damaged or
- If liquid has been spilled into the appliance or objects have fallen into the appliance or
- The appliance has been exposed to water or moisture or
- The appliance does not appear to operate normally or exhibits a marked change in performance or
- The appliance has been dropped or the enclosure damaged.

Replacement Parts—When replacement parts are required, be sure the service technician has used replacement parts specified by the manufacturer or that have the same characteristics as the original part. Unauthorized substitutions may result in fire, electric shock, or other hazards. The Master Control Unit battery should be replaced only after turning the power off and only by an authorized installer.
Safety Check—Upon completion of any service or repairs to this audio product, ask the service technician to perform safety checks to determine that the audio product is in proper operating condition.
Lightning Storms—Unplug this apparatus during lightning storms or when unused for long periods of time.

Attachments and Accessories—Use only attachments/accessories specified by the manufacturer.
Cart, Stand, Tripod, Bracket or Table—Use only with a cart, stand, tripod, bracket or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip over.
Disconnect Device—Where the mains plug or an appliance coupler is used as the disconnect device, the disconnect device shall remain operable.
Gas Leak—Do not use the telephone to report a as leak in the vicinity of the leak.
Caution—To reduce the risk of fire, use only No. 26 AWG or larger telecommunication line cord.
SAVE THESE INSTRUCTIONS

IMPORTANTES MESURES DE SÉCURITÉ

Certaines mesures de sécurité doivent être prises pendant l'utilisation de matérial téléphonique afin de réduire les risques d'incendie, de choc électrique et de blessures. En voici quelquesunes:
Ne pas utiliser l'appareil près de l'eau, p.ex., près d'une baignoire, d'un lavabo, d'un évier de cuisine, d'un bac à laver, dans un sous-sol humide ou près d'une piscine.
Éviter d'utiliser le téléphone (sauf s'il s'agit d'un appareil sans fil) pendant un orage électrique. Ceci peut présenter un risque de choc électrique causé par la foudre.
Ne pas utiliser l'appareil téléphonique pour signaler une fuite de gaz s'il est situé près de la fuite
il convient que l'aération ne soit pas gênée par l'obstruction des ouvertures d'aération par des objets tels que journaux, nappes, rideaux, etc.;
il convient de ne pas place sur l'appareil des source de flammes nues, telles que des bougies allumées;
que l'appareil ne doit pas être exposè á des èqouttements d'eau ou des èclaboussures et de plus u'aucun objet rempli de liquide tel que des vases ne doit être placé sur l'appareil.
Un avertissment qu'un appareil de construction de CLASSE I doit être connecté à un socle du réseau d'alimentation muni d'une connexion à la terre de protection.
lorsque la prise du RÉSEAU D'ALIMENTATION ou une prise placée sur l'appareil est utilisèe comme dispositif de déconnexion, ce dispositif doit demeuré aisément accessible;
ATTENTION - Pour réduire les rusques d'incendies, utiliser uniquement des conducteurs de télécommunications 26 AWG au de sectioin supérleure.
CONSERVER CES INSTRUCTIONS
This product meets the applicable Industry Canada technical specifications.

IMPORTANT USER INFORMATION

The ELAN Home Systems C2 Communications Controller complies with Part 68 of the FCC rules and the requirements adopted by the ACTA. On the bottom side of this equipment is a label that contains, among other information, a product identifier in the format US:AAAEQ##TXXXX. If requested, this number must be provided to the telephone company.

ACTA-FCC Registration Number: US: 5J7MA07AC2
Industry Canada Registration Number: 2488-5235A
Ringer Equivalence Number (REN): 0.7A

The REN is used to determine the number of devices that may be connected to a telephone line. Excessive RENs on a telephone line may result in the devices not ringing in response to an incoming call. In most but not all areas, the sum of RENs should not exceed five (5.0). To be certain of the number of devices that may be connected to a line, as determined by the total RENs, contact the local telephone company. For products approved after July 23, 2001, the REN for this product is. part of the product identifier that has the format US:AAAEQ##TXXXX. The digits represented by ## are the REN without a decimal point (e.g., 03 is a REN of 0.3). For earlier products, the REN is separately shown on the label.

If your telephone equipment causes harm to the telephone network, the telephone company may discontinue your service temporarily. If possible, they will notify you in advance. But, if advance notice isn't practical, you will be notified as soon as possible. You will be notified of your right to file a complaint with the FCC. Connection to party line service is subject to state tariffs. Contact the state public utility commission, public service commission or corporation commission for information.

If your home has specially wired alarm equipment connected to the telephone line, ensure the installation of this [equipment ID] does not disable your alarm equipment. If you have questions about what will disable alarm equipment, consult your telephone company or a qualified installer. Your telephone company may make changes in its facilities, equipment, operations, or procedures that could affect the proper functioning of your equipment. If they do, you will be notified in advance to give you an opportunity to maintain uninterrupted telephone service. If you experience trouble with this telephone equipment, please contact ELAN TECHNICAL SUPPORT at 1-800-622-3526 for information on obtaining service or repairs. The telephone company may ask that you disconnect this equipment from the network until the problem has been corrected or until you are sure the equipment is not malfunctioning.
If the telephone features are not functioning or are malfunctioning, switch off the C2 Communications Controller (located on the rear panel). This will directly connect the telephone line with all the telephones connected to the package. Contact your dealer for repairs.
This equipment may not be used on coin service provided by the telephone company. Connection of party lines is subject to state tariffs. (Contact your state public utility commission for information).

DISCLAIMER:

The ELAN C2 Communications Controller is an advanced design capable of interfacing with most telecommunication devices and central office switches. It has been thoroughly tested and should work satisfactorily with most telephone equipment. However, ELAN in no way represents, guarantees, or claims that the ELAN C2 Communications Controller will achieve 100% functionality with every manufacturer's telephone equipment or with every central office feature.

ELAN Home Systems strongly recommends the use of a quality in-line Telephone Surge Suppressor such as the Z•POWER Power Controller or TH31SRG surge Protection Hub. This device should be installed between the incoming telephone service line and the C2's TELCO IN jack. If your installer has not installed such a device, please insist that they do so. For additional protection on large wiring networks, surge suppression can also be added in series with the C2's PHONE OUT jack, protecting your house network and C2 from surge in both directions.Although the installation of telephone line surge suppression is an important precautionary measure to take in protecting your C2 from surge-related damage, it does not completely eliminate the possibility of surges entering into the system through the telco line due to near or direct lightning strikes. ELAN Home Systems does not warranty this, or any product against surge-related damage; nor does this warning imply that, if surge protection is installed and the unit is subsequently damaged by surge, ELAN Home Systems would repair or replace the unit under warranty. Please consult the warranty policy of the surge protection device you are installing for information on product repair/ replacement in the event of surge-related damage.

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C2
Communications Controller

Items in package:

- C2 Communication Controller
- Rack Mount Brackets
- Power Cord
- Installation Manual

Chapter 1: Introduction

Introduction

With the C2 Communication Controller, your multi-room audio system will be transformed into a whole-house communications network. This stand-alone component integrates intercom, telephone and home automation features with your existing audio system to seamlessly create an environment of whole house communication and control.

A Better Intercom

With the C2, your audio system becomes a high-fidelity intercom system that is simple to use. Page family members from any phone in your home. Hear clean, clear voice communications via ELAN in-wall or in-ceiling speakers as the music mutes automatically. To answer a page, simply pick up the nearest phone. No unsightly wall units to contend with - just reliable, high-fidelity voice and music. You'll use it every day and wonder "how did I live without this before?"

A Great Door System

In larger homes, hearing a doorbell and then answering it is no easy task. The C2 is designed to distribute up to ten different door chimes through in-wall or in-ceiling speakers, alerting you to a visitor at any door entrance. With the DSS3, DSF3 or DSC3 Door Station packages (optional), two-way communications and door latch control to any eight dwelling entrances is a "touch-tone" away. Simply pick up the phone to query a visitor or unlock a door.

Step-Saving Convenience

Park an incoming call while you take it on another phone. When you page, callers are automatically put on hold and entertained with the C2's "Music-On-Hold" feature. If you take a call in a room where music from the in-wall speakers is too loud—simply mute the speaker audio from your phone. The C2 will alert you with tones through the audio system if you inadvertently leave a caller on hold too long or if the phone receiver is left off hook.

Intuitive Operation

Phone feature commands are simple and intuitive. Press the pound sign (#), followed by simple, easy to remember feature keys like "P" (7) for Page, "H" (4) for placing a caller on Hold, "D" (3) for talking through the Doorspeaker or "M" (6) for Muting the audio system music for that call.

Automation In Mind

With its relay control circuitry, the C2 can also provide control of home automation amenities such as lighting, drapes, outside gates, even security systems. Home automation commands, such as the opening of drapes and turning lights on or off are easily executed via the telephone keypad. Nothing could be more simple or more elegant.

Bulletproof Design

Enhanced ESD protection, transient voltage surge protection, and phone-line conditioning circuitry guarantee years of enjoyment from your C2. A high-output door speaker amplifier and sensitive door microphone ensure superior two-way door communications.

The C2 and Your Phone Line

Where Do You Install It?

The C2 Controller installs on your phone line before all the telephones. This installation assures that you will be able to utilize the C2's telephone and intercom features from any phone in your home. The C2 is typically installed close to the home's whole-house audio system or stereo system components. The C2 provides communications features for up to two separate phone lines from your local telephone provider.
The best thing about the C2 Communications Controller is that it does not require special or proprietary phones. Any touch-tone phone, including cordless, are all that is required for convenient, easy to use intercom and call features!

Features

Paging

The C2's "Page" feature makes communicating to all rooms in your home as easy as picking up a phone. The C2's page audio is heard through the same speakers that provide music throughout your home.

Phone-to-Phone Intercom

After paging a family member, a room-to-room phone conversation can be conducted without being heard over the in-wall speakers when the second user picks up a handset on the same line.

Music-On-Hold

Callers who are placed on hold enjoy music via the C2's "Music-On-Hold" feature (dedicated Music-On-Hold source required).

Door Station Communication & Chimes

The C2 provides two-way communication and door chimes for up to eight dwelling entrances. With the addition of an ELAN DSC3, DSS3 or DSF3 Doorstation Assembly, you can conduct two-way conversations with any door station via your telephone. When someone presses the ELAN doorbell button, a chime will sound over the speakers in every room. There are ten selectable door chimes to choose from, so you can immediately identify which entrance has a visitor.

Selectable Door Chimes

The C2 features 10 user-selectable door chimes that let you differentiate between door stations. Unique chimes, such as sleigh bells, a fog horn and even a barking dog make for fun door announcements that can easily be changed for the occasion. Here are the available door chimes:

- 01 - 8-Note Bells (Door Station 1 default)
- 02 - 4-Note Bells (Door Station 2 default)
- 03 - 3-Note Bells (Door Station 3 default)
- 04 - 2-Note Bells (Door Station 4 default)
- 05 - "Ding-Dong"
- 06 - Fog Horn
- 07 - Mean Dog Barking
- 08 - Sleigh Bells
- 09 - Ping
- 10 - Sonar Blip

Home Automation

From your telephone, you can activate up to four relays that can be configured to trigger home automation controls such as lighting, draperies, security systems or garage door openers.

Telemute

The C2's "Telemute" feature automatically mutes the music throughout your home whenever a page or door chime is activated or whenever the phone rings. The music will come back on once the page or door chime has ended or when you pick up the phone to answer the call.

Music Mute

The C2 mutes the music when you press #, M. The tunes come back when you hang up.

On Hold Alert

When you place a caller on hold, one minute after the phone is placed "on-hook" the C2 will transmit a single beep over the speakers at 5 second intervals, alerting you that the caller is still on hold.

Off Hook Alert

If any phone is left off hook, after two minutes the C2 will transmit a double beep over all the peakers at 5 second intervals alerting you that the phone is off the hook.

System Bypass

This feature allows you to override all C2 phone features and enjoy call services provided by your local phone company, bank or credit card company, etc.

When you want to call someone, simply pick up the phone and start dialing! It's that simple.

It is not necessary to dial #, 9 before dialing out. There are, however, certain instances where this feature will come in handy:

- When dialing out to an automated service that requires the use of "#" to access services and enter information (i.e., banking by phone or credit card company).

Quick Reference Telephone Features Guide

Included with the C2 Communications Controller, you will find two "Quick Reference" Telephone Feature Cards.

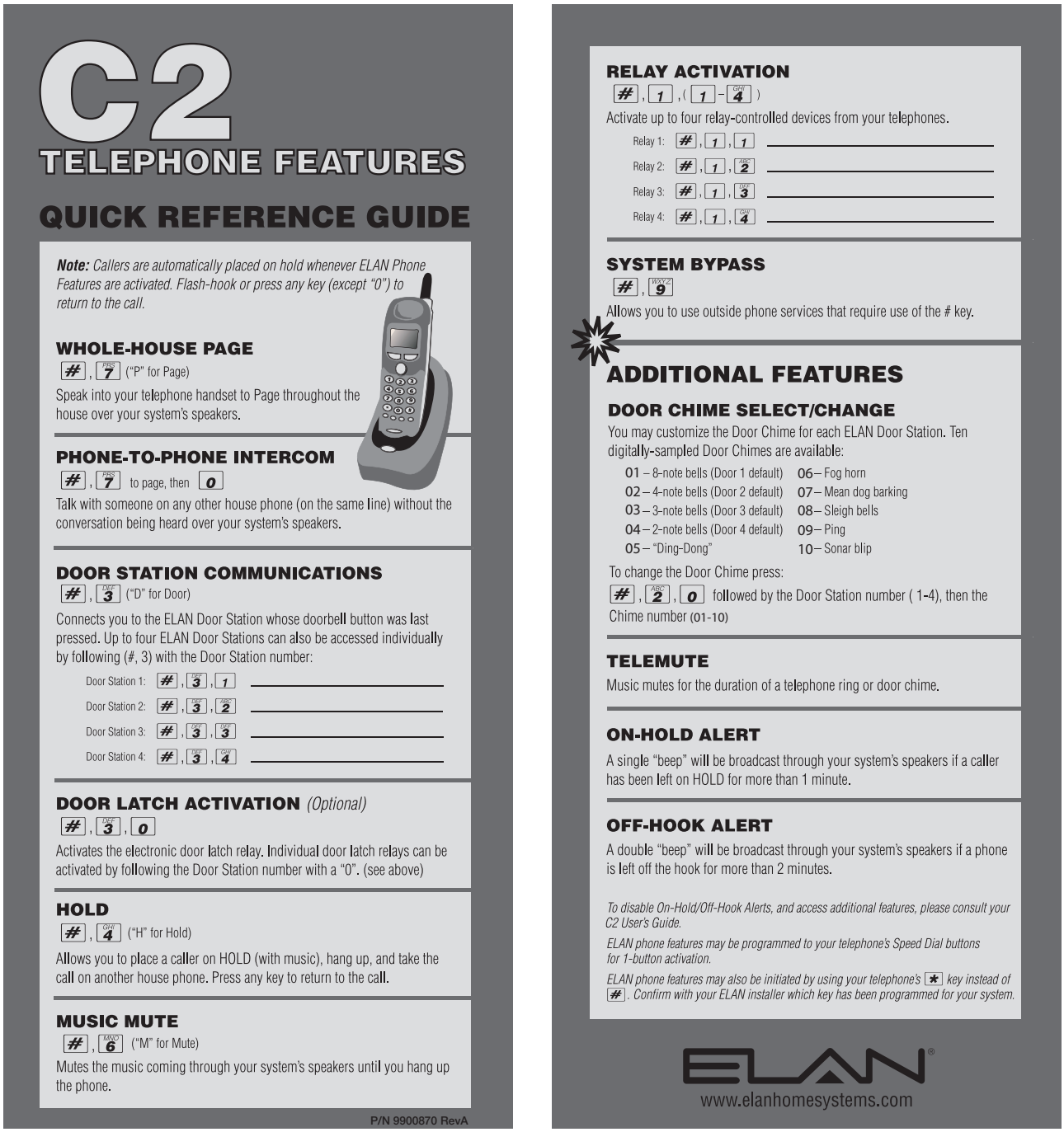


Figure 1-2: Quick Reference Card

The C2's phone features are easy to remember and use, but these guides will come in handy for those who are unfamiliar with the system or as a refresher.
The C2 also gives you the capability of activating up to four low voltage relays from your telephone keypad. These relays can be assigned to any home automation device of your choosing. We have left you a labeling space beside each relay command on the bottom of the Quick Reference Card.

A Quick Explanation

All telephone feature commands are initiated from the keypad of your touch tone phone. They are simple to use and easy to remember! All telephone feature commands begin with the # (pound) symbol (factory preset).

NOTE: You have the option of choosing the * (star) symbol as the beginning command key. This is selectable via DIP switch number 1 on the front of the C2. You may wish to select the star (*) command key if the pound symbol is not compatible with your telephone/home office equipment or security system that you are currently using in the home.

The second key press in each command coincides with the first letter of that feature—for instance to place a caller on Hold, press #, then 4 (the H key on your telephone keypad).

The C2 feature key press sequences can also be programmed to your telephone's Speed Dial buttons, For example: #,P can be programmed to Speed Dial Number 1 for Paging throughout the home; #,D,1 and #,D,2 can be programmed to Speed Dial Numbers 2 & 3 for instant doorspeaker communication; #1,1 (activate relay #1) can be programmed to Speed Dial Number 4 to turn the lights on throughout the house at the press of a single digit (X-10 lighting control module or similar device required).

How To

Page- To Page throughout the house, simply press #, then 7 (the P key on your telephone keypad). Speak into the phone receiver and your voice will be heard throughout the house over the system's speakers. If music is present on the system's speakers, it will automatically mute - allowing your page to be heard. If you have a caller on the line, they will automatically be put on hold. You can get the caller back by simply pressing the flash hook.

Group Page - If the Group Paging feature is enabled in the system configuration software (S86A and S86P only), press #, then 7, then the number of the Page Group (1-9) you wish to activate. Only the Zones assigned to that Group will switch to the Page audio. Multiple Groups may be Paged by pressing #, then 7, and then the numbers of the Groups you wish to Page. #7 + (1,3,5,6), for example. #7 + 9 = Whole House Page. Zones may be assigned to multiple Groups.

Phone-To-Phone Intercom - This feature allows you to first, Page a family member over the house speakers, then speak with them over the phone without the conversation being heard over the in-wall speakers. To perform this function, simply press #, then 7 (the P key on your keypad) followed by the numeric 0 key.

Place A Caller On Hold - To place a caller on hold, simply press #, then 4 (the H key on your keypad) and hang up. The call can then be taken on another phone elsewhere in your home. Music-On-Hold is available to the outside caller while on hold.

Communicate With a Door Station - To speak with visitors at any one of eight entrances to your home, simply press #, then 3 (the D key on your telephone keypad) then the number for the Door Station you wish to communicate with (1-8). (Requires ELAN Door Station Assembly DSF3, DSS3, or DSC3). Should you need to communicate with multiple Door Stations at the same time, you can toggle between them by pressing #, 3 (to speak with the door station that most recently had it's DB pressed), then 2 (speak with Door Station 2), then 3 (speak with Door Station 3), then 1 (speak with Door Station1), then 7 (speak with Door Station 7) and so on.

Activate A Door Latch - If you wish to activate a door latch, simply press #, then 3 (the D key on your telephone keypad) followed by a 0 (the door station that most recently had it's DB pressed.), #, 3, 1, 0 (Door Station #1), #, 3, 2, 0 (Door Station #2), #, 3, 3, 0 (Door Station #3) or #, 3, 4, 0 (Door Station #4). The door latch relay will remain open as long as you hold the 0 key. Requires ELAN Door Station Assembly DSF3, DSS3, or DSC3 and a latch mechanism installed at the door. Most cordless phones put out a fixed length tone no matter how long you hold the button down.

Door Chime Select/Change - You may customize the chime that each door station makes. To select or change this sound, press #, 2, 0 then the number of the desired Door Station, then the desired chime (01-10). For example, to change Door Station 1 to chime #3, press #, 2, 0, 1, 0, 3. To change Door Station 3 to chime 7, press #, 2, 0, 3, 0, 7.

Door Station Chime On/Off - You will hear the door chime through the Door Station speaker, to provide audible feedback for the person at the Door Station. You may turn the chime for each Door Station On or Off using the telephone. Press #, 5, 3, then the number of the desired Door Station, then 0 (for OFF) or 1 (for ON). For example, to disable door chime over Door Station 3, press #, 5, 3, 3, 0. To enable door chime over Door Station 1, press #, 5, 3, 1, 1.

Mute Music - When your phone rings, music through the system's speakers will mute automatically until the phone is answered, or the caller hangs up. If you want to mute the audio after you answer the call, simply press #, then 6 (the M key on your telephone keypad). The music will mute for the duration of the call.

Activate A Relay - Up to four relay-controlled devices can be connected to the C2. To activate Relay 1, press #,1,1. To activate Relay 2, press #,1,2. To activate Relay 3, press #,1,3. To activate Relay 4, press #,1,4. The relay is activated for the duration you press the button.

Line Off-Hook Alert Enable/Disable - To turn the Line Off-Hook Alert On for Line 1, press #, 5, 6, 1, 1. To turn the Line Off-Hook Alert Off for Line 1, press #, 5, 6, 1, 0. To turn the Line Off-Hook Alert On for Line 2, press #, 5, 6, 2, 1. To turn the Line Off-Hook Alert Off for Line 2, press #, 5, 6, 2, 0.

Line On-Hold Alert Enable/Disable - To turn the Line On-Hold Alert On for Line 1, press #, 5, 4, 1, 1. To turn the Line On-Hold Alert Off for Line 1, press #, 5, 4, 1, 0. To turn the Line On-Hold Alert On for Line 2, press #, 5, 4, 2, 1. To turn the Line On-Hold Alert Off for Line 2, press #, 5, 4, 2, 0.

System Bypass (#9) - To bypass the C2 allowing to access voice mail features or enter information into automated phone systems such as banks, credit card companies, utility companies, etc. press #, 9.

FACTORY DEFAULT - To restore the C2 to Factory Default condition, press #, 0, 3, 3, 3. Note: This will erase all previously customized settings!

Fax Machines, Modems, and Caller ID Boxes

Generally, these types of telephone equipment work well with the C2 Communcation Controller.

Paging

• Pick up any phone and press #, 7 (P) or #, 7 + (Group). Your page will be heard through all the speakers in the house. If there was music playing when you initiated the page, the music will mute for the duration of the page and come back on when you hang up the phone.

• Following a #,7 command with a numeric 0 will re-engage the audio over the speakers, and connect your phone to the other phones on your line. The 0 can be initiated either by the person performing the page or by a person picking up another extension.

Incoming Calls While Paging

- While in page mode, if there is an incoming call you will hear a ring over the handset every fourth ring. To access the caller, press the flash-hook button.

- While on a phone-to-phone intercom (#,7,0), if there is an incoming call, you will hear the phone ring over the handset every fourth ring. To access the caller press any digit except “0” or the flash-hook button.

Paging With A Caller On Line

- Pressing #, 7 (P) puts the caller on hold while you page. Pressing the flash-hook button will bring the caller back on line. If you hang up the phone after paging, the person you paged need just pick up any phone in the house and the caller will be there.
- If you followed a #,7 command with a numeric 0 to initiate a phone-to-phone intercom, press any digit, or the flash-hook button to get the caller back.

Incoming Calls While Using the Door Station Assembly

- Press #,3 (D) to initiate two-way communications to your ELAN Door Stations.
- If, while communicating via a door station, there is an incoming call, you will hear an alert over the handset every fourth ring. To access the caller, press the flash-hook button. To re-access the door station you must press the #,3 (D) keys again.

Front Panel Controls & Indicators

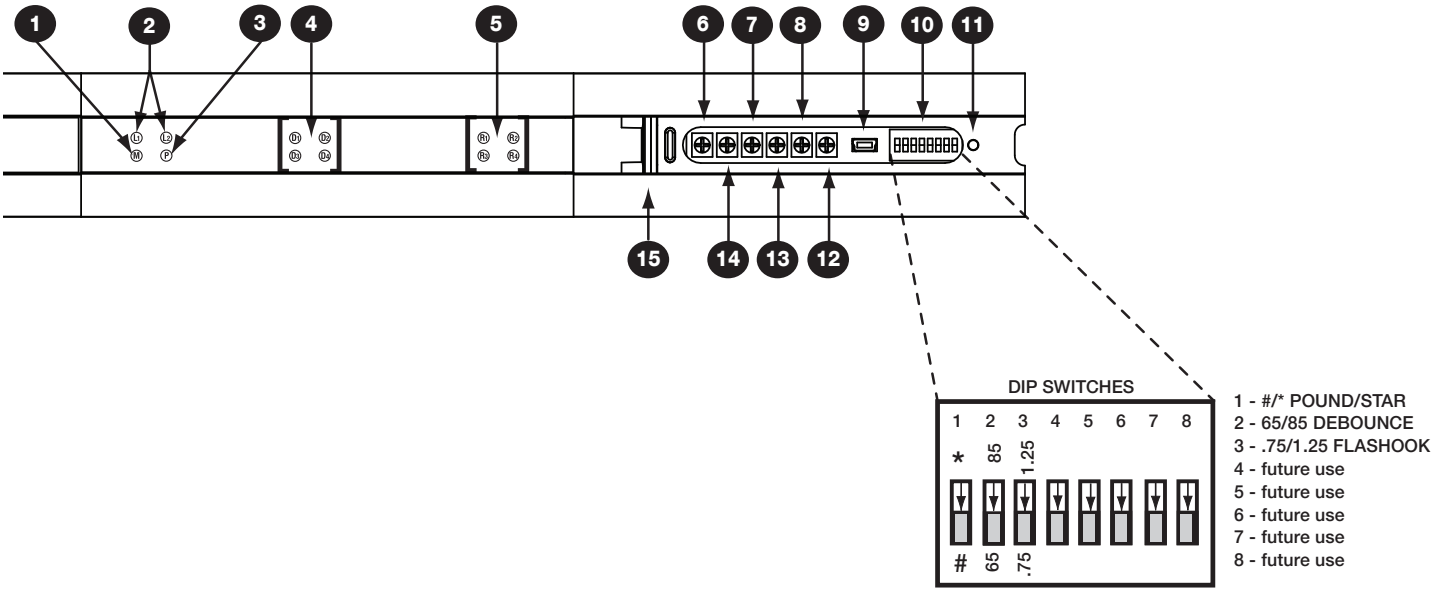


Figure 1-3: C2 Front Panel Controls & Indicators

Item	Description
1	Mute/Telemute Status LED
2	Line 1&2 Status LEDs
3	Page LED
4	Doorbell Status (1-4) LEDs
5	Relay Status (1-4) LEDs
6	Page Output Level
7	Line 1 Music-On-Hold Level
8	Door Station Microphone Input Level
9	Mini "B" USB Connector
10	DIP Switches
11	Power Indicator LED
12	Door Station Speaker Output Level
13	Line 2 Music-On-Hold Level
14	Door Chime Output Level
15	Front Access Door (Shown Open)

Table 1-1: C2 Front Panel Controls & Indicators

Front Panel LED Description

Figure 1-4 and Table 1-1 provide color and description of the C2 Communications Controller front panel LEDs.

