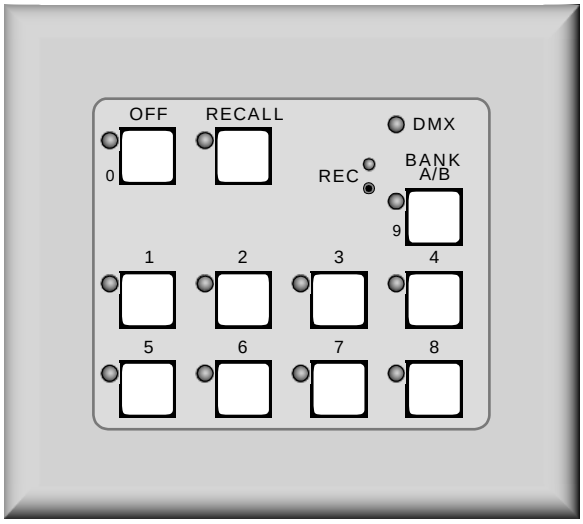
LIGHTRONICS



SR - 516

DMX REMOTE STATION

Version: 1.10

Date: 04/20/2009

www.lightronics.com

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DESCRIPTION

The SR-516 provides wall station remote control to DMX-512 lighting systems. The unit can store up to 16 scenes and activate them with the push of a button. Scenes are organized in two banks of eight scenes each. Scenes in the SR-516 can operate in either an "exclusive" mode (one scene active at a time) or in a "pile-on" mode which enables multiple scenes to be added together.

The unit can operate with other types of Lightronics smart remotes and simple remote switches. These remotes connect to the SR-516 via low voltage wiring and can turn SR-516 scenes on and off.

This unit can also be used for lighting system operation without the use of a trained operator at the main lighting console. The SR-516 retains stored scenes when powered off. It can be used continuously without a control console. The console is needed only to record scenes.

POWER REQUIREMENTS

The SR-516 is powered from an external low voltage power supply which provides +12 Volts DC at 800 mA. A power supply is included with the unit.

INSTALLATION

The SR-516 installs in a standard double gang wall switch box. A double screwless trim plate is supplied.

CONNECTIONS

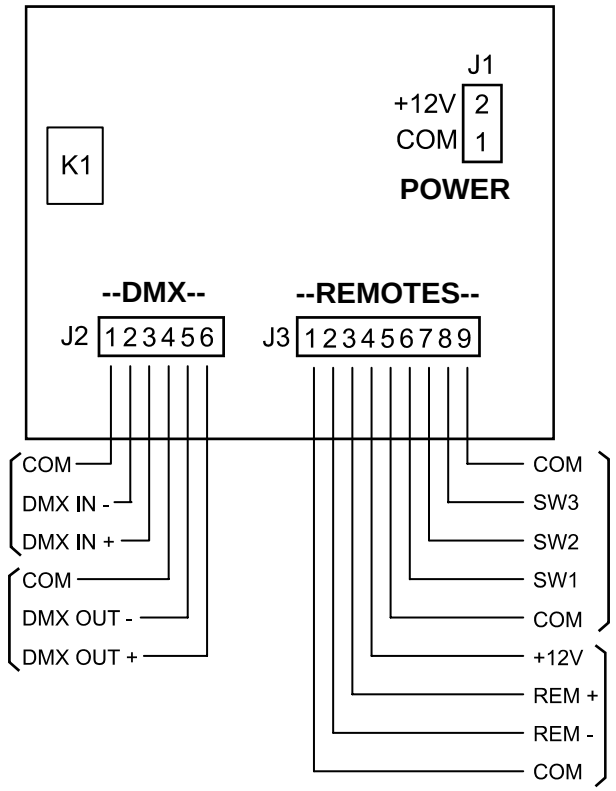
TURN OFF ALL CONSOLES, DIMMER PACKS, AND POWER SOURCES BEFORE MAKING EXTERNAL CONNECTIONS TO THE SR-516

The SR-516 is provided with plug-in screw terminal connectors on the rear of the unit. Connection terminals are marked as to their function or signal. A connection diagram is included in this manual. The connectors can be removed by carefully pulling them away from the circuit board.

POWER CONNECTIONS

A two pin connector is provided for power. The connector terminals are marked on the circuit card to indicate the required polarity. Correct polarity MUST BE OBSERVED AND MAINTAINED.

EXTERNAL CONNECTIONS



DMX CONNECTIONS

Three terminals are used to connect a DMX lighting console (needed to create scenes). They are marked as COM, DMX IN -, and DMX IN +.

