![Simplex logo]

UL, ULC, CSFM Listed, FM Approved*

Features

Remote annunciator panels provide fire alarm control unit (FACU) status information at locations distant from the FACU.

Typical functions include the following features:

- Remote status LED indicators and dedicated switch input controls located on LED/switch modules
- Remote status LED indicator modules with 8 red LEDs or 16 LEDs, 8 red and 8 yellow, that are pluggable to for color choice. Order yellow, green, or red LEDs separately
- Remote microphone and operator interface for access to the emergency voice/alarm communications system
- Remote master telephone for communicating to the firefighter telephone system
- Models available with Color ES Touch Screen Display User Interface

Additional optional modules include the following items:

- 24 point I/O module
- RS-232 ports for remote printer or terminal connections
- Power supplies with battery charger for annunciator
- Panel mounted printer for system status recording

Wiring requirements:

- Remote unit interface (RUI) or RUI+ supervised communications from the host FACU provide Class B or Class X signaling line circuit (SLC) pathway connections
- Microphone and telephone circuits require their own dedicated wiring

Listed to the following standards:

- UL 864, Fire Detection and Control (UOJZ), Smoke Control Service (UUKL), Releasing Device Service (SYZV), Emergency Communication and Relocation Equipment (UOQY), Control Unit Accessories (UOXX)
- UL 1076, Proprietary Alarm Units - Burglar (APOU)
- UL 2017, Process Management Equipment (QVAX), Emergency Alarm System Control Units (FSZI)
- UL 1730, Smoke Detector Monitor (UULH)
- UL 2572, Mass Notification Systems (PGWM)
- CAN/ULC-S527 Control Units for Fire Alarm Systems (UOJZ7), Releasing Device Service (SYZV7), Control Unit Accessories (UOXX7)
- CAN/ULC-S559 Central Station Fire Alarm System Units (DAYR7)
- ULC/ORD-C1076 Proprietary Burglar Alarm Units and Systems (APOU7)
- ULC/ORD-C100 Smoke Control System Equipment (UUKL7)

Introduction

Remote annunciator panels

Remote annunciator panels are dedicated purpose transponders that support fire alarm system status information. A typical use case is when the host FACU is located away from the area where those responding to a fire situation need status information.

Status and control

The controls are suitable for firefighters or other fire brigade responders to access particular information and for system control. When equipped with a remote microphone and emergency voice/alarm communications system control, an authorized user can take command of the system and either play selected pre-recorded messages or select specific tones, or initiate live broadcast information either globally into the system, or to selected areas.

Remote master firefighter phone

When equipped with a remote master phone, the authorized user can connect to remote phone call-in requests and allow callers to connect to each other. Although intended for use in assisting fire responders, these systems are also helpful during system setup and test.

Module bay description

Remote annunciators

Remote annunciators include a bay assembly, a power distribution interface module (PDI), a transponder interface module, and an interconnect harness. Communications with the host FACU are through a RUI or RUI+ connection that allows for a distance of up to 2500 ft (762 m). The RUI can communicate with up to a total of 31 remote devices for each master controller, on one or multiple RUI channels. You can wire the RUI as a class B or class X communication pathway. You can use either shielded or unshielded wiring, twisted, or untwisted single pair wiring. For details of the next gen remote annunciator, refer to *4100 LED/Switch Installation Instructions (05791432)*.

4100-9616 remote annunciator with enhanced ES touch screen display

These models are for applications that require a full complement of the remote annunciator functions, see Product selection. Power is from a cabinet mounted ES-PS power supply.

4100-9617 basic remote annunciator with enhanced ES touch screen display

For remote annunciator applications that require less features in the cabinet, these models are powered from a separate fire alarm control cabinet. These models do not accept the following items: a cabinet mounted power supply, expansion phone cards, class A phone modules, RS-232 modules, panel mounted printers, or 24 I/O modules.

Optional expansion bays

Each includes a PDI and accepts a variety of optional modules for specific annunciator functions.