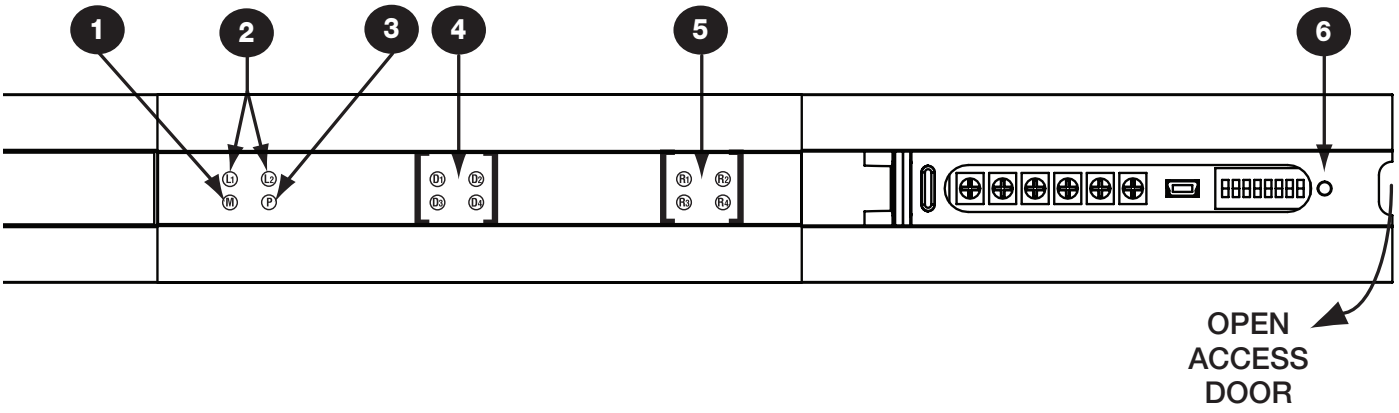


Figure 1-4: C2 Front Panel LEDs

Item#	LED	Indication	Status
1	Mute Status (Red)	Solid ON	During music mute function (#,6). Default is OFF.
2	Line 1/Line 2 Status (Red)	Flashing Slow Wink Solid ON	Incoming call Call On-Hold Phone Off-Hook. Default is OFF
3	Page Active (Red)	Solid ON	During page function (#,7). Default is OFF
4	Door Bell Status (D1-D4) (Red)	Solid ON	During door chime duration. Default is OFF
5	Relay Status (R1-R4) (Red)	Solid ON	During relay activation, remains active until button is released. (#,1,1 for Relay 1, #,1,2 for Relay 2 etc.) Default is OFF.
6	Power Indicator (Blue)	Solid ON	Indicates Power Switch is set to the ON position. Default is ON.

Table 1-2: C2 Front Panel LED's

Rear Panel Connections

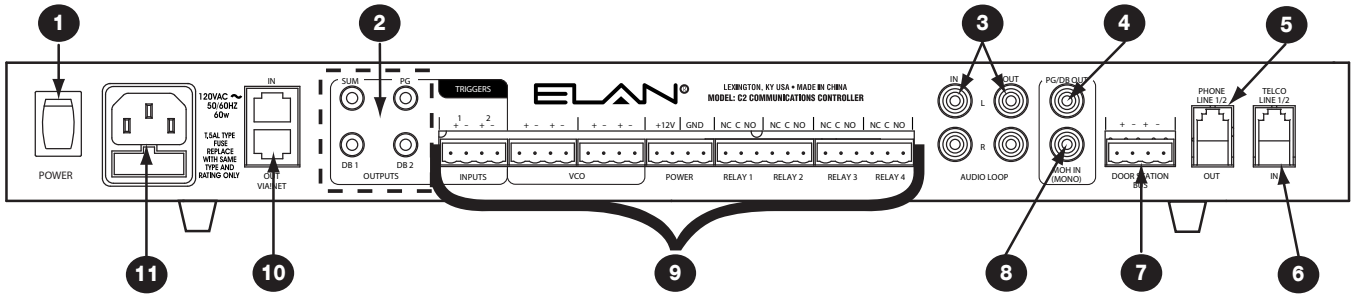


Figure 1-5: C2 Rear Panel Connections

Item#	Description
1	Power Switch ON/OFF
2	Sum and PG Trigger Outputs (3.5mm Mono); DB1 and DB2 Trigger Outputs (3.5mm stereo)
3	Audio Loop Input/Output Jacks RCA Stereo
4	Page Door Chime Output RCA Mono
5	Output to Telephones RJ-14
6	Input from Telco RJ-14
7	Door Station Bus Removable Locking Connector
8	Music-On-Hold Input Jack RCA Mono
9	Trigger Inputs-Volume Control Override-Relay Power-Relays Removable Locking Connectors
10	VIA!NET IN/OUT RJ-45
11	AC Power Cord

Table 1-3: C2 Rear Panel Connections

Front Panel Adjustments

Figure 1-5 shows the front panel pot adjustments for the C2 Communications Controller.
Turn potentiometers clockwise to increase or counterclockwise to decrease the various levels.

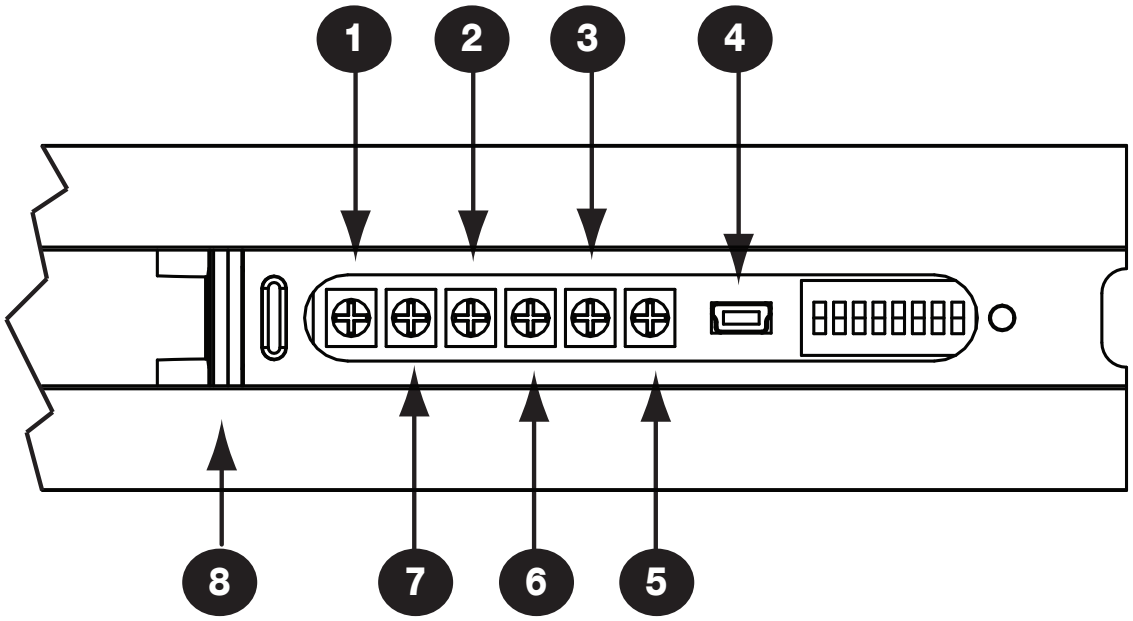


Figure 1-6: Front Panel Adjustments

Item	Description
1	Page Output Level - Adjusts the PAGE audio volume level presented to the Page/ Doorbell Output and Audio Loop Output.
2	Line 1 Music On Hold Input Level - Adjusts the volume level of the music heard over Phone Line 1.
3	Door Station Microphone Input Level -Adjusts the volume level of all door station microphones.
4	USB Program Port - Future use.
5	Door Station Output Level - Adjusts the output volume for all the door station speakers.
6	Line 2 Music On Hold Input Level - Adjusts the volume level of the music heard over Phone Line 2.
7	Door Chime Output Level - Adjusts the volume level of the internally generated sounds - door chimes, alerts and Page/DB Audio Out presented to the Audio Loop Output.
8	Front Access Door - Opens to access controls.

Table 1-4: Front Panel Adjustments

C2 Front Panel DIP Switch Settings

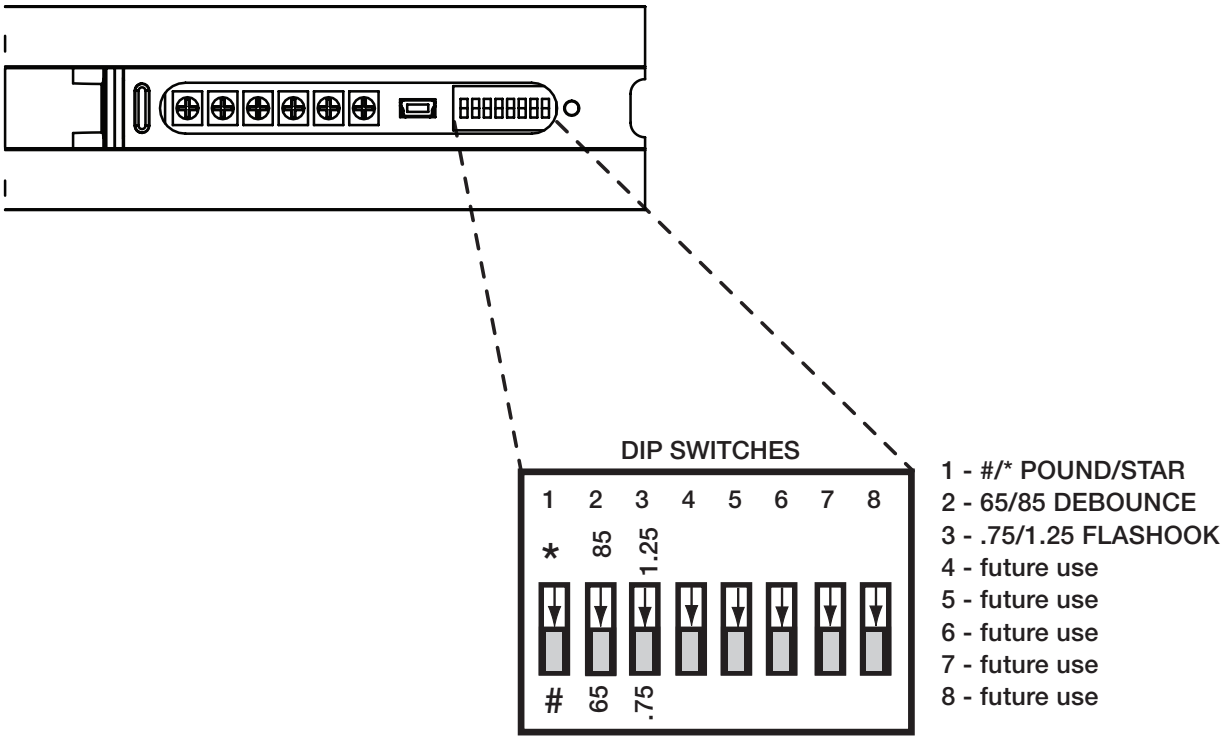


Figure 1-7: Front Panel DIP Switch Setting

POUND"#"/STAR "*" - Selects the telephone button press (# or *) you would like to use as the initiator for all ELAN telephone communication/ relay features (i.e. #,P for PAGE, or *,P for PAGE. The default is #.

DEBOUNCE - Selects either 65 milliseconds or 85 milliseconds. Used to eliminate intermittent "drop-outs" during a phone conversation. These "drop-outs" (usually 3 seconds in duration) are caused when certain speaking voices, usually female, produce frequencies similar to those produced when a "#" or "*" button is pressed on a touch-tone phone. Should you experience this symptom, move the dip switch from 65 ms to 85 ms. The default is 65 ms.

FLASH HOOK - Select either .75 seconds or 1.25 seconds. The default is .75 seconds. Used in homes with CALL WAITING, increase FLASH HOOK time from .75 seconds to 1.25 seconds if you experience either of the following symptoms:

1) Trouble accessing a second call while on the line with the first call.

2) Losing the first call after accessing a second call.

Chapter 2: C2 System Design Overview

Stand-Alone Stereo System Application

The C2 can be used in stand-alone applications without the use of an ELAN Multi-Room Controller. Figure 2-1 below shows the C2 being utilized with a stereo receiver and a dedicated tuner for Music-On-Hold. The scenario will provide complete Paging, Door Station Communications, Music-On-Hold, and relay functions.

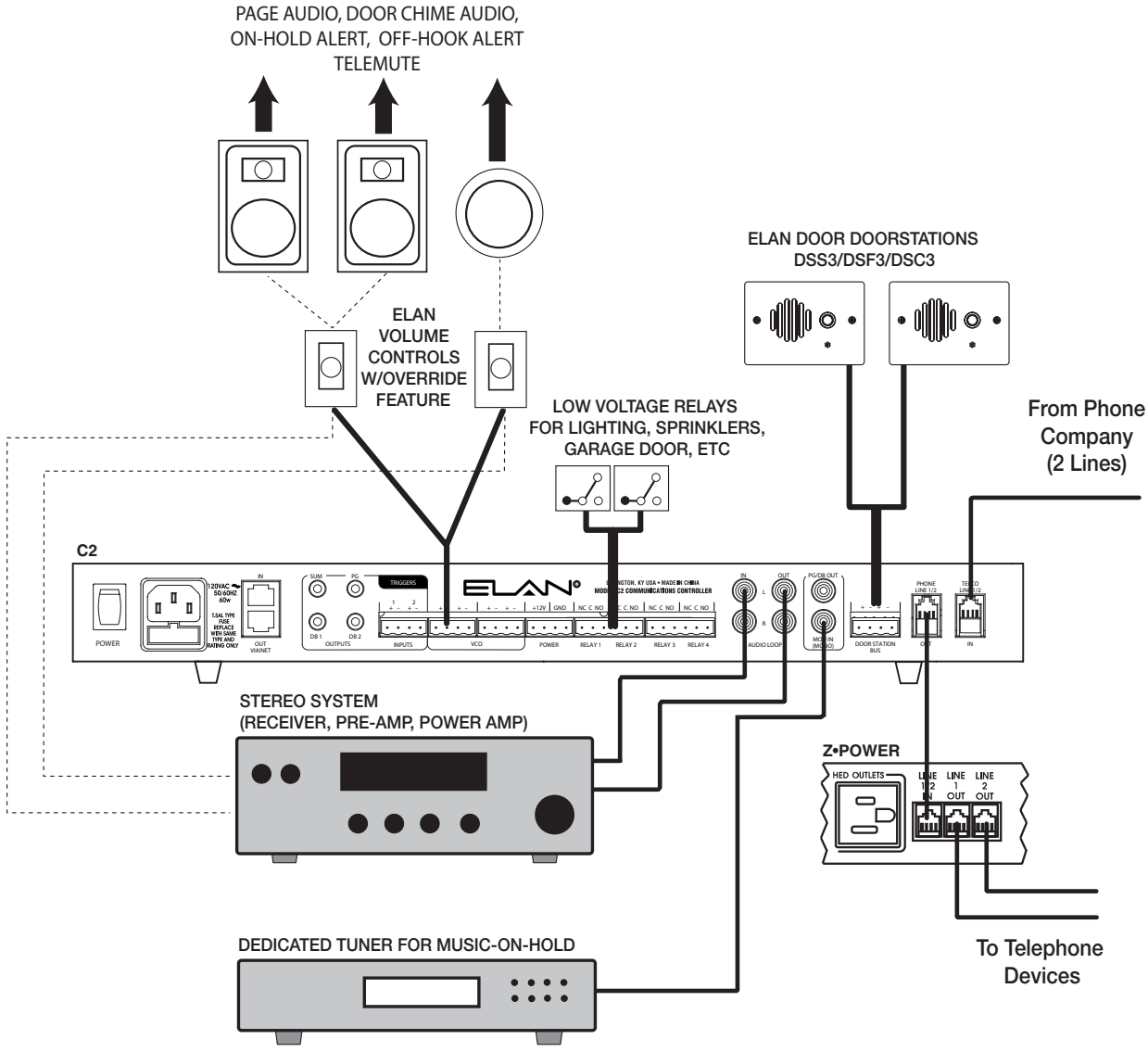


Figure 2-1: Stand-Alone Stereo Design Overview

S66A Design Application

The C2 will provide all communication functions when used with an ELAN S66A Integrated Multi-Zone Controller. Figure 2-2 below shows an ELAN S66A, and a C2 in a six zone system.

NOTE: Volume Controls with Override are NOT required in this application.

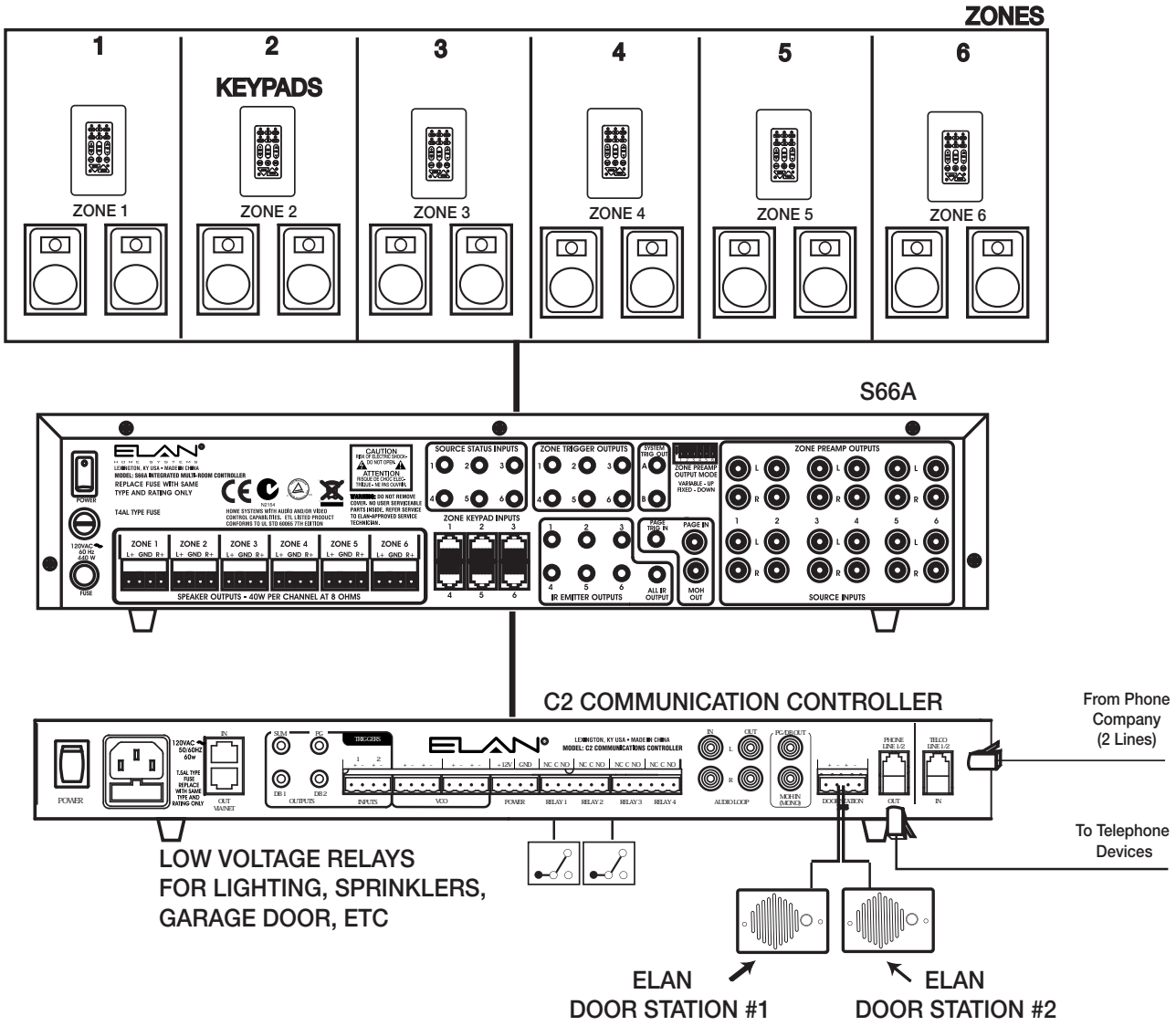


Figure 2-2: S66A Design Overview

S86A/P Design Application

The C2 interfaces easily with the S86P Multi-Room A/V Controller. Figure 2-3 shows a S86P and a C2 in a six zone system.

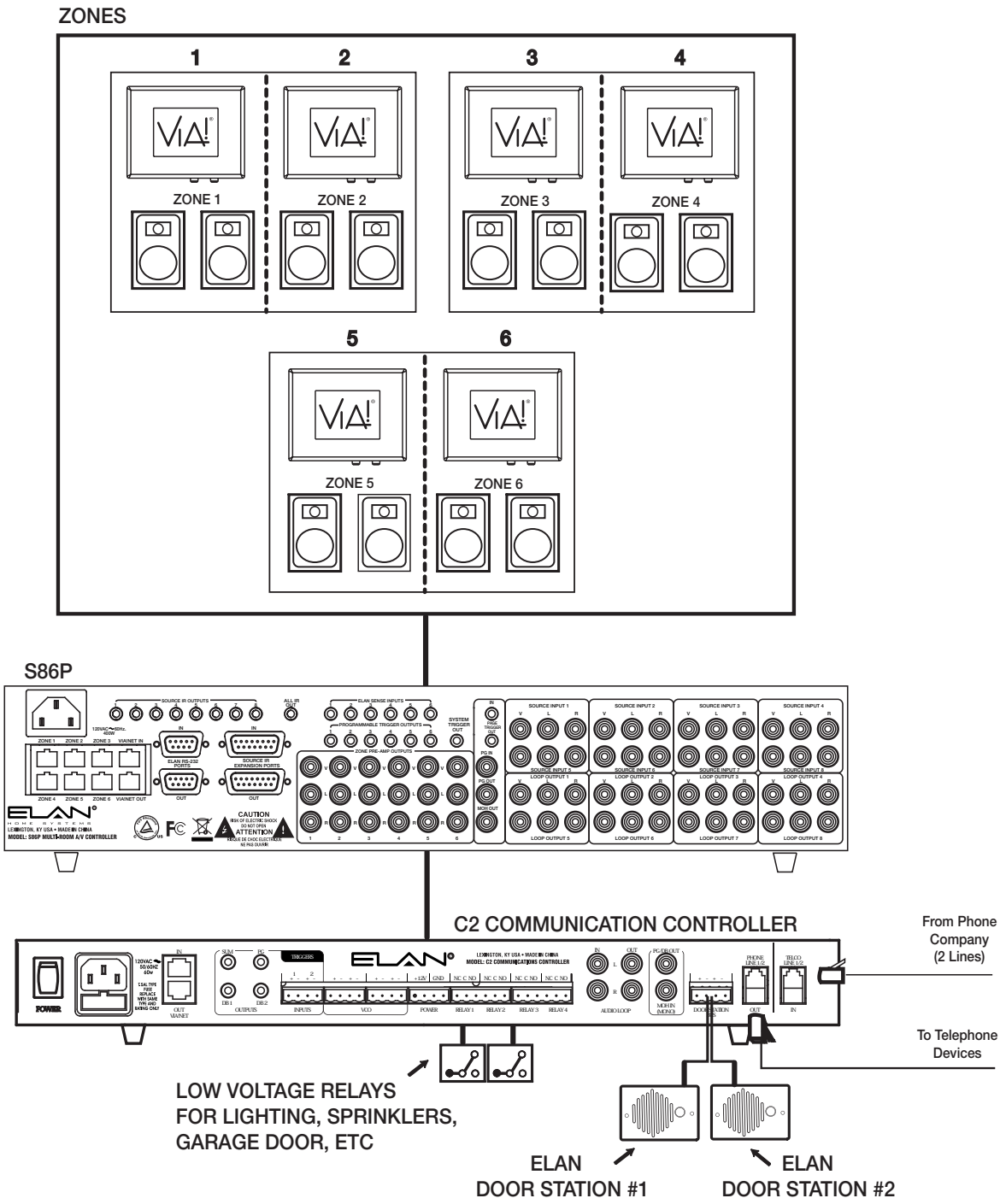


Figure 2-3: S86P Design Overview

S128P Design Application

The C2 interfaces easily with the S128P Multi-Room A/V Controller. Figure 2-4 shows a S128P using variable outputs, along with a D16 Digital Power Amplifier to control eight zones. In this scenario, volume controls are not needed since variable outputs are being used from the S128P.