Three terminals are used to connect a DMX dimmer pack or chain of dimmer packs. They are marked as COM, DMX OUT -, and DMX OUT +.

REMOTES CONNECTIONS

The SR-516 can operate with two types of remote stations. The first type is Lightronics pushbutton smart remote stations. The other is simple momentary switch closures.

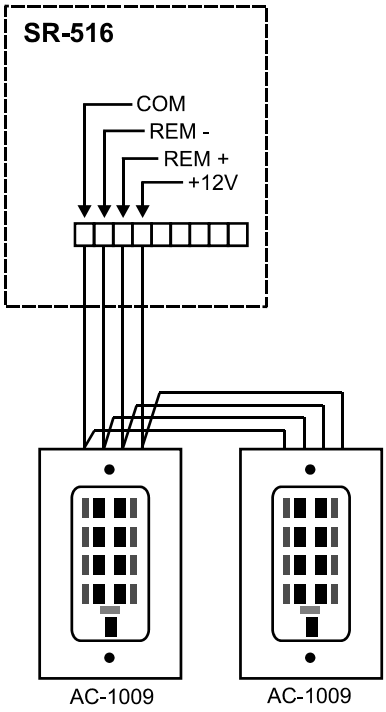
PUSHBUTTON SMART REMOTES CONNECTIONS

These remotes include the Lightronics AC-1009, AC-2016, and IR remote AI-1001. Communication with these stations is over a 4 wire daisy chain bus which consists of a dual twisted pair data cable(s). One pair carries the data. The other pair supplies power to the remote stations. Multiple smart remotes of mixed type can be connected on this bus.

Bus connections for the smart remotes are on the terminals marked COM, REM-, REM+, and +12V.

An example using two Lightronics AC-1009 smart remote wall stations is shown below.

SMART REMOTE CONNECTIONS

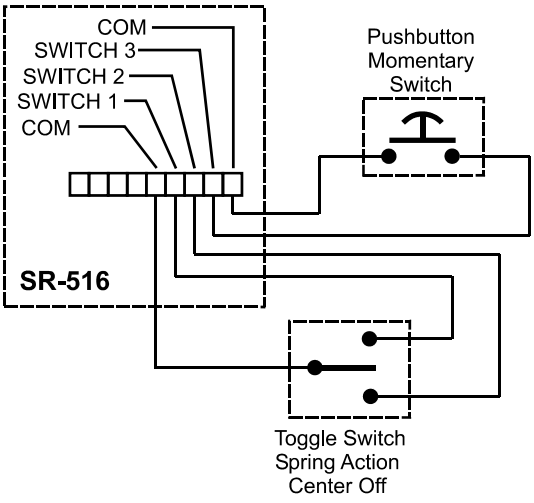


SWITCH REMOTE STATIONS

Five terminals are used to connect simple switch remote signals. They are marked as COM, SWITCH 1, SWITCH 2, SWITCH 3, COM. The COM terminals are connected to each other on the printed circuit board.

An example showing two switch remotes is shown below.

SIMPLE SWITCH REMOTE CONNECTIONS



The example uses a Lightronics APP01 switch station and a typical momentary pushbutton switch. If the SR-516 simple switch functions set to factory default operation then the switches will operate as follows.

1. Scene #1 will be turned ON when the switch is pushed in one direction (up in the diagram).

   Scene #1 will be turned OFF when the switch is pushed in the other direction (down in the diagram).

2. Scene #2 will be TOGGLED on or off each time the switch is pushed.

SR-516 CONFIGURATION SETUP

The behavior of the SR-516 is controlled by a set of function codes and their associated values. A full list of these codes and a brief description is shown below. Specific instructions for each function are provided in this manual.

11 Bank 1 Scene 1 Fade Time
12 Bank 1 Scene 2 Fade Time
13 Bank 1 Scene 3 Fade Time
14 Bank 1 Scene 4 Fade Time
15 Bank 1 Scene 5 Fade Time
16 Bank 1 Scene 6 Fade Time
17 Bank 1 Scene 7 Fade Time
18 Bank 1 Scene 8 Fade Time
21 Bank 2 Scene 1 Fade Time
22 Bank 2 Scene 2 Fade Time
23 Bank 2 Scene 3 Fade Time
24 Bank 2 Scene 4 Fade Time
25 Bank 2 Scene 5 Fade Time
26 Bank 2 Scene 6 Fade Time
27 Bank 2 Scene 7 Fade Time
28 Bank 2 Scene 8 Fade Time
31 Blackout (OFF) Fade Time)
32 ALL Scenes and Blackout Fade Time
33 Simple Switch Input #1 Options
34 Simple Switch Input #2 Options
35 Simple Switch Input #3 Options
36 Not Used
37 System Configuration Options 1
38 System Configuration Options 2
41 Mutually Exclusive group 1 scene selection
42 Mutually Exclusive group 2 scene selection
43 Mutually Exclusive group 3 scene selection
44 Mutually Exclusive group 4 scene selection
88 **Factory Reset** - Invokes a default configuration

