

C-BUS[™]

Energy Management System

C-Bus Manual Addendum v2.1.2 Scene Master Programming Reference

Version :
212

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Chapter 1 Introducing C-Bus Service Pack v2.1.2

Introduction

C-Bus Service Pack v2.1.2 is a software plug-in, designed to upgrade your existing C-Bus Installation Software v2.0 to the current build standard. Many new features and enhancements are added, including programming support for the latest release C-Bus products.

What's New in Version 2.1.2 ?

C-Bus Software v2.1.2 includes the following new features :

- Support for new C-Bus products
 - C-Bus Scene Master
 - C-Bus DIN Rail Series PC Interface
 - C-Bus DIN Rail Series 4 Channel Relays
 - C-Bus DIN Rail Series 4 Channel Dimmers
 - C-Bus Professional Series 2 Channel Dimmers
- C-Bus Calculator updated

The highly popular C-Bus Calculator (C-Bus Network design verification tool) has been updated to include support for the new release C-Bus products.

- C-Bus Manual Addendum v212 (this document)

This Manual Addendum has been written as an introduction to the new software features, and steps the reader through all programming options for the new Scene Master controller. Programming principles for DIN Rail and Professional Series products supported by C-Bus Software v2.1.2 are described elsewhere (please refer to C-Bus Manual Addendum 211A).

The Online Documentation requires Adobe Acrobat Reader v4.0 (or higher) to view or print correctly. This software is included on the C-Bus Service Pack v2.1.2, and may be installed if required.

Software Installation Procedures

NOTE:

1. **The C-Bus Installation Software runs under Microsoft Windows 95/98/NT (or higher). It is assumed that the user is familiar with this environment.**
2. **Service Pack 2.1.2 requires that C-Bus Installation Software Version 2.0 (or higher) is already installed on your computer.**
3. **It is highly recommended that you quit from all other programs before proceeding with the installation process.**

Automatic Installation

The C-Bus Service Pack v2.1.2 is provided on CD-ROM, and includes an autorun facility which automatically launches the software installer when you insert the CD-ROM into your CD-ROM Drive.

1. Insert the CD-ROM into the CD-ROM Drive
2. Follow the on-screen prompts to complete the installation procedure.

Manual Installation Instructions

The C-Bus Service Pack v2.1.2 may be installed manually if required.

1. Insert the CD-ROM into the CD-ROM Drive
2. Click the Start Menu, and select **Run...**
3. Type **x:\setup** (where 'x' is the letter of your CD-ROM Drive), and press the ENTER key.

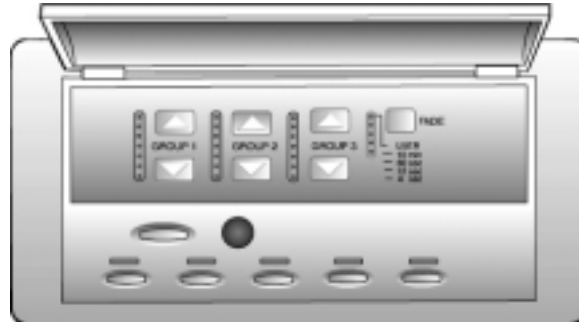
The remainder of this document is dedicated to describing the new C-Bus Scene Master. This includes all programming requirements, and configuration options available. A detailed programming example is also presented.

It is assumed that the user is familiar with the basic concepts of using the C-Bus Installation Software. If not, it is recommended that the user take the time to read the C-Bus Installation Software Manual (Clipsal Catalog Number 5000S/2, 5000M/2).

Chapter 2

C-Bus Scene Master

C-Bus Scene Master



Scene Master is a powerful C-Bus Scene Controller with Infrared Remote Control capabilities.

Scene Master is capable of storing up to five pre-programmed scenes (switching/dimming patterns), plus a Master Off Scene. Simply press a scene button to recall the preferred lighting pattern to suit your mood or activity !

In total, up to 33 Control Zones (C-Bus Group Addresses) may be individually controlled by each Scene Master (9 Zones per Scene).

Multiple units may be interconnected on a C-Bus network for independent operation. Multiple units may also be linked, allowing common scenes to be triggered from any location. Scenes may also be cascaded or concatenated across multiple units, allowing very complex scenes to be created.

Scene Master may be configured using a personal computer running C-Bus Installation Software v2.1.2 (or higher). Limited programming support is also offered from the front panel of the unit, allowing the end user to customise and create new scenes, vary preset lighting brightnesses, fade rates and master switching functions without the use of a computer. Please refer to the Scene Master User's Guide for further information.

Capabilities

Scene Master supports the following features :

- 33 Control Zones
- 5 Preset Scenes
- Master Off function
- Infrared Remote Control
- Scene and Zone Level Indicators, with low light Fallback and Nightlight modes
- Fully Adjustable Fade Rates for each Zone
- End User Programming Support (Setup Mode)
- Scene Linking (synchronisation, concatenation)
- Remote Scene Triggering via C-Bus
- Built-in C-Bus System Clock
- Loop-In / Loop-Out Removable C-Bus Terminals
- Universal Mounting Bracket for Easy Installation
- Protective Dust Cover

Definitions

Term	Definition
Scene	A Scene is defined as the combination of lights distributed by various light Zones with different light levels. It can be preset, stored in and recalled by one of the five scene buttons on the Scene Master front panel.
Zone	Refers to an illuminated area. In Scene Master, a Zone is a C-Bus Group Address representing one or many lighting or other electrical loads connected to a C-Bus Output Unit (such as a dimmer unit).
Primary Zone	First three Zones common to all Scenes. Primary Zone brightness levels are adjustable from the front panel of the Scene Master unit using the UP/DOWN Dimming Buttons.
Secondary Zone	Six additional Zones individually controllable for each Scene.
Fade Rate	Period of time over which the load is ramped to the desired brightness level

What is a Scene?

Scene Master can store up to five pre-programmed scenes, each activated by a button press on the front of the unit (or equivalent button on the Remote Control). For each scene defined, a total of up to 9 zones may be forced to a pre-determined state (over a period of time called the Fade Rate), thus establishing the scene.

The first three zones are called the Primary Zones, and are common to all five scenes. Allocation of controlled lighting or other load for the Primary Zones can only be performed by using the C-Bus Installation Software v2.1.2, and cannot be changed from the front panel of the Scene Master unit.

Levels for the Primary Zones are independently set for each Zone, and for each scene. Each Zone level is end user adjustable using the Up / Down Dimmer buttons provided on the front of the Scene Master unit.

The Primary Zones all share the same Fade Rate for a given scene, but may be different for each scene.

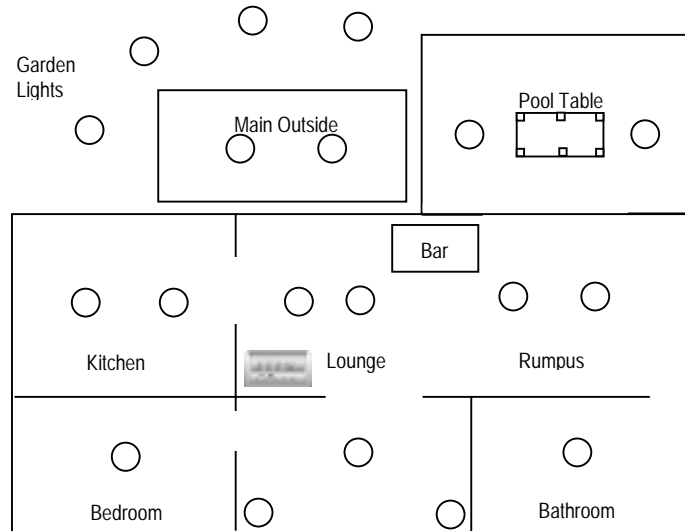
Up to six Secondary Zones can be set up for each scene. Each may have a different brightness level and Fade Rate for each scene.

Secondary Zone allocation and configuration can be fully explored using the C-Bus Installation Software v2.1.2. Secondary Zones can also be set up or adjusted by the end user, but only if the system installed provides a means to adjust or activate the required Zone. For example, any load which is controlled by a separate C-Bus Input unit may be configured by the end user as a Secondary Zone.

For full control over target brightness levels (non-switched loads), the C-Bus controls provided must allow dimming. A Key Input Unit that offers only on/off control will only allow for on/off control using Scene Master.

Planning Scenes

Successful scene creation requires careful planning. It is recommended that the installer makes use of Scene Templates such as the ones shown below in order to map scene requirements.



SCENE 1 : WELCOME HOME

	Zone	Controlled Device	Level %	Fade Rate
PRIMARY ZONES	1	Entry Lights	90%	4sec
	2	Main Lounge Lights	50%	
	3	Dining Room Lights	90%	
SECONDARY ZONES	4	Bar Down Lights	25%	60sec
	5	Kitchen Lights	30%	12sec
	6	Master Bedroom	10%	10min
	7	Study	0%	10min
	8	Hallway	10%	60sec
	9	Outside Lights	0%	10min

SCENE 2 : PARTY MODE

	Zone	Controlled Device	Level %	Fade Rate
PRIMARY ZONES	1	Entry Lights	85%	60sec
	2	Main Lounge Lights	10%	
	3	Dining Room Lights	10%	
SECONDARY ZONES	4	Bar Down Lights	90%	4sec
	5	Kitchen Lights	25%	12sec
	6	Rumpus Lights	80%	4sec
	7	Outside Lights	80%	4sec
	8	Pool Lights	100%	0sec
	9	Pool Pump	100%	0sec

Sample Scene Master Configuration Templates are provided at the rear of the Scene Master Users Guide. The installer should document the all scene configuration details for the user.

Chapter 3 Programming Scene Master

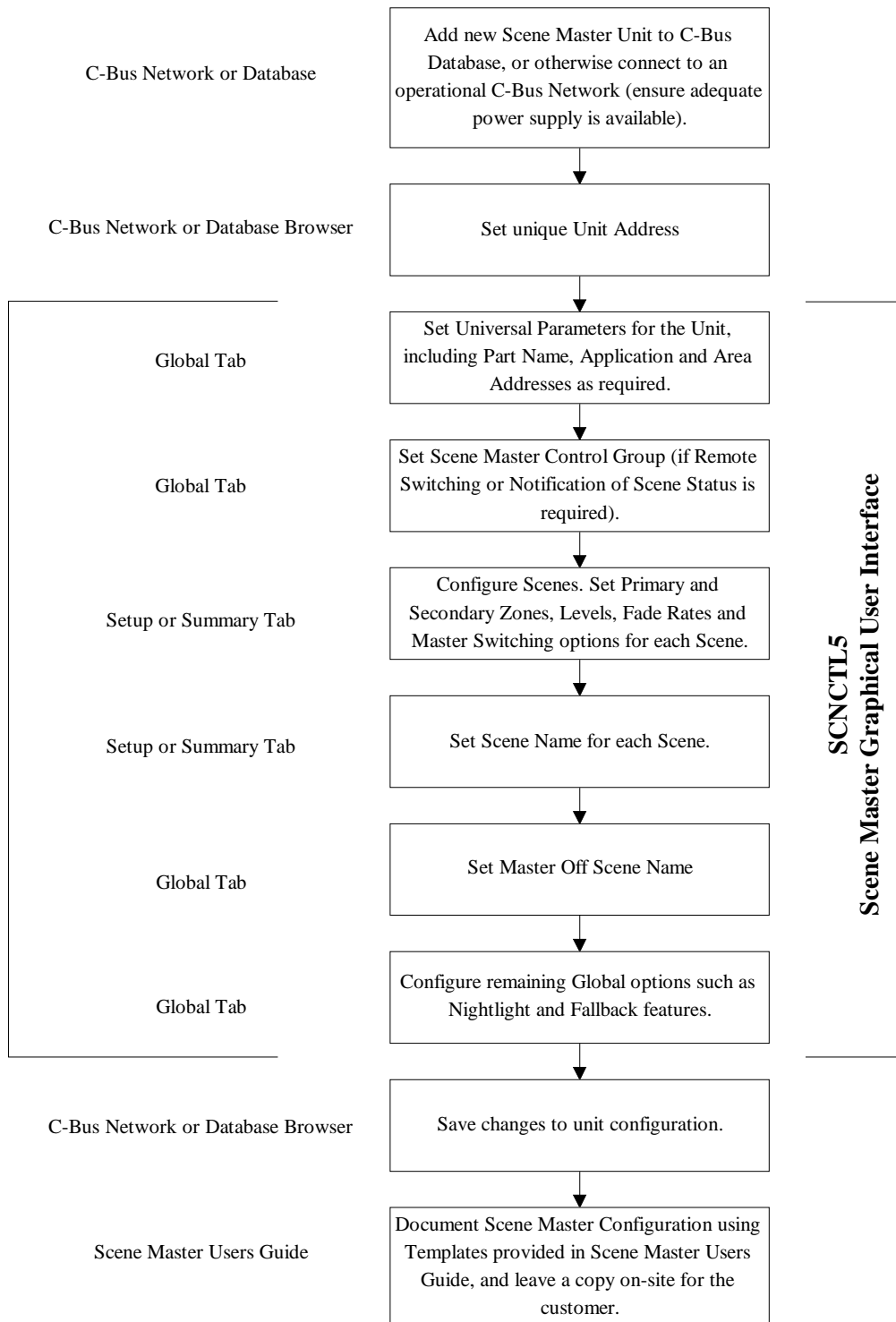
Scene Master Programming Requirements

The Scene Master Control Unit must be programmed to set a unique identification (Unit Address) and the mode of operation on the C-Bus Network. The C-Bus Installation Software can be used to configure all operational parameters including:

ESSENTIAL FOR CORRECT OPERATION ☒ FULL FEATURE SUPPORT ● LIMITED FEATURE SUPPORT ①	C-Bus Installation Software v2.1.2	Scene Master Control Panel	Infrared Remote Control
Initialise Unit for use on C-Bus Network (Unit Address)	☒		
Configure Primary Zones (Group Addresses)	☒		
Configure Secondary Zones (Group Addresses)	●	①	
Select Scenes	●	●	●
Master Off	●	●	●
Dim Primary Zones	●	②	③
Create and Edit Scenes	●	●	
Set Zone Fade Rates for each Scene	●	●	
Configure Master Switching Functions	●	④	
Enable Infrared Remote Control Operation	●		
Set Nightlight Options	●		
Set C-Bus Clock Generator Status	●		
Set Fallback Options	●		
Link Multiple Scene Master Units for Synchronous Scene Selection	●		
Configure C-Bus Switch Plates for Remote Scene Activation	●		

- ① Secondary Zones may be configured for use in scenes provided that a separate C-Bus Input Unit controlling that Zone has been set up by installer, and provided allocation space is available (maximum 6 Secondary Zones per Scene).
- ② Individual Dim Control for each of the three Primary Zones is available using the UP/DOWN Buttons located on the front of the Scene Master Unit.
- ③ The Infrared Remote UP/DOWN Buttons dim all three Primary Zones simultaneously. Individual Zone Dimming is not available from the Remote.
- ④ The Master Off Fade Rate can be altered from the front panel of the Scene Master Unit. Zones associated with the Master Off function must be set using C-Bus Software.