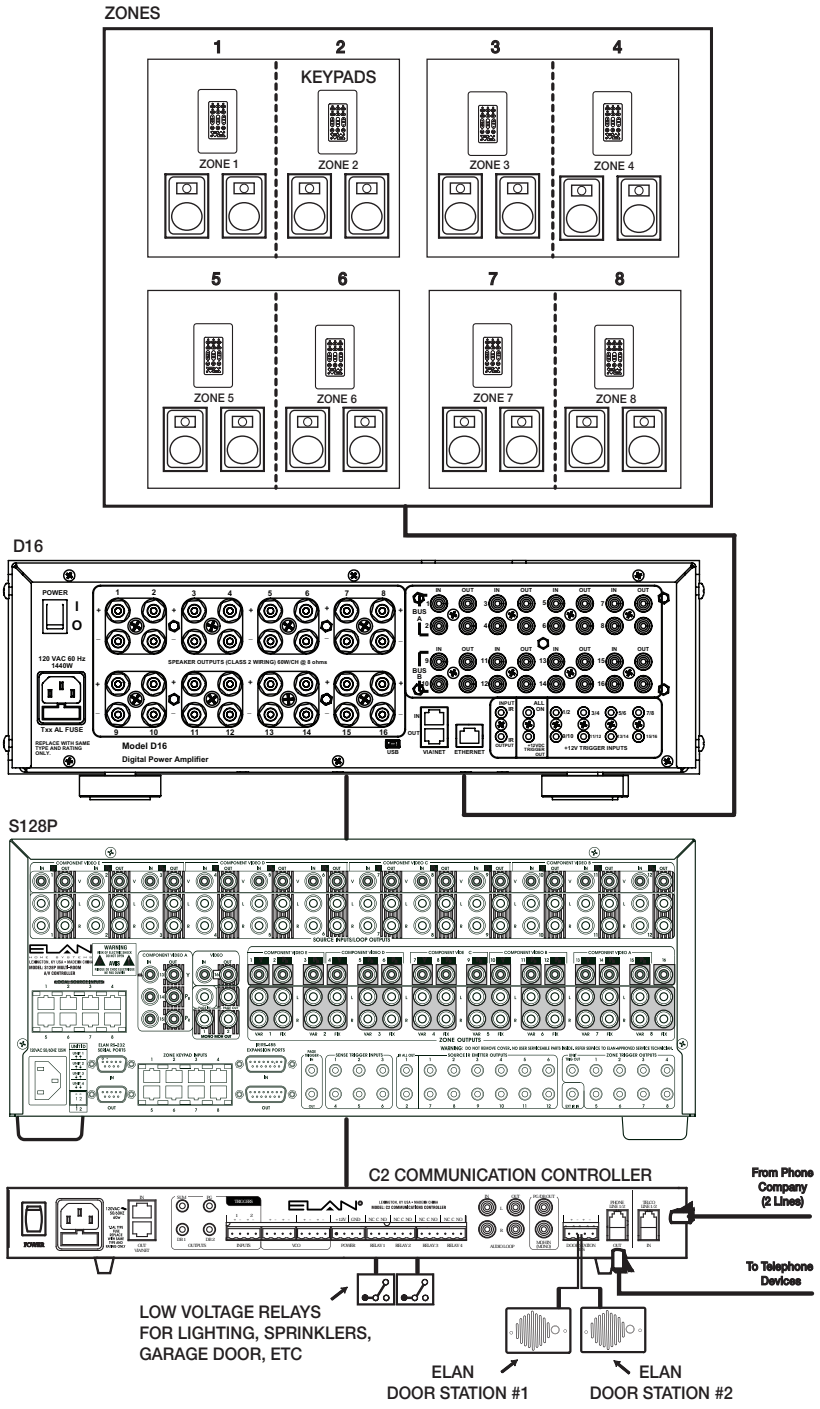


Figure 2-4: S128P Design Overview

Trigger Input Design Application

The C2's Trigger Inputs are designed to accept a dry contact closure across the "+ " and "-" terminals. An added benefit is that the Trigger Inputs provide 12VDC on the "+" terminal and ground on the "-" terminal (see Figure 2-5). This provides the ability to illuminate lighted doorbell buttons.

NOTE: Trigger inputs 1 and 2 will always trigger the Door Chime assigned to Door Station 1 and Door Station 2 alerts respectively. In order to differentiate between Door Stations 1 and 2 alerts and Triggers 1 and 2, set the I.D. DIP Switches on the door stations DS 1 and DS 2 to DS 3 and DS 4. This will allow different alerts for the two door stations and the two trigger inputs

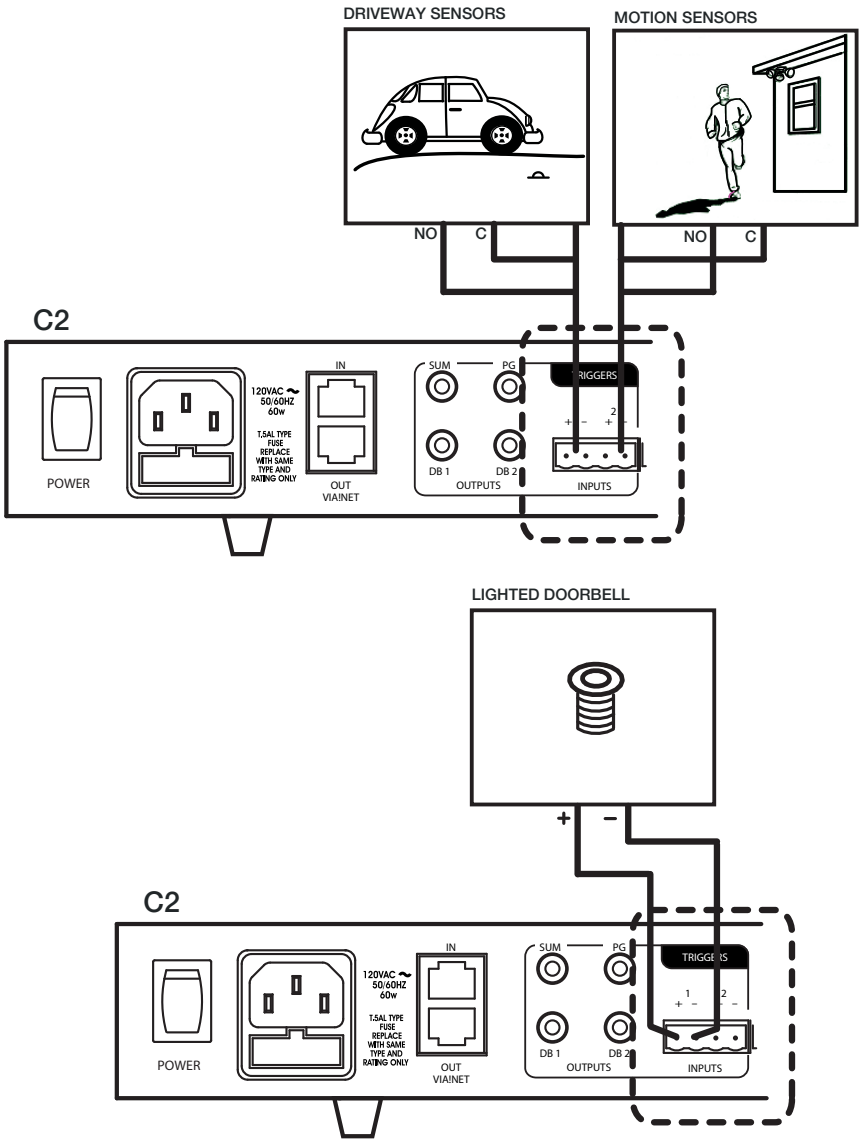


Figure 2-5: Trigger Input Design Overview

Relay Design Application

The C2 provides four active relays that respond to telephone commands. These relays can be configured as Normally Open (NO) or Normally Closed (NC). Possible applications include garage door openers, blinds, gates, or lifts.

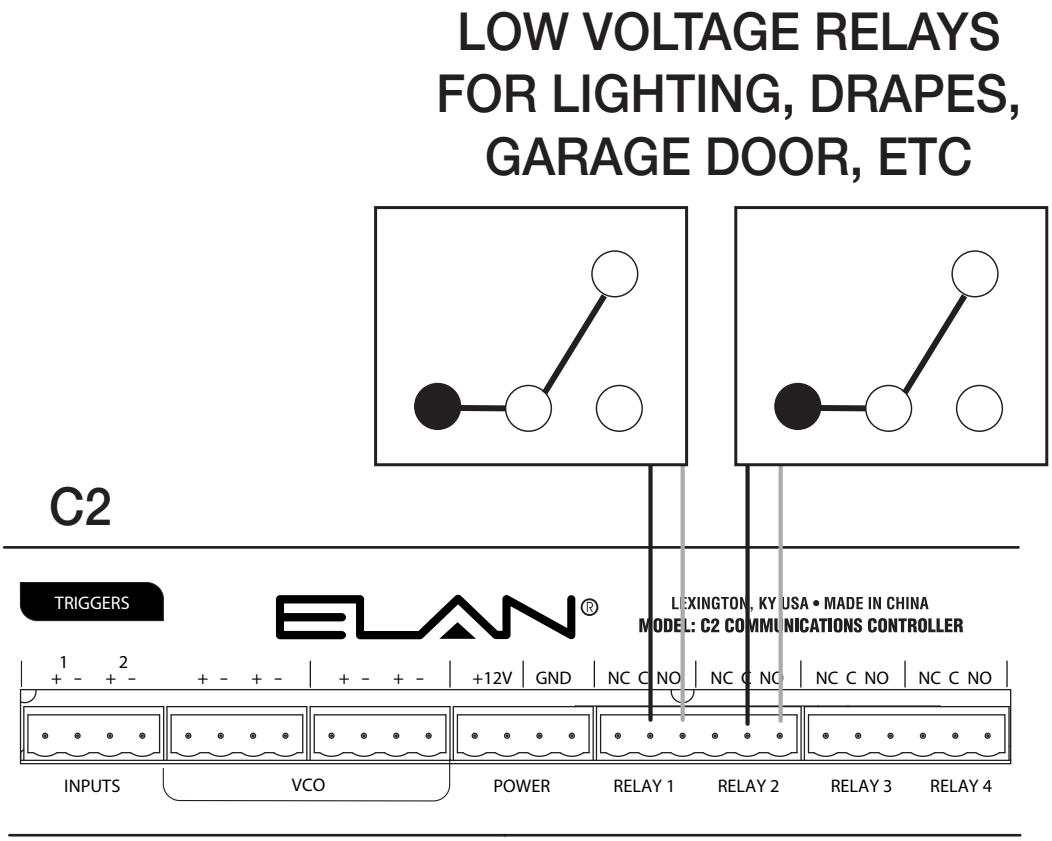


Figure 2-6: Relay Design Overview

Chapter 3: C2 System Connections Overview

This chapter shows C2 Communications Controller system connections.

System Control

Cat-5 cable should be used for all C2 system connections including incoming phone lines, input and output triggers, ELAN Door Stations (including camera connections), volume controls with override and relays.

CAUTION: ALWAYS remove power to the C2 along with any other electronics equipment prior to making any connections to or from the C2. Set the Power Switch on the back of the C2 to the OFF position prior to making connections.

C2 Rear Panel Connections

The following section describes connections to the C2 Communications Controller.

C2 to VMOS or VSOS Volume Controls

When connecting rotary Volume Controls with Override to the C2, simply connect "+" from the C2's VCO connector to "VC+" of the Volume Control. Connect "-" from the C2's VCO connector to "VC-" of the Volume Control. Cat-5 is typically used for this purpose.

CAUTION: ALWAYS remove power to the C2 along with any other electronics equipment prior to making any connections to or from the C2. Set the Power Switch on the back of the C2 to the OFF position prior to making connections.

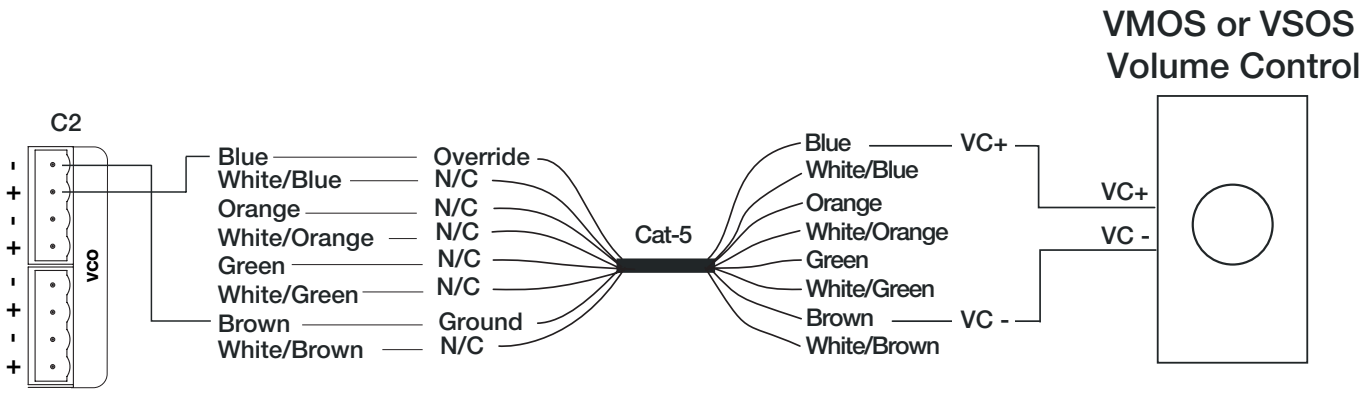


Figure 3-1: C2 to VMOS or VSOS Volume Controls Wiring Pinout

C2 to Electronic Volume Control

When connecting the C2 directly to Electronic Volume Controls, splice Cat-5 onto an RJ-45 to pigtail connector. Connect the Blue Override (pin 1) wire to "+" of the C2's VCO connector. Connect the Brown Ground wire (pin 7) to the "-" of the C2's VCO connector. Plug the RJ-45 directly into the RJ-45 connector on the back of the Electronic Volume Control.

CAUTION: ALWAYS remove power to the C2 along with any other electronics equipment prior to making any connections to or from the C2. Set the Power Switch on the back of the C2 to the OFF position prior to making connections.

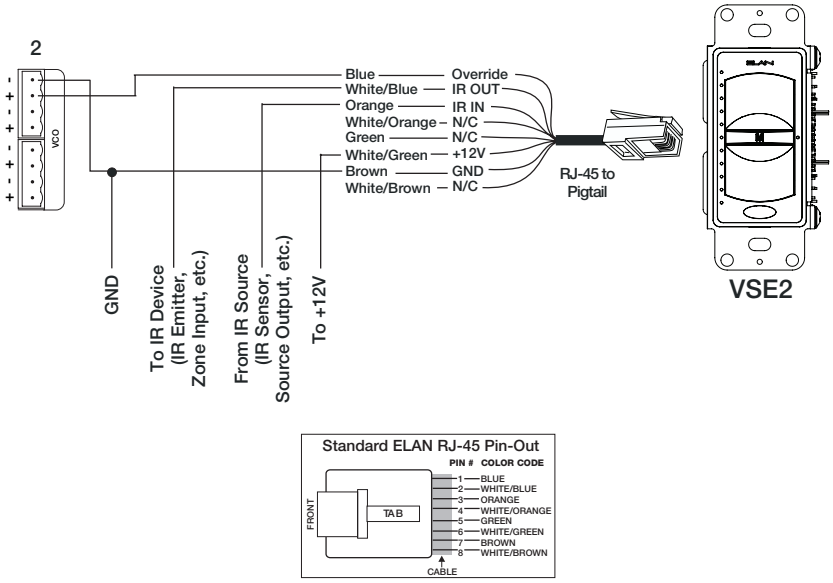


Figure 3-2: C2 to VSE2 Wiring Pinout

C2 to PVSE Electronic Volume Control Precision Panel

When connecting the C2 to a PVSE Precision Panel, use an RJ-45 to pigtail connector. Connect the Blue Override (pin 1) wire to "+" of the C2's VCO connector. Connect the White/Blue Ground wire (pin 2) to the "-" of the C2's VCO connector. Plug the RJ-45 into the OVERRIDE IN connector on the PVSE. See the PVSE Installation manual for additional wiring for the PVSE and Electronic Volume Controls.

CAUTION: ALWAYS remove power to the C2 along with any other electronics equipment prior to making any connections to or from the C2. Set the Power Switch on the back of the C2 to the OFF position prior to making connections.

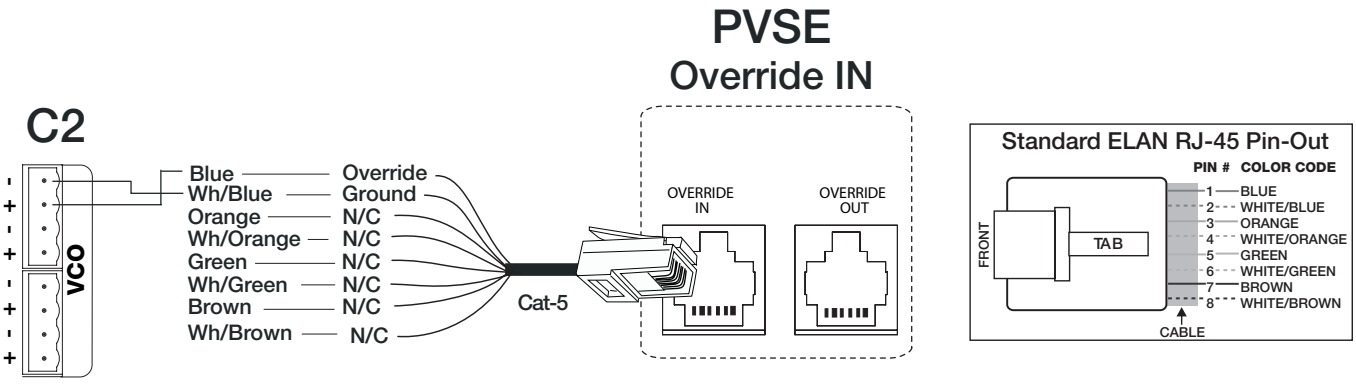


Figure 3-3: C2 to PVSE Electronic Volume Control Precision Panel Wiring Pinout

C2 Trigger Outputs

The Trigger Output choices are SUM, PG, DB1 and DB2. See Table 3-1.

CAUTION: ALWAYS remove power to the C2 along with any other electronics equipment prior to making any connections to or from the C2. Set the Power Switch on the back of the C2 to the OFF position prior to making connections.

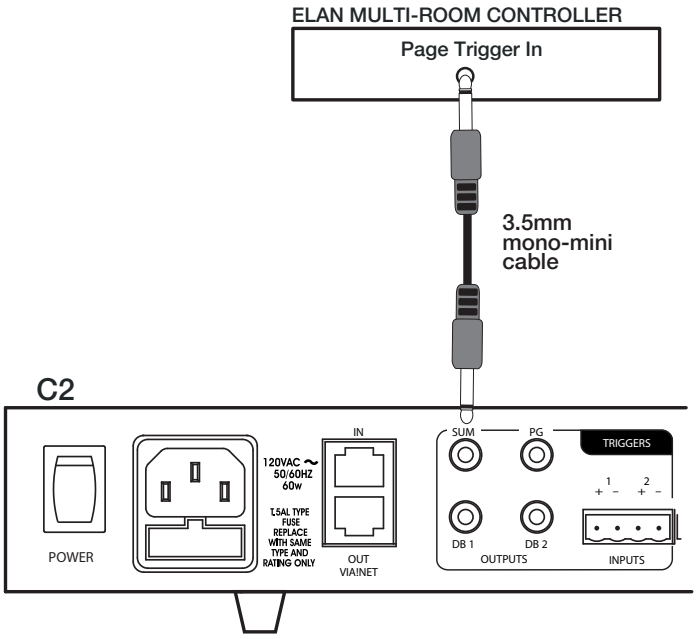


Figure 3-4: C2 Trigger Outputs

Table 3-1: C2 Trigger Outputs

Trigger Output	Description
SUM	Activates when page and doorbell occurs. Use SUM if you want music to mute and the page/doorbell audio to be heard over the house speakers. SUM is used to trigger the page/doorbell input of an ELAN controller, such as a S66A, S128P. Use a 3.5 mono interconnect cable.
PG	Activates only when a page occurs. Use PG if you want trigger automated events when a page is initiated, see Figure 3-22 and Figure 3-26 for applications. Use a 3.5mm stereo interconnect cable.
DB1	Activates when doorbell from Door Station 1 is pressed. Use DB1 if you want trigger automated events when the doorbell from Door Station 1 is pressed, see Figure 3-22 and Figure 3-26 for applications. Use a 3.5mm stereo interconnect cable.
DB2	Activates when doorbell from Door Station 2 is pressed.Use DB2 if you want trigger automated events when the doorbell from Door Station 2 is pressed, see Figure 3-22 and Figure 3-26 for applications. Use a 3.5mm stereo interconnect cable.

C2 Relays

The C2 utilizes Cat-5 connections to devices such as garage door openers, blinds, and gates which can be activated with 12 Volt or contact closure.

The Relay feature allows the end user to activate these devices using any touch-tone phone in the home.

CAUTION: ALWAYS remove power to the C2 along with any other electronics equipment prior to making any connections to or from the C2. Set the Power Switch on the back of the C2 to the OFF position prior to making connections.

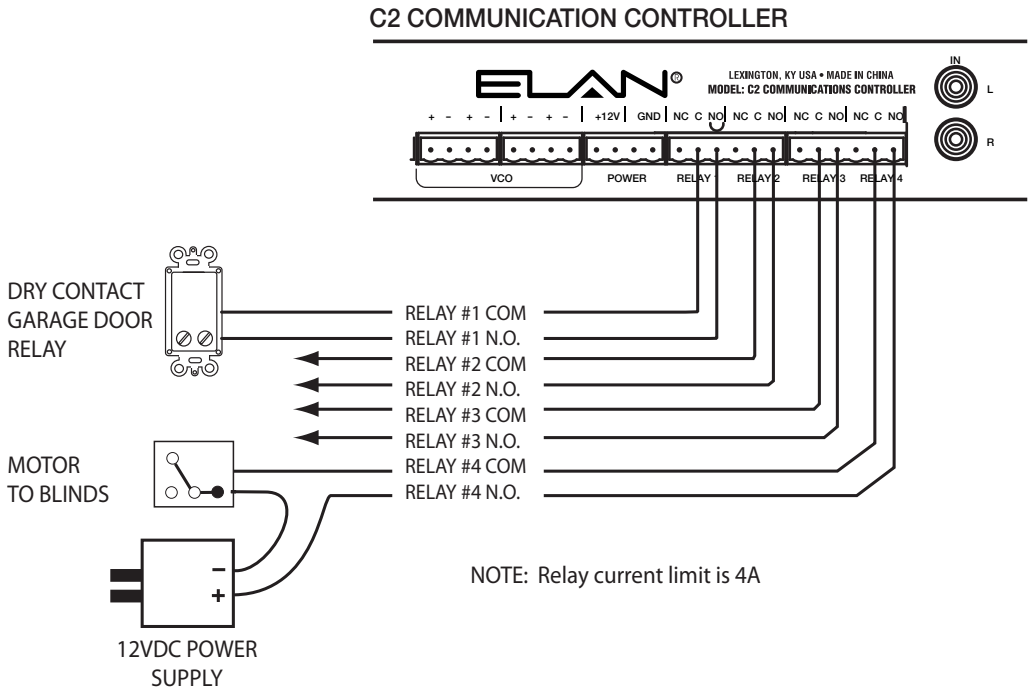


Figure 3-5: C2 to RELAY Wiring Using External Power Supply

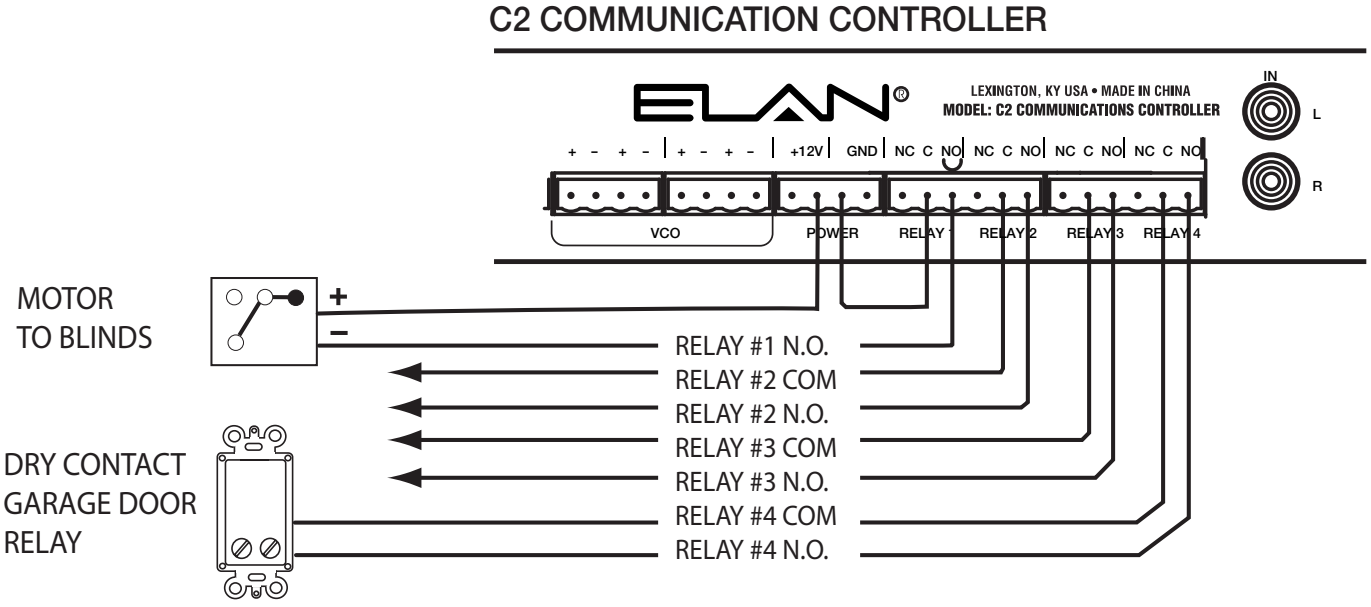


Figure 3-6: C2 to RELAY Wiring Using Internal Power Supply

C2 To Incoming CO & Phones

Using an RJ-14 connector, connect TIP and RING from the incoming telephone service to the TELCO LINE1/2 connector as shown. Make identical connections from the PHONES LINE1/2 connector to the telephone distribution point. Make sure to use the four inner pins of the RJ14 connector exactly as shown in the drawing.