RECORD BUTTON This is a very small pushbuttom recessed in a small hole in the faceplate. It is just below the RECORD LED (labeled REC). You will need a small rod (such as a ball point pen) to activate it.

ACCESSING AND SETTING FUNCTIONS

1. Hold down RECORD for more than 2 seconds. The RECORD light will begin blinking.

2. Push RECALL. The RECALL and RECORD lights will blink alternately.

3. Enter a 2 digit function code using the scene buttons (1 - 8). The scene lights will flash a repeating pattern of the code entered. The unit will return to its normal operating mode after about 60 seconds if no code is entered.

4. Push RECALL. The RECALL and Record lights will be ON. The scene lights (in some cases including the OFF(0) and Bank(9) lights) will show the current function setting or value.

   You can enter new values and push RECORD save them or push RECALL to exit without changing the current values. Refer to the instructions below for specific function settings.

Function values are entered as four digits using the scene buttons. It is sometimes necessary to enter the digits "0" and "9". The OFF button is used to enter a 0 and the BANK A/B button is used to enter a 9. The buttons are marked to show this.

FOR ALL SETTINGS:

Push RECORD to save the new setting.
Push RECALL to exit without changing the setting.

All function CODES must be 2 digits.
All function VALUE settings must be 4 digits. Enter leading 0s using the OFF(0) button if needed.

SETTING FADE TIMES (Function Codes 11 - 32)

The fade time is the minutes or seconds to move between scenes or for scenes to go ON or OFF.
The fade time for each scene can be individually set.
The allowable range is from 0 seconds to 99 minutes.

Fade time is entered as 4 digits and can be either minutes or seconds.

Numbers entered from 0000 - 0099 will be recorded as seconds.

Numbers 0100 and larger will be recorded as even minutes and the last two digits will not be used. In other words seconds will be ignored.

After accessing a function (11 - 32) as described in ACCESSING AND SETTING FUNCTIONS:

1. The scene lights + OFF(0) and BANK(9) lights will be flashing a repeating pattern of the current fade time setting.

2. Use the scene buttons to enter a new fade time (4 digits). Use OFF for 0 and BANK for 9 if needed.

3. Push RECORD to save the new function data.

Function Code 32 is a master fade time function which will set ALL fade times to the value entered. You can use this for a base setting for fade times and then set individual scenes to other times as needed.

SIMPLE REMOTE SWITCH BEHAVIOR

The SR-516 is very versatile in how it can respond to the simple remote switch inputs. Each switch input can be set to operate according its own function settings.

Most settings pertain to momentary switch closures. The MAINTAIN setting allows the use of a regular ON/OFF switch. When used this way - the applicable scene(s) will be ON while the switch is closed and go OFF when the switch opens. Other scenes can still be activated and the off button will turn the MAINTAIN scene OFF.

SETTING SIMPLE SWITCH INPUT OPTIONS
(Function Codes 33 - 35)

After accessing a function (33 - 35) as described in ACCESSING AND SETTING FUNCTIONS:

1. The scene lights including OFF(0) and BANK(9) will be flashing a repeating pattern of the current setting.

2. Use the scene buttons to enter a value (4 digits). Use OFF for 0 and BANK for 9 if needed.

3. Push RECORD to save the new function value.

The function values and description are as follows:

SCENE ON/OFF CONTROL

0101 - 0116 Turn ON Scene (01-16)
0201 - 0216 Turn OFF Scene (1-16)
0301 - 0316 Toggle ON/OFF Scene (1-16)
0401 - 0416 MAINTAIN Scene (1-16)

OTHER SCENE CONTROLS

0001 Ignore this switch input
0002 Blackout - turn off all scenes
0003 Recall last scene(s)

SETTING SYSTEM CONFIGURATION OPTIONS 1
(Function Code 37)

The system configuration options are specific behaviors which can be turned ON or OFF.

After accessing function code (37) as described in ACCESSING AND SETTING FUNCTIONS:

1. The scene lights (1 - 8) will show which options are on. An ON scene light means the option is active.
2. Use the scene buttons to toggle the associated option ON and OFF.
3. Push RECORD to save the new function data.