The following flow diagram illustrates the recommended approach to programming Scene Master.



It is strongly recommended that the C-Bus Calculator be used to verify the C-Bus Network design before proceeding.

In the following pages, the programming options for each type of Unit will be discussed in detail.

Scene Master Graphical User Interface

The Scene Master Graphical User Interfaces (GUI) incorporates four Tab Panels. Each Tab Panel is used to configure various operating parameters as follows :

- Zone Setup
- Zone Summary
- Global Programming Options
- Unit Status (Not available in Database Browser, active only for a Unit scanned live from a C-Bus Network)

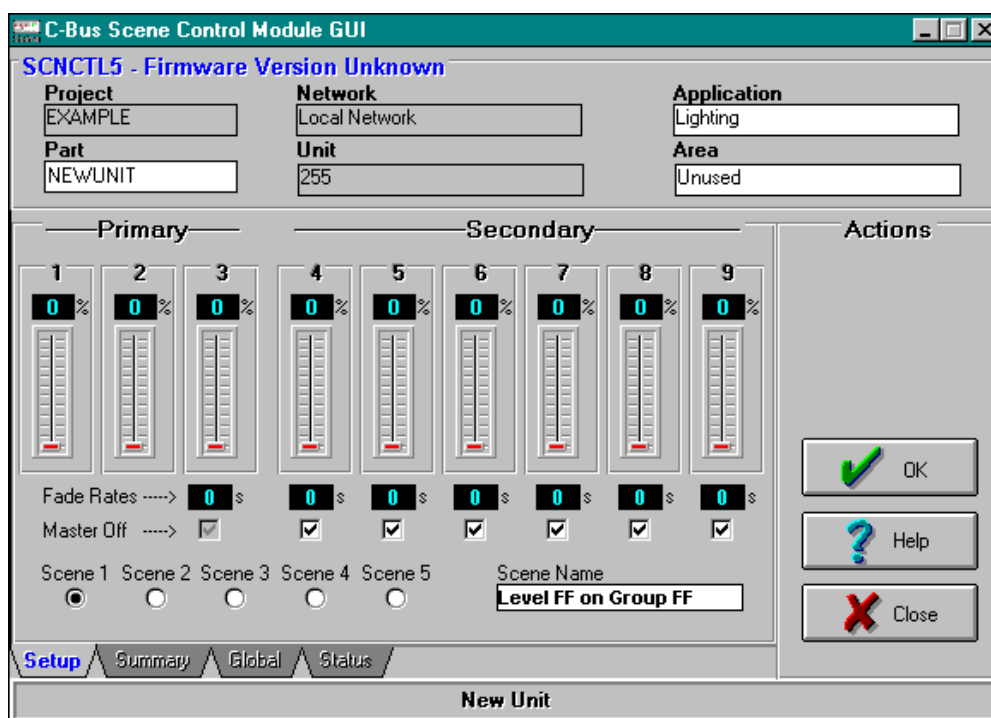


Figure 3.1 Zone Setup Tab for the Scene Master GUI

Note the Scene Master Unit Type is SCNCTL5. Scene Master Units are easily identified by this Unit Type in the C-Bus Installation Software, Network or Database Browser.

Zone Setup Options

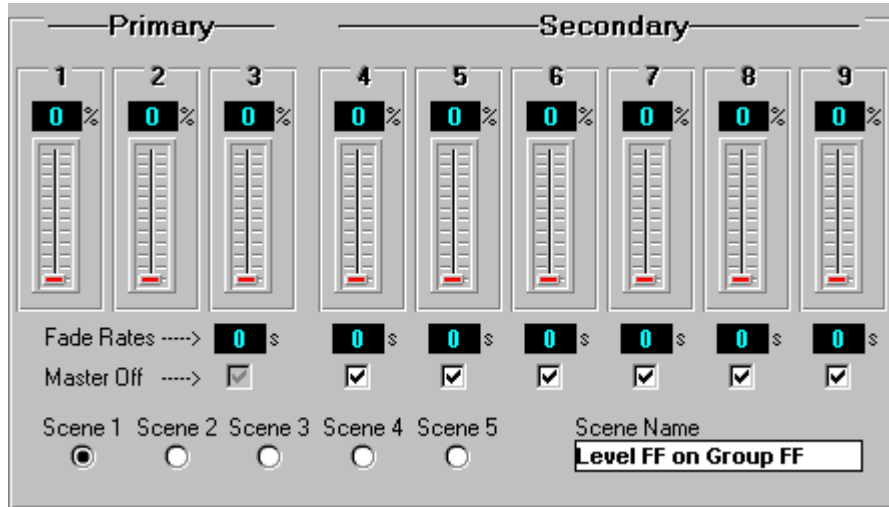


Figure 3.2 Zone Setup Options

SCENE SELECTION RADIO BUTTONS

The Scene Selection Radio Buttons indicate which Scene (1 – 5) is currently being displayed in the active screen panel. To edit a scene, click the required scene using this Selection Button.

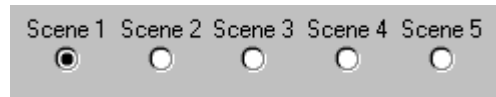


Figure 3.3 Scene Selection Buttons

SCENE NAME

The Scene Name is a descriptive field, which may be utilised in labelling each scene. The Scene Name is used for remote scene activation, and provides notification to C-Bus that a particular scene is active.

The Scene Name may also be used to link multiple Scene Master Units, allowing a scene on one unit to activate scenes on another Scene Master unit. This facility allows the addressing capacity of a single Scene Master to be extended for larger or more complex scene requirements.

When a scene is activated, Scene Master will issue switching and dimming commands to various C-Bus Group Addresses on the Main Application. For example: ramp the lounge lights (Lighting, Application 38) to 50% over 10 seconds. In addition to this, a special Control Group (Control Application, Application CA) is set to a specific level representing the selected scene. This level (or trigger level) is defined by the Scene Name address.

Important Note

The Control Group must be set on the Global Tab BEFORE you set Scene Names for each scene. Failure to do so may render the Remote Scene Triggering capability inoperable.

For further information about remote scene selection, or scene status monitoring, please study the Advanced Programming Example.

Format : Twenty alphanumeric characters

Default : Level FF on Group FF (Unused)

Capacity : Up to 255 Scenes (Scene Names) can be defined per Control Group, totalling a maximum of 65,025 Scenes defined on each C-Bus Network.

Left Click Options

Left-click on the Scene Name field to select a name from the list of those available (previously created/existing).

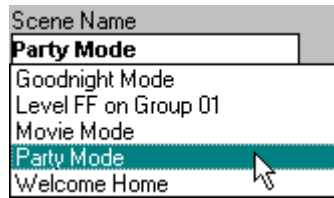


Figure 3.4 Left Click Options

Right Click Options

Right-click on the Scene Name field to define a new Scene Name, or edit the current description for that scene.



Figure 3.5 Right Click Options

When creating a new Scene Name, the following Dialog appears. The new Scene Name is created as a Trigger Level on the current Control Group. Take note that the Level information displayed may be used for Remote Scene Triggering. Refer to the Advanced Programming Example for further information.

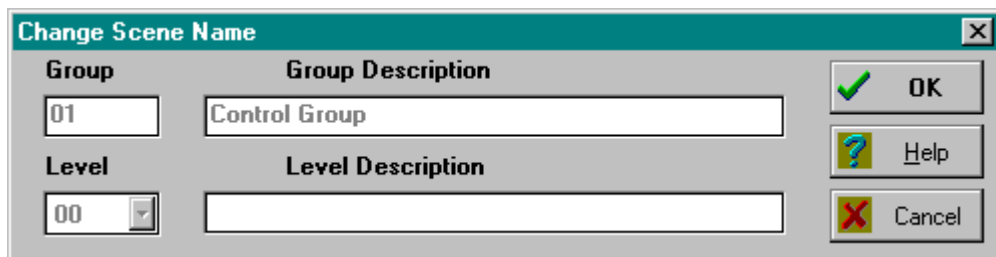


Figure 3.6 Change Scene Name Dialog Box

PRIMARY ZONE SETUP

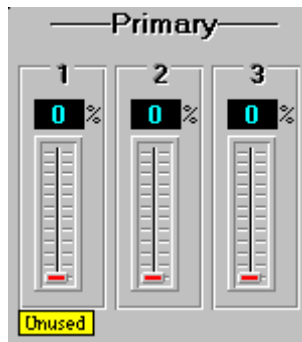


Figure 3.7 Primary Zone Setup

In order to set up a Scene Master scene, Group Addresses for the first three Zones (called the Primary Zones) must be allocated. Appropriate Brightness Levels must also be set for each Primary Zone, and for each scene.

Primary Zone Group Addresses are common to all scenes, and need only to be set once. They can only be programmed from the Graphical User Interface, and are not accessible by the end user in Setup Mode (refer to the Scene Master Users Guide for more information about Setup Mode).

Brightness Levels can be different for each Primary Zone, and for each different scene.

Fade Rates for the Primary Zones are common for a given scene, but may be different for each different scene.

Hovering the mouse pointer over any Zone Number will activate a pop-up tool tip, which shows the Group Address currently allocated to that Zone. Click and drag the slider control to set the required Brightness Level for each Zone. It is also possible to select the required level as a percentage from the drop-down list box displays the current target illumination level.

To assign a Group Address to a Zone, or edit the existing Group, right-click on the Primary Zone Number of interest.



Figure 3.8 Primary Zone Right-Click Menu Options

To select a Primary Zone Group Address from the list of existing Groups, choose 'Select Another Group' from the right-click menu.

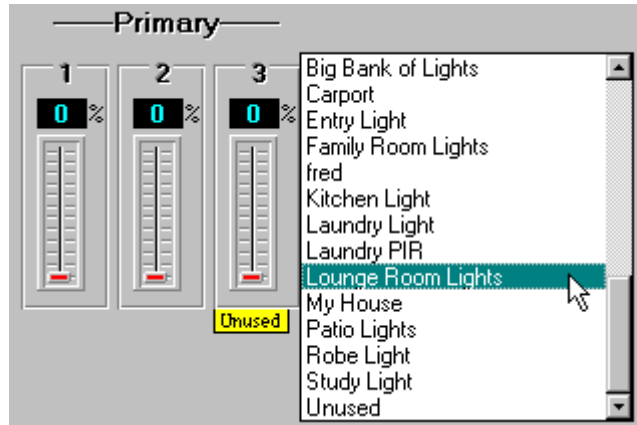


Figure 3.9 Primary Zone Group Address Allocation

To create a new Primary Zone Group Address from the list of existing Groups, choose 'Create new Description' from the right-click menu. Type in a description for the new Group.

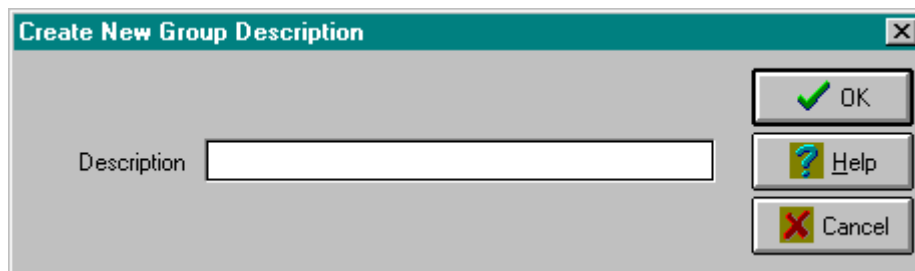


Figure 3.10 Create New Group Description

To edit the current Primary Zone Group Address Description (Tag), choose 'Change Current Description' from the right-click menu. Type in the new description as required.

Up to 255 Groups can be defined per Application on a C-Bus Network. The 'Unused' (FF) Group is a special reserved null Group.*

Format : Twenty alphanumeric characters

Default : Unused

Capacity : Up to 255 Groups can be defined per Application on each C-Bus Network. Groups can be duplicated / repeated across multiple channels of an Output Unit.

* The underlying hexadecimal Group Address can be referenced through the Project Manager.

SECONDARY ZONE SETUP

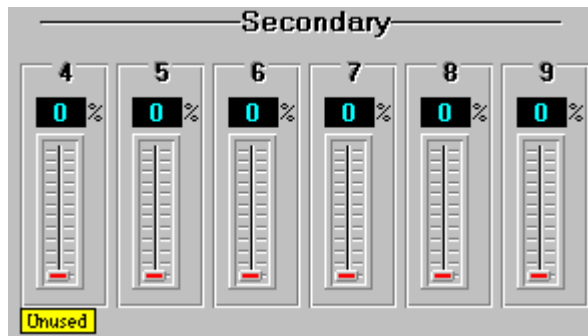


Figure 3.11 Secondary Zone Setup

Six Secondary Zones are available for each scene configuration. Group Addresses for each of the Secondary Zones must be allocated for each scene and appropriate Brightness Levels set.

Unlike Primary Zones, the Secondary Zone Group Addresses, Brightness Levels and Fade Rates may all be different for each scene. All of these parameters may be set from the Setup or Summary Tabs of the Graphical User Interface, but may also be configured by the end user from the front panel of the unit using Setup Mode (refer to the Scene Master Users Guide for more information about Setup Mode).

Secondary Group Address assignment is exactly the same as that for Primary Zones. To assign a Group Address to a Zone, or edit the existing Group, right-click on the Secondary Zone Number of interest.



Figure 3.12 Secondary Zone Right-Click Menu Options

Hovering the mouse pointer over any Zone Number will activate a pop-up tool tip, which shows the Group Address currently allocated to that Zone. Click and drag the slider control to set the required Brightness Level for each Zone. It is also possible to select the required level as a percentage from the drop-down list box displays the current target illumination level.

Up to 255 Groups can be defined per Application on a C-Bus Network. The 'Unused' (FF) Group is a special reserved null Group.

Format : Twenty alphanumeric characters

Default : Unused

Capacity : Up to 255 Groups can be defined per Application on each C-Bus Network. Groups can be duplicated / repeated across multiple channels of an Output Unit.

FADE RATES

For each scene, up to seven different Fade Rates may be set. One Fade Rate applies, and is common to all three Primary Zones (in any one scene). A further six Fade Rates are individually set for each of the Secondary Zones.

A different Primary Zone Fade Rate may be set for each scene.

A different Fade Rate can be set for each Secondary Zone, and the set Fade Rate for a given Secondary Zone may be different for each scene.



Figure 3.13 Fade Rate Options

Most Primary and Secondary Zone Fade Rate options are user configurable from the front panel of the Scene Master Unit using Setup Mode. Refer to the Scene Master Users Guide for more information about Setup Mode).

