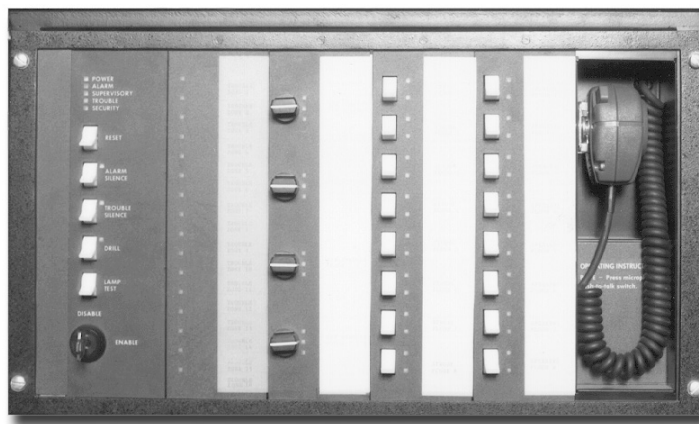


# SAN Serial Annunciators

SAN-4, SAN-8, RSAN-6



**RSAN-6, Rack Mount with SAN-COM, SLU-16R,  
SHO-4, SLU-16Y, SAN-MIC and SWU-8**

## Overview

The SAN serial annunciator is a member of the data line and consumes one panel address. The SAN annunciator is not only an annunciating device but may be configured as a system control center. SAN option modules are connected via ribbon cable to the CPU card to customize the configuration of the annunciator per your requirements. Each SAN option module is 10.25 in x 2.75 in (HW) metal plate with standoffs on the rear with a control PC card. The front of each SAN module is covered with black LEXAN overlay with a legend pocket for those modules requiring switch and LED legends. A legend sheet in a choice of five different colors comes with each module so the legend may be typed adjacent to each switch or LED and inserted into the pocket. Each SAN module mounts to the SAN cabinet with black anodized screws. Each SAN contains a CPU card capable of supporting 96 inputs and 96 outputs (one panel address). The SAN may be configured using an RS-485, 20 mA data line.

## Standard Features

- RS-485 serial communications, style B or D
- Connects to EST2
- Powered from 24 Vdc system power riser
- Low standby current
- Microprocessor controlled
- Supports LEDs, switches and common functions
- Recessed or 19 in rack mounting available
- Legend pockets for end user nomenclature
- All LEDs are fully programmable
- All switches are user programmable
- Optional interface to custom graphics panels
- Fully supervised
- Battery backed up
- Common module for system annunciation and control
- Relay driver or incandescent lamp option card
- Four, six and eight module cabinets
- Each CPU card monitored 96 switches/inputs and 96 LEDs/outputs
- HAND-OFF-AUTO option module
- Remote microphone option

## SAN-4



The SAN-4 is a recessed mount cabinet with mounting space for the CPU card and 4 option modules. The front door contains a LEXAN window to view LED status without opening the front door. The front door contains a keylock to prevent unauthorized access to any optional panel

control switches. The panel is keyed identically to other system remote panel enclosures. The cabinet is painted white with bronze LEXAN window.

## SAN-COM

The SAN-COM is a common annunciation and control module. The module contains a legend pocket and sheet. The legend sheet provides a predefined function for each switch and LED as follows:

- Power LED
- Alarm LED
- Supervisory LED
- Trouble LED
- Reset Switch
- Alarm Silence Switch with Silenced LED
- Trouble Silence Switch with Silenced LED
- Drill/All Call with Status LED
- Lamp Test Switch
- Enable/Disable key switch

The switches and LEDs are input and output points to the system data base and may be reconfigured for most applications through programming. A legend sheet is provided to customize the operation of the switches and LEDs. The Enable/Disable key switch may be set so that the push button switches may be disabled until the keyswitch is placed in the Enable position.

## BPA

The BPA is a filler plate with black LEXAN faceplate used to fill unused module space in the SAN cabinets.

## SAN-8



The SAN-8 is a recessed mount cabinet with mounting space for the CPU card and 8 option modules. Mounting studs are provided for a second CPU card if the enclosure contains option modules

exceeding 96 inputs and 96 outputs. The front door contains LEXAN window to view LED status without opening the front door. The front door contains a keylock to prevent unauthorized access to any optional panel control switches. The panel key is keyed identically to other system remote panel enclosures. The cabinet is painted white with bronze LEXAN window.

## RSAN-6

The RSAN-6 is a standard 19 in rack mount cabinet with mounting space for the CPU card and six option modules. The panel consists of a black frame with rear mounted studs for option card mounting. The RSAN-6 mounts in the CB17, CB31, CB45 or any standard 19 in rack mount enclosure.