The battery compartment

The bottom battery compartment accepts two batteries, up to 50 Ah. Battery mounting does not interfere with available module space.
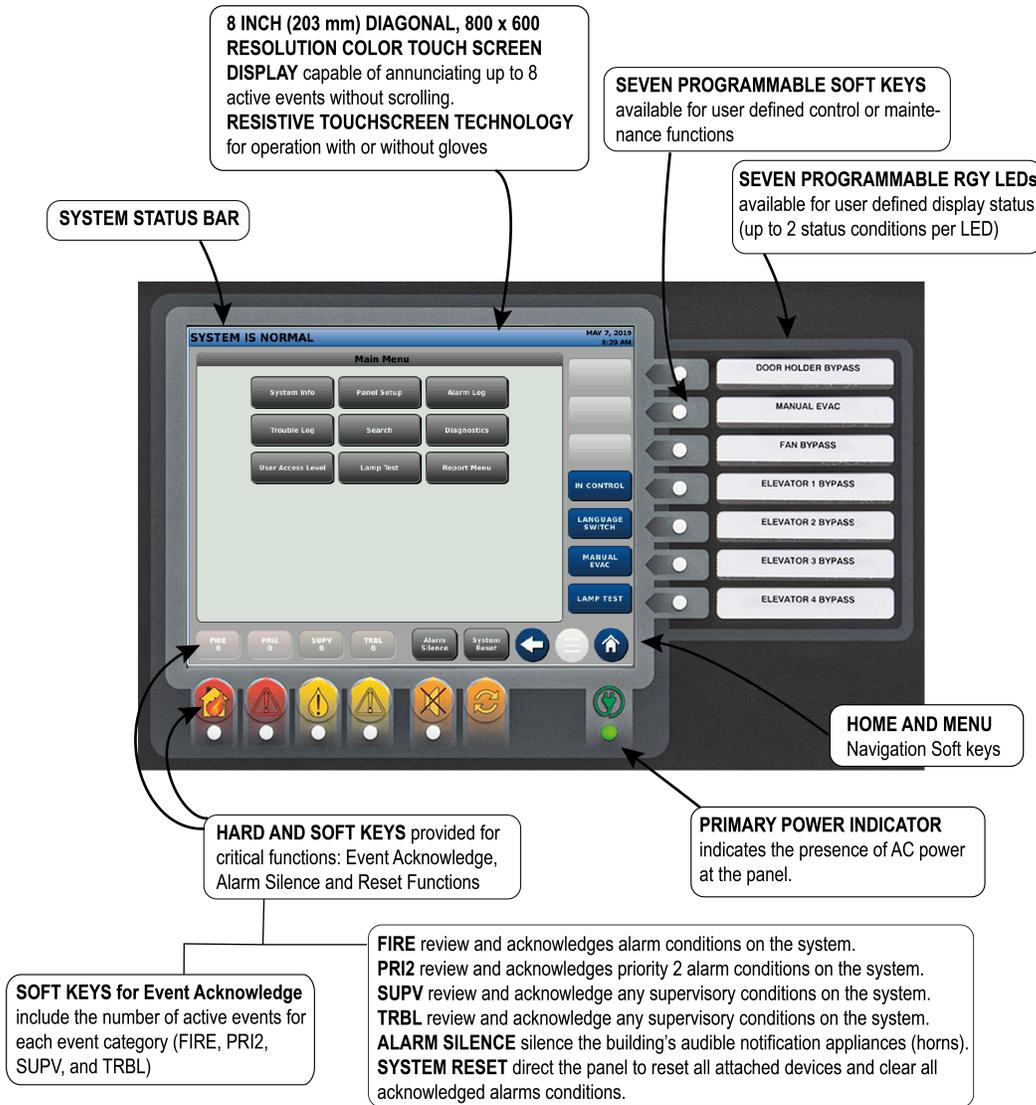
Packaging availability

- Modules are power-limited except as noted, such as relay modules.
- Enclosures are available for one, two, or three bay sizes or for cabinet rack mounting.
- Boxes, doors with tempered glass inserts, and dress panels are available in beige or red. Order separately.
- Refer to document *S4100-0037* for enclosure details.

Color ES touch screen display included on models 4100-9616 and 4100-9617

The color ES touch screen display interface offers intuitive operation similar to a tablet or smart phone. With a larger area format versus an individual text line display, more information is available at a glance and minimal key presses are needed to access detailed information.