<value> 0 seconds (instant) to 1020 seconds (17 minutes) Default Value: [0 seconds]

MASTER OFF CONFIGURATION

The Master Off facility is intended to switch off all Zones controlled by Scene Master. This is independent of the currently active scene. Any C-Bus Group Address controlled by the unit, including secondary zones which may be unique to an inactive scene will ramp to off over a period of time defined by the Master Off Fade Rate (set from the Global Tab).

In some situations, it may be required that one or more loads (Zones) be omitted from the Master switching sequence. This is achieved by de-selecting the desired Zone checkbox, as pictured below.

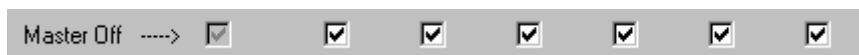


Figure 3.14 Master Off Configuration

Note that Zones omitted from the master switching configuration are not switched off, even if they appear in several different scenes.

The installer should exercise extreme care when de-selecting Zones from the Master Off configuration. This is to avoid possible complications for the end user when re-configuring Zones in Setup Mode.

Zone omissions may be globally cleared by the end user in Setup Mode, but may not be re-established without using the Graphical User Interface.

<conditions> enabled or disabled. Default Value: [enabled]

Zone Summary Tab

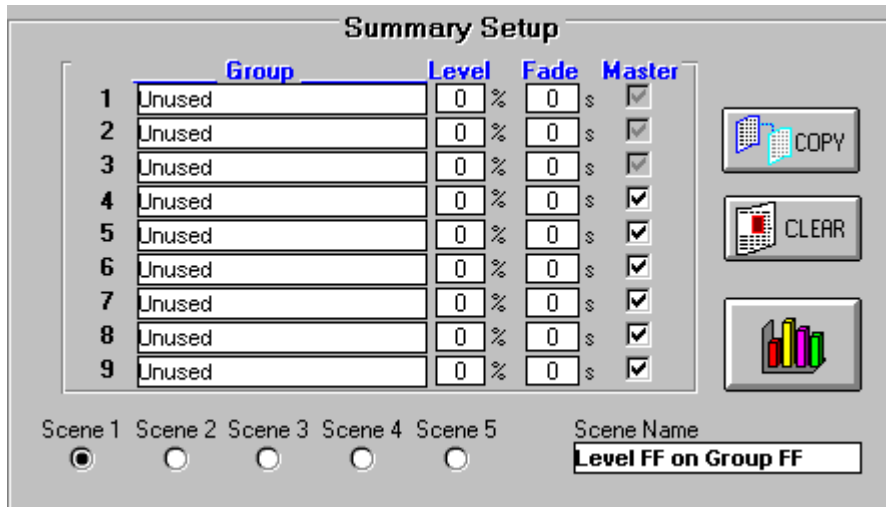


Figure 3.15 Zone Summary Tab

The Summary Tab offers an alternative way to program scenes into Scene Master. All options that are otherwise available on the Setup Tab may also be programmed from the Summary Tab. The major difference between the two tabs is simply in the layout and presentation of information.

The biggest advantage of programming Scene Master from the Summary Tab is that the user has access to Scene Copying, Clearing and Graphing functions. Each is described below.

COPYING SCENES

In order to reduce programming time, similar scenes may be copied from one scene to another. For example if two scenes that are intended to control all of the same Zones, but offer different target Brightness Levels. This may be set up simply by creating the first scene, copying it to the second scene, and altering the Brightness Levels set for the second scene only.

To copy a scene, select the source scene using the Scene Selection Radio Button. Click the Copy Button, and then select the destination scene that you wish to copy the scene data to using the appropriate Scene Selection Radio Button.

CLEARING SCENES

The Clear Scene Button offers a simple way to delete all programmed Secondary Zone information for the currently selected scene. In this way the scene will be effectively reset.

Users should beware that clearing a scene does not disable that scene, since only Secondary Zone information is cleared. Primary Zones may still be actioned when the scene is activated.

GRAPHICAL ANALYSIS

The Graph Button allows the programmer to view a graphical representation of each of the scenes. Information is presented in a bar chart. This is often useful to get a quick snapshot view of the relative Brightness Levels for each Zone.

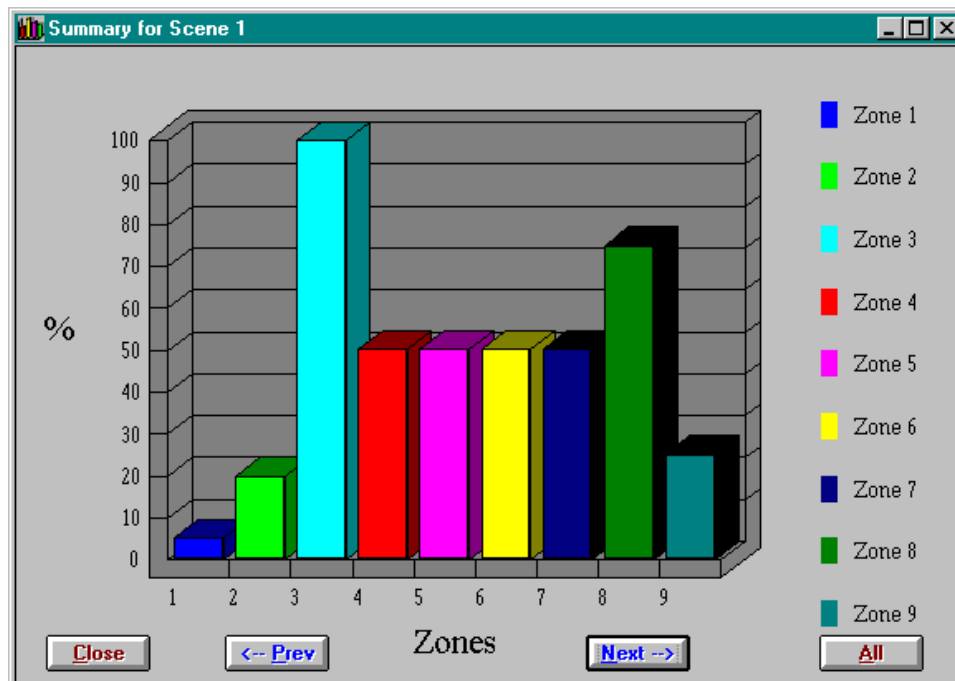


Figure 3.16 Graphical Representation of a Scene

Next Button

Displays the graph for the next scene. For Example the graph above shows the configuration of Scene 1. Click the Next Button to view Scene 2.

Previous Button

Displays the graph for the previous scene. For Example the graph above shows the configuration of Scene 1. Click the Next Button to view Scene 5.

All Button

Generates a graph showing the amalgamated level information for all scenes simultaneously.

Close Button

Exits from the Graph view, and returns to Graphical User Interface , Summary Tab.

Global Options

The screenshot shows a 'Global Settings' window with the following options and values:

Option	Value
<input checked="" type="checkbox"/> Checksum Enable	SR Interval 1: 3 s
<input checked="" type="checkbox"/> Infrared Control Enable	SR Interval 2: 3 s
<input checked="" type="checkbox"/> Night Light Enable	Control Application: Control Application
<input checked="" type="checkbox"/> Clock Gen Enable	Control Group: Unused
<input checked="" type="checkbox"/> Setup Mode Enable	Master Off Scene: Level FF on Group FF
<input type="text" value="25"/> Fallback Level %	Master Off Fade Rate: 0 s

Figure 3.17 Global Options

CHECKSUM ENABLE

An internally generated checksum is used by all C-Bus Units to monitor any errors in the non-volatile memory. The checksum is normally enabled so that any non-volatile memory errors will cause an error in the Status Report (MMI) for each Unit. If this parameter is disabled, no error will appear in the Status Report even if the Unit's non-volatile memory is losing information.

<conditions> enabled or disabled. Default Value: [enabled]

INFRARED CONTROL ENABLE

Scene Master functions can be controlled from a hand held Infrared Remote Control Unit. This parameter may be used to disable infrared control if required. This is useful where multiple Scene Master units are located with overlapping infrared reception areas. Infrared control may be disabled on one unit to prevent both units from responding to the infrared command, with unpredictable results.

<conditions> enabled or disabled. Default Value: [enabled]

NIGHT LIGHT ENABLE

The Night Light feature activates all LED Indicators on the front panel of the Scene Master Unit if there is no scene currently selected (active). This allows for some illumination so that the user can locate their Scene Master unit in a darkened room. If the Night Light feature is disabled, then all LED Indicators on the front of the unit may extinguish if there is no active scene.

<conditions> enabled or disabled. Default Value: [enabled]

CLOCK GEN ENABLE

Many C-Bus devices are equipped with a C-Bus System Clock generator. This can effectively eliminate the need to incorporate other System Support Units in a C-Bus Network design (a valid Network must have at least one System Clock).

Under normal circumstances, multiple System Clock sources can co-exist on a C-Bus Network. In case difficulties are experienced in master clock resolution, the Clock generating function on the Unit can be disabled.

<conditions> enabled or disabled. Default Value: [enabled]

SETUP MODE ENABLE

Setup Mode allows the end user to make programming changes from the front panel of the Scene Master unit. Scenes may be added, edited or removed. Please refer to the Scene Master Users Guide (printed booklet) for more information about Setup Mode.

Setup Mode can be disabled to prevent misuse. This is useful in public areas where tampering with lighting functions is undesirable, or where children or the elderly might have access.

<conditions> enabled or disabled. Default Value: [enabled]

FALLBACK LEVEL

The Fallback feature allows the Scene Master LED Indicator brightness to drop from full intensity to a predefined Fallback (stand-by) Level, approximately 15 seconds after the last button press. This prevents the Scene Master unit from being a distraction in a dimly lit room.

Setting the Fallback Level to Off effectively disables Fallback Mode, and the LED Indicators are always fixed at 100% illumination whenever lit. If the Fallback Level is set to 0%, then all LEDs on the Scene Master Unit extinguish when the Scene Master is not in use (15 seconds after last button press).

< value > Off, 0%, 25%, 50%. Default Value: [25%]

SR INTERVAL 1

Each C-Bus Scene Master Unit contributes status information during the Status Report time frame. The value used for the Status Report Interval determines the response time for Output State Errors to be corrected. This value should be as large as possible to keep Network communication traffic to a minimum.

SR Interval 1 relates to the status of bus addresses on the Main Application set at the top graphical user interface (default : Lighting, Application 38).

<value> 1 to 255 Sec Default Value: [3 Sec]

SR INTERVAL 2

Each C-Bus Scene Master Unit contributes status information during the Status Report time frame. The value used for the Status Report Interval determines the response time for Output State Errors to be corrected. This value should be as large as possible to keep Network communication traffic to a minimum.

SR Interval 2 relates to the status of bus addresses on the Control Application set on the Global Tab (default : Control Application, Application CA).

<value> 1 to 255 Sec

Default Value: [3 Sec]

CONTROL APPLICATION

The Main Application (default : Lighting, Application 38) is used by Scene Master to establish Zone Group Addresses (loads) intended to be switched or dimmed in response to scene selections. The Control Application is used as a secondary C-Bus Application Address by Scene Master units to indicate the active scene status to other devices on the C-Bus Network.

The Control Group (described below) is defined on the Control Application. Remote scene triggering messages occur on this Application.

Format : Twenty alphanumeric characters

Default : Control Application, Application CA(Hex)

Capacity : Fixed, cannot be changed

CONTROL GROUP

The Control Group is a C-Bus Group Address used to convey information about the active scene status. When a scene is active, the Control Group will instantaneously ramp to a level representing that scene (as defined by the Scene Name).

Messages broadcast using the Control Group may be used to :

- Remotely trigger Scene Master scenes using any other C-Bus Input Unit (Key Input Unit, PIR Sensor, Clock Module etc)
- Remote notify of scene selection for monitoring purposes, or use on a mimic panel
- Enable multiple Scene Master units to be linked for interdependent operation. Multiple scenes can be selected concurrently, allowing synchronous scene selection across multiple units (all units indicate the common scenes when active). This allows very complex scenes to be created.

The default Control Group is set to 'Unused' (Group Address FF(Hex), on Application CA(Hex)). This must be changed in order for remote scene triggering features to be enabled on the Scene Master Unit.

Left Click on the Control Group field to select a new Control Group from existing Groups. Right Click to define a new Group, or edit an existing one.

Format : Twenty alphanumeric characters

Default : Unused, Group Address FF(Hex) on Control Application CA(Hex)

Capacity : Up to 255 Control Groups can be defined per Control Application on each C-Bus Network

MASTER OFF SCENE

The Master Off Scene field allows for the allocation of a Scene Name for Master switching functions. It may be set in the same way as any other Scene Name (refer to Setup and Summary Tabs) in order to allow remote triggering or notification of the Master Off function.

Format : Twenty alphanumeric characters

Default : Level FF on Group FF

Capacity : Up to 255 Scenes (Scene Names) can be defined per Control Group, totalling a maximum of 65,025 Scenes defined on each C-Bus Network

MASTER OFF FADE RATE

The Master Off Fade Rate governs the rate at which all Zones (unless otherwise excluded from the Master switching configuration) ramp to Off using the Master Off function.

<value> 0 seconds (instant) to 1020 seconds (17 minutes) Default Value: [0 seconds]

Unit Status

The Unit Status Panel displays the current status of an operational C-Bus Scene Master Unit. This Panel is not active for a GUI activated from the Database Browser – It is only available when interrogating a Unit Live on a Network.

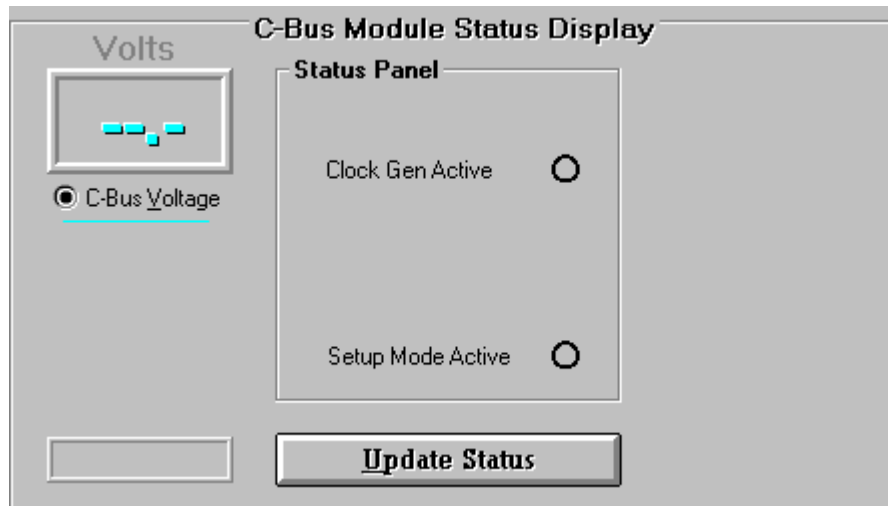


Figure 3.18 Scene Master Unit Status Tab

Update Status Button

The Unit Status Tab shows an instantaneous snapshot of various Unit operating parameters. Click the Update Status Button to interrogate the Unit and update the display with current data.