CAUTION: ALWAYS remove power to the C2 along with any other electronics equipment prior to making any connections to or from the C2. Set the Power Switch on the back of the C2 to the OFF position prior to making connections.

Telephone Wiring Standard								
Pin	RJ25	RJ14	RJ11	Pair	T/R	+	TIA-568A (New)	USCO (Old)
1	X			3	T	+	White/Green	Orange
2	X	X		2	T	+	White/Orange	Black
3	X	X	X	1	R	-	Blue	Red
4	X	X	X	1	T	+	White/Blue	Green
5	X	X		2	R	-	Orange	Yellow
6	X			3	R	-	Green	Blue

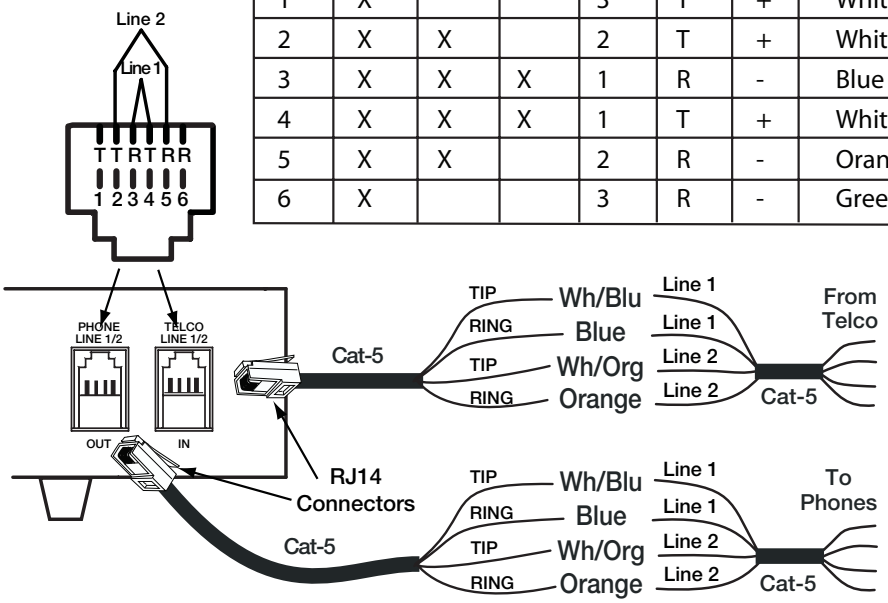


Figure 3-7: C2 to TELCO and PHONES

C2 to Door Station Connections

The C2 is designed to work with ELAN DSC3, DSF3, and DSS3 Door Stations to provide doorbell push button and door station communications functionality. Use Cat-5 for these connections. Note that only two wires are used to connect between the C2 and the door station. The remaining wires of the Cat-5 are used for the DSC3's camera functions (the camera does not interact with the C2).

CAUTION: ALWAYS remove power to the C2 along with any other electronics equipment prior to making any connections to or from the C2. Set the Power Switch on the back of the C2 to the OFF position prior to making connections.

NOTE: If using a VBRM Video Balun, Cat-5 network cable is recommended to be used. IF a video balun is not used ELAN recommends 18 AWG wire. For DSC3 runs over 500 feet you must double wire the power inputs.

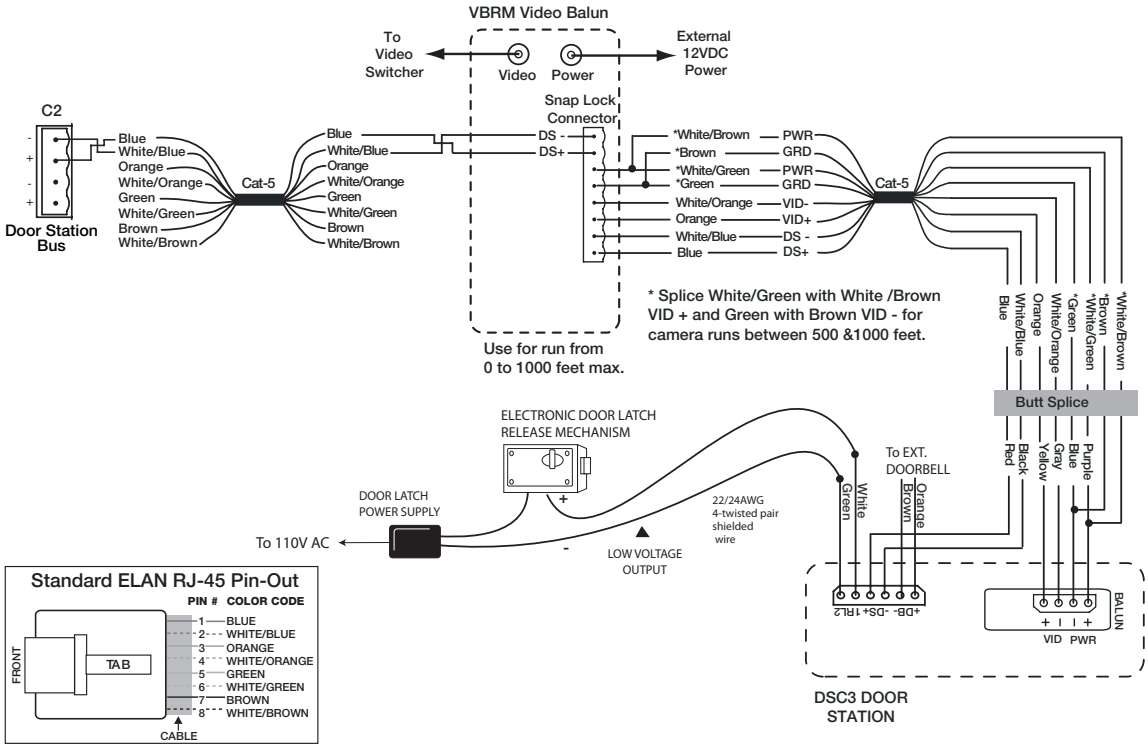


Figure 3-8: C2 to DSC3 Door Station Wiring Pinout (Option 1)

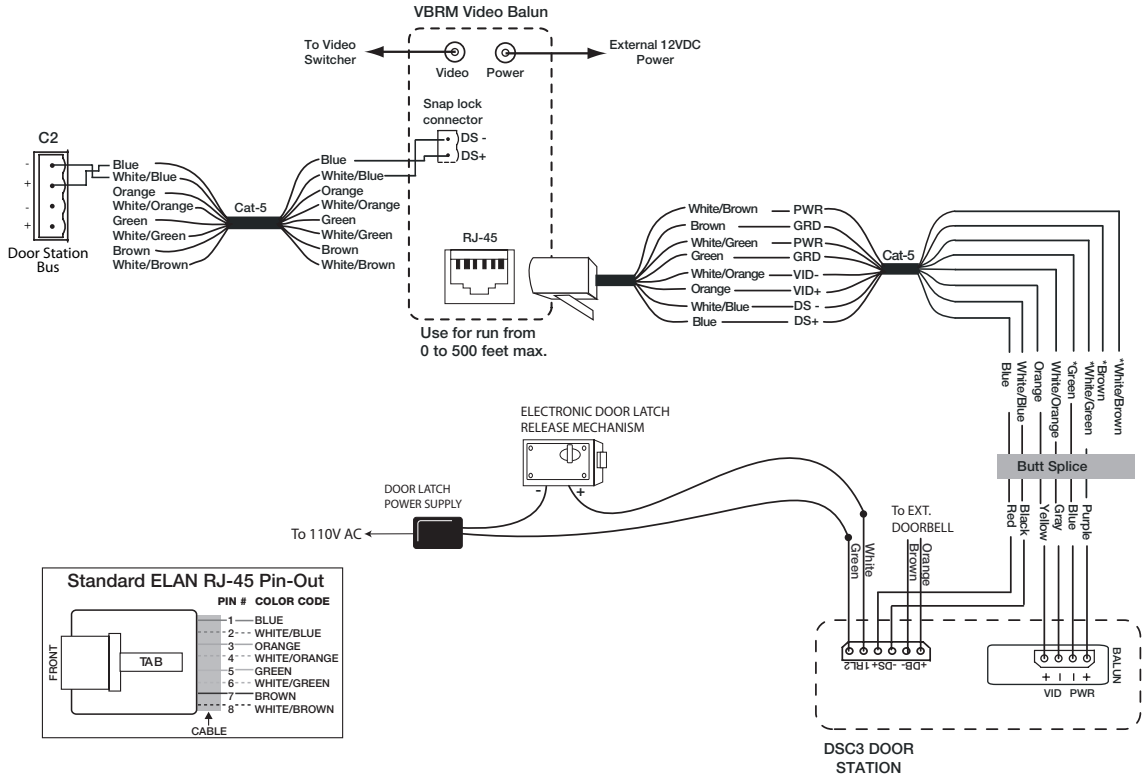


Figure 3-9: C2 to DSC3 Door Station Wiring Pinout (Option 2)

CAUTION: DO NOT combine these two methods on a single destination.

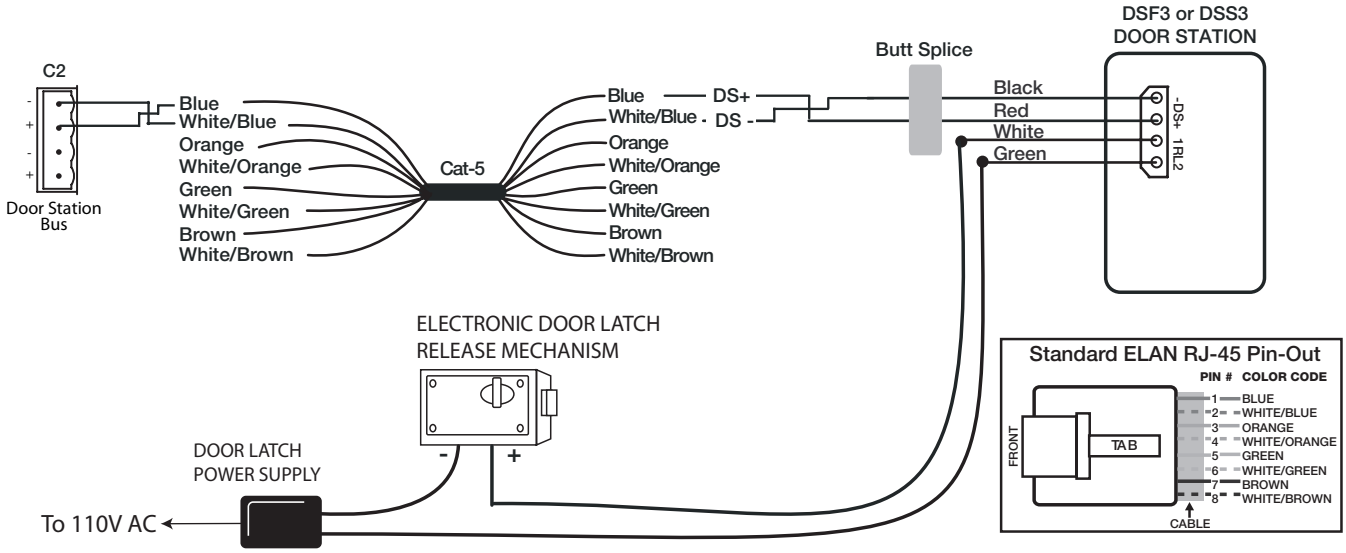


Figure 3-10: C2 to DSF3 or DSS3 Door Station Wiring Pinout

C2 to Trigger Inputs

The C2 provides Cat-5 connections for basic two-wire doorbells or devices such as driveway, motion or contact sensors, which can trigger door chimes or alerts and play them over the house speakers.

Connect "+" and "-" from the triggering device to "+" and "-" of the TRIGGER INPUTS connector as shown.

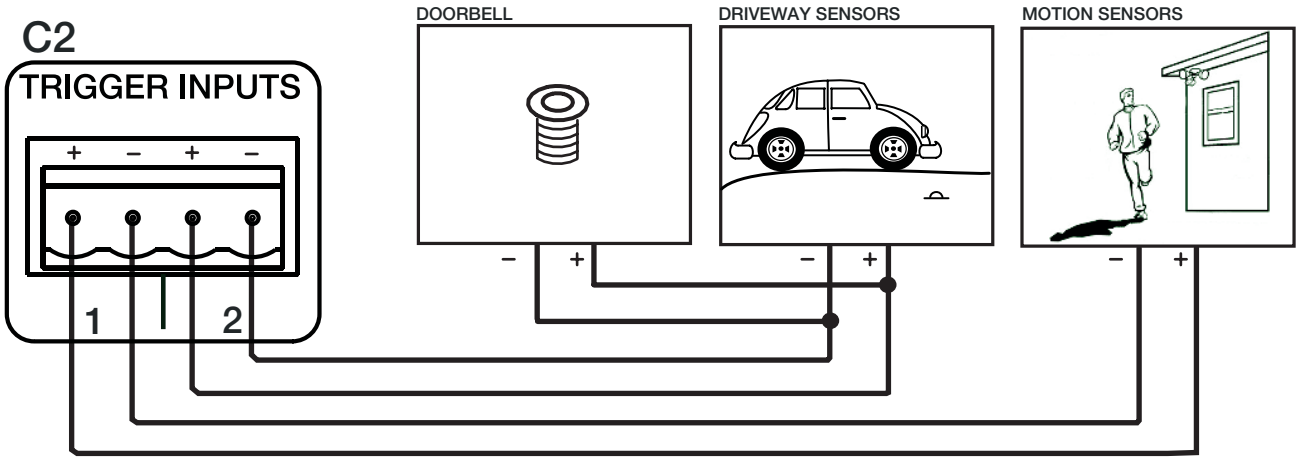


Figure 3-11: C2 to Trigger Inputs Pinout

NOTE: Trigger inputs 1 and 2 will always trigger the door chime assigned to Door Station 1 and Door Station 2 respectively. Chimes can be changed to suit a particular need.

Typical Telephone Service Connections

Connecting Telephone Service & Telephone Surge Protection to the System

Connect the TIP and RING for each incoming phone line from the telephone company to the TH31SRG Telephone Master Hub using a 110 punchdown tool. Up to 4 incoming lines can be attached to the TH31SRG.

ELAN recommends using Cat-5 to make punchdowns to TH31SRG Telephone Master Hub.
See Figure 3-12 for wire punchdown color coding

NOTE: The C2 supports up to 2 incoming lines.

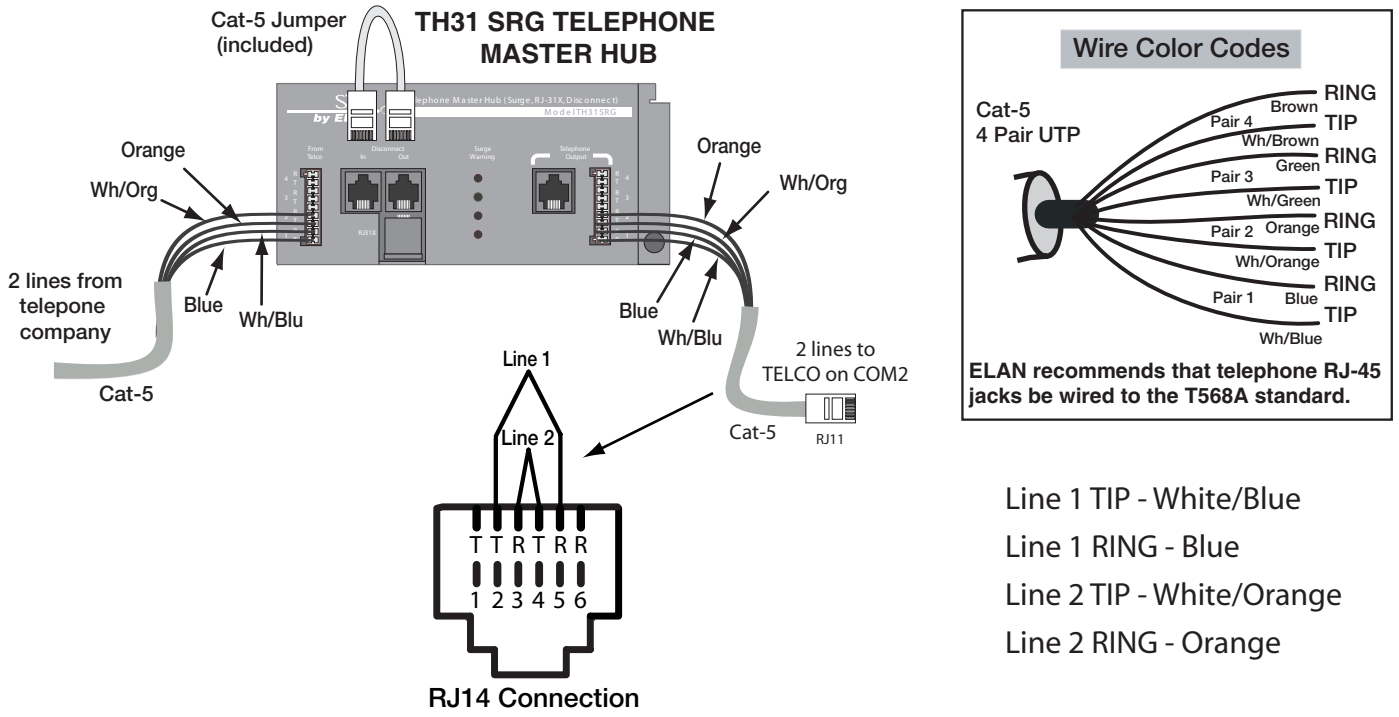


Figure 3-12: Connecting Telephone Service to the TH31SRG Telephone Master Hub

The ELAN C2 is compatible with most touch-tone telephones and multi-line telephone systems. Certain telephones that use the both # or * buttons for other functions may not be compatible.

The ELAN C2 has a Ringer Equivalency Number (REN) of 0.7A. The maximum number of telephones that may be connected in a home is dependent on the Ringer Equivalency Voltage being provided to the home by the phone company and the Ringer Equivalency Number of each telephone in the home. When added together, the REN of all the house phones plus the C2 should not exceed 5 per telephone line.

Exceeding the Ringer Equivalency Voltage provided by the telephone company may result in intermittent or no ring-in or a call from your local carrier. Ring boosters are available from your phone company for a nominal fee. ELAN strongly recommends the use of telephone line surge protection between the incoming phone line and the C2 Phone Input.

Connecting Telephone Extensions to the TH48 Telephone Expansion Hub

The TH48 Telephone Expansion Hub lets the installer connect the C2 to up to eight dualline telephone wall plate connections or sixteen single line telephones wall plate connection*.

NOTE: * In the single line configuration 8 wall plate connections would have Line 1 and 8 would be configured to Line 2, if applicable.

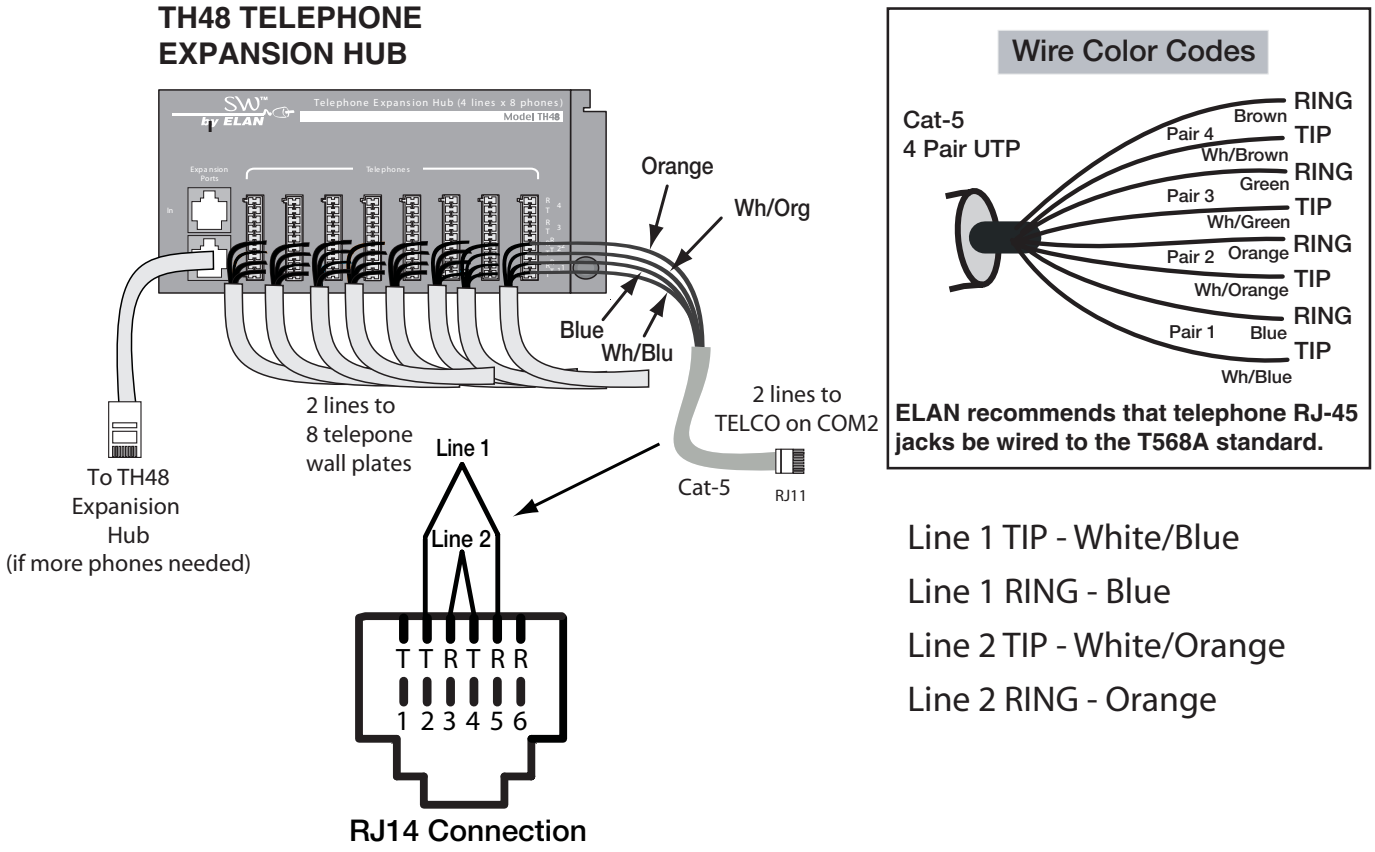


Figure 3-13: Connecting Telephone Service to the TH31 SRG Telephone Master Hub

New Construction

ELAN recommends a “home-run” wiring network using Cat-5 twisted-pair telephone wire from each telephone wall jack location to an ELAN TH48 Telephone Expansion Hub.