## SAN-CPU



The SAN-CPU card is the microprocessor controller, power supply and RS-485 data line interface card. A minimum of one is required for each SAN enclosure. The controller card contains LEDs for polling status and a DIP switch to set the panel address. Each SAN-CPU card will monitor 96 inputs (switches, SIN-16 circuits) and 96 outputs (LEDs, relay drivers). The CPU card mounts to the back wall of the SAN-4 and SAN-8 cabinets and to a side-mount plate on the RSAN-6 cabinet. Mounting studs are provided in the SAN-8 cabinet so that an additional CPU card may be mounted, if required. The SAN-CPU card is connected via ribbon cable to each of the SAN modules. The CPU card requires a 24 Vdc power connection and a RS-485 data (class A or B) connection.

## SLU-16R

The SLU-16R is a SAN module that contains 16 red LEDs. Each of the LEDs are field programmable and may be activated upon any system change of state, or as a result of a time control, action, sequence or logic statement. The red LEDs are typically used to annunciate the alarm condition of analog devices or standard zones. The module contains a legend pocket and sheet to type the function of each LED.

## SLU-16Y

The SLU-16Y is a SAN module that contains 16 yellow LEDs. Each of the LEDs are field programmable and may be activated upon any system change of state, or as a result of a time control, action, sequence or logic statement. The yellow LEDs are typically used to annunciate the active status of supervisory analog devices or standard supervisory zones or the trouble condition of alarm devices/zones. The module contains a legend pocket and sheet to type the function of each LED.

## SWU-8

The SWU-8 is a SAN module that contains eight toggle switches and 16 yellow LEDs. Each switch has two yellow LEDs adjacent to it. Each switch generates a change of state to the FACP when activated which may be used to activate outputs in the system as defined in the data base. The two LEDs that are adjacent to each switch are data base activated and are not directly connected to any particular switch position. The module contains a legend pocket and sheet to type the function of each LED and switch. The Switch and LED combination is typically used for telephone circuits; one LED annunciates a call in, the switch when activated places the remote phone on-line and the second LED annunciates a connected call. This module may be used for a variety of applications including: door bypass with status, audible circuit silence with active and trouble status, paging control with active and trouble status, manual overrides with status, etc.

## SWU-8/3

The SWU-8/3 is a SAN module that provides eight, three-position center off switches. Two LEDs are positioned adjacent to each switch providing a functional group. Operation of the switches is independent of the LED's. The system controls both. The front panel protects a slip-in legend sheet used for identification. The SWU-8/3 is typically used for applications requiring fan and damper control. Typically the switch is used as a HAND-OFF-AUTO circuit and the LED's indicate the actual status of the AHU fan or damper.

## SRU-8



The SRU-8 is a SAN module that contains eight relays. The front of the module has a black LEXAN cover. Each of the relays are field programmable and may be activated upon any system change of state, or as a result of a time control, action, sequence of logic statement. The SRU-8 is typically used for non supervised control of ancillary devices such as fan shutdown relays, door holders, etc.

## SHO-4

The SHO-4 is a SAN module that contains four, three-position switches. Each three position rotary switch contains three LEDs; the center position is a green LED indicating the normal switch position and is not field programmable, the upper and lower LEDs are not directly related to the switch position but are programmable to indicate the true verified status of the device being controlled. The module contains a legend pocket sheet to type the function of each LED and switch. The SHO-4 switch is typically used for applications requiring fan and damper control. Typically the switch is used as a HAND-OFF-AUTO circuit and the LEDs indicate the actual status of the AHU, fan or damper.

## SIN-16



The SIN-16 is a SAN module that contains 16 non-supervised input circuits and are activated by any dry contact device. The circuit card is mounted to the rear of a blank plate without a front legend pocket or sheet. Each group of four inputs may share a different power source. This module is typically used to report changes of state from other control equipment, dry contacts or to receive alarm and trouble contact information from existing control panels in retrofit applications. Each of the 16 inputs, when activated, will report to the system as an active point. The module is also available in a circuit card only version without the standard mounting plate and hardware for direct mounting into a custom graphics/control panel to receive switch information from the panel.

## SDR-32



The SDR-32 is a SAN module that contains 32 open collector drive transistors. The front of the module has a black LEXAN cover. Each of the outputs are field programmable and may be activated upon any system change of state, or as a result of a time control, action, sequence or logic statement. This module is typically used to interface to custom graphics panels. Each output is capable of driving one LED. This module is also available in a circuit card only version without the standard mounting plate and hardware for direct mounting into a custom graphics panel. A connector and cable is supplied for connections to remote LEDs.

## SDR-32K

The SDR-32K is similar to the SDR-32 in function but provides greater drive capability on each output. This module may drive multiple LEDs, incandescent lamps may be used as a relay drive. When interfacing to the WSA series graphic annunciators this card must be used. This module is also available in a circuit card only version without the standard mounting plate and hardware for direct mounting into a custom graphics panel. A connector and cable is supplied for connection to remote LEDs or Relays.