Clock Gen Active

The C-Bus Scene Master Unit incorporates a C-Bus System Clock generation circuitry. If the Units' Clock generator is acting as the master clock for the Network then the Clock Gen Active indicator will be on.

C-Bus Voltage Readings

The C-Bus meter box displays the C-Bus Network Voltage as measured at the Unit under interrogation (normally 15 to 36 V_{DC}).

Serial Number

Each C-Bus Scene Master has a unique electronic ID. The Serial Number is read from the Unit and displayed in the bottom left hand corner of the Status Tab.

Chapter 4 Programming Example

System Requirements



Figure 4.19 Example House Plan

C-Bus is to be installed in the house shown above. The client requires infrared control of the system, allowing several predefined Scenes to be set. Scene requirements are as follows:

Welcome Home Scene

It is intended that this scene will be initiated upon entry into the house. All main access lighting to common living areas is to be activated. Outside lights are to be switched off after a suitable period of time. Minimal lighting is also to be established in the bedroom area.

Zone	Scene 1 Welcome Home		
	Controlled Device	Level	Fade Rate
1	Living Room	100%	0 sec
2	Meals	100%	
3	Family	80%	
4	Kitchen	100%	4 sec
5	Entry	100%	0 sec
6	Porch	0%	10 min
7	Double Garage	0%	10 min
8	Bedroom 1	60%	0 sec
9			

Normal Mode

Normal Mode is to allow for sufficient lighting in common areas to support everyday activities. It is anticipated that this scene will be used most often, providing ample light for routine tasks. Non-essential lighting is to be switched off.

Zone	Scene 2		Normal Mode
	Controlled Device	Level	Fade Rate
1	Living Room	100%	4 sec
2	Meals	100%	
3	Family	80%	
4	Kitchen	80%	0 sec
5	Entry	50%	0 sec
6	Porch	0%	0 sec
7	Deck	0%	0 sec
8			
9			

Movie Mode

A scene for serious movie watching is to be provided. This scene must dim lighting in main access areas in order to set the mood. Minimal lighting in the Entry way and Family Room areas is to be maintained, provided that it does not distract from the movie watching experience.

Zone	Scene 3		Movie Mode
	Controlled Device	Level	Fade Rate
1	Living Room	0%	12 sec
2	Meals	0%	
3	Family	10%	
4	Kitchen	0%	0 sec
5	Entry	10%	0 sec
6	Porch	0%	0 sec
7	Deck	0%	0 sec
8			
9			

Entertaining

Otherwise known as ‘Party Mode’, this scene is to allow appropriate lighting for dinner parties and other events where guests are to be entertained. As outdoor entertaining is common (Deck area, located at the rear of the home), the scene is to ensure that the garden Sprinklers are switched off so guests are not inconvenienced.

Scene 4		Entertaining	
Zone	Controlled Device	Level	Fade Rate
1	Living Room	25%	4 sec
2	Meals	80%	
3	Family	80%	
4	Kitchen	65%	0 sec
5	Entry	50%	0 sec
6	Porch	100%	0 sec
7	Deck	100%	0 sec
8	Garden Lights	100%	0 sec
9	Garden Sprinklers	0%	0 sec

Goodnight

One-touch shutdown routine that is intended for use immediately before retiring to the Bedroom areas each evening. All outside lighting is to be switched off immediately. Main access area lighting is to ramp off over a suitable period of time. A pilot light is to be maintained in the Kitchen area in order that household members be able to navigate there for a midnight snack.

Scene 5		Good Night	
Zone	Controlled Device	Level	Fade Rate
1	Living Room	0%	60 sec
2	Meals	0%	
3	Family	0%	
4	Kitchen	10%	12 sec
5	Entry	0%	12 sec
6	Porch	0%	0 sec
7	Deck	0%	0 sec
8	Study	0%	12 sec
9	Bedroom 1	40%	0 sec

Scene Creation

Scenes are set using the Graphical User Interface as previously described. All C-Bus Group Addresses required were pre-prepared, and entered via the C-Bus Project Manager. The following pages show all scenes implemented from the Setup and Summary Tabs. The Graphical representation of each scene is also pictured.

Note the Scene Names have not yet been entered, as no call was made to provide Remote Scene triggering functions.

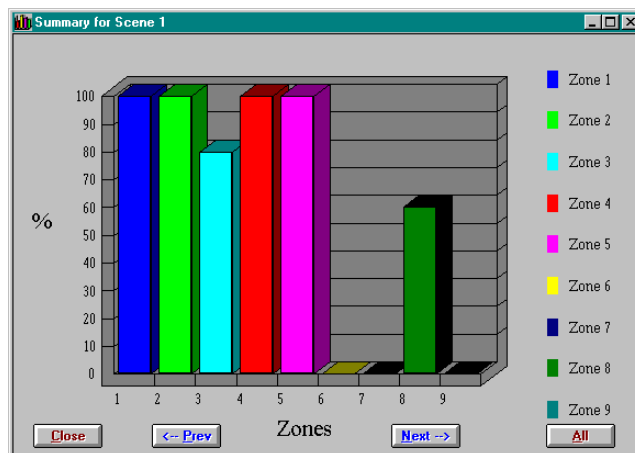
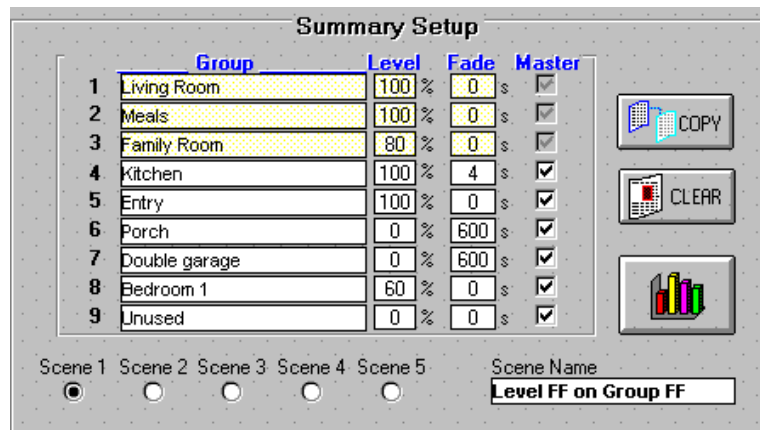
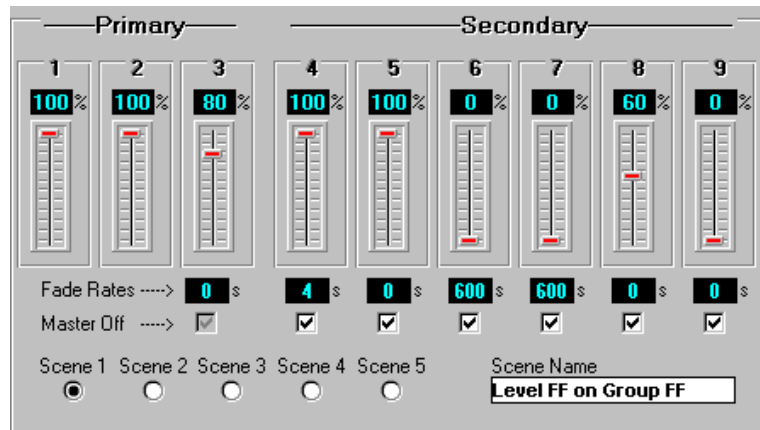


Figure 4.20 Scene 1 Configuration

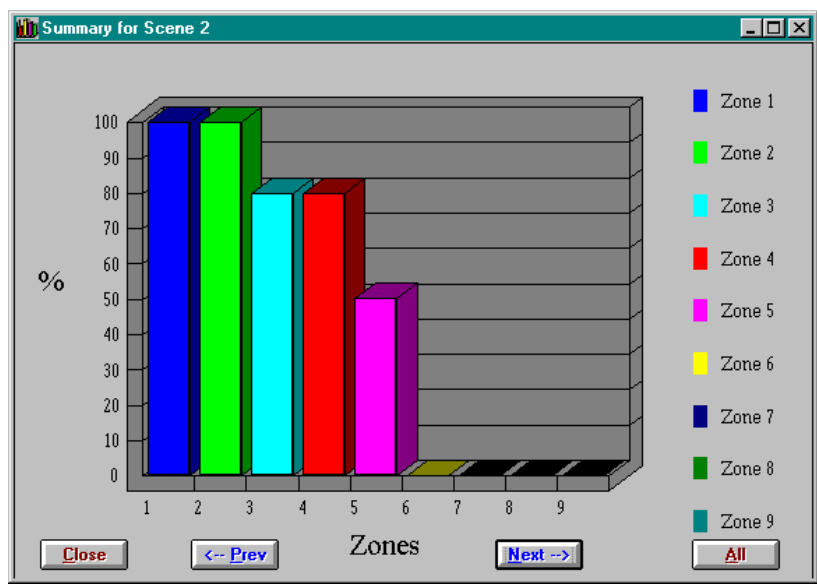
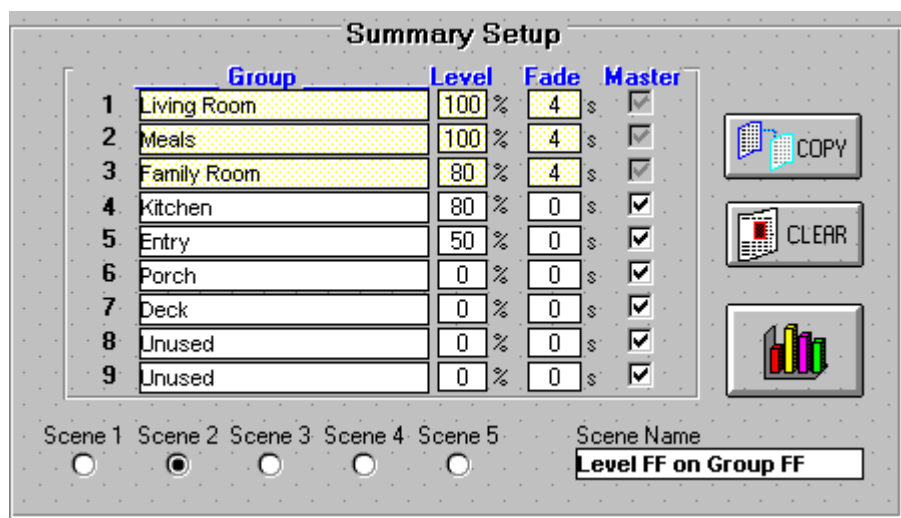
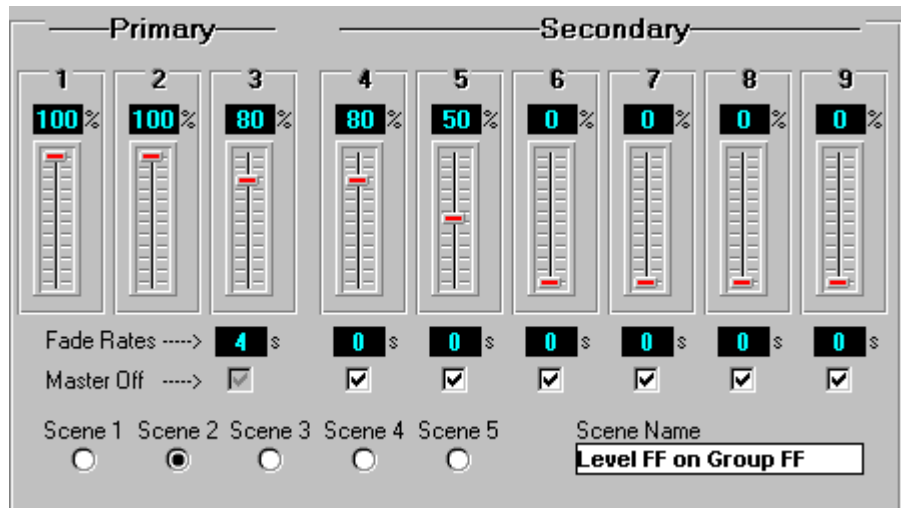


Figure 4.21 Scene 2 Configuration

Primary **Secondary**

1 2 3 4 5 6 7 8 9

0% 0% 10% 0% 10% 0% 0% 0% 0%

Fade Rates ----> 12 s 0 s 0 s 0 s 0 s 0 s 0 s 0 s

Master Off ---->

Scene 1 Scene 2 Scene 3 Scene 4 Scene 5

Scene Name **Level FF on Group FF**

Summary Setup

	Group	Level	Fade	Master
1	Living Room	0 %	12 s	<input checked="" type="checkbox"/>
2	Meals	0 %	12 s	<input checked="" type="checkbox"/>
3	Family Room	10 %	12 s	<input checked="" type="checkbox"/>
4	Kitchen	0 %	0 s	<input checked="" type="checkbox"/>
5	Entry	10 %	0 s	<input checked="" type="checkbox"/>
6	Porch	0 %	0 s	<input checked="" type="checkbox"/>
7	Deck	0 %	0 s	<input checked="" type="checkbox"/>
8	Unused	0 %	0 s	<input checked="" type="checkbox"/>
9	Unused	0 %	0 s	<input checked="" type="checkbox"/>

Scene 1 Scene 2 Scene 3 Scene 4 Scene 5

Scene Name **Level FF on Group FF**

COPY CLEAR

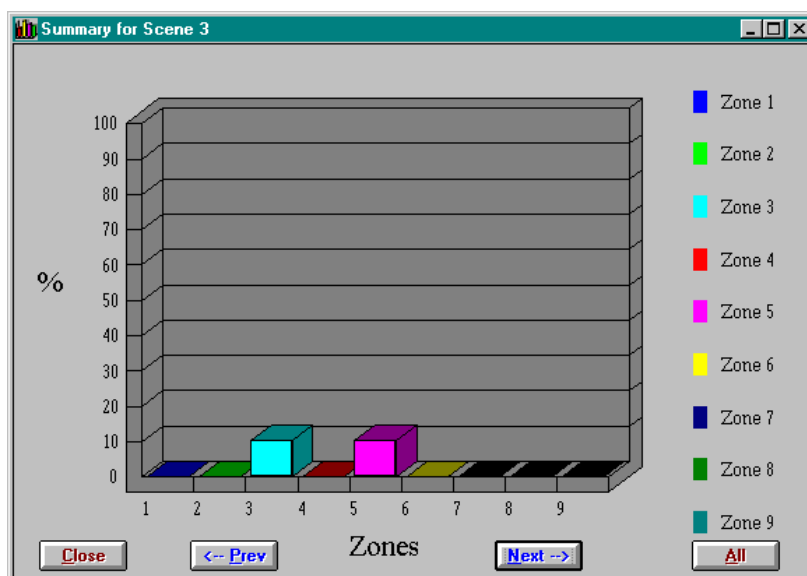


Figure 4.22 Scene 3 Configuration

Primary **Secondary**

1	2	3	4	5	6	7	8	9
25%	80%	80%	65%	50%	100%	100%	100%	0%
Fade Rates -----> 4 s		0 s		0 s		0 s		0 s
Master Off -----> <input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>
Scene 1	Scene 2	Scene 3	Scene 4	Scene 5	Scene Name			
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	Level FF on Group FF			