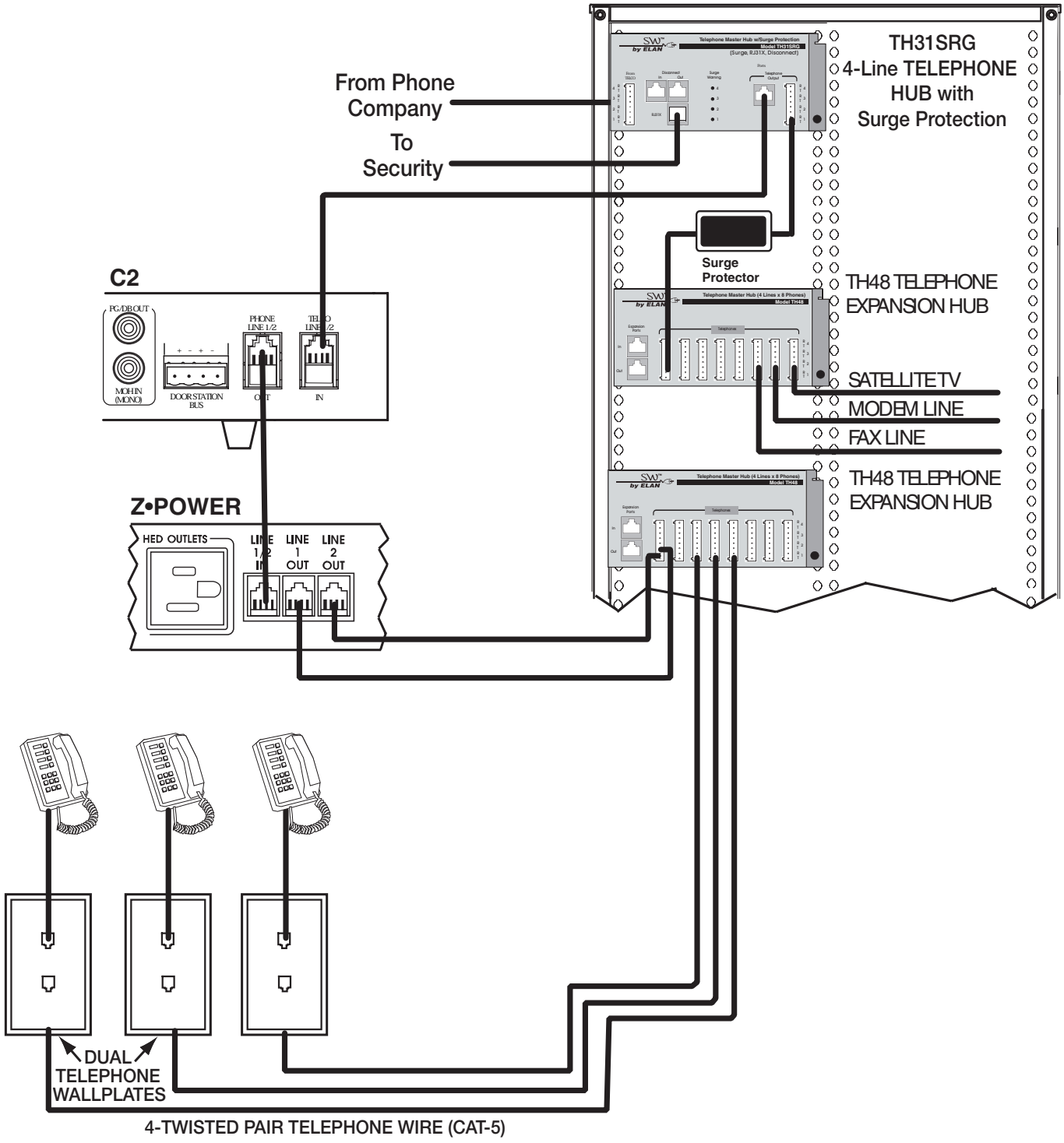


Figure 3-14: New Construction Application

Retrofit

Pre-existing “daisy-chained” wiring networks are perfectly compatible with the ELAN C2 Communication Controller.

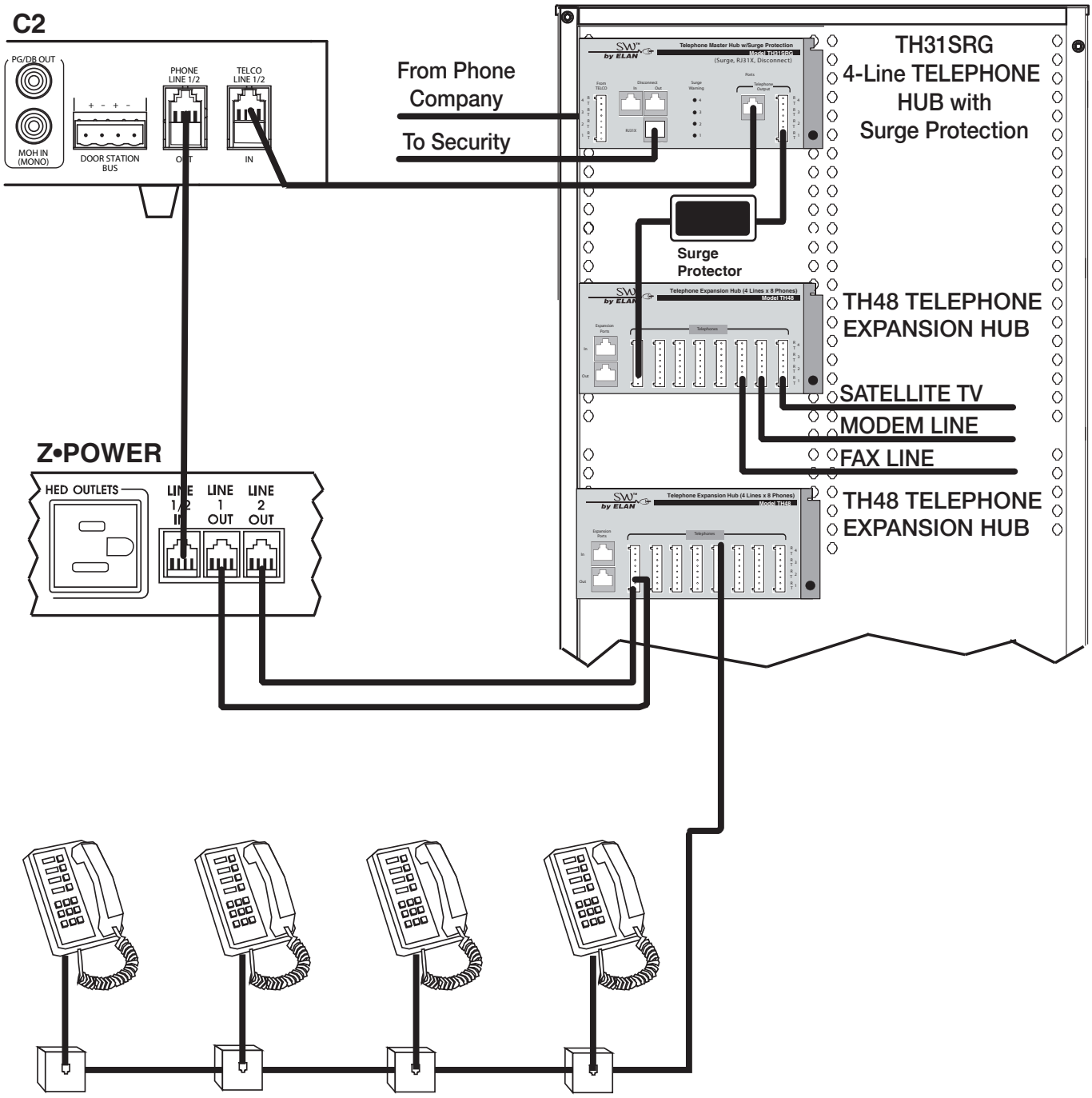
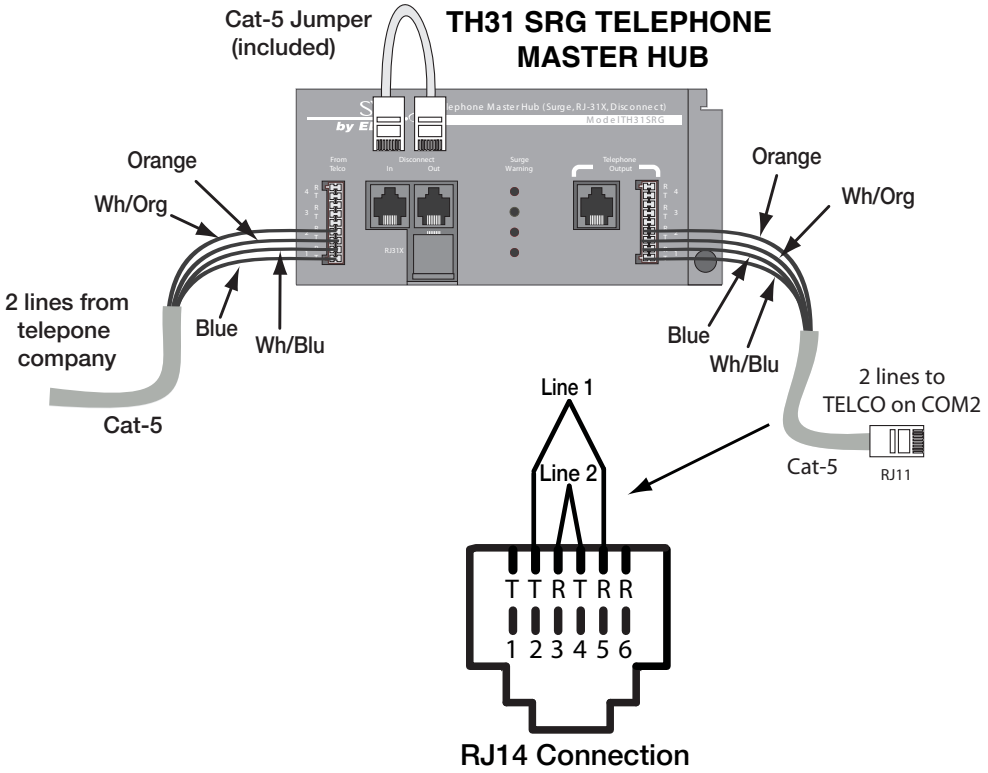


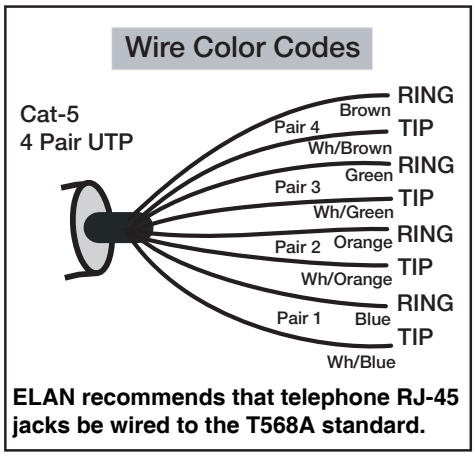
Figure 3-15: Retrofit Application

Connecting The C2 To A Multi-Line Telephone system

The C2 communication features (paging, door speaker communications, relay activation, etc.) can be accessed from both Line 1 and Line 2. The TELEMUTE feature is available on both C2 lines.

NOTE: Phone-to-phone intercom (#7,0) will only work with phones on the same line. For example, you can not pick up Line 1 and intercom to someone on Line 2.





Line 1 TIP - White/Blue
Line 1 RING - Blue
Line 2 TIP - White/Orange
Line 2 RING - Orange

Figure 3-16: Connecting Telephone Service to the TH31 SRG Telephone Master Hub

Digital Subscriber Line (DSL)

Digital Subscriber Line, or DSL, is a batch of technologies that provide a digital connection (typically an Internet connection) over the copper wires of the local telephone network. DSL provides high speed Internet access to home consumers in Europe and North America.

Telephone services were initially designed to carry “Plain Old Telephone Service” (POTS) or Public Switched Telephone Network (PSTN) calls. DSL allows ordinary phone lines to provide a way to carry data and voice services simultaneously.

DSL Filters

Installers will need to install a passive electronic filter (known variously as a “filter”, “microfilter” or a “splitter”) up stream of the C2 if using the POTS service on the same line. This ensures that the DSL modem and the telephone only receive the frequencies they are designed to handle. The end user will need a splitter. The splitter is first thing connected to an incoming phone line. Then, one side of the splitter goes to the DSL modem. The other side goes through the filter to the C2 TELCO input.

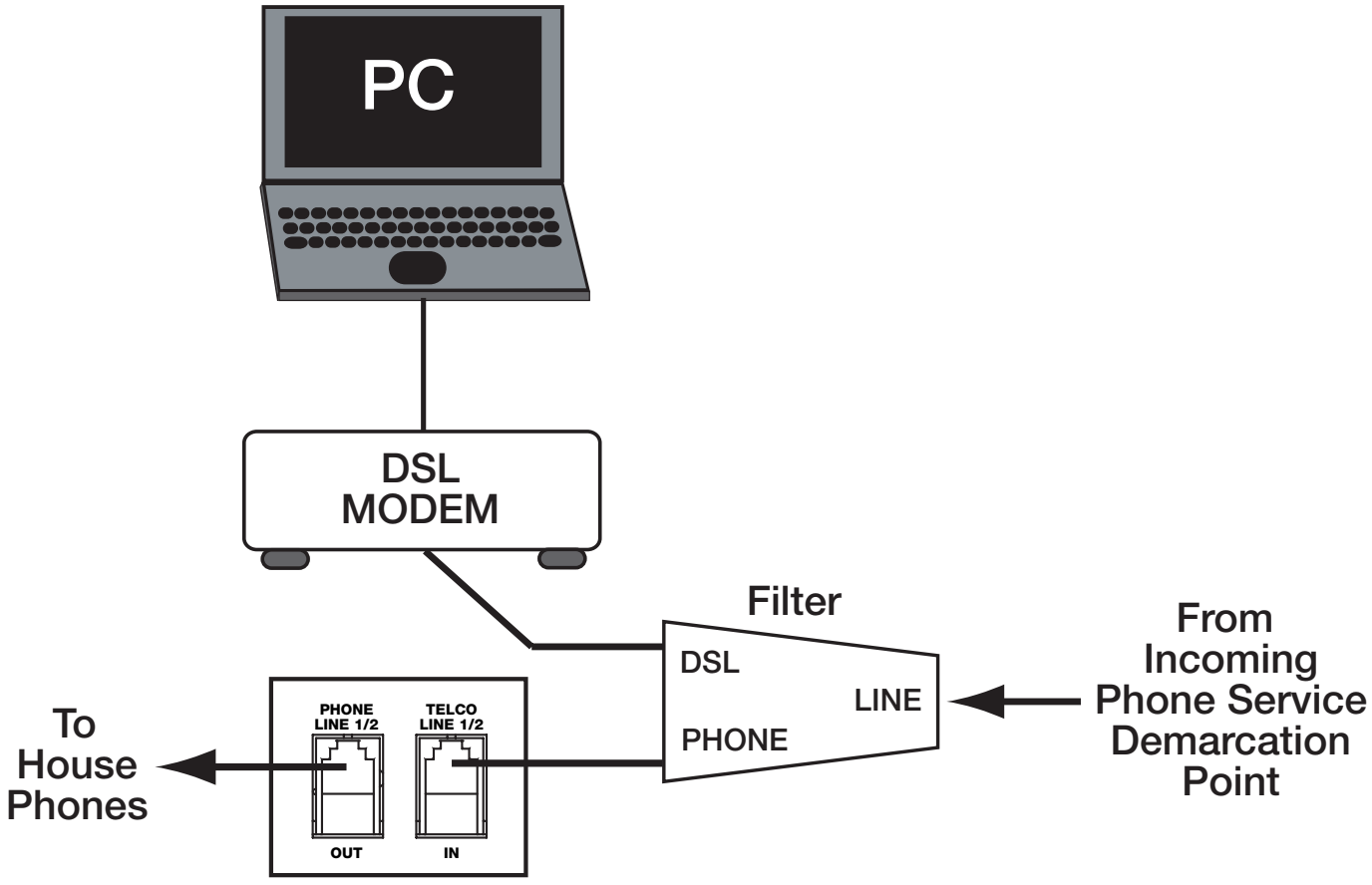


Figure 3-17: DSL Filters

Standalone Connections (Without an ELAN Multi-Room Controller)

Pre-Amp/Amp

Use stereo RCA patch cables to connect the C2's AUDIO LOOP IN to the Pre-Amp's Main Outputs as shown. Connect the AUDIO LOOP OUT jacks to the Power Amp's Main Inputs. This allows the C2's Page and Doorbell signals to be heard through the speakers connected to the power amplifier.

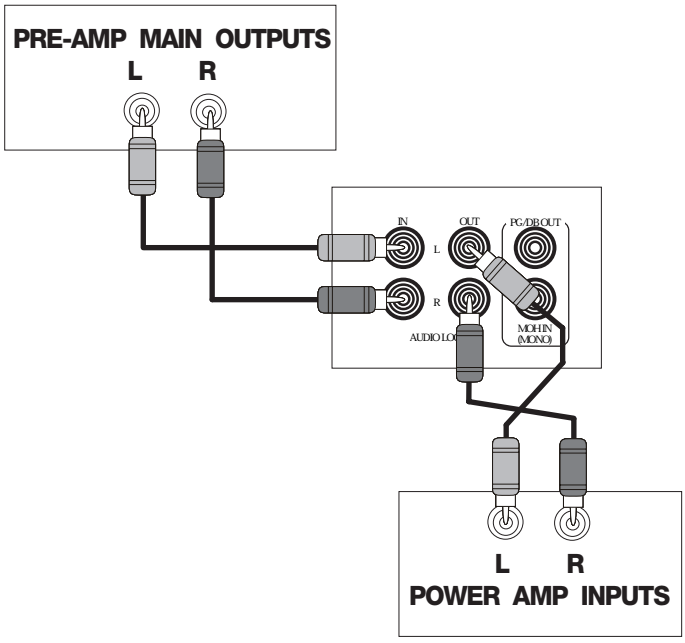


Figure 3-18: C2 to a Pre-Amp/Power Amp Stereo System

Receiver Based System

Use stereo RCA patch cables to connect the C2's AUDIO LOOP IN to the Receiver's Main Outputs as shown. Connect the AUDIO LOOP OUT jacks to the Receiver's Main Inputs. This allows the C2's Page and Doorbell signals to be heard through the speakers connected to the receiver.

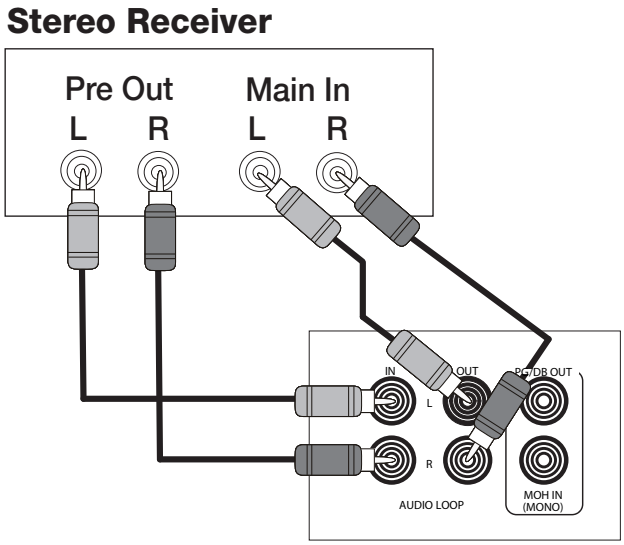


Figure 3-19: C2 to a Stereo Receiver Pre-Out Main-In Jacks

Stereo Receiver - Tape Loop

Use stereo RCA patch cables to connect the C2's AUDIO LOOP IN to the Receiver's Tape Loop Outputs as shown. Connect the AUDIO LOOP OUT jacks to the Receiver's Tape Loop Inputs. This allows the C2's Page and Doorbell signals to be heard through the speakers connected to the receiver.

NOTE: Only applicable when Tape Loop is active and is dependent on receiver volume level, unless auto-sense ability is built in to the receiver.

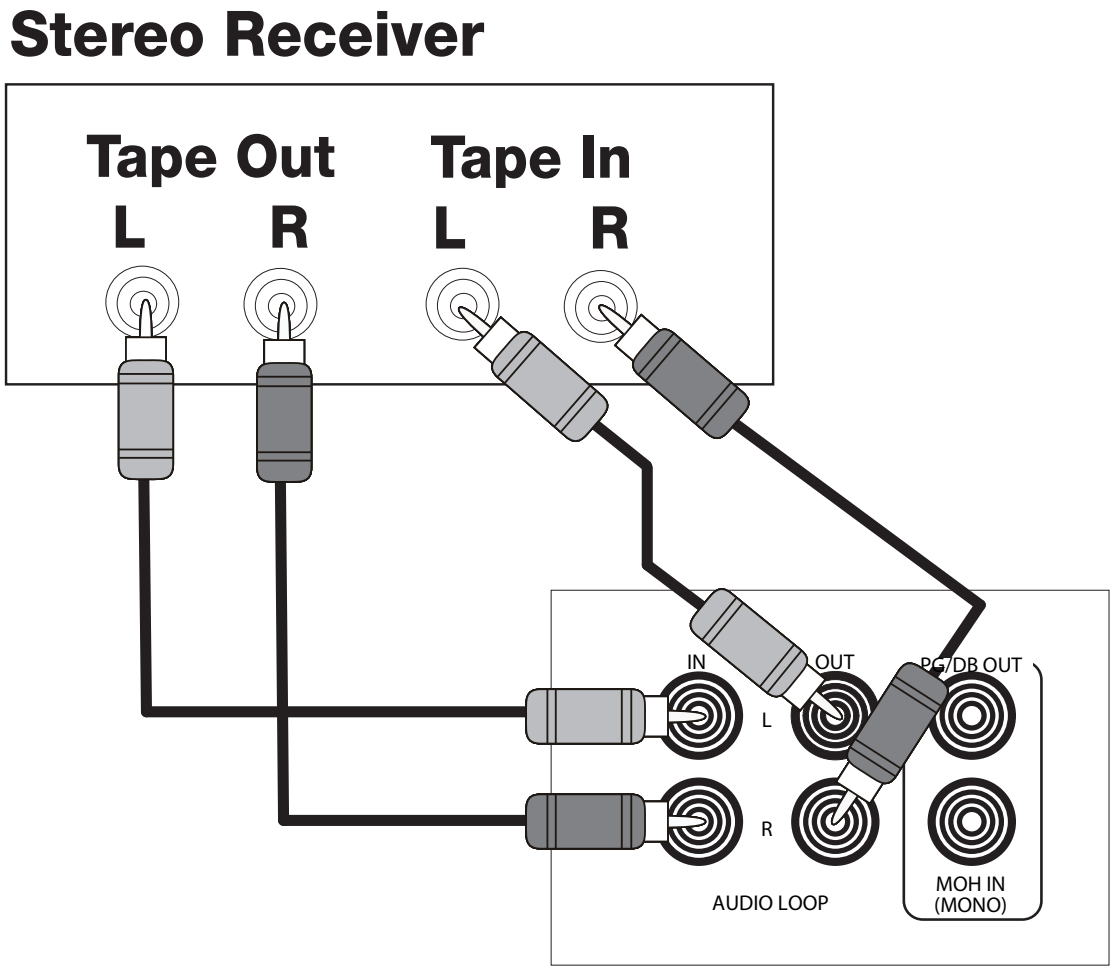


Figure 3-20: C2 to a Stereo Receiver Through the Tape In/Tape Out Jacks

Paging & Door Chime Using Two Independent Stereo Systems

These connections apply to both Pre-Amp/PowerAmp Systems and Stereo Receivers with Pre-Out/Main-In jacks. This scenario requires the use of an automatic (signal-sensing) line level A/B switch such as the Sonance AL-2 or the Niles SAS-1. Depending on the A/B switch, a slight time lag between the activation/deactivation of the page and doorbell signals between System #1 and System #2 may occur. Consult the manufacturer of the A/B switch for time lag specifications.

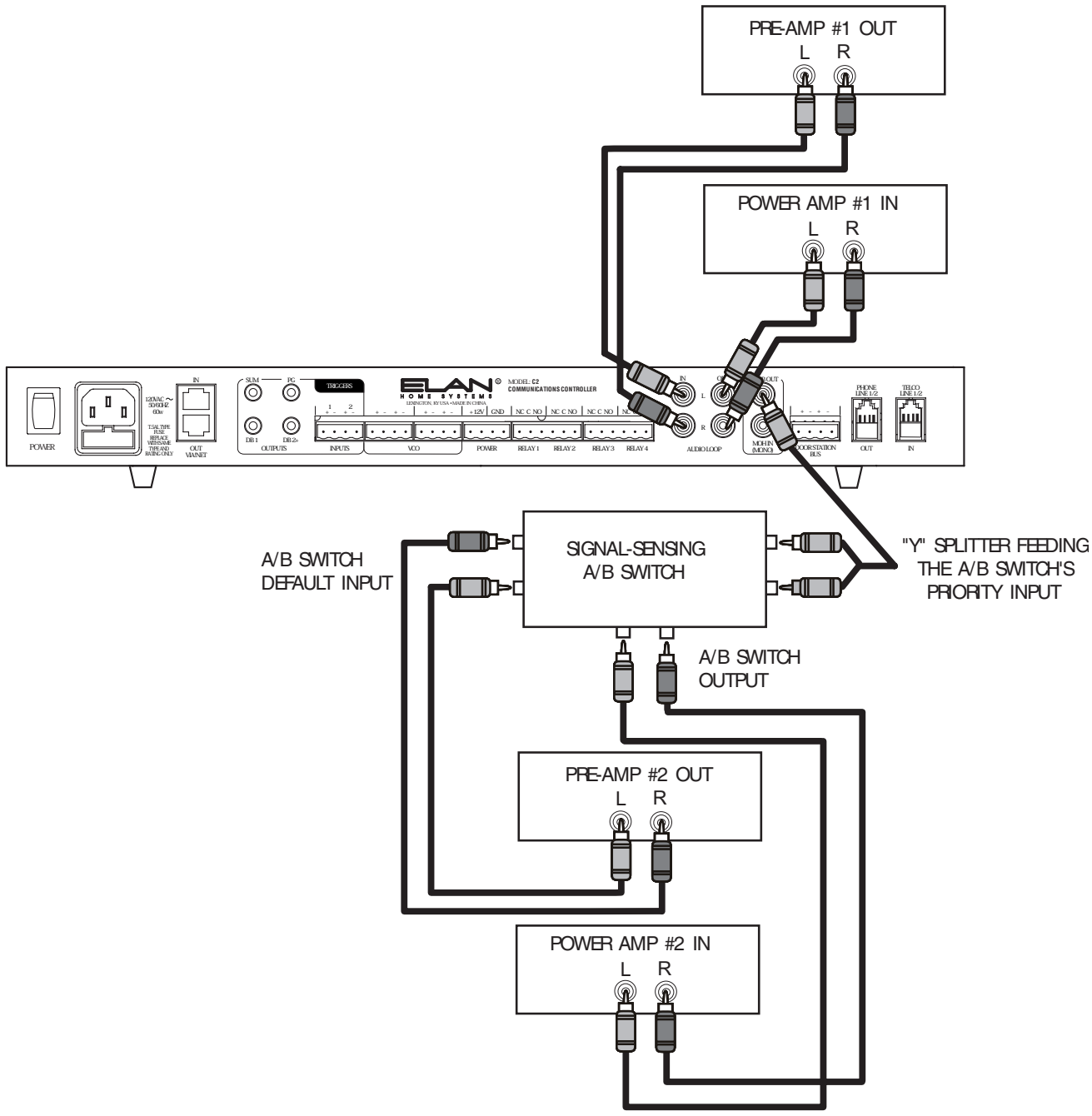


Figure 3-21: Page & Door Chime using Two Independent Stereo Systems

C2 Trigger Outputs to SIM2 Sensor Integration Module

Use the C2's Trigger Outputs to activate automated devices that require voltage or contact closure such as lighting controls or VIA! Touch Panel sequences using ELAN's SIM2 Sensor Integration Module.