## SAN-MIC

The SAN-MIC is a SAN module that provides a paging microphone for remote paging applications. The paging microphone is typically connected to the microphone connection of the AA75P-25 amplifier. The module is painted black with a recessed area for the microphone and coiled cord with operating instructions. The microphone is a high signal output type with a push to talk switch.

## SAN-MIC II

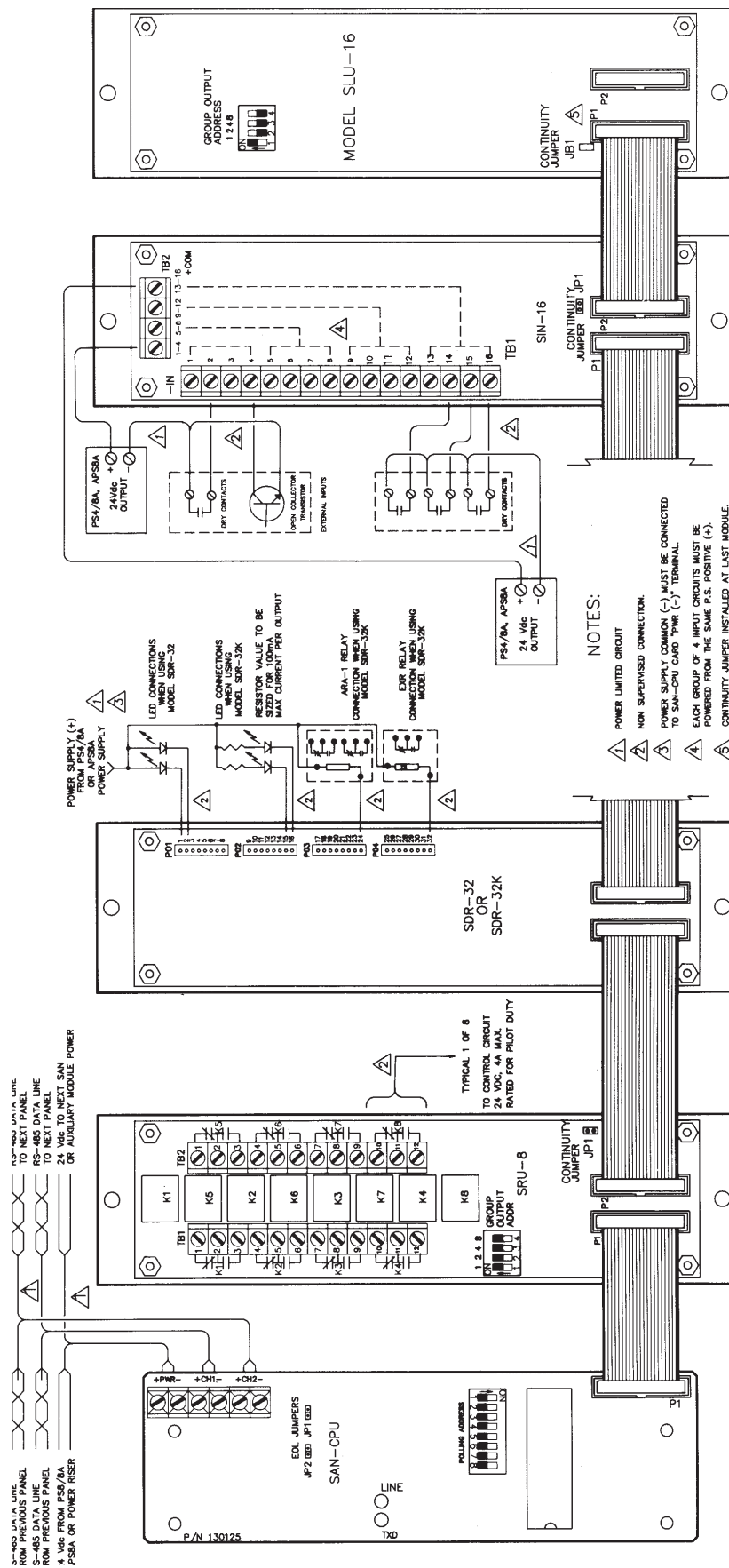


The SAN-MIC II module is a supervised microphone and tone generator module capable of operating at a location remote from the audio control and amplification equipment. The SAN-MIC II features a Push-to-Talk Dynamic Microphone, a supervisory pulse, and three tone generators; and a solid state VU meter. The SAN-MIC II has provisions for auxiliary audio input from an external source. The SAN-MIC II output is a pre-amp level signal, which may be transmitted over 2,000 feet of shielded cable to audio control and amplification components. The SAN-MIC II mounts in the standard SAN series enclosures and requires no connections to a SAN-CPU module. Front panel switches permit the operator to initiate either of two distinctive emergency tones or to activate the fire alarm tone. These tones may also be activated by external connections. Activation of the PTT switch causes the microphone signal to override all audio sources except the auxiliary input, if activated.