Summary Setup

	Group	Level	Fade	Master
1	Living Room	25 %	4 s	<input checked="" type="checkbox"/>
2	Meals	80 %	4 s	<input checked="" type="checkbox"/>
3	Family Room	80 %	4 s	<input checked="" type="checkbox"/>
4	Kitchen	65 %	0 s	<input checked="" type="checkbox"/>
5	Entry	50 %	0 s	<input checked="" type="checkbox"/>
6	Porch	100 %	0 s	<input checked="" type="checkbox"/>
7	Deck	100 %	0 s	<input checked="" type="checkbox"/>
8	Garden Lights	100 %	0 s	<input checked="" type="checkbox"/>
9	Garden Sprinklers	0 %	0 s	<input checked="" type="checkbox"/>

Scene 1 Scene 2 Scene 3 Scene 4 Scene 5 Scene Name
 Level FF on Group FF

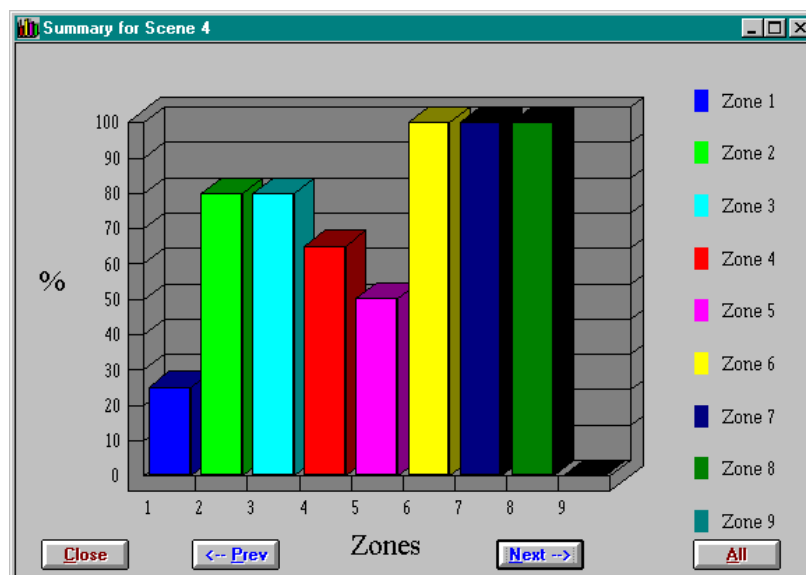


Figure 4.23 Scene 4 Configuration

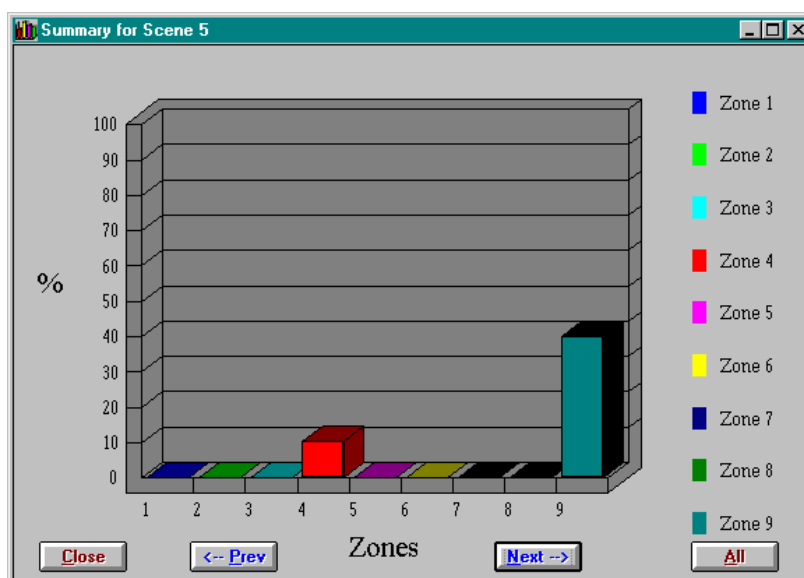
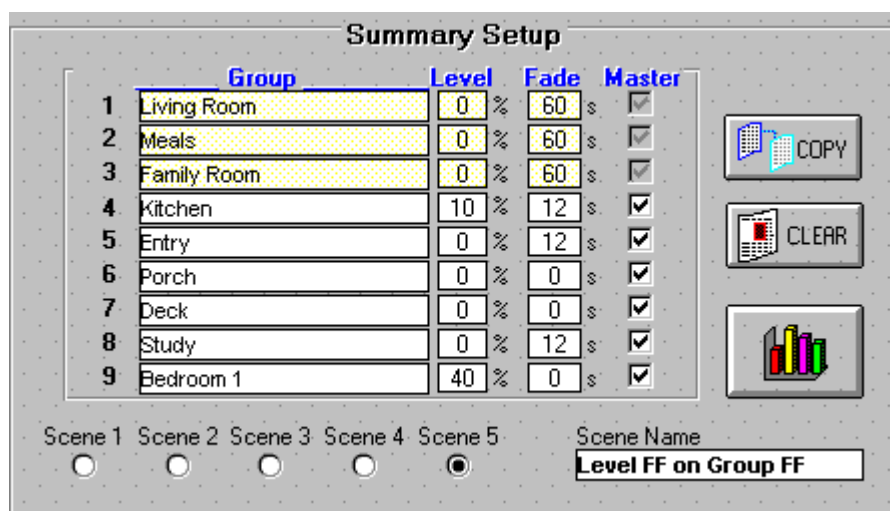
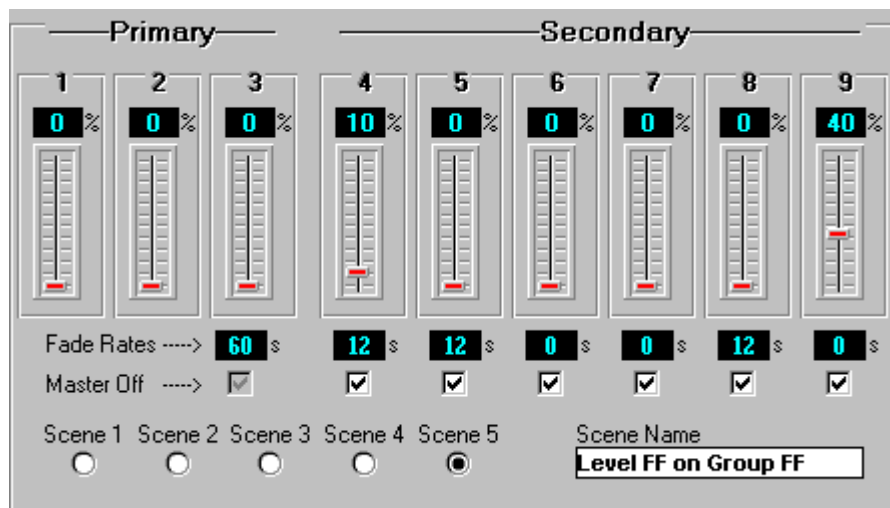


Figure 4.24 Scene 5 Configuration

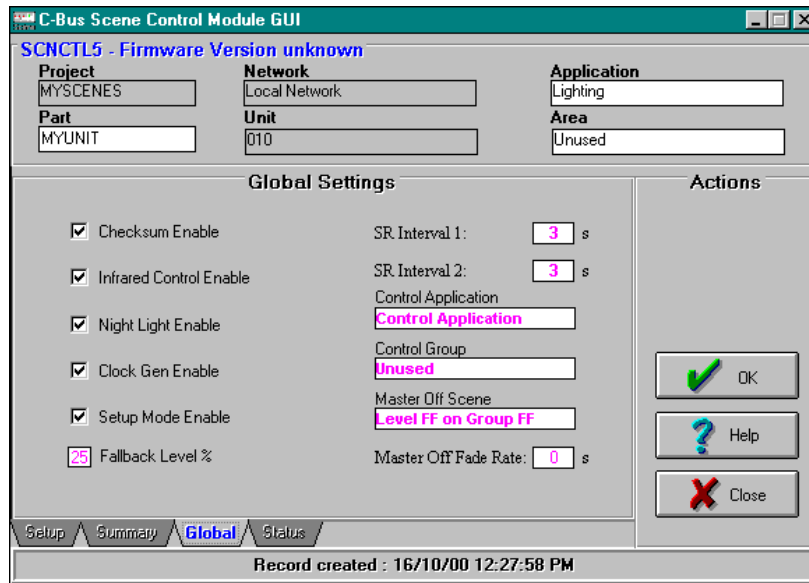


Figure 4.25 Global Tab

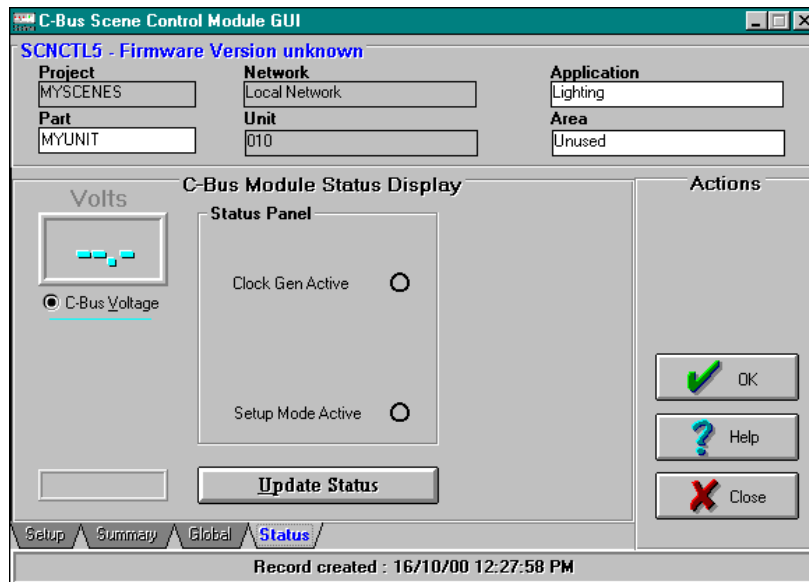


Figure 4.26 Status Tab

Chapter 5 Advanced Programming Examples

The Example given in Chapter 4 demonstrated the basic scene setting and addressing capabilities of Scene Master. In this Chapter we will expand the Example installation to incorporate a second Scene Master Unit, and also provide for remote scene activation using a C-Bus Key Input Unit.

Linking Multiple Scene Master Units

Up to 50 Scene Master units may be installed on a single C-Bus Network. These may be programmed to operate independently, or may be linked to provide extra functionality.

Two Scene Master Units can be said to be linked if they are programmed to operate using the same Control Group (set on the Global Tab of the GUI). Linked Scene Master Units can be used to achieve the following:

TO EXTEND THE NUMBER OF GROUP ADDRESSES (ZONES) PER SCENE

A scene on one Scene Master Unit is used to trigger a subsequent scene on another Scene Master Unit. In this way, the total of 9 Zones per scene on a single Scene Master Unit may be extended. Another 9 subsequent Zones may be actioned by each linked Scene Master.

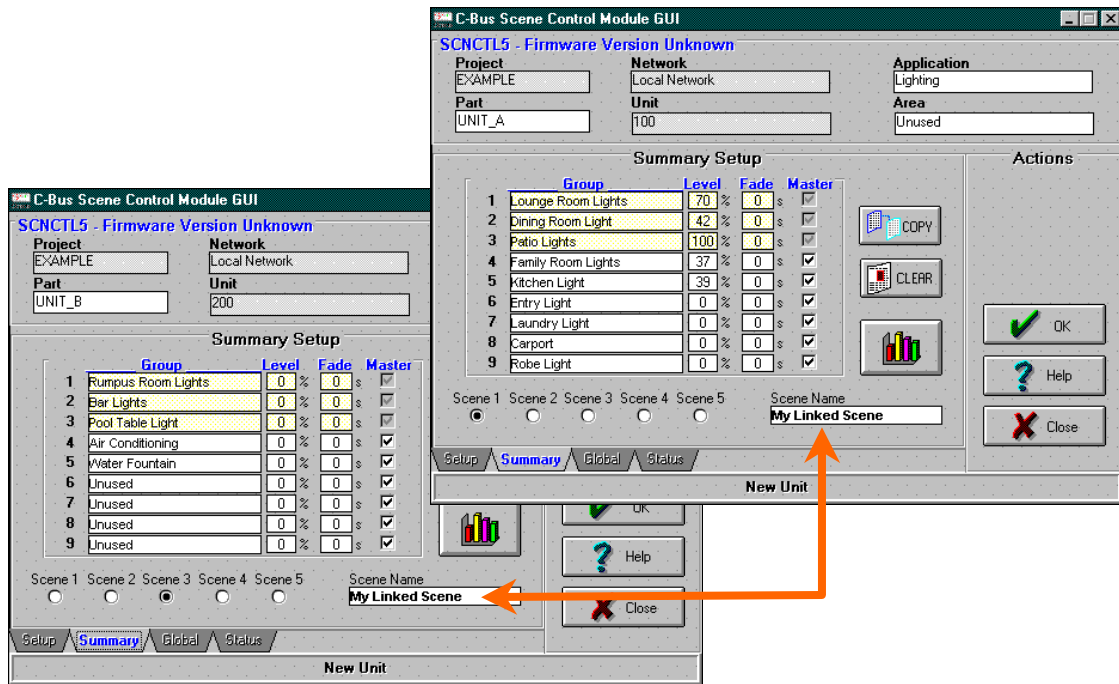


Figure 5.27 My Linked Scene

When 'SCENE 1' on 'UNIT_A' is activated, the nine programmed zones are switched as required. The 'My Linked Scene' Scene Name is used to notify 'UNIT_B', and activate 'SCENE 3' on that unit. An additional five Zones are controlled by the second Scene Master. As can be seen a total of 14 Zones are controlled from a single button press in the above example. As many scenes as necessary may be cascaded in this way.

In the case where scene linking is used to extend the number of controlled Zones per scene, the three Primary Zones must be different from one unit to the next and the Scene Names for the appropriate scenes in the linked units must match.

Care must also be taken to ensure that the infrared reception areas for each unit do not overlap. It may be necessary to disable infrared control on one or more units.

TO EXTEND THE TOTAL NUMBER OF SCENES

Each Scene Master Unit can be programmed with up to five scenes. This can be extended simply by adding more Scene Master Units to the C-Bus Network.