C2 to SIM2 Sense Input Connections

DB1 Triggers Camera Video on VIA! Touch Panel

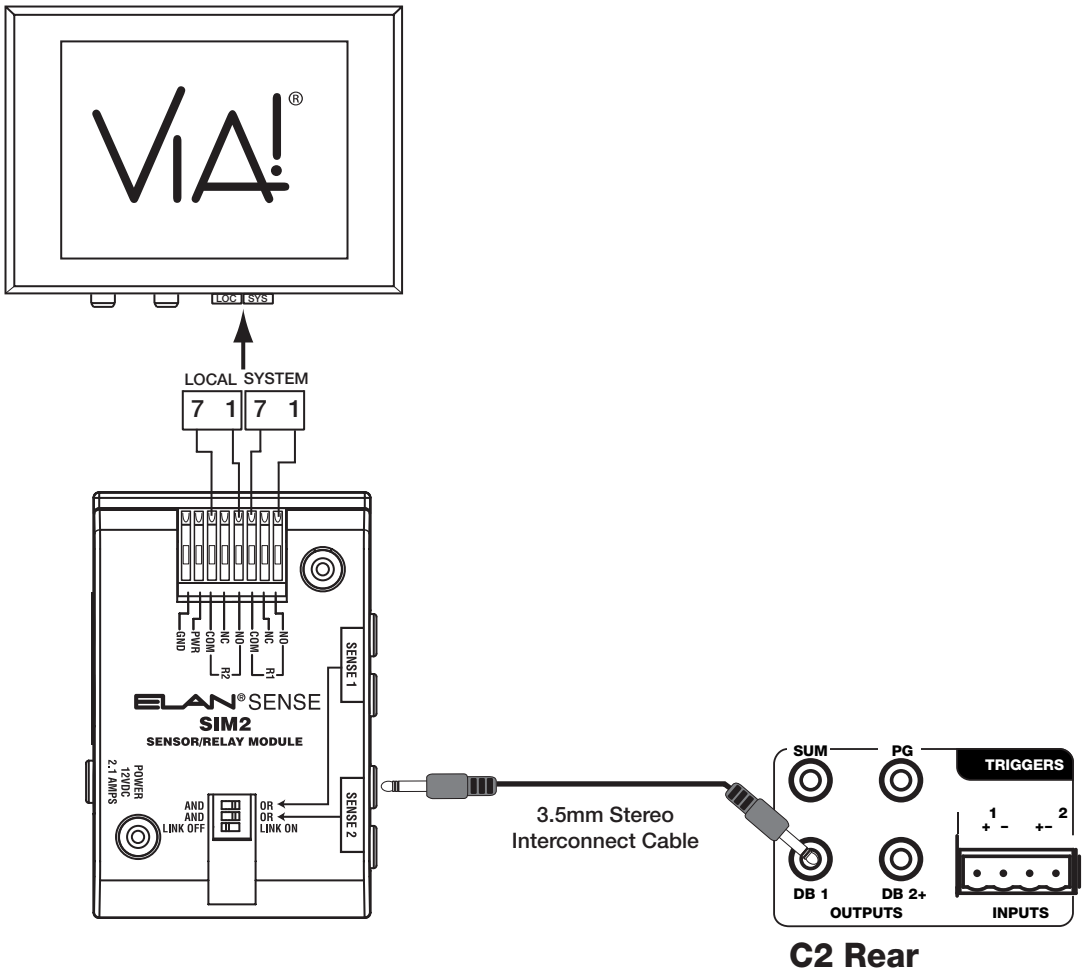


Figure 3-22: C2 to SIM2 Connections

ELAN Multi-Room Controller-Based Connections

C2 to S66A Connections

Use an RCA interconnect cable to connect the PAGE IN and MOH (Music On Hold) RCA jacks from the S66A to the PG/DB OUT and MOH IN (MONO) jacks of the C2. The colors match on the jacks - Red to Red, White to White.

Connect a 3.5mm mono interconnect cable, such as an ELAN IRIC from the SUM Trigger Output to the S66A's PAGE TRIG IN.

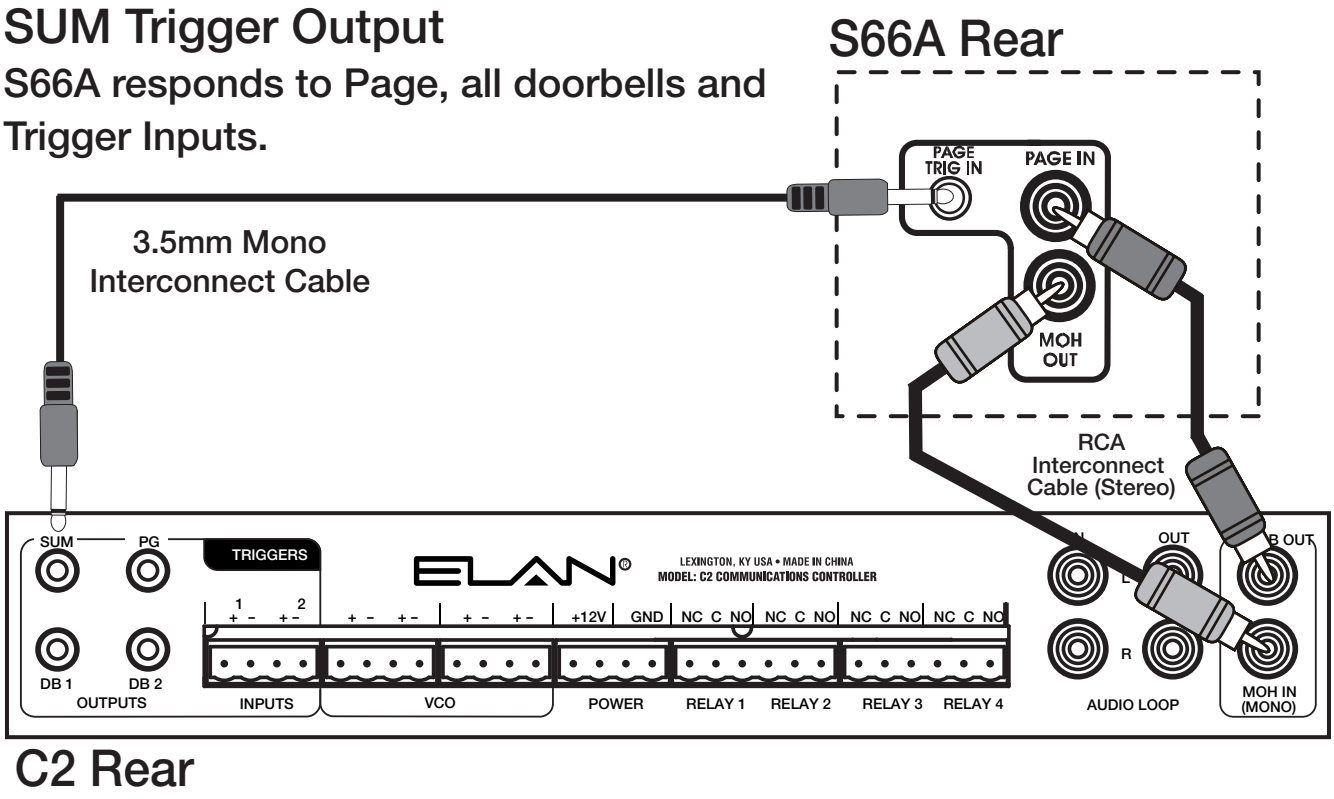


Figure 3-23: C2 ELAN S66A interconnects

C2 to S86A

S86A/S86P MOH/Page Trigger Input

Use an RCA interconnect cable to connect the PAGE IN and MOH (Music On Hold) RCA jacks from the S86A/P to the PG/DB OUT and MOH IN (MONO) jacks of the C2. The colors match on the jacks - Red to Red, White to White.

Connect a 3.5mm mono interconnect cable, such as an ELAN IRIC from the SUM Trigger Output to the S86A/P's PAGE TRIG IN.

NOTE: When connecting multiple S86A/P's use the PAGE TRIGGER OUT and PAGE OUT connections as shown on the following page.

When using the Group Paging feature, the VIA!Net connection (not shown) MUST be made between the S86A and the C2.

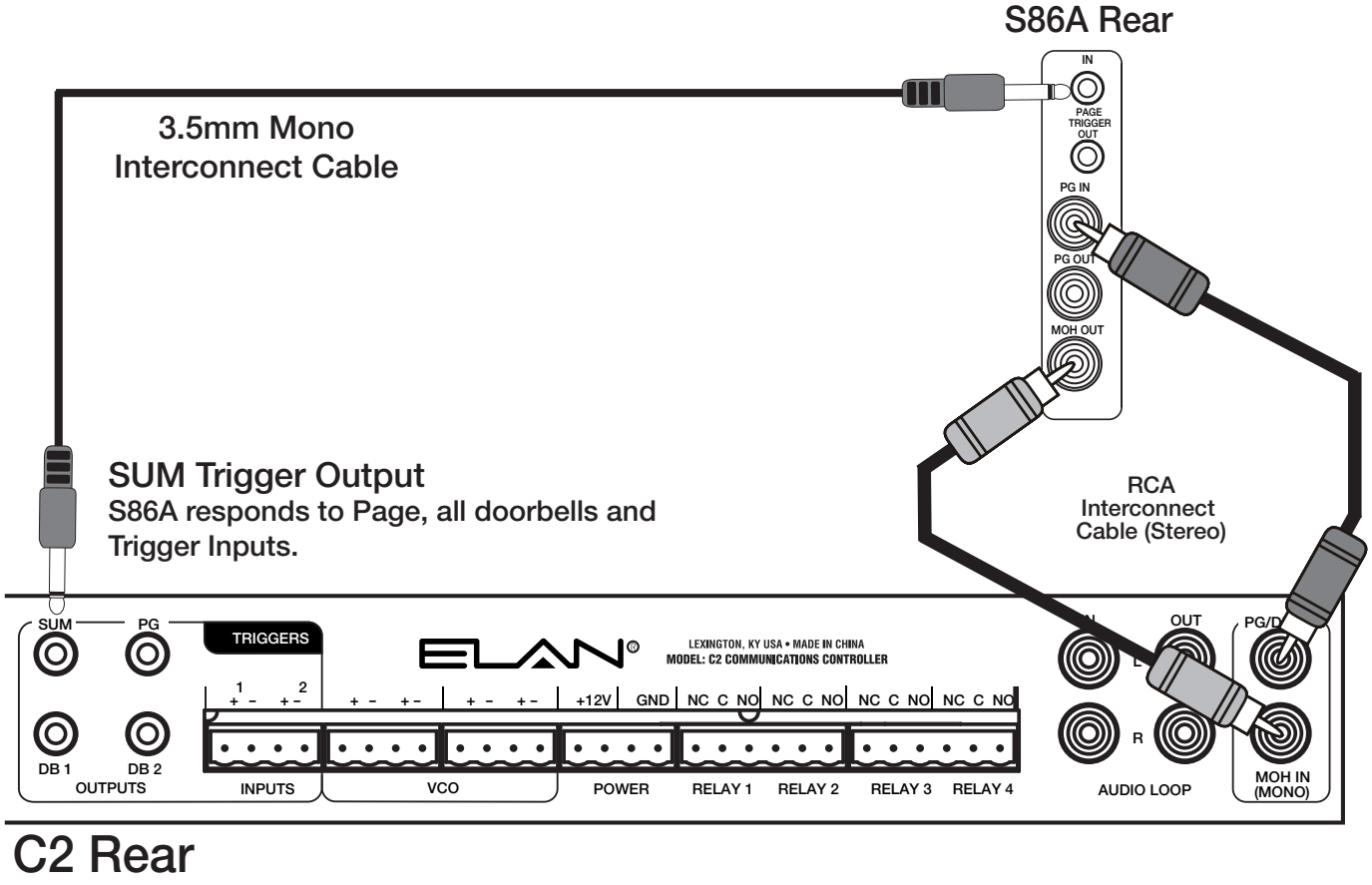


Figure 3-24: C2 To ELAN S86A interconnects

C2 to S86A Multi-Chassis Connections

The S86A utilizes outputs for Page Audio and Page Trigger in order to facilitate multiple chassis.

Use a mono RCA interconnect cable for Page Audio, and 3.5mm mono interconnects for Page Triggers as shown in the diagram.

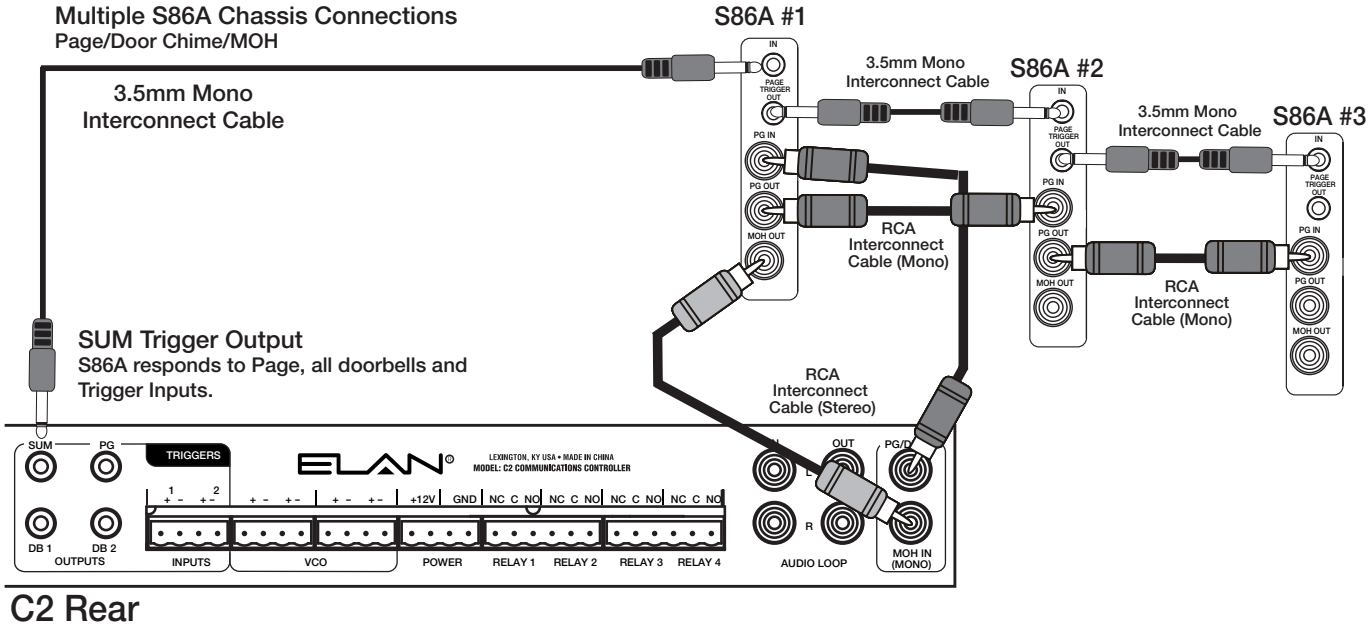


Figure 3-25: C2 To ELAN S86A interconnects (Part 2)

S86A Sense Trigger Inputs

The C2's PG, DB1, and DB2 outputs can be used to trigger automated events utilizing the S86A's Sense Inputs. A specific VIA! Touch Panel can, for example, display a specific camera based on a doorbell push at a specific door station.

NOTE: Use a 3.5mm stereo interconnect cable for these connections.

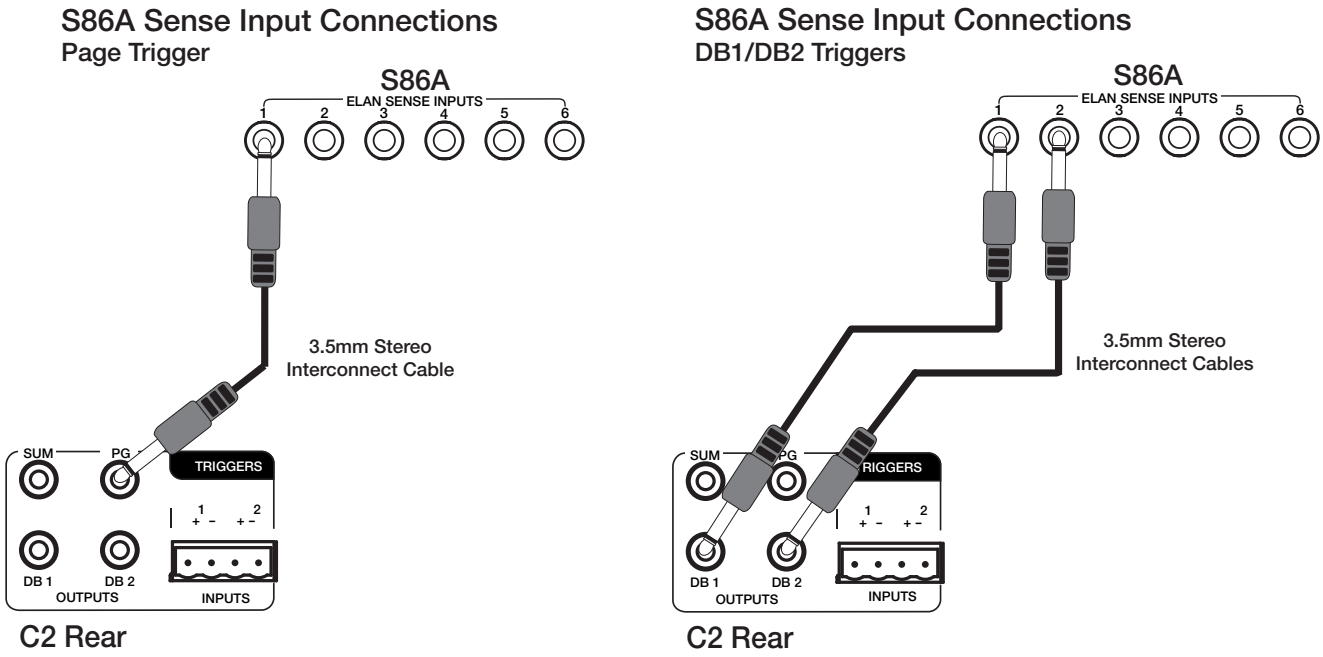


Figure 3-26: C2 To ELAN S86A interconnects

C2 To S128P

S128P MOH/Page Trigger Input

Use an RCA interconnect cable to connect the PAGE IN and MOH (Music On Hold) RCA jacks from the S128P to the PG/DB OUT and MOH IN (MONO) jacks of the C2. The colors match on the jacks- Red to Red, White to White.

Connect a 3.5mm mono interconnect cable, such as an ELAN IRIC from the SUM Trigger Output to the S128P's PAGE TRIG IN.

NOTE: When connecting multiple S128P's use the PAGE TRIGGER OUT and PAGE OUT connections as shown on the following page.

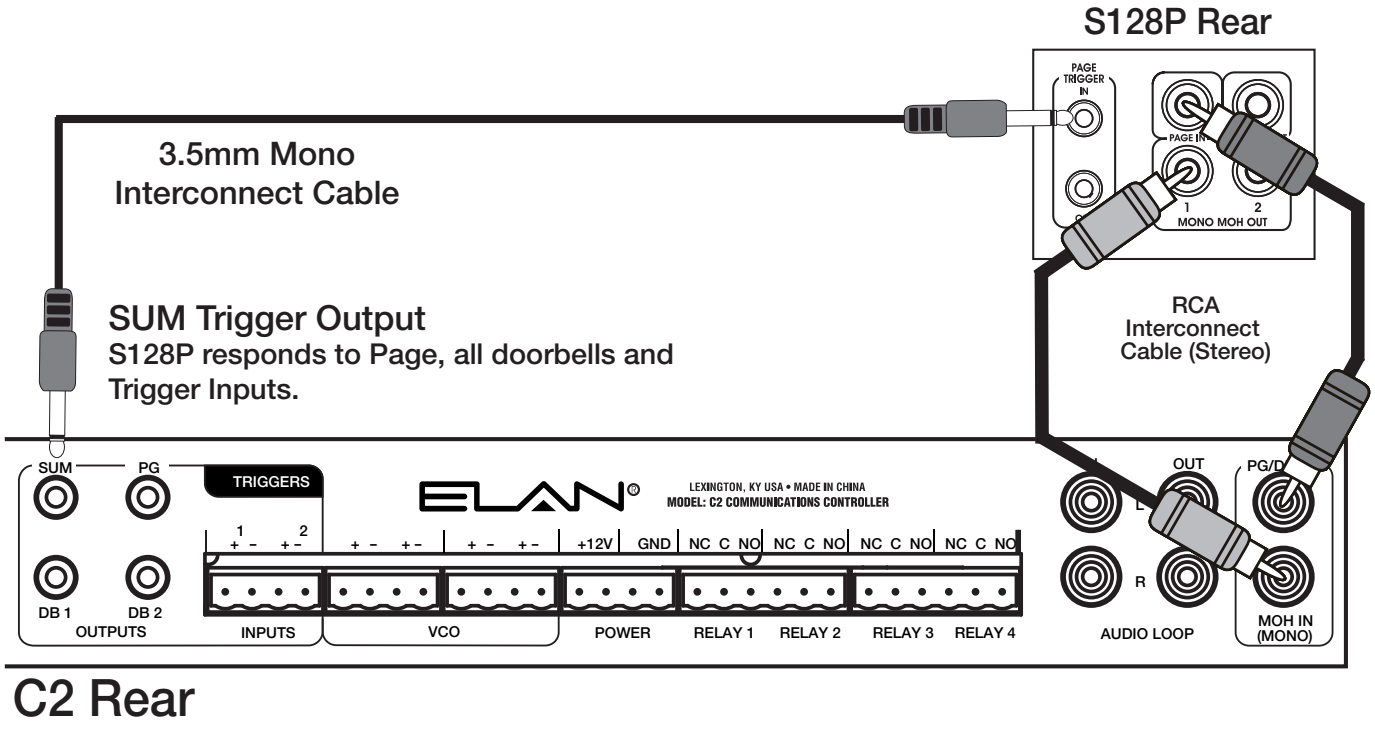


Figure 3-24: C2 To ELAN S128P interconnects

C2 to S128P Multi-Chassis Connections

The S128P utilizes outputs for Page Audio and Page Trigger in order to facilitate multiple chassis.

Use a mono RCA interconnect cable for Page Audio, and 3.5mm mono interconnects for Page Triggers as shown in the diagram.