The configuration options are as follows:

SCENE 1 SCENE RECORD LOCKOUT
Disables scene recording. Applies to ALL scenes.

SCENE 2 DISABLE BANK BUTTON
Disables the Bank button. All scene are still available from smart remotes if they are set to use them.

SCENE 3 REMOTE STATION LOCKOUT VIA DMX
Disables the Smart Remotes if a DMX input a from a console is present.

SCENE 4 LOCAL BUTTON LOCKOUT VIA DMX
Disables the SR-516 scene buttons if a DMX input from a console is present.

SCENE 5 SIMPLE REMOTE LOCKOUT VIA DMX
Disables the simple remote switches if a DMX input from a console is present.

SCENE 6 ACTIVATE LAST SCENE AT POWER UP
If a scene was active when the SR-516 was powered off then it will activate that scene when power is turned back on.

SCENE 7 EXCLUSIVE GROUP TOGGLE DISABLE
Disables the ability to turn off all the scenes in an exclusive group. It forces the last live scene in the group to stay on unless you push OFF.

SCENE 8 DISABLE FADE INDICATION
Prevents the scene lights from blinking during scene fade time.

SETTING SYSTEM CONFIGURATION OPTIONS 2
(Function Code 38)

These options are not used during normal operation and should always be OFF. They are controlled in the same way as SYSTEM CONFIGURATION OPTIONS 1.

CONTROLLING EXCLUSIVE SCENE ACTIVATION

During normal operation multiple scenes can be active at the same time. Channel intensities for multiple scenes will combine in a "greatest of " manner.

You can cause a scene or multiple scenes to operate in a exclusive manner by making them part of a mutually exclusive group.

There are four groups which can be set. If scenes are part of a group then only one scene in the group can be active at any given time.

Other scenes (not part of that group) can be on at the same time as scenes in a group.

Unless you are going to set one or two simple groups of non overlapping scenes you may want to experiment with the group settings to achieve different effects.

SETTING SCENES TO BE PART OF A MUTUALLY EXCLUSIVE GROUP (Function Codes 41 - 44)

After accessing a function (41 - 44) as described in ACCESSING AND SETTING FUNCTIONS:

1. The scene lights will show which scenes are part of the group. Use the BANK A/B button as needed to check both banks.
2. Use the scene buttons to toggle scenes on/off for the group.
3. Push RECORD to save the new group set.

FACTORY RESET (Function Code 88)

A Factory Reset will invoke the following conditions:

1. All scenes will be cleared (set to ALL channels OFF).
2. All fade times will be set to two seconds.
3. Simple switch input functions will be set as follows:
   Input #1 Turn ON Scene 1
   Input #2 Turn OFF Scene 1
   Input #3 Toggle Scene 2 ON and OFF
4. All System Configuration Options (Function Codes 37 and 38) will be turned OFF.
5. Mutually Exclusive groups will be cleared (no scenes in the groups).

TO PERFORM A FACTORY RESET:

After accessing the function (88) as described in ACCESSING AND SETTING FUNCTIONS:

1. The OFF(0) light will show a repeating pattern of 4 flashes.
2. Enter **0516** (the model number of the product).
3. Push RECORD. The scene lights will flash briefly and the unit will return to its operating mode.

OPERATION

The SR-516 turns on automatically when power is applied from the external power supply. There is no ON/OFF switch or button.

When the SR-516 is not powered, a DMX signal from a control console (if connected) is directly routed to the dimmers via the DMX OUT connection. In other words the console will be directly connected to the dimmers.

DMX LIGHT

This indicator conveys the following information about the DMX input and DMX output signals.

1. OFF DMX is NOT being received from a console.
   DMX is NOT being transmitted to dimmers (No scenes are active).
2. BLINKING DMX is NOT being received from a console.
   DMX IS being transmitted (one or more scenes are active).
3. ON DMX IS being received from a console.
   DMX IS being transmitted to the dimmers.

SCENE BANKS

The SR-516 can store 16 operator created scenes and activate them with the push of a button. Scenes are organized in two banks (A and B). A bank switch button and indicator are provided for switching between banks. Bank "B" is active when the BANK A/B light is on.

TO RECORD A SCENE

A DMX console or controller must be connected and used to create the scene to be stored in the SR-516.

Check that the Scene Record Lockout function is OFF.

1. Create a scene using the control console faders to set dimmer channels to the desired levels.
2. Select the bank which you want the scene stored in.
3. Hold down RECORD on the SR-516 until its light and the scene lights begin to flash (about 2 sec.).
4. Push the button for the scene you want to record to. The RECORD and scene lights will go OFF which shows that recording was completed.