Scene Master Units may operate independently simply by programming those units separately as required, with no scene linking considerations. Whilst this can be useful in situations where the controlled lighting areas are separate or isolated, a better approach is to link the units using the Control Group. CAUTION – Scenes should be linked via the Control Application only when necessary).

By setting the Control Group to be the same on multiple units, but leaving the Scene Names unrelated, each Scene Master will operate in conjunction with one another. When a new scene is selected on one unit, any active scenes on other units will be de-selected (rendered inactive)*.

Care must be taken to ensure that Primary Zones are not repeated across multiple linked units, else unpredictable results might be observed.

Linked Scene Master Units with separate Scene Names		
Parameter	Unit A	Unit B
Control Application	Control Application	Control Application
Control Group	Control Group	Control Group
Scene 1 Name	Scene 1	Scene 6
Scene 2 Name	Scene 2	Scene 7
Scene 3 Name	Scene 3	Scene 8
Scene 4 Name	Scene 4	Scene 9
Scene 5 Name	Scene 5	Scene 10

As can be seen, a total of 10 scenes are available in this configuration.

* If no link is established between Scene Master units (ie independent operation), then scene selection on one unit will only cancel active scenes on other units if there are common Primary Zone Group Addresses set.

SCENE LINKING EXAMPLE

In this exercise, a second Scene Master Unit is to be added to the home described in Chapter 4. The second unit is to reside in the Master Bedroom (Bedroom 1), and shall allow the ‘Master Off’ function and ‘Good Night’ scene to be shared.

Good Night Scene

The scene is to be extended to allow all Bedroom Lighting Zones to be dimmed to 40% brightness. All other lighting in the home must be switched off, except the Kitchen Light, which is to remain at 10% brightness (midnight snack mode).

Master Off

The Master switching functions must turn off ALL lighting in the home. This is an extension from the Example of Chapter 4, since the programming previously undertaken would not have switched off the Bathroom, Toilet, nor Bedroom 2 through 4.

PROGRAMMING THE FIRST SCENE MASTER UNIT

The first task in completing the programming for this exercise is to establish a Control Group. This is set from the Global Tab of the Graphical User Interface.

Right-Click on the Control Group field to ‘Create a New Group Description’. Type in a name for the Group, such as ‘My Control Group’.

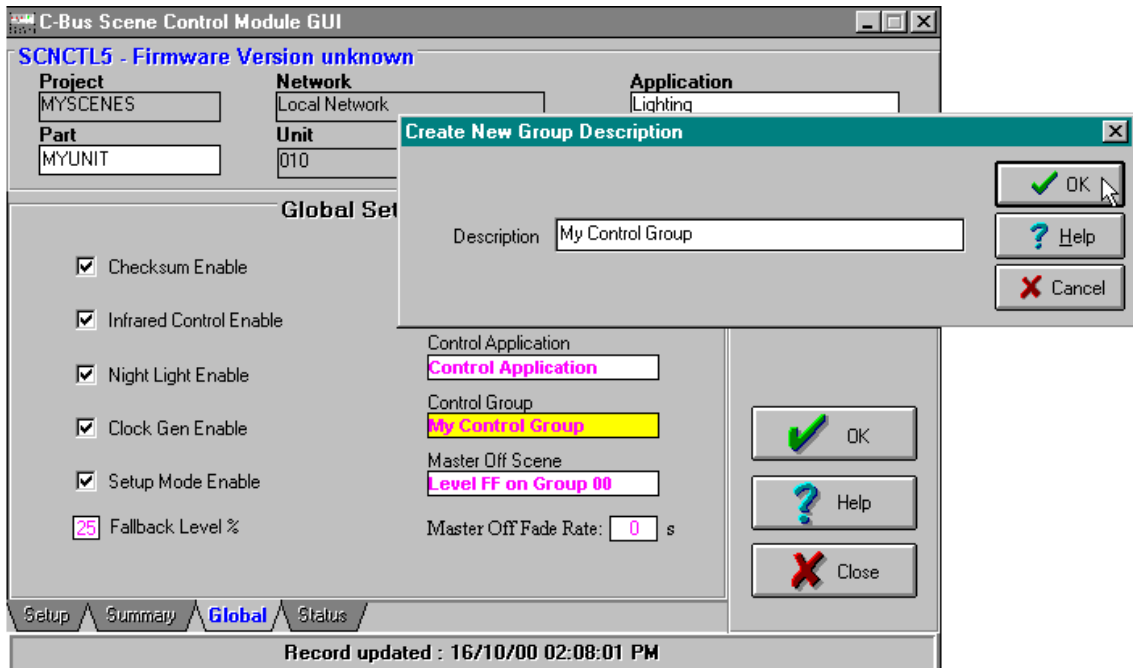


Figure 5.28 Creating a New Control Group

Next, a Scene Name must be set for the Scene we are interested in. Switch to the Setup or Summary Tab, and select the scene. In this case, we wish to share the ‘Good Night’ scene, which was the fifth scene generated in Chapter 4.

Right-Click on the Scene Name field to ‘Create a New Description’ for Scene 5.

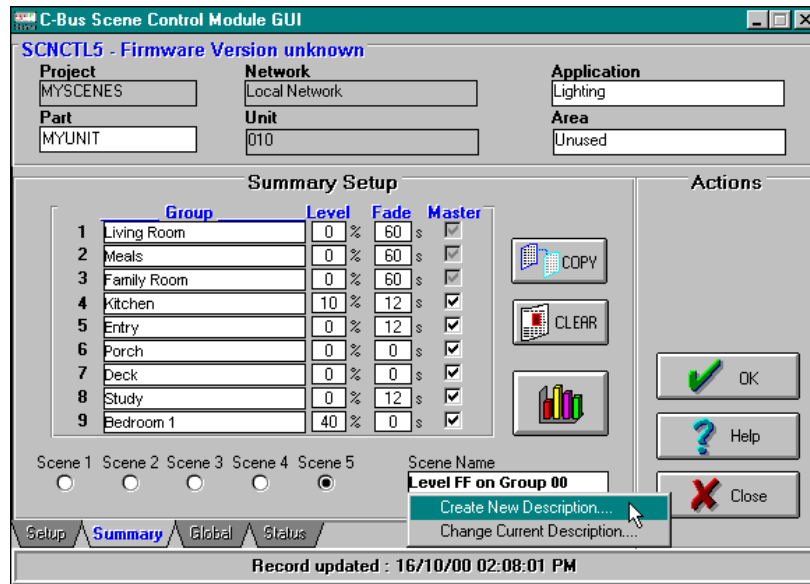


Figure 5.29 Create a New Scene Name

The dialog box shown below allows a new Scene Name to be defined. Select ‘0C’ from the ‘Level’ drop list. Type ‘Good Night’ in the ‘Level Description’ field.

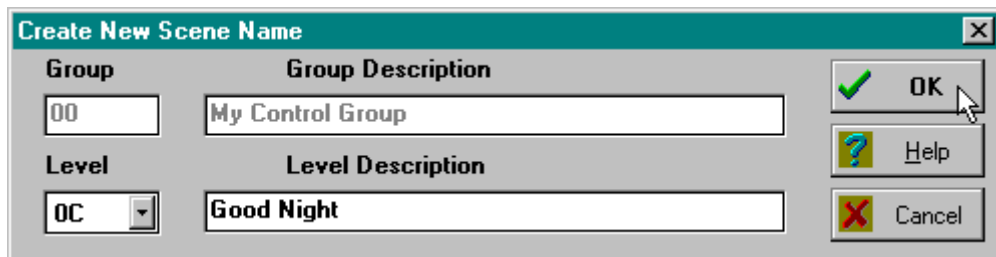


Figure 5.30 The Good Night Scene Name

Note the Level information has been set so that it may be used for remote scene triggering by a C-Bus Key Input Unit later in this chapter. In practice, any Level may be used. Refer to the section titled ‘Remote Scene Triggering via C-Bus’ for more information.

Click the OK Button to continue. The new Scene Name appears at the bottom of the GUI for that scene.

The Scene Name for the Master Off function must also be set in order to allow that scene to be linked. Right-Click on the Master Off Scene field on the Global Tab to define a new Scene Name.

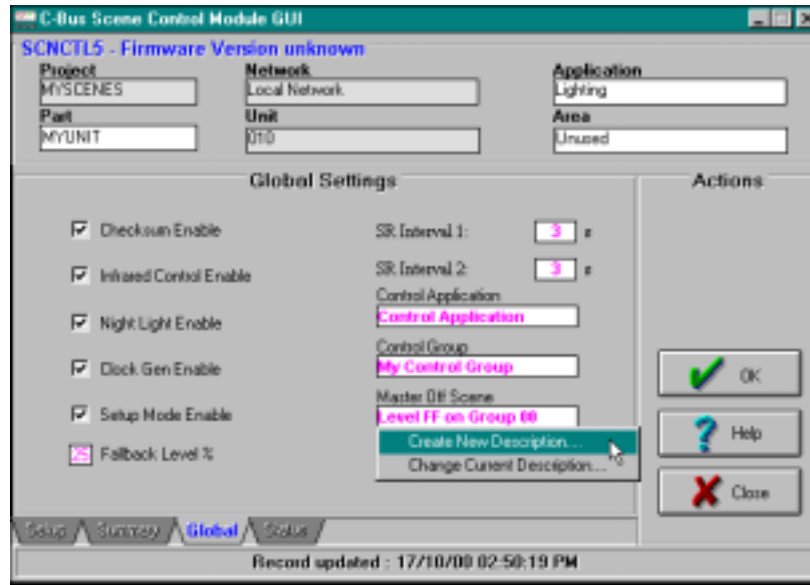


Figure 5.31 Create a Master Off Scene Name

Set a Level of '19', and type in a suitable Scene Name, such as 'Master Off'.

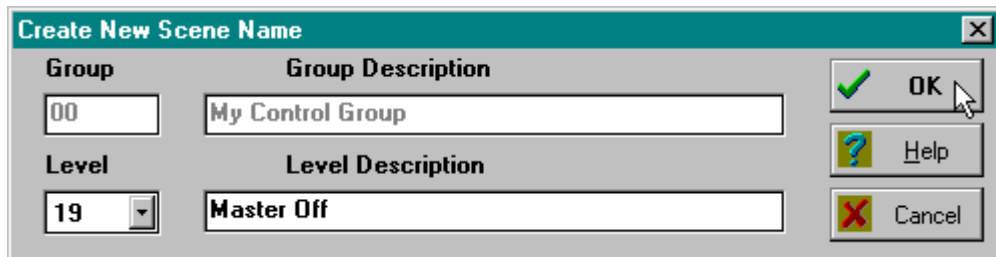


Figure 5.32 The Master Off Scene Name

Note the Level information has been set so that it may be used for remote scene triggering by a C-Bus Key Input Unit later in this chapter. In practice, any Level may be used. Refer to the section titled 'Remote Scene Triggering via C-Bus' for more information.

Click OK to continue.

Set a Fade Rate for the Master Off function. This is normally set such that it will take some time for all lighting to extinguish, so there is plenty of light remaining until the last occupant has exited the premises.

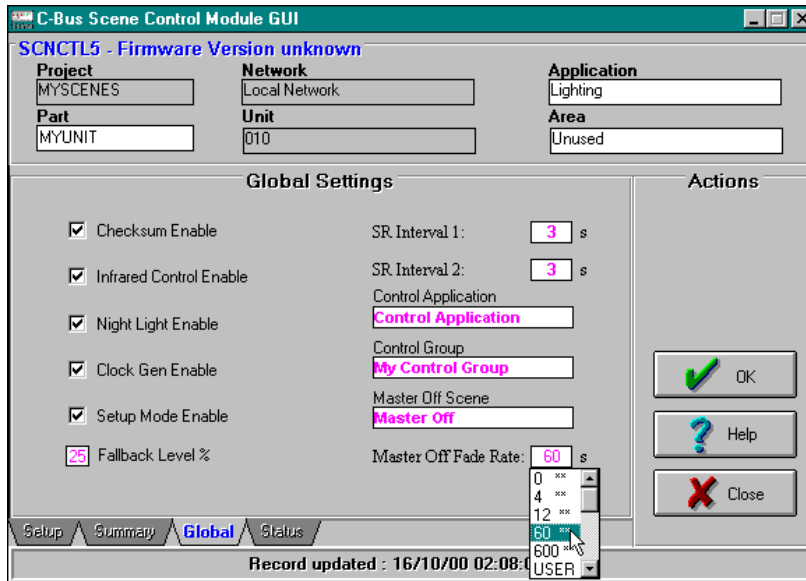


Figure 5.33 Setting the Master Off Fade Rate

PROGRAMMING THE SECOND SCENE MASTER UNIT

The specification requires that the ‘Good Night’ scene be expanded to include additional zones. These may be programmed into a new scene on the second Scene Master Unit, and that scene linked to the ‘Good Night’ scene on the first Scene Master.

The GUI for the second Scene Master Unit is shown below. To link the two units, they must have the same Control Group set. Left-Click on the Control Group Field (Global Tab) and select ‘My Control Group’.

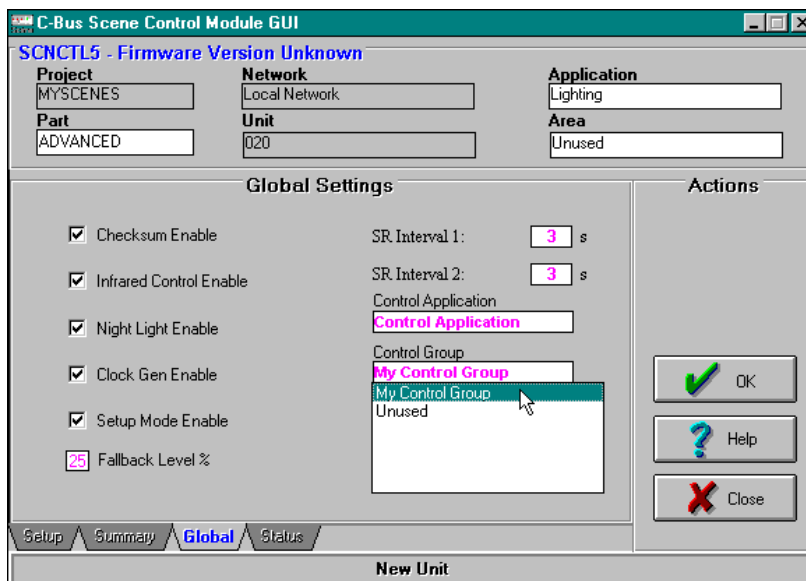


Figure 5.34 Setting the Control Group

From the Setup or Summary Tab, program the additional C-Bus Groups into the Secondary Zones of any scene on the new Scene Master GUI. Right-Click to create a New Group Address if required.

Left-Click on the Scene Name field, and select the ‘Goodnight Scene’, as shown below.