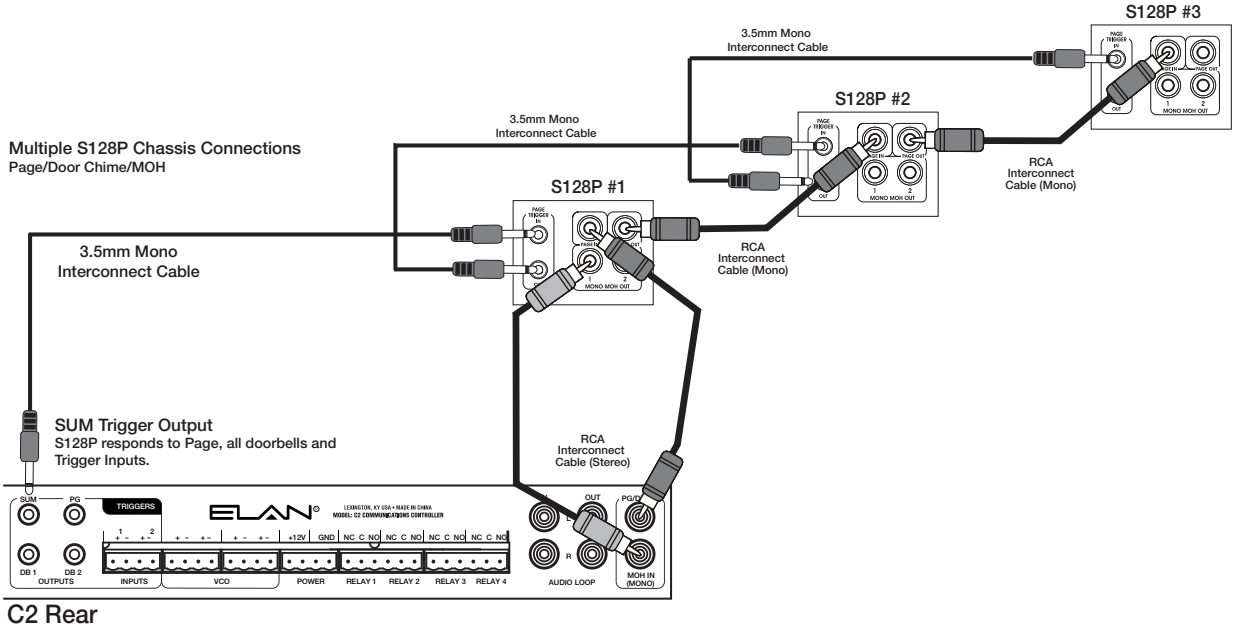


Figure 3-25 C2 To ELAN S128P interconnects (Part 2)

S128P Sense Trigger Inputs

The C2's PG, DB1, and DB2 outputs can be used to trigger automated events utilizing the S128P's Sense Inputs. A specific VIA! Touch Panel can, for example, display a specific camera based on a doorbell push at a specific door station.

NOTE: Use a 3.5mm stereo interconnect cable for these connections.

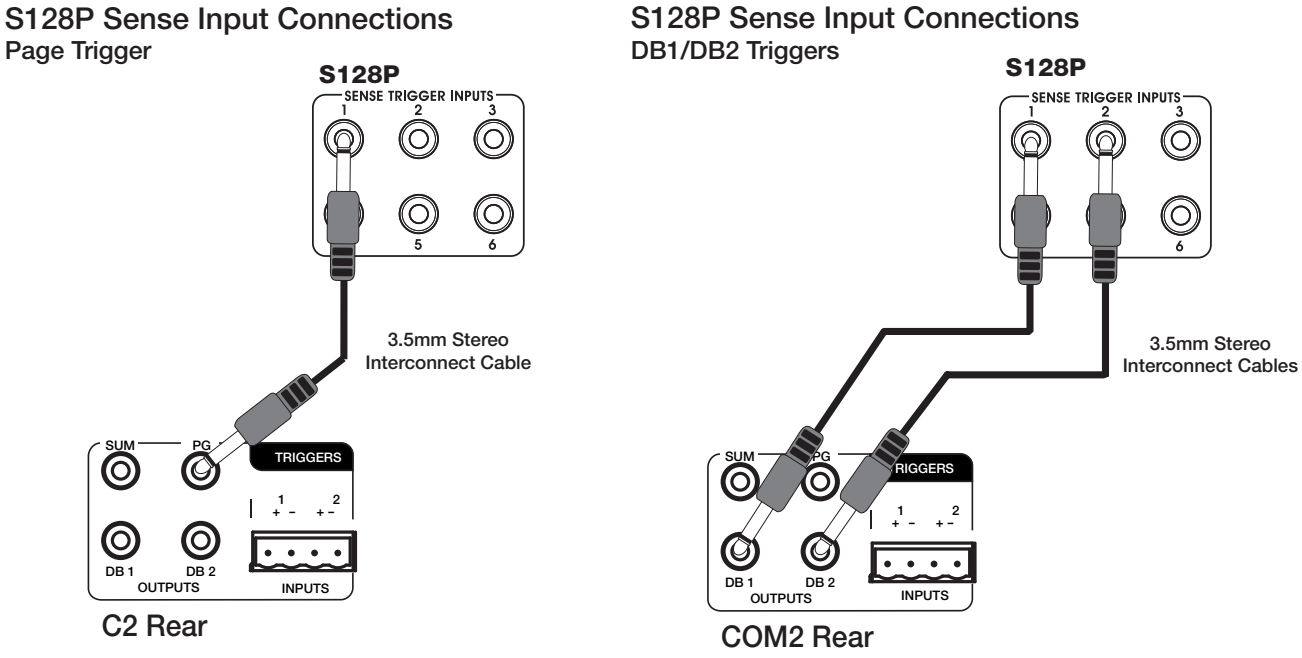


Figure 3-26 C2 To ELAN S128P interconnects

Chapter 4: Troubleshooting

The tables in Chapter 4 provide troubleshooting symptoms along with possible causes and corrections for the C2 Communications Controller.

Table 4-1 Telephone Troubleshooting Procedures

Symptom	Possible Cause/s	What an authorized installer can do
Phone won't dial out during stutter tone (voice message waiting).	Dialing or speed dialing before stutter tones play through.	Allow the stutter tone to finish before attempting to dial or speed dial out. If problem still exists, call ELAN Technical Support at 1-800-622-ELAN.
Phone won't dial out.	Incoming phone line problems (C.O. line not active, incorrect wiring, etc.)	Verify incoming telephone functionality. Connect single phone to output of C2. If problem still exists, call ELAN Technical Support at 1-800-622-ELAN.
No Ring-In.	REN value exceeded (too high) - see pages iv and 3-8 for Ringer Equivalency Number information) C.O. line not working. NOTE: The Line 1/2 STATUS LED on the front of the C2 should begin to flash whenever the phones ring.	1. Confirm symptom and homeowner's findings regarding REN at left. 2. With a lineman's hand-set/test set or a single line, corded, touch-tone telephone connected directly to the outside line, have someone call to confirm that you have ring-in. 3. After confirming C.O. line ring-in, connect your 'butt set' or a single line, corded, touch-tone telephone directly to the PHONE OUT jack on the back of the C2. Have someone dial into the home. If the phone now rings, the problem lies 'after' the C2. Check all connections at the punchdown block and wall jacks for a possible mis-wire or short. 4. Reset power to the C2 If the phone still does not ring in, there may be a problem with the C2. Contact ELAN Technical Support at 1-800-622-ELAN from the job site.
Call Waiting not operating properly.	FLASH HOOK time too short.	On the front of the C2,move the FLASHHOOK DIP switch (#3) to the UP position (1.25s) (see page 1-10 for details).
Call "drops out" for three seconds during conversation.	DEBOUNCE Time too short.	On the front of the C2, move the DEBOUNCE DIP switch (#2) and move it to the UP position (85ms) (see page 1-10 for details). If problem still exists, call ELAN Technical Support at 1-800-622-ELAN.

Table 4-1 Telephone Troubleshooting Procedures

Symptom	Possible Cause/s	What an authorized installer can do
Phone services provided by Banks, Credit Card Companies, etc. are not responding when you are on the C2 line.	Not using #,9 system Bypass.	Press #,9 to bypass the C2. This can be done either before or after you dial out, and will permit you to use all of these services (see page 6 for details). If problem still exists, call ELAN Technical Support at 1-800-622-ELAN.
Constant “double beep” through speakers.	The telephone “OFF-HOOK” or "ON-HOLD" alert for Line 2 has been activated.	a. Check to see if any phones are off-hook (see page 1-6 or Quick Reference Card for details). Replace phone on-hook. b. A caller has been left on Hold for over a minute (see page 1-6 or Quick Reference Card for details). Take caller off Hold. If problem still exists, call ELAN Technical Support at 1-800-622-ELAN.
Constant “single beep” through speakers.	The telephone “OFF-HOOK” or "ON-HOLD" alert for Line 1 has been activated.	See above.
Group Paging does not work (S86A systems only)	VIA!Net not connected between the C2 and the S86A Group Paging not programmed properly in software	Connect VIA!Net cable Correct / Enable Group Paging in the configuration software If problem still exists, call ELAN Technical Support at 1-800-622-ELAN.

Table 4-2 C2 Door Station Troubleshooting Procedures

Symptom	Possible Cause/s	What an authorized installer can do
Cannot hear person at Door Station.	Door Station Microphone Input Level is too low.	Increase the DOOR STATION MICROPHONE INPUT LEVEL by turning the Door Station Microphone Input Level Adjustment control located behind the access door on the C2 Front Panel clockwise. If problem still exists, call ELAN Technical Support at 1-800-622-ELAN.
Person Speaking at Door Station is too loud.	Door Station Microphone Input Level is too high.	Decrease the Door Station Microphone Input level by turning the DOOR STATION MICROPHONE INPUT LEVEL Adjustment control located behind the Access door on the C2 Front Panel counterclockwise. If problem still exists, call ELAN Technical Support at 1-800-622-ELAN.
Door Station Speaker Audio cuts out during speech.	Door Station Output Level is too low.	Increase the Door Station output level by turning the DOOR STATION OUTPUT LEVEL Adjustment control located behind the Access door on the C2 Front Panel clockwise. If problem still exists, call ELAN Technical Support at 1-800-622-ELAN.

Table 4-2 C2 Door Station Troubleshooting Procedures

Symptom	Possible Cause/s	What an authorized installer can do
Door Station Speaker too loud and distorts during speech.	Door Station Output Level is is too high.	Decrease the Door Station output level by turning the DOOR STATION OUTPUT LEVEL Adjustment control located behind the Access door on the C2 Front Panel counterclockwise. If problem still exists, call ELAN Technical Support at 1-800-622-ELAN.
Cannot communicate with Door Station(s).	Using non touch-tone phone. Using incorrect key sequence. DIP Switch Settings incorrect.	1. Confirm the symptom and that the problem exists on all phones. Make sure all other ELAN phone features are working properly. 2. Verify that the Door Station is properly connected to the Door Station bus on the C2, and the connector is plugged snugly into the Door Station jack. Verify proper DIP switch settings on the Door Station. If the problem still exists, there may be a problem with the C2 or Door Stations. Contact ELAN Technical Support from the job site at 1-800-622-ELAN.
Doorbell Illumination is pulsating.	C2 needs to be reset.	Remove power to the C2 for 10 seconds, then turn power back on. If problem still exists, call ELAN Technical Support at 1-800-622-ELAN.
Door Station speaker “squeals”.	Microphone in telephone may be too ‘sensitive’. Door Station Speaker microphone and/or Door Station Output levels are too high.	1. Confirm that problem occurs on all phones. 2. If the problem is specific to only one phone, it is likely that the mic sensitivity of that phone is incompatible with ELAN 3. If the problem occurs on all phones, it is probably due to feedback between the Door Station mic and speaker. There are two ways to alleviate this. We suggest that you try (a) first, as it will not result in any loss of Door Station mic or speaker levels: a. Stuff the Door Station rough-in bracket with insulation b. On the front of the C2, find Door Station Microphone Input Level Adjustment control and turn it counterclockwise. Test Door Station communications. If this did not eliminate the problem completely, locate the Door Station Output Level Adjustment control and turn it counterclockwise. Test Door Station communications. If problem still exists, call ELAN Technical Support at 1-800-622-ELAN.
Doorbell light not lighted.	Doorbell leads may be wired backwards.	Verify the correct connections for the doorbell, (see Chapter 3 for proper Door Station connectivity for Connections). If problem still exists, call ELAN Technical Support at 1-800-622-ELAN.

Table 4-2 C2 Door Station Troubleshooting Procedures

Symptom	Possible Cause/s	What an authorized installer can do
Doorbell does not work.	Door Chime Output Level is turned down. Bad, stuck or miswired Doorbell button.	1. Confirm symptom and pot adjustment levels described at left. 2. Make sure the volume controls are turned up. At the Door Station Speaker, short together the two wires connected to the doorbell button. If you hear the Door Chime, you probably have a bad doorbell button. 3. At the C2 short across the (DB1 or DB2) Trigger+ and Trigger- contacts If you hear the chime, you may have a bad Door Station. If you still do not hear the chime there may be a problem with the C2. Call ELAN Technical Support at 1-800-622-ELAN.
Door Station does not play assigned chime.	Improper Door Chime assignment. Door Station DIP switch may be set incorrectly.	Make sure you have assigned the desired Door Chime to the correct Door Station. Follow the instruction provide on your Quick Reference Card or outlined in the How To section in Chapter 1. Verify that DIP Switch setting for the Door Station in question is set to the desired setting, (see Appendix B) for DIP switch assignments. If problem still exists, call ELAN Technical Support at 1-800-622-ELAN.
Same Door Chime plays through all Door Stations at the same time.	Two or more Door Station DIP switches may be set to the same ID.	Verify that DIP Switch ID setting for the each Door Station are set to a unique ID, (see Appendix B for DIP switch assignments). If problem still exists, call ELAN Technical Support at 1-800-622-ELAN.
Voice from Door Station speaker(s) fall in and out.	Two or more Door Station DIP switches may be set to the same ID.	Verify that DIP Switch ID setting for each Door Station is set to a unique ID, (see Appendix B for DIP switch assignments). If problem still exists, call ELAN Technical Support at 1-800-622-ELAN.

Table 4-3 C2 Relay Troubleshooting Procedures

Symptom	Possible Cause/s	What an authorized installer can do
Relay(s) activation via telephone not working.	Improper key sequence. Relay device inoperative or mis-wired.	1. Confirm that correct key sequence does not activate relay. 2. Confirm that the front panel LED associated with the relay you are trying to activate illuminates after pressing the correct key sequence. If it does not, try it again with a lineman's hand set/test set or telephone plugged directly into the PHONE OUT jack on the back of the C2. If you still do not get a relay activation LED to flash, call ELAN technical support from the job site, as there may be a problem with the unit. 3. If the relay LED flashes when you try to activate it, but there is no response from the relay device, there may be a problem with either the relay device, the relay's power supply or the wire run between the relay and the C2. 4. Meter the relay for continuity when activated. If you get continuity the C2 is oppurating correctly.

Table 4-4 C2 Adjustments Troubleshooting Procedures

Symptom	Possible Cause/s	What an authorized installer can do
No Page or Door Chime audio or level is too low/ high.	Adjust Page/ Door Chime levels.	1. If using the C2 with a discontinued Z•630 Pre-Amp Controller: a. Confirm proper connection and integrity of the patch cord between the C2 Page & DB Out jack and the Z•630 Page & DB Input jack. b. Adjust the PAGE OUTPUT LEVEL or DOORBELL OUTPUT LEVEL. 2. If using C2 in a stand-alone application (i.e. with an A/V receiver): a. Confirm proper connection and integrity of the patch cord between the C2 and stereo system (C2 Loop Out to system Main or Tape In. C2 Loop In to system Pre or Tape Out). If going through a receiver's Tape In/Out loop, confirm that the receiver is in Tape Monitor mode. b. Adjust the PAGE OUTPUT LEVEL until the page level is satisfactory. Adjust the DOOR CHIME OUTPUT LEVEL until Door Station Door Chimes are satisfactory. If unable to resolve problem, call ELAN Technical Support at 1-800-622-ELAN from the job site.
Music-On-Hold level is too low/high.	Music-On-Hold Input level may need to be adjusted.	Adjust the Music-On-Hold Input levels until the volume is satisfactory for both lines. The adjustment pots are located beneath the Access door on the front of the C2. If problem still exists, call ELAN Technical Support at 1-800-622-ELAN.

Table 4-5 C2 Volume Control Troubleshooting Procedures

Symptom	Possible Cause/s	What an authorized installer can do
Volume controls do not work when page or Door Chime is sent.	VCO- and VCO+ may be reverse wired, or power + and - may be reversed.	1. Confirm symptom and homeowner's findings regarding. 2. Verify that VCO+ and VCO-polarity is wired properly. 3. Verify power supply polarity is wired properly. 4. Enter a page or press a Door Station doorbell to verify problem corrected. If problem still exists, call ELAN Technical Support at 1-800-622-ELAN. 5. Meter for 12V on VC override on C2.
Cannot hear Page or Door Chime when volume controls are turned down.	1. Page & Doorbell Override feature is not working. 2. VCO- and VCO+ may be reverse wired, or a power supply + and - may be reversed.	1. Confirm symptom. 2. Verify that VCO+ and VCO- connections for the overrides are connected properly and polarity is maintained to the VCO removable connectors on the back of the C2. 3a. Rotary Volume Controls - Ensure that the Override Volume Jumpers are properly set for rotary volume controls. 3b. Electronic Volume Controls - Verify that the Override Volume settings are properly set. 4. Verify that the power supply (internal or external) is connected properly and is providing the voltage and current necessary to power the volume controls. Contact ELAN Technical Support from the job site at 1-800-622-ELAN, if voltage is present. 5. Meter for 12V on VC+ and VC- at the volume control.

Table 4-6 C2 Hum Troubleshooting Procedure

Symptom	Possible Cause/s	What an authorized installer can do
Noise or hum in phone earpiece.	Ground Loop	1. Remove any fax machines, answering machines, DSS/ Cable Boxes or any other equipment connected to the phone system. 2. Bypass the C2 RJ-11 connection with an RJ-ll jumper or power off the C2. If the problem clears during the above checks, a ground loop exists between the power circuit for the C2 and the phone system or connected equipment. Have a licensed electrician check and repair grounding for the homes electrical system.

Technical Support

If, after carefully following the steps in the **Troubleshooting** section, you are unable to resolve issues with the installation or operation of the C2, please call ELAN Technical Support at 1-800-622-ELAN (3526).

Appendix A: Specifications

Table A-1 C2 Communications Controller Specifications

Item	Description
Power Requirements Home phone battery voltage C.O. Access Lines	120V, 60Hz, 25W 48VDC 2
Relay Type Current Limit	NO/NC/COM dry contact 30VAC/DC @ 4A (max ea.)
Music-On-Hold (MOH) Input Level (mono)	0 to 2.5 p-p max, adjustable Muted to +6dB. (MOH suggested input level is between -10dBv and 0dBv)
Page/Doorbell (P/DB) Output Output Level (momo)	0 to 2.5 p-p max, adjustable Muted to +6dB
Volume Control Override (VCO) Internal Power Supply	1A, 12VDC
Trigger Inputs (2)	Current limited + 12VDC Output (connect to dry closure only)
Connector Interfaces AC Power VIA!NET IN/OUT Trigger Output Trigger Input Relay/VCO Connections Relay/VC Power Audio Loop In/Out Music On-Hold (MOH IN) Door Station Bus Phone Out (2-Line) TELCO In (2-Line)	 3-Prong Heavy Duty Power Cord RJ-45 3.5mm Connectors Removable Locking Connectors Removable Locking Connectors Removable Locking Connectors RCA Type, Line Level Only RCA Type, Line Level Only Removable Locking Connectors RJ-14 RJ-14
Door Station Bus Mic /Speaker max gain	+6dB Boost
Recommended Wire Doors Station Assembly RJ-45 interface (VIA!Net) RJ-14 “Telco” interface	 Cat-5 Communications Wire (1000 ft. max)or 2-conductor “bell” wire Cat-5 Communications Wire Cat-5 Communications Wire
Dimensions w/Feet (1U w/o Feet)	17 W X 2 3/8 H X 12 1/2 D (in.) 432 W X 60 H X 318 D (mm)

Appendix B: Door Stations

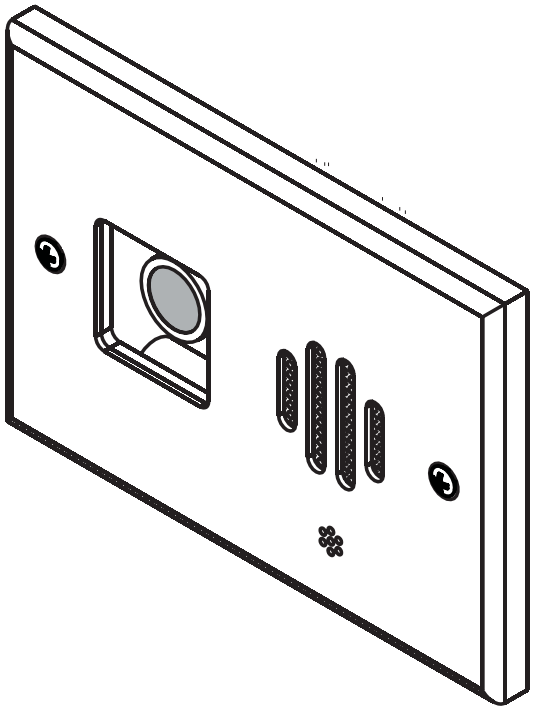
Introduction

ELAN's new DS3 Series Door Station and the C2 Communications Controller provide you with full two-way communications and door latch control from your touch-tone telephones. A simple #-D (for Door) from any touch-tone phone allows you to speak with visitors at the door. Another simple button press ("0") activates the door latch to let them in (if you are so inclined). The door latch must be installed and is not included. The DSC3, with its on-board color camera, gives you the option of seeing who is there before you even pick up the phone.

Door Stations Models

ELAN's two-wire door station models include the DSS3 Surface Mount Door Station, the DSF3 Flush Mount Door Station, and DSC3 Flush Mount Door Station with Color Camera. Designed to be installed in a variety of locations, each door station allows custom installation in areas such as the front door, back door, guest house, or gates. Each model allows independent conversation with visitors at up to eight locations. With the Door Latch Activation feature, you can remotely unlock a door or gate and let the visitor enter, if desired (a third-party door latch must be installed and is not included with ELAN Door Stations.

NOTE: The new DS3 Series Door Stations are only compatible with ELAN's C2 Communications Controller and will not work with the discontinued Z•600 Communications Controller or HDC1050/HDC2050 Telephone Interface Cards used with ELAN HD systems.



Specifications

Table B-1 provides the DS Series Door Station Specifications.

Table B-1 Specifications

Item	Description
Door Station Speaker	8 ohm, sealed back polyester cone
Microphone	Hi-gain omni-directional condenser
Door Latch Relay	12VDC coil, 2A contact rating
Wiring Requirements	Cat-5, 1000ft max
DSC3 Color Camera Specifications	
Imager	1/3 in. CCD
Auto Iris	1/50-1/100,000 sec.
Lux	.05 min.
Resolution	480 TV Lines
Horiz. Viewing Angle	120°
Vert. Viewing Angle	100°
Swivel	+15°/-15° left to right
Video Output	1V peak-to-peak
Video Output Impedance	75 Ohms
Power Requirements (Min.)	12VDC @ 130 mA
DSC3 and DSF3 Faceplate Dimensions	5 1/2 W X 3 8/10 H (in) 138 W X 97 H (mm)
DSS3 Specifications	
DSS3 Dimensions	5 1/2 W X 3 8/10 H (in) X 9/10 D (in) 138 W X 97 H (mm) X 23 D (mm)

PreWiring & Installing The Door Stations

The DSF3 and DSS3 Door Stations require two conductors to achieve full functionality. The DSC3 requires six conductors in order to utilize the camera functionality eight for long runs (over 500 feet). Cat-5 network cable is recommended in each instance. Route Cat-5 from the head-end location to each Door Station location, avoiding sharp angles.

To physically mount DSF3 and DSC3 Door Stations, use an ELAN DBK1000 Rough-In Bracket during construction. The DSS3 Door Station is designed to be surface mounted and utilizes four wall anchors and screw.

For best aesthetics and audio quality, (and viewing angle when positioning the DSC3), mount the unit approximately 4-1/2 to 5-1/2 feet from the ground. It is strongly recommended that you test the view from the camera before finalizing installation!

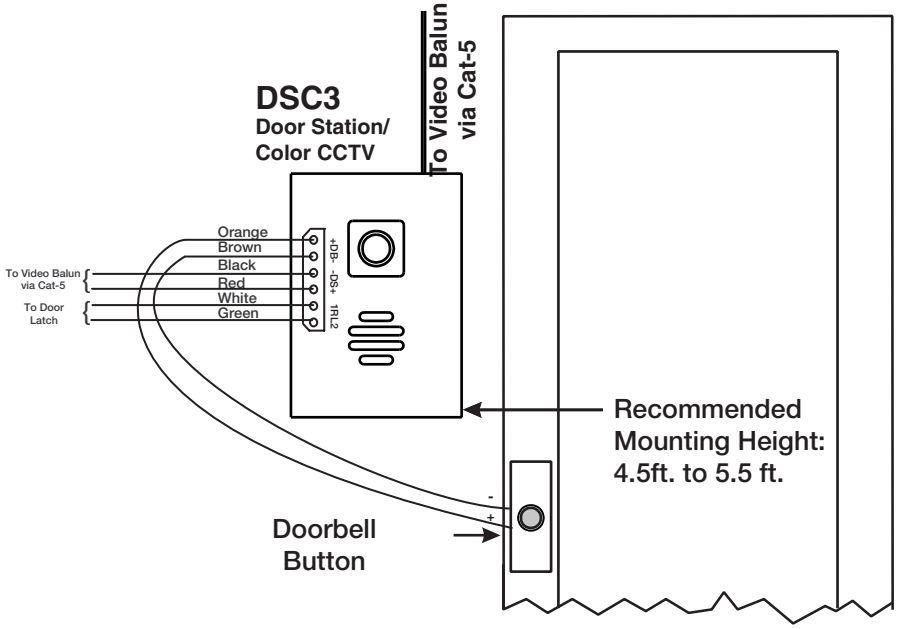
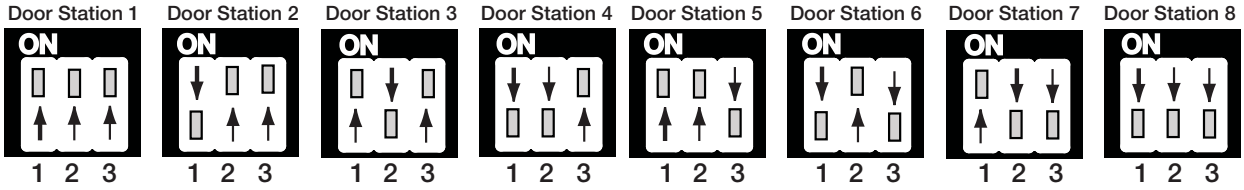


Figure B-1: Recommended Camera Height

Door Station DIP Switch Settings

Each door station has DIP switches that must be set to allow the C2 to differentiate between door stations and assign unique chimes, see (Figure B-2).