Figure 1: ES touch screen display operator interface

8 INCH (203 mm) DIAGONAL, 800 x 600 RESOLUTION COLOR TOUCH SCREEN DISPLAY capable of annunciating up to 8 active events without scrolling. **RESISTIVE TOUCHSCREEN TECHNOLOGY** for operation with or without gloves

SEVEN PROGRAMMABLE SOFT KEYS available for user defined control or maintenance functions

SEVEN PROGRAMMABLE RGY LEDs available for user defined display status (up to 2 status conditions per LED)

SYSTEM STATUS BAR

HOME AND MENU Navigation Soft keys

PRIMARY POWER INDICATOR indicates the presence of AC power at the panel.

HARD AND SOFT KEYS provided for critical functions: Event Acknowledge, Alarm Silence and Reset Functions

SOFT KEYS for Event Acknowledge include the number of active events for each event category (FIRE, PRI2, SUPV, and TRBL)

FIRE review and acknowledges alarm conditions on the system.
PRI2 review and acknowledges priority 2 alarm conditions on the system.
SUPV review and acknowledge any supervisory conditions on the system.
TRBL review and acknowledge any supervisory conditions on the system.
ALARM SILENCE silence the building's audible notification appliances (horns).
SYSTEM RESET direct the panel to reset all attached devices and clear all acknowledged alarms conditions.

Features

ES touch screen displays provide a customized operating experience with the following features:

- Event activity display choices include **First 8 Events**, or **First 7 Events** with emphasis on **Most Recent**, or **First 6 Events** with emphasis on **First** and **Most Recent**, individually selectable for each event type.
- System reports are easily viewable and you can read logs with minimal scrolling.
- Up to two languages are available for each system, easily selected by programmable key press
- Vector the information sent to Remote ES Touch Screen Displays by point or zone.
- Both hard and soft keys are available for the following critical functions: Event Acknowledge, Alarm Silence, Reset Functions.
- Resistive touchscreen technology allows operation with or without gloves.
- Seven programmable RGY LEDs are available for user-defined display status, with up to two status conditions for each LED.
- Seven programmable soft keys are available for user-defined control or maintenance functions
- You can change the PRI2 soft key label to CO to annunciate carbon monoxide detection status.
- You can program the ES Touch Screen Display to report individual points or groups of points as a single zone.
- Supports the ability to display a custom watermark background file of a company logo or other display content.
- Seismically compliant under the State of California Statewide Office of Housing and Development (OSHPD) Special Seismic Certification (SSC) program guidelines. Refer to *Simplex Seismic Application Guide* 579-1213 and *Battery Brackets for Seismic Activity Applications* S2081-0019 for details.

Display properties

- 8 in. (203 mm) diagonal, 800 x 600 resolution color touch screen display, capable of annunciating up to 8 active events without scrolling.
- Bright white LED backlighting provides efficient and long lasting illumination. The backlight is dim in quiescent state and automatically switches to full power on touch or on event activity in system.

Description

The ES touch screen displays for 4100ES fire alarm systems provide a large display with extended information content, dual language support including UTF-8 character languages, and an intuitive control key interface with the following features:

- Up to 10 ES touch screen displays are supported for each 4100ES control panel with the capacity for one ES touch screen display to take control and to designate access levels for interfaces not in control. You can assign programmable LEDs to in control status indications.
- The menu-driven format conveniently prompts operators for the next action required.
- Direct point callup displays individual points alphabetically and then homes in on the logical choice as more point information is entered.
- Event categories are color coded for quick visual representation: red for **Alarm** and **Priority 2** events, yellow for **Supervisory** and **Trouble** events.
- Date formats are either MM/DD/YY or DD/MM/YY.
- Time formats are either 24 hour or 12 hour with AM/PM.
- System normal screen supports a color background or watermark for company name, company logo, or other display content.