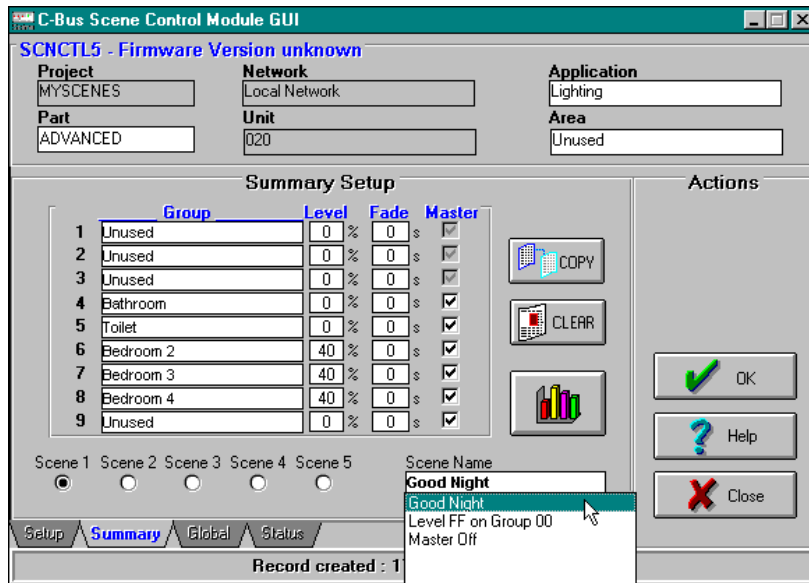


Figure 5.35 Linking the Good Night Scene

Please note that the Secondary Zones have been used for convenience only, as a complete specification for the operation of the second Scene Master unit was not given. Some consideration has been given to the end user, as all Secondary Zones are user configurable using Setup Mode – Primary Zones are not.

The ‘Good Night’ scenes on the two Scene Master Units are now linked. Activating either scene will cause both scenes to be triggered, and appropriate Zones will be set as specified.

The Master Off scenes must now be linked in order that all lighting within the home be switched off from either unit.

Set the Master Off Scene Name to 'Master Off', by left clicking and choosing from the list.

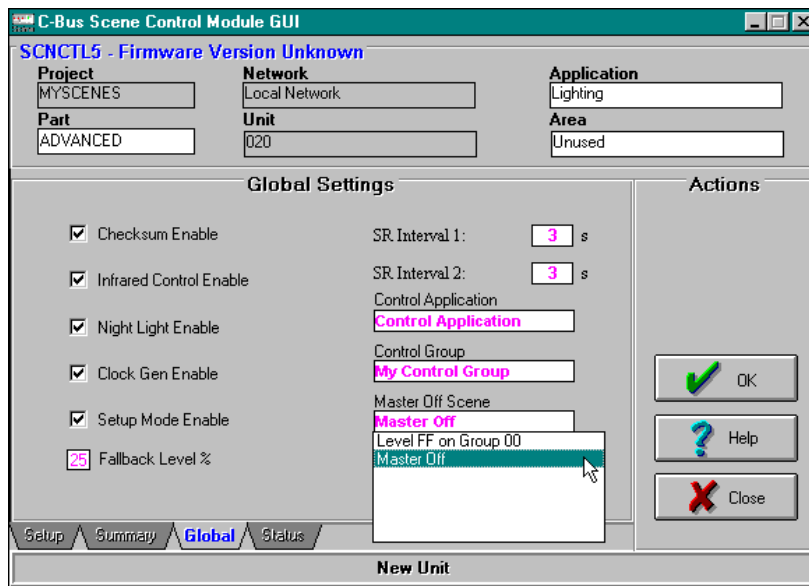


Figure 5.36 Linking the Master Off Scene

Set an appropriate Fade Rate for the Master Off function. This Fade Rate will apply only to the Zones programmed into this unit, and is effective for these Zones irrespective of which Master Off Button is pressed.

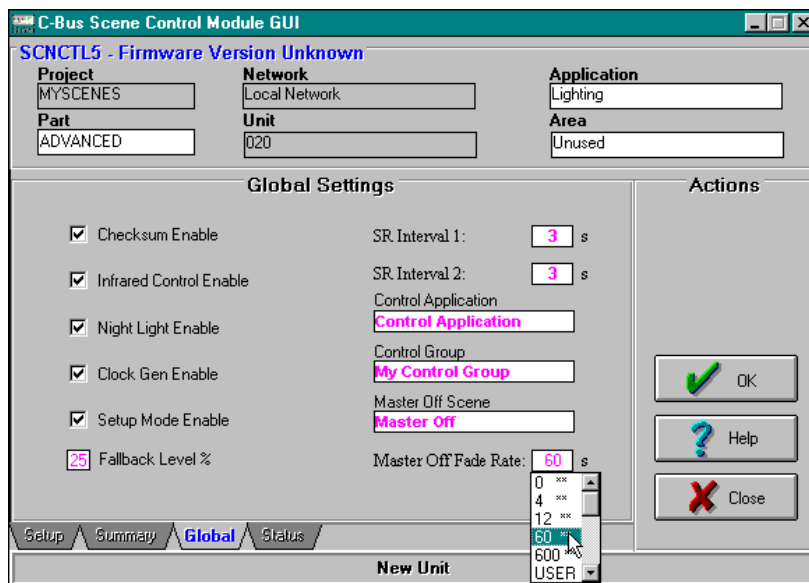
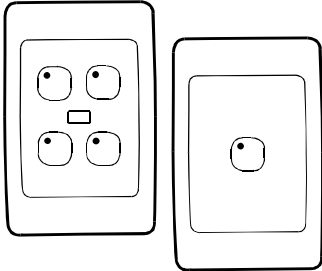
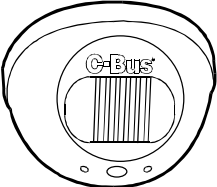
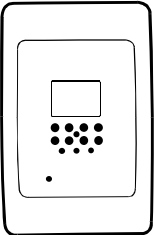



Figure 5.37 Setting the Master Off Fade Rate

This completes the programming required for this Example.

Remote Scene Triggering via C-Bus

Any C-Bus Input Unit may be used to trigger Scene Master scenes remotely. Scenes can be activated from one or many locations. Some examples include :

C-Bus Input Unit	Example Application
	<ul style="list-style-type: none"> • Key Input Unit used to trigger scenes remotely. • Key Input Unit programmed as a Timer, used to activate scenes, and ensure that they are shut down after a period of time. • Infrared Key Input Unit used to extend the infrared control range.
	<ul style="list-style-type: none"> • PIR Occupancy Sensors used to activate scenes when motion is detected.
	<ul style="list-style-type: none"> • Clock Module used to activate scenes according to preset schedule. • Clock Module used to activate scenes randomly in Holiday Mode.
	<ul style="list-style-type: none"> • Scene Master with linked scenes, one scene triggers another.

Remote scene triggering has many advantages. Programming time and installation costs can be significantly reduced. Together with the powerful Scene Master Setup Mode, the C-Bus installation offers the ultimate flexibility for the end user - easy to use, easy to manage, easy to reconfigure.

TO TRIGGER A SCENE REMOTELY

The Scene Name assigned to any Scene Master scene can be used to remotely trigger that scene. Simply set the Scene Master Control Group to a Level representing the scene.

The Level that must be set corresponds to the Level information displayed in the “Create New Scene Name” dialog box.

The following procedure outlines the programming steps required in order to program a Key Input Unit to remotely trigger the Master Off scene.

1. Set the Main Application to match the Control Application used by the Scene Master Unit(s) that controls the scene that you wish to remotely trigger.
2. Set the Group Address controlled by the Key to match the Control Group used by the Scene Master Unit(s) that controls the scene that you wish to remotely trigger.
3. Set a Preset Key Function
4. Set the Preset Level to match the Level Information defined by the Scene Name (converted to a percentage). Refer to the conversion table shown over for further information.

When the remote key is pressed, the Control Group is ramped to a preset level defined by the Scene Name. The Scene Master Unit recognises the Scene Name has been asserted, and responds by activating the appropriate scene. Up to nine Zones may be switched or dimmed as required per remotely triggered scene. Additional Zones may be controlled by linking scenes on multiple Scene Master Units as described in the previous section of this manual.

REMOTE SCENE TRIGGERING EXAMPLE 1

Following on from the Example, the home owner requires an additional switch located by the front door, allowing remote activation of the Master Off scene. In this way, all lighting in the house can be shut down with a single button press.

Scenes Linked via Scene Name (per previous example)

%	Hex
9	16
10	19
11	1C
12	1E

Figure 5.38 My Remotely Master Off Triggered Scene

Scene Name Trigger Level Conversion Table

The table shown below gives a complete list of usable Scene Name Levels, and the appropriate preset percentage level required for remote triggering scenes.

%	Hex
1	02
2	05
3	07
4	0A
5	0C
6	0F
7	11
8	14
9	16
10	19
11	1C
12	1E
13	21
14	23
15	26
16	28
17	2B
18	2D
19	30
20	33
21	35
22	38
23	3A
24	3D
25	3F
26	42
27	44
28	47
29	49
30	4C
31	4F
32	51
33	54
34	56

%	Hex
35	59
36	5B
37	5E
38	60
39	63
40	66
41	68
42	6B
43	6D
44	70
45	72
46	75
47	77
48	7A
49	7C
50	7F
51	82
52	84
53	87
54	89
55	8C
56	8E
57	91
58	93
59	96
60	99
61	9B
62	9E
63	A0
64	A3
65	A5
66	A8
67	AA
68	AD

%	Hex
69	AF
70	B2
71	B5
72	B7
73	BA
74	BC
75	BF
76	C1
77	C4
78	C6
79	C9
80	CC
81	CE
82	D1
83	D3
84	D6
85	D8
86	DB
87	DD
88	E0
89	E2
90	E5
91	E8
92	EA
93	ED
94	EF
95	F2
96	F4
97	F7
98	F9
99	FC
100	FF

REMOTE SCENE TRIGGERING EXAMPLE 2

This next exercise will briefly demonstrate the method for setting up a C-Bus Four Gang Key Input Unit. The key unit is to be programmed to operate the first four of the Scene Master scenes remotely.

No.	Scene Name	Trigger Level (Hex)	Trigger Level (%)
1	Welcome Home	00	0
2	Normal Mode	3F	25
3	Movie Mode	7F	50
4	Entertaining	FF	100
5	Goodnight	0C*	5
-	Master Off	19*	10

* These Scene Names (and corresponding Trigger Levels) have been set in previous examples.

In order to meet the specified requirements, each Scene Master Scene Name (and Trigger Level) must be set according to the table shown above. The C-Bus Key Input Unit must then be programmed. Custom Key Functions are required – refer to the C-Bus Manual for further details on how to program C-Bus Key Input Units.

Note that the Trigger Levels set when defining the Scene Names have been chosen deliberately. A C-Bus Key Input Unit has two on-board memory locations (MEM1 and MEM2), which can be used to store Scene Trigger Levels for activation using Preset Key Functions (RECALL1 and RECALL2). These two memory locations are used to store 25% and 50% respectively, representing Scenes 2 and 3 from the table above.

The remaining two scenes have been set at 0% and 100%, which corresponds to UPKEY and RAMPOFF commands. Note that ONKEY, OFFKEY and DNKEY commands cannot be used for this purpose, due to the specific nature of these commands, and the way they operate.

For best results, it is recommended that the user set Ramp Rate 1 and Ramp Rate 2 in the Key Input Unit to 0 seconds. Please note that if multiple scenes are triggered in rapid succession, minor delays may be experienced in scene execution due to internal state processing times in the Key Unit.

The Scene Names must be created and assigned to each scene in the Scene Master GUI.