## Engineering Specifications

The Remote Annunciator shall be a serial annunciator panel and must be capable of being mounted in a remote location. The annunciator shall be modular using low current circuitry. The annunciator shall be capable of operating on nominal 24 Vdc and be battery backed up. All switches shall be a point in the system and be capable of controlling any system output or functions. All LED and outputs shall be capable of being controlled by any change of state in the system or as a result of a time control, sequence or logic function. The LEDs and switches shall be able to be clearly marked by the end user. The modular components of the annunciator shall be mounted in a recessed cabinet with hinged door and LEXAN window with keylock. The annunciator modules shall be capable of activating local or remote LEDs, relays or graphic panels.

## Connection Diagram



## Specifications

### Temperature

Humidity

0° - 49°C (32° - 120°F)

85%, non-condensing

Power

Auxiliary Audio Input

Audio Output

EOL Resistors

Output Tones

### Power Requirements

Voltage

24 Vdc (nominal)

Current

Depending upon SAN modules installed

Power riser distance

Calculate for maximum 2.5 Vdc line loss

Output Wiring

Relay Contacts

Module	Standby Current	Active Current/CKT	Comments
SLU-16R and SLU-16Y	1 mA	6 mA (LED)	
SHO-4	25 mA	6 mA (LED)	
SWU-8	1 mA	6 mA (LED)	
SWU-8/3	1 mA	6 mA (LED)	
SRU-8	1 mA	20 mA (Relay)	Relay contact ratings Type = DPDT Ratings = 4 A dc (pilot duty)
SDR-32	1 mA	16 mA (driver)	Current limited Output supply voltage = 24 Vdc
SDR-32K	1 mA	100 mA (driver)	Non-current limited Output supply voltage = 24 Vdc Input current max/CKT = 7 mA Input supply voltage max = 24 Vdc
SIN-16	1 mA	n/a	
SAN-COM	7 mA	6 mA (LED)	
SAN-MIC	n/a		
SAN-CPU	75 mA	n/a	Input supply = 18 - 32 Vdc
SAN-MIC II	n/a	n/a	Power 24 Vdc @ 90 mA Auxiliary Audio Input 0.25 Vrms or 2.0 Vrms into 600 Ohms Audio Output 0.25 Vrms or 2.0 Vrms into 600 Ohms EOL Resistors 1.8 K Ohms 1/2W Output Tones Slow Whoop 1 KHz March Time @ 90 & 120 SPM 1 KHz audio supervisory pulse tone Output wiring 2,000 ft 18 AWG twisted, shielded Max. Relay contacts 120 Vac @ 0.5 A, Resistive



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## Ordering Information

Model	Description
SAN-4	Recessed cabinet, accepts four SAN modules, one SAN-CPU
SAN-8	Recessed cabinet, accepts eight SAN modules, two SAN-CPU
RSAN-6	19 in rack mount unit, accepts six SAN modules, one SAN-CPU
SAN-CPU	CPU card, RS-485 interface, one required per 96 inputs and 96 outputs
SLU-16R	SAN module, 16 Red LEDs
SLU-16Y	SAN module, 16 Yellow LEDs
SWU-8	SAN module, eight toggle switches with two yellow LEDs per switch
SWU-8/3	SAN module, eight, three-position toggle switches with two yellow LEDs per switch
SRU-8	SAN module, eight programmable relays
SHO-4	SAN module, four, three-position switches, two yellow and one green LED per switch
SDR-32	SAN module, 32 programmable outputs for remote LEDs
SDR-32-C	SDR-32 circuit card only, no mounting hardware or faceplate
SDR-32K	SAN module, 32 programmable outputs for remote LEDs or relays
SDR-32K-C	SDR-32K circuit card only, no mounting hardware or faceplate
SIN-16	SAN module, 16 dry contact inputs
SIN-16-C	SIN-16 circuit card only, no mounting hardware or faceplate
SAN-MIC	SAN module, microphone for remote paging
SAN-MIC II	Supervised microphone and tone generator module
SAN-COM	SAN module, common annunciation and control module
BPA	SAN cabinet filler plate

### Cabinets

Model	Overall Dimensions	Rough-In Dimensions
SAN-4	11.5 in H x 16.0 in W x 4.0 in D	9.5 in H x 11.25 in W x 2.5 in D
SAN-8	11.5 in H x 27.5 in W x 4.0 in D	9.5 in H x 23.0 in W x 2.5 in D
RSAN-6	10.5 in H x 19.0 in W x 2.5 in D	n/a