Specifications

Table 1: General ES touch screen display specifications

Specification	Rating
Resolution	800 x 600 pixels (RGB)
Size and type	8 inch (203 mm) diagonal, color touch screen
Touch screen technology	Resistive
Event display	Up to 8 events without scrolling
Normal screen custom watermark file format	680 x 484 pixels: BMP, JPG, TIFF, GIF, or PNG file format
Environmental	Operating temperature: 32°F to 120°F (0°C to 49°C)
	Operating humidity: up to 93% RH, non-condensing @ 90°F (32°C) maximum

Example display screens
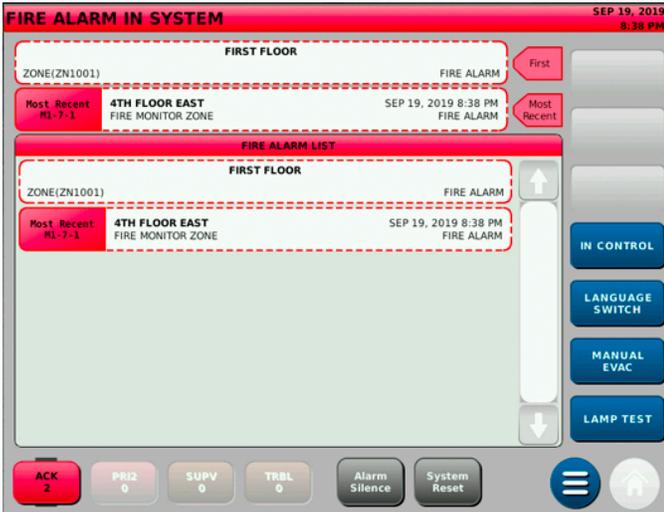
Figure 2: First and Most Recent alarm display

Figure 3: Main Menu

Figure 4: First eight active trouble events list
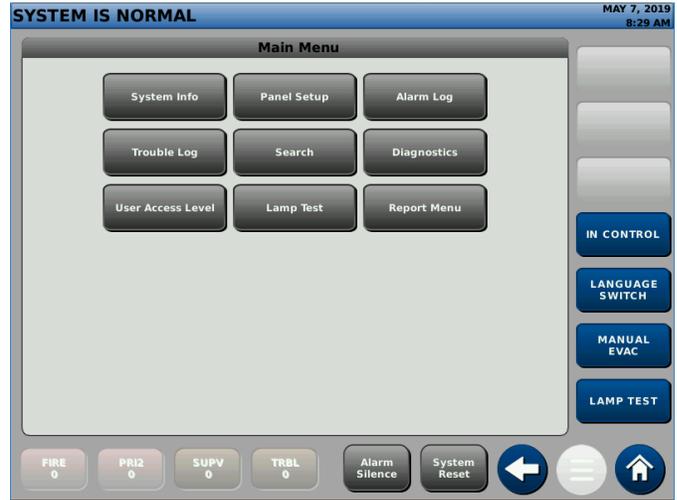
Figure 5: Direct point callup

Figure 6: Alarm history log

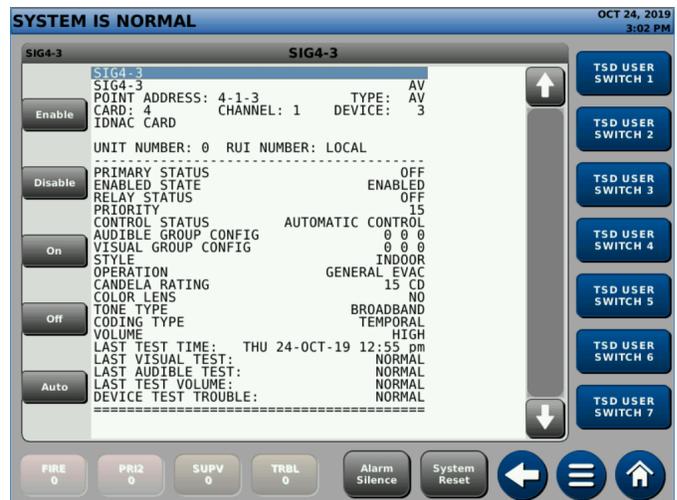**Figure 7: Detailed point status screen for TrueAlert ES appliance**

Remote command center, order 4100-1290 remote command center option separately

The optional remote command center occupies the top bay of a remote annunciator. It provides a 2 line x 40 character LCD status readout with keyswitch activated control switches and a local tone-alert sounder. Its features are essentially identical to the remote LCD annunciator model 4603-9101, refer to document *S4603-0001*. For the color ES touch screen display user interface, order models 4100-9616 or 4100-9617. See Table 2 for remote annunciator model selections.

Figure 8: 4100-1292 remote command center