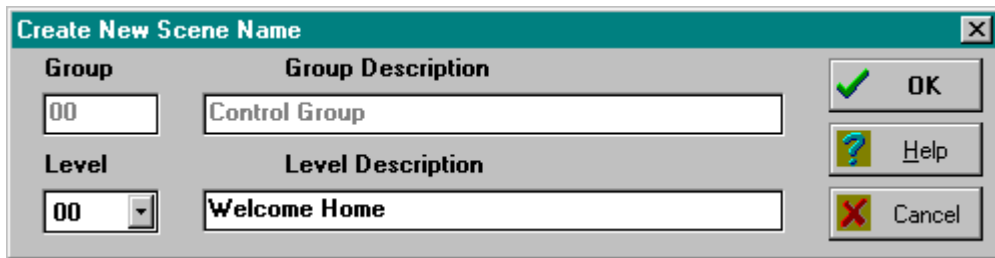


Figure 5.39 Set Scene 1 Name and Trigger Level

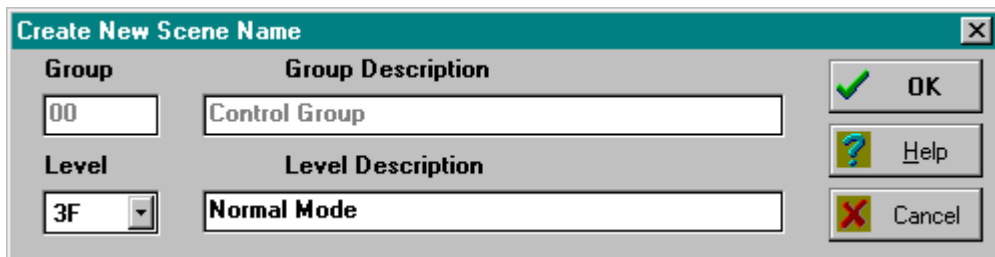


Figure 5.40 Set Scene 2 Name and Trigger Level

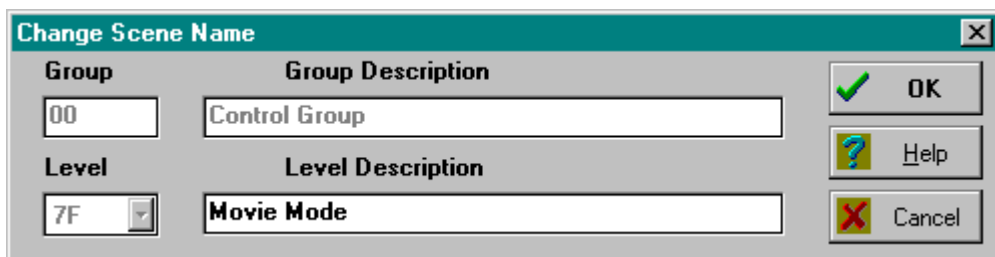


Figure 5.41 Set Scene 3 Name and Trigger Level

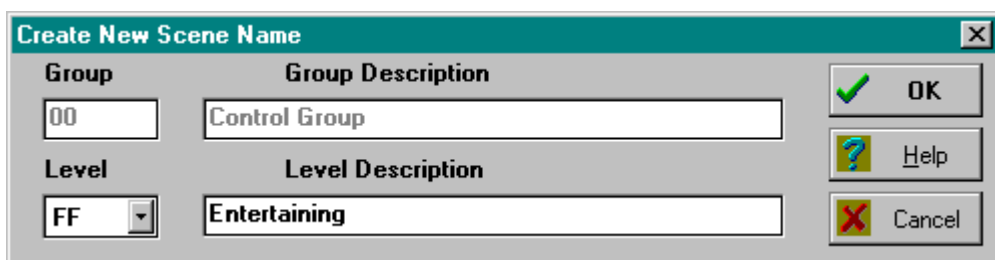


Figure 5.42 Set Scene 4 Name and Trigger Level

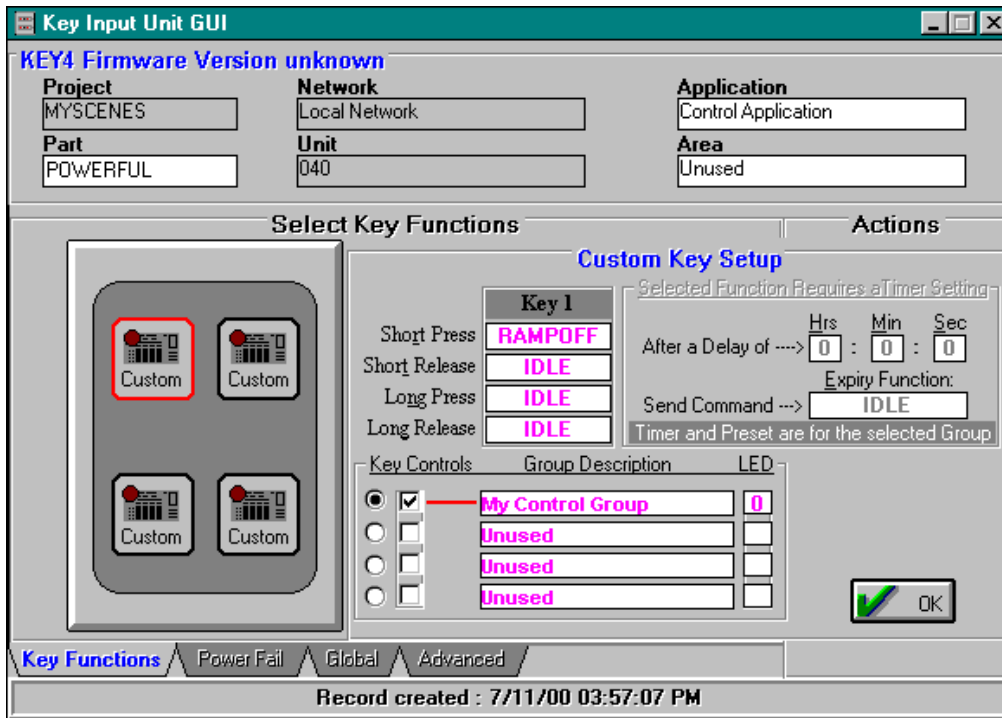


Figure 5.43 Remote Scene Triggering - Key 1

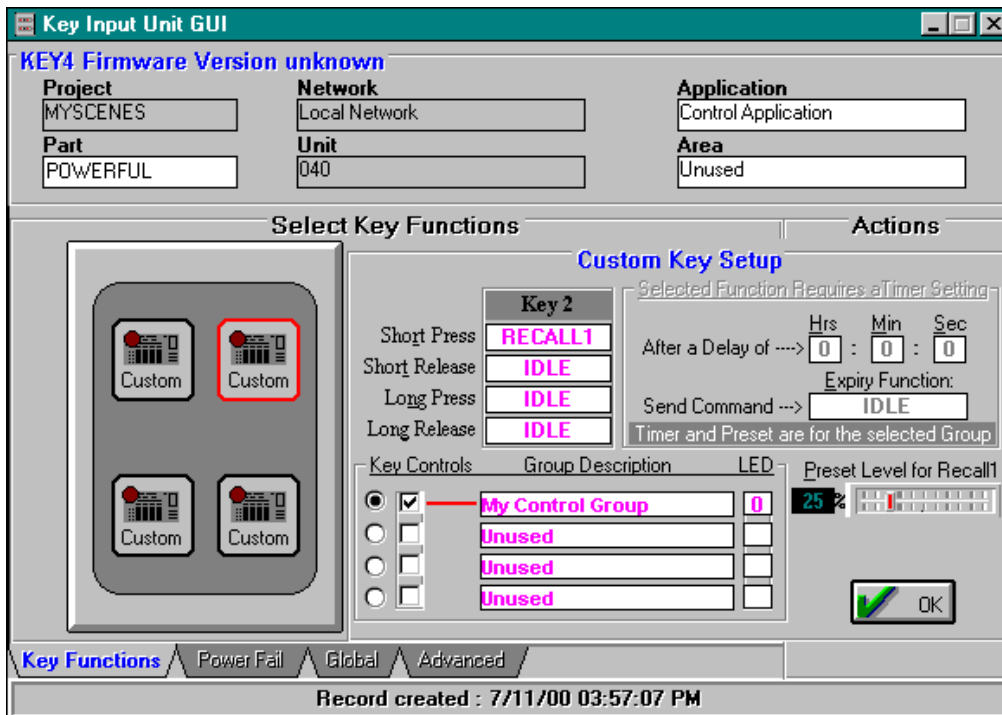


Figure 5.44 Remote Scene Triggering - Key 2

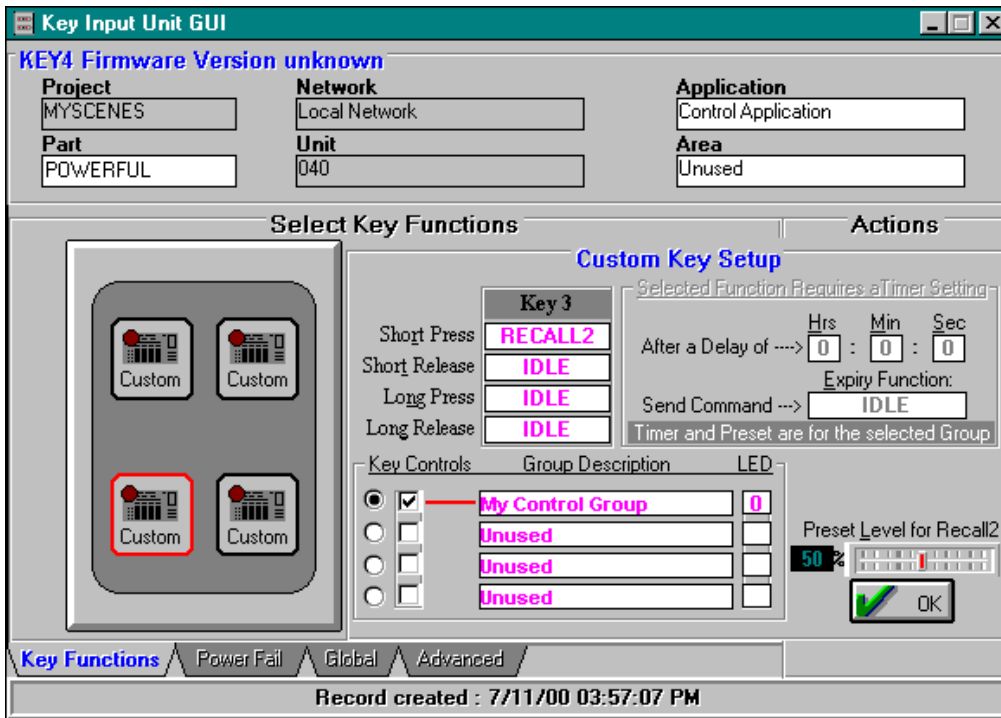


Figure 5.45 Remote Scene Triggering - Key 3

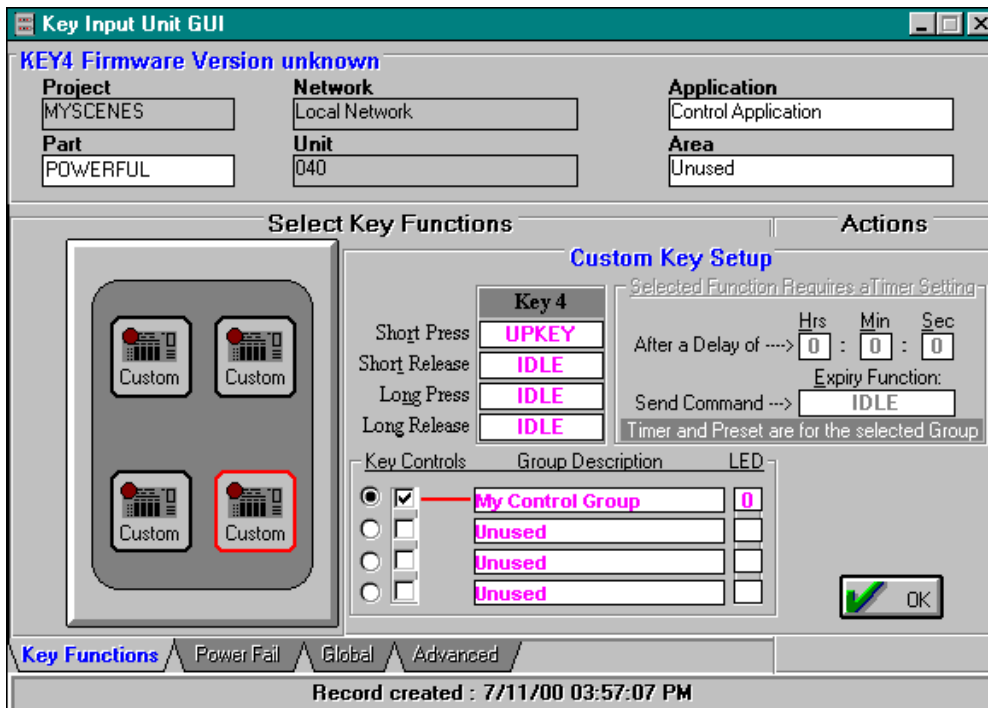


Figure 5.46 Remote Scene Triggering - Key 4

The Advanced Tab shown below summarises the GUI programming requirements for the Four Gang Key Input Unit.

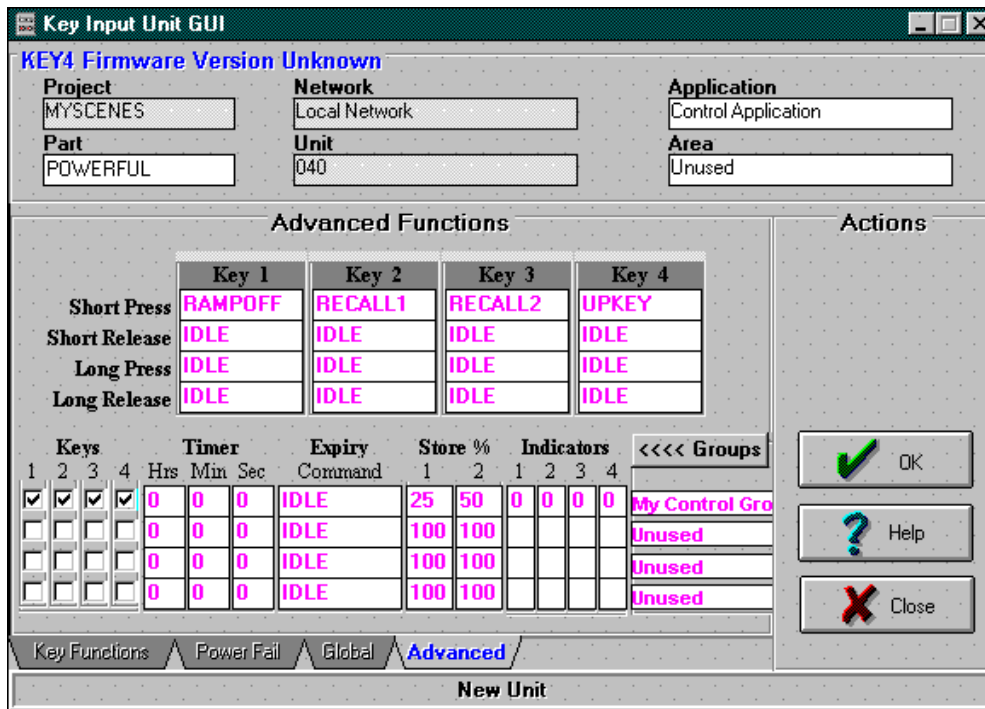


Figure 5.47 Remote Scene Triggering Summary

Chapter 6

Behind the Scenes

The following tips, comments and general recommendations might be useful to remember ...

General

- Keep it simple !!
- Take care when using Area Addressing with Scene Master. Unpredictable results can occur.

Setup Mode

- The User always has the ability to alter the Scene Master programming using Setup Mode (refer to the Scene Master Users Guide for more information), provided that Setup Mode has not been disabled on the GUI Global Tab.
- Make sure that you make sensible choices when selecting Primary Zones as Setup Mode does not allow them to be changed by the User.
- Setup Mode is most effective for the User if the C-Bus Network design includes individual switching points for each of the C-Bus Group Addresses that might be preferred by the User. In this way, Secondary Zones may be cleared using Setup Mode at any time by the User and re-established from scratch if required.
- Take care with Master switching exclusions. Omit Zones from Master Off function (deselect on Setup or Summary Tabs) only if absolutely required. Master Off exclusions may be cleared, but not set in Setup Mode.

Infrared

- Watch out for overlapping infrared ranges when installing multiple Scene Master Units. Install Units in sensible locations to avoid overlapping reception areas. If this is not possible or convenient, disable infrared input on one unit.
- Never repeat Primary Zone Group Addresses across multiple linked Scene Master Units. If it is not possible to avoid, then care must be taken to ensure that under no circumstance should infrared reception areas be allowed to overlap. It may be necessary to disable infrared control of one or more units in order to avoid unpredictable results.

Master Off

- Exercise care with Master Off. Be sure to exclude interlocking devices from Master switching functions. Eg: Blinds Open, Blinds Closed.
- The Master Off function affects every Group Address programmed into the Scene Master Unit. For maximum coverage of the Master Off function, fill unused Zones with Group Addresses that are otherwise not programmed into any other scene. Some thought is required, considering all occupants of the home.

For instance in the Example of Chapter 4, the Master Off function will not switch off all lighting in the house as programmed. The Toilet, Bathroom, and Bedrooms 2 through 4 will not be switched off, as none of these Groups are currently programmed

into any scene. The 'Welcome Home' scene has a spare Zone, so any of these missing Zones could be used in the spare slot. The Bathroom Light could be switched off. This works because prior to 'Welcome Home', there is no-one else in the house that would be affected by switching the Bathroom Light off. 'Movie Mode' has two spare Zones however it would not be advisable to use these to switch off the Bedroom Lights, since other household members may not necessarily be watching the movie.

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