   The RECORD and scene lights will stop flashing after about 20 seconds if you do not select a scene.
5. Repeat steps 1 through 4 to record other scenes.

SCENE ACTIVATION

Playback of scenes stored in the SR-516 will occur regardless of control console operation or status. This means that scenes activated from the unit will add to or “pile on” to the channel data from a DMX console.

TO ACTIVATE A SCENE

1. Set the SR-516 to the desired scene bank.
2. Push the button associated with the desired scene – the scene will fade in according to the fade time function settings.
3. Push the button associated with the desired scene. The scene will fade in according to the fade time function settings. The scene light will blink until the scene has faded to its full level. It will then be ON. The blinking indication can be disabled by a configuration option

The scene activation buttons are toggles. To turn off an active scene – push its associated button.

Scene activation can be either "exclusive" (only one scene may be active at a time) or "pile on" (multiple scenes on at the same time) depending on setup function selections. During "pile on" operation - multiple active scenes will combine in a "greatest of " fashion with respect to channel intensity.

THE OFF BUTTON

The “OFF” button blacks out or turns off all active scenes. Its indicator is on when active.

RECALL LAST SCENE

The RECALL button can be used to reactivate the scene or scenes which were active prior to an OFF condition. The RECALL indicator will light when a recall is in effect. It will not step back through a series of previous scenes.

MAINTENANCE AND REPAIR

TROUBLESHOOTING

1. A valid DMX console signal must be present to record a scene.

2. If a scene does not activate correctly– it may have been overwritten without your knowledge.

3. If you cannot record scenes – check that the Record Lockout option is not on.

4. Check that the DMX cables and/or remote wiring are not defective. A MOST COMMON PROBLEM SOURCE.

5. To simplify troubleshooting - set the unit to known set of conditions. A Factory Reset can be performed

6. Make sure that the dimmer addresses are set to the desired channels.

7. Check that the console softpatch (if applicable) is set correctly.

OWNER MAINTENANCE

The best way to prolong the life of your SR-516 is to keep it dry, cool, and clean.

The unit exterior may be cleaned using a soft cloth dampened with a mild detergent/water mixture or a mild spray-on type cleaner. DO NOT SPRAY ANY LIQUID directly on the unit. DO NOT IMMERSE the unit in any liquid or allow liquid to get into the controls. DO NOT USE any solvent based or abrasive cleaners on the unit.

There are no user serviceable parts in the unit. Service by other than Lightronics authorized agents will void your warranty.

OPERATING AND MAINTENANCE ASSISTANCE

Dealer and Lightronics Factory personnel can help you with operation or maintenance problems. Please read the applicable parts of this manual before calling for assistance.

If service is required - contact the dealer from whom you purchased the unit or contact Lightronics, Service Dept., 509 Central Drive, Virginia Beach, VA 23454 TEL: (757) 486-3588.

WARRANTY

All Lightronics products are warranted for a period of TWO/FIVE YEARS from the date of purchase against defects in materials and workmanship.

This warranty is subject to the following restrictions and conditions:

A) If service is required, you may be asked to provide proof of purchase from an authorized Lightronics dealer.

B) The FIVE YEAR WARRANTY is only valid if the warranty card is returned to Lightronics accompanied with a copy of the original receipt of purchase within 30 DAYS of the purchase date, if not then the TWO YEAR WARRANTY applies. Warranty is valid only for the original purchaser of the unit.

C) This warranty does not apply to damage resulting from abuse, misuse, accidents, shipping, and repairs or modifications by anyone other than an authorized Lightronics service representative.

D) This warranty is void if the serial number is removed, altered or defaced.

E) This warranty does not cover loss or damage, direct or indirect arising from the use or inability to use this product.

F) Lightronics reserves the right to make any changes, modifications, or updates as deemed appropriate by Lightronics to products returned for service. Such changes may be made without prior notification to the user and without incurring any responsibility or liability for modifications or changes to equipment previously supplied. Lightronics is not responsible for supplying new equipment in accordance with any earlier specifications.

G) This warranty is the only warranty either expressed, implied, or statutory, upon which the equipment is purchased. No representatives, dealers or any of their agents are authorized to make any warranties, guarantees, or representations other than expressly stated herein.

H) This warranty does not cover the cost of shipping products to or from Lightronics for service.

I) Lightronics Inc. reserves the right to make changes as deemed necessary to this warranty without prior notification.