WARNING: The C2 must be powered down during DIP switch adjustments to ensure proper operation and implementation of the new switch settings.



Door Station	DIP Switch Setting	Door Station	DIP Switch Setting
1	1-ON, 2-ON, 3-ON	5	1-ON, 2-ON, 3-OFF
2	1-OFF, 2-ON, 3-ON	6	1-OFF, 2-ON, 3-OFF
3	1-ON, 2-OFF, 3-ON	7	1-ON, 2-OFF, 3-OFF
4	1-OFF, 2-OFF, 3-ON	8	1-OFF, 2-OFF, 3-OFF

Figure B-2: Door Station DIP Switch Settings

Locate and adjust the DIP switches to indicate the desired door station for your location, i.e., front door = Door Station 1, back door = Door Station 2 etc. (see Figure B-3).

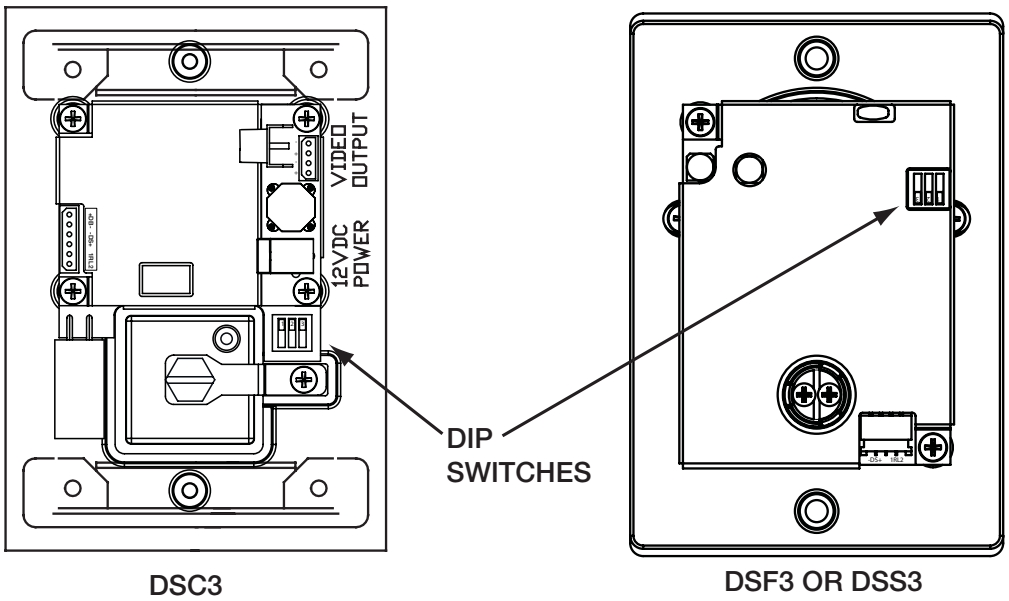


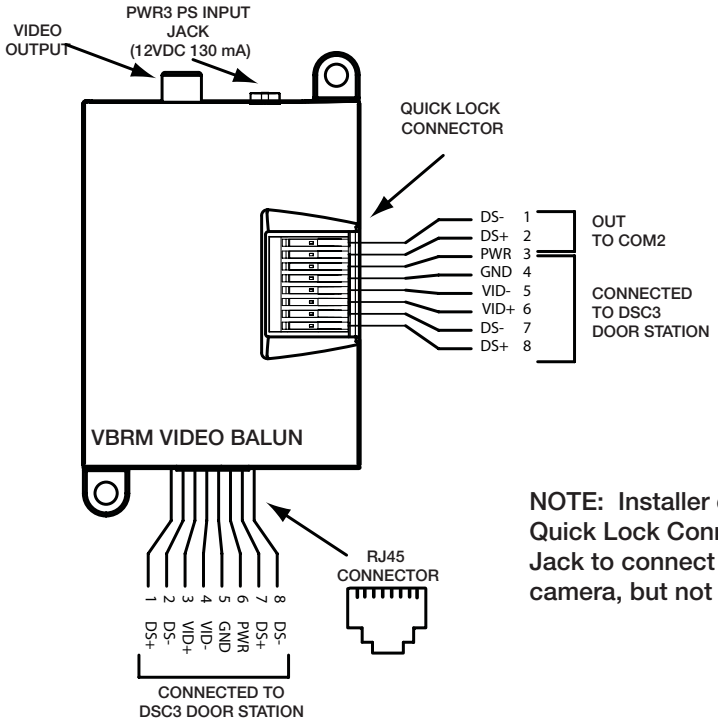
Figure B-3: DIP Switch Locations

VBRM Video Balun

The DSC3 Door Station with Color Camera requires the use of ELAN's VBRM Video Balun (included) to properly pass video thru Cat-5 network cable at any significant distances.

Figure 3-8 and Figure 3-9 shows the wiring connections using Cat-5 network cable.

Figure B-4 shows the connections for the VBRM Video Balun.



NOTE: Installer can use either Quick Lock Connector or the RJ45 Jack to connect the DSC3 with camera, but not both.

Figure B-4: Video Balun Wiring Connections

NOTE: The ELAN DSC3, DSF3, or DSS3 Door Stations interface with the C2 Communications Controller to provide door chime and door station communications functionality. Use Cat-5 for these connections. Cat-5 network cable must be used if using the DSC3 in conjunction with the VBRM Video Balun.

Non VBRM Applications

In the rare instance that an ELAN VBRM Video Balun is not used, the installer can still connect the DSC3 Door Station and camera, using Cat-5 for the door station, RG59/RG6 for the camera and 18/2 AWG stranded wire for power. ELAN recommends using Cat-5 wire for the DS+ and DS- connections from the door station to the C2 Door Station Bus.

To connect the camera, perform the following:

1) Unplug the power connector and RCA video connector from the video balun on the DSC3 circuit board.
2) Remove the camera power connector, then strip back the insulation on the red and black camera power wires and connect the corresponding red and black conductors of the 18/2 AWG wire as shown in Figure B-4.

NOTE: DO NOT remove the DSC3's yellow (video) RCA jack connector!

3) Remove the connector from the PWR3 Power Supply (see Figure B-5).
4) Tie the red wire of the 18/2 AWG to the black/white wire of the PWR3. Tie the black wire of the 18/2 AWG to the black wire of PWR3 Power Supply (see Figure B-4).
5) Splice camera power to PWR3 using 18/2 wire.
6) Connect "F-to-RCA" barrel connector (included) between the RG-6 or RG-59 coax cable and the DSC3 RCA composite video connector (yellow).

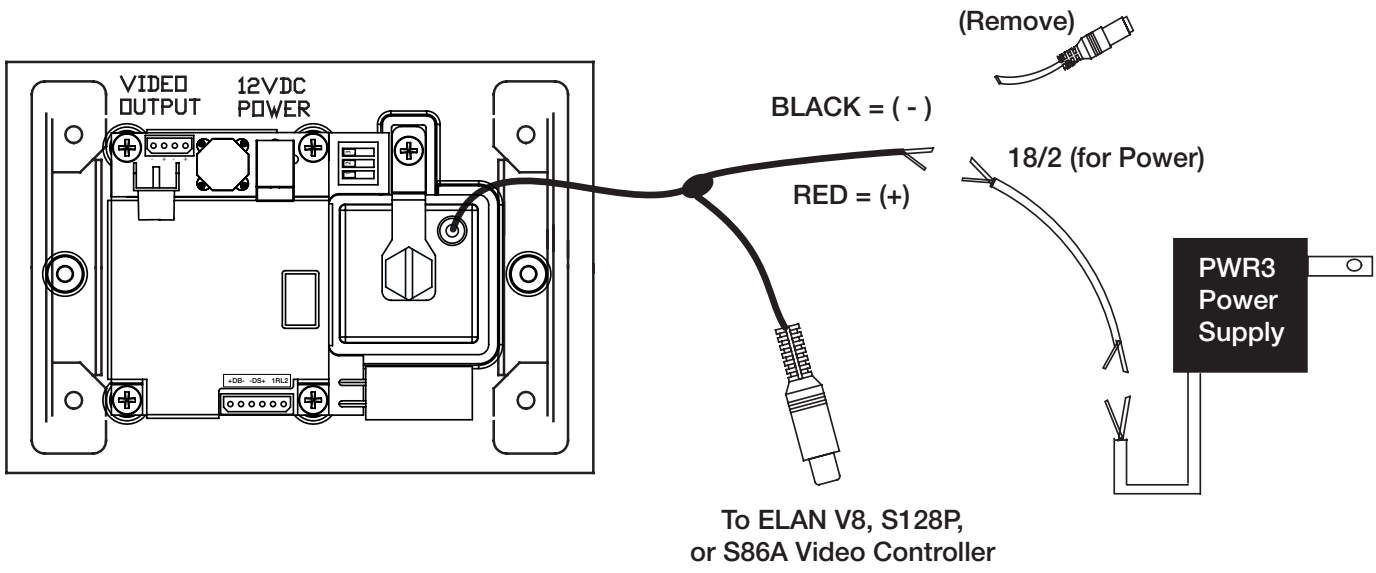


Figure B-5: DSC3 Without VBRM

DSF3 & DSC3 Installation

Both the DSF3 and DSC3 Door Stations are installed using the DBK1000 Door Station/Camera Rough-In Bracket (sold separately).

In order to install the DSC3 or DSF3 Door Station in the DBK1000 the door station trim brackets must be mounted to the front of the DBK1000 (see Figure B-6). Note the orientation of the trim bracket's inner flanges

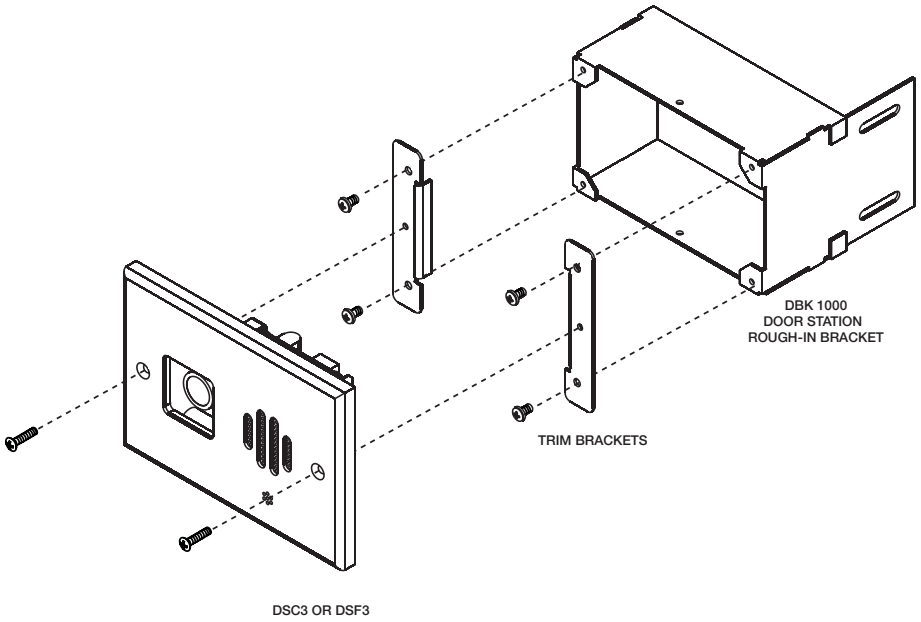


Figure B-6: Mounting the DSC3 or DSF3 Trim Brackets

The DSC3 ships ready for horizontal installation. Should you choose to mount the DSC3 vertically, the DBK1000 must also be mounted vertically and the camera module must be rotated 90 degrees to orientate the camera display (see Figure B-7).

Whether mounted horizontally or vertically, the Camera Wire should always protrude from the upper right corner of the camera module when the DSC3 is viewed from the rear.

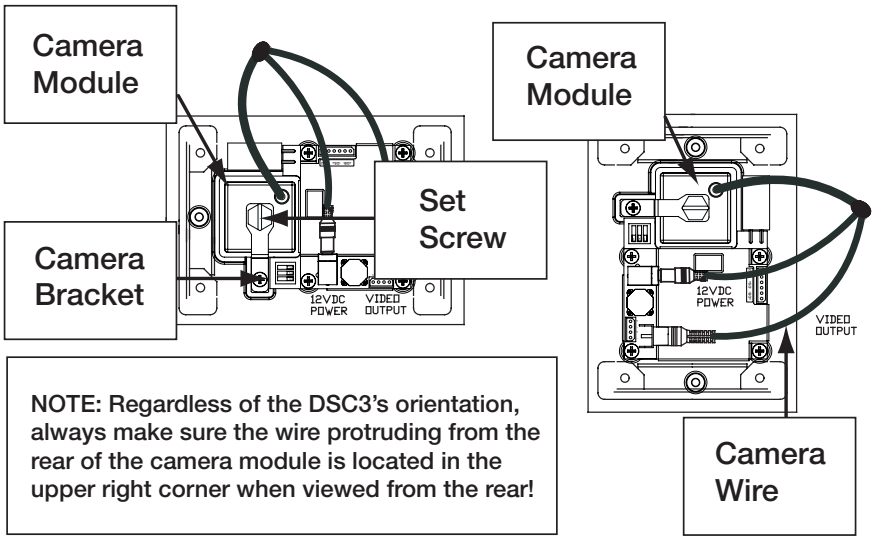


Figure B-7: Camera Wire Orientation

1) Use 7/16 wrench to loosen the screw and rotate the camera.
2) Make sure the camera wire is located in the upper right corner of the camera module when the DSC3 is viewed from the rear.
3) Adjust the viewing angle by carefully twisting the camera bracket.
4) Once the camera has been repositioned, tighten the bracket screw to secure the camera at the desired position.

Cat-5 network cable must be used to connect ELAN Door Stations as shown in Figure 3-8 and Figure 3-9. Connecting the DSC3 includes a video balun on the head end to provide power to the camera module for cable lengths over 125 feet and up to 1000 feet. If Cat-5 network cable is not applicable for your specific installation you can still wire your door stations. ELAN suggests using RG59 for video and 18/2 for all other connects. In this case, the video balun should not be used.

NOTE: ELAN recommends using the provided doorbell only. A non ELAN doorbell has not been tested and is not covered under ELAN's Door Station Warranty

DSC3 Doorbell Button Installation

The DSC3 Door Station is designed with a separate matching doorbell button from the door station assembly. This enables the doorbell button to be installed in a conventional doorbell location, and the door station mounted higher up for optimum camera viewing.

NOTE: ELAN recommends using the provided doorbell button only. A non ELAN doorbell button has not been tested and is not covered under ELAN's Door Station Warranty.

NOTE: if the doorbell push button does not light after connecting the db+ and db- leads from the Door Station, reverse the leads, polarity must be maintained in order for the doorbell light to function properly.

NOTE: Be sure to pull the doorbell push button wires through the back of the DBK1000 Door Station Rough-in Box.

DSS3 Installation

The DSS3 is a surface mount door station designed to work with the C2, ELAN's next generation in-home communications controller. Connect the DSS3 Door Station using Cat-5 network cable as shown in Figure 3-8 and Figure 3-9.
The DSS3 has a surface mounting plate that attaches to most surfaces with 4 wall anchors and 4 screws. Attach attach the door station and surface bracket as shown in Figure B-8.

To install the DSS3 Door Station:

1) Using the surface bracket as a template, mark and drill the four corner holes. Insert a wall anchor in to each hole.
2) Attach the surface bracket using the four surface mounting screws.

NOTE: Make sure to make your electrical connections prior to mounting the door station.

3) Connect DS + and DS - using a butt splice or other appropriate connector.
4) Mount the door station to the surface bracket, as illustrated in Figure B-8. Note the orientation of the Mounting Plate flanges.

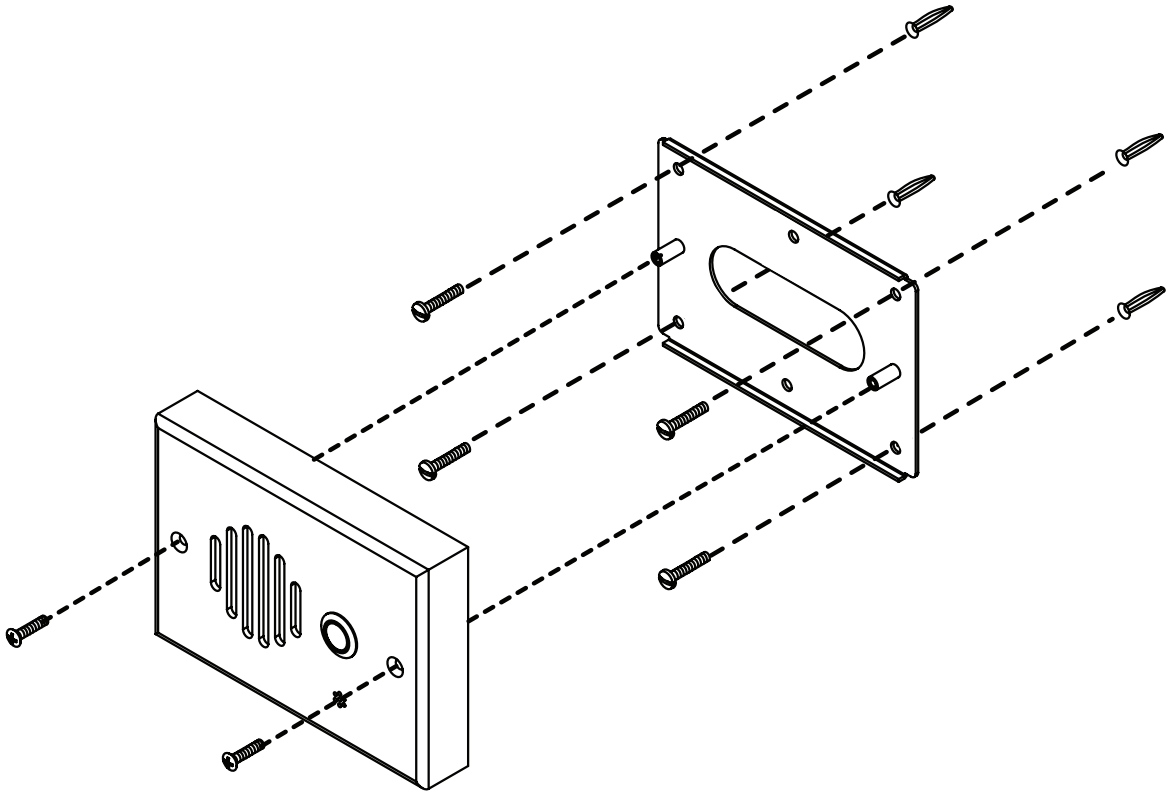


Figure B-8: Mounting the DSS3 Door Station

Appendix C: Rack Mounting

Rack-Mount Brackets

When mounting the C2 controller in an equipment rack, use the included rack mount brackets for secure mounting and proper ventilation. The C2 requires one rack space. To install the C2 into a standard 19" equipment rack:

1. Mount the brackets onto the C2 chassis from the front (Figure C-1).

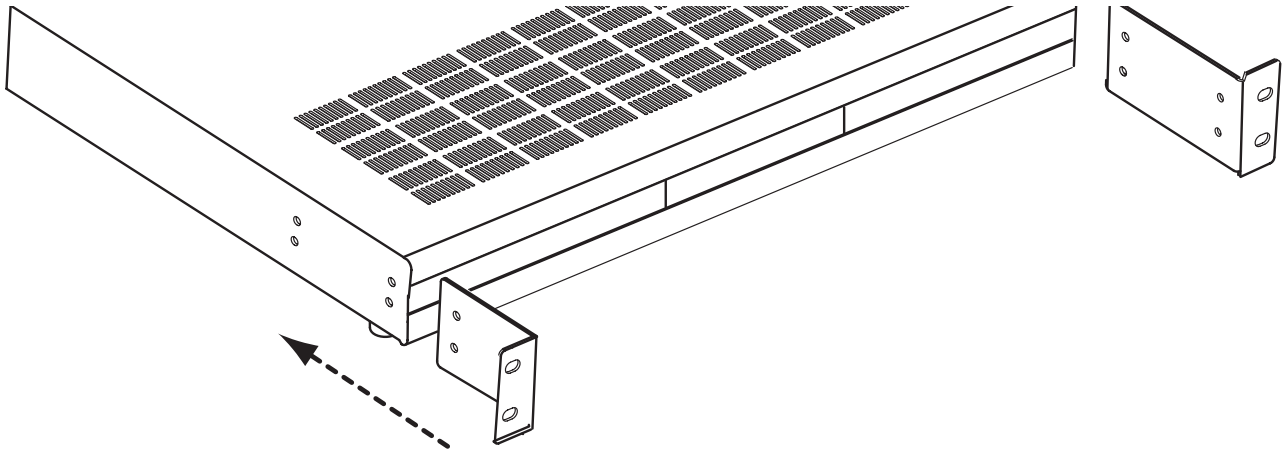


Figure: C-1

2. Ensure that the brackets are flush with the front of the C2. Install each of the eight screws (included) through the side mounting flanges into the holes in the sides of the unit as shown in Figure C-2. Hand tighten screws! Over-tightening could cause damage to the C2 Communications Controller.

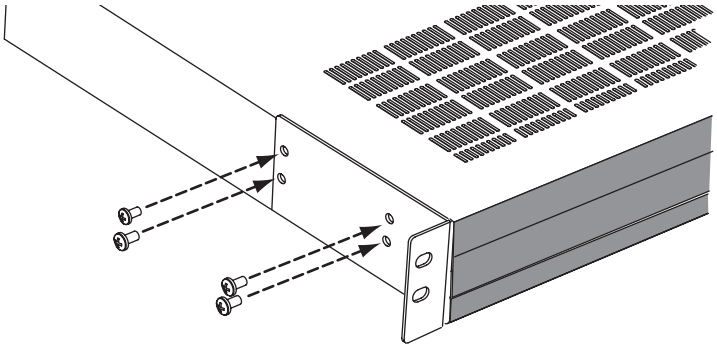


Figure: C-2.

3. Once the brackets are securely mounted, install the entire assembly into a standard 19" equipment rack from the front using four rack screws (not included).

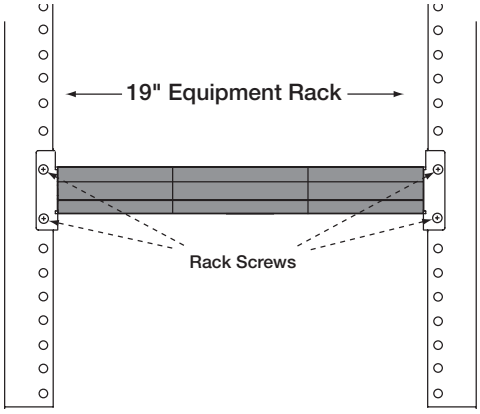


Figure: C-3.

Notes:

Notes:

P/N 9900991 REV: F

Limited Warranty

ELAN HOME SYSTEMS L.L.C. ("ELAN") warrants the C2 Communications Controller to be free from defects in materials and workmanship for the period of two years (2 years) from date of purchase. If within the applicable warranty period above purchaser discovers that such item was not as warranted above and promptly notifies ELAN in writing, ELAN shall repair or replace the item at the company's option. This warranty shall not apply (a) to equipment not manufactured by ELAN, (b) to equipment which shall have been installed by other than an ELAN authorized installer, (c) to installed equipment which is not installed to ELAN's specifications, (d) to equipment which shall have been repaired or altered by others than ELAN, (e) to equipment which shall have been subjected to negligence, accident, or damage by circumstances beyond ELAN's control, including, but not limited to, lightning, flood, electrical surge, tornado, earthquake, or other catastrophic events beyond ELAN's control, or to improper operation, maintenance or storage, or to other than normal use of service. With respect to equipment sold by, but not manufactured by ELAN, the warranty obligations of ELAN shall in all respects conform to the warranty actually extended to ELAN by its supplier. The foregoing warranties do not cover reimbursement for labor, transportation, removal, installation or other expenses which may be incurred in connection with repair or replacement.

Except as may be expressly provided and authorized in writing by ELAN, ELAN shall not be subject to any other obligations or liabilities whatsoever with respect to equipment manufactured by ELAN or services rendered by ELAN.

THE FOREGOING WARRANTIES ARE EXCLUSIVE AND IN LIEU OF ALL OTHER EXPRESSED AND IMPLIED WARRANTIES EXCEPT WARRANTIES OF TITLE, INCLUDING BUT NOT LIMITED TO IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

ATTENTION: TO OUR VALUED CONSUMERS

To ensure that consumers obtain quality pre-sale and after-sale support and service, ELAN Home Systems products are sold exclusively through authorized dealers. ELAN products are not sold online. The warranties on ELAN products are NOT VALID if the products have been purchased from an unauthorized dealer or an online E-tailer. To determine if your ELAN reseller is authorized, please contact ELAN Home Systems at (859) 269-7760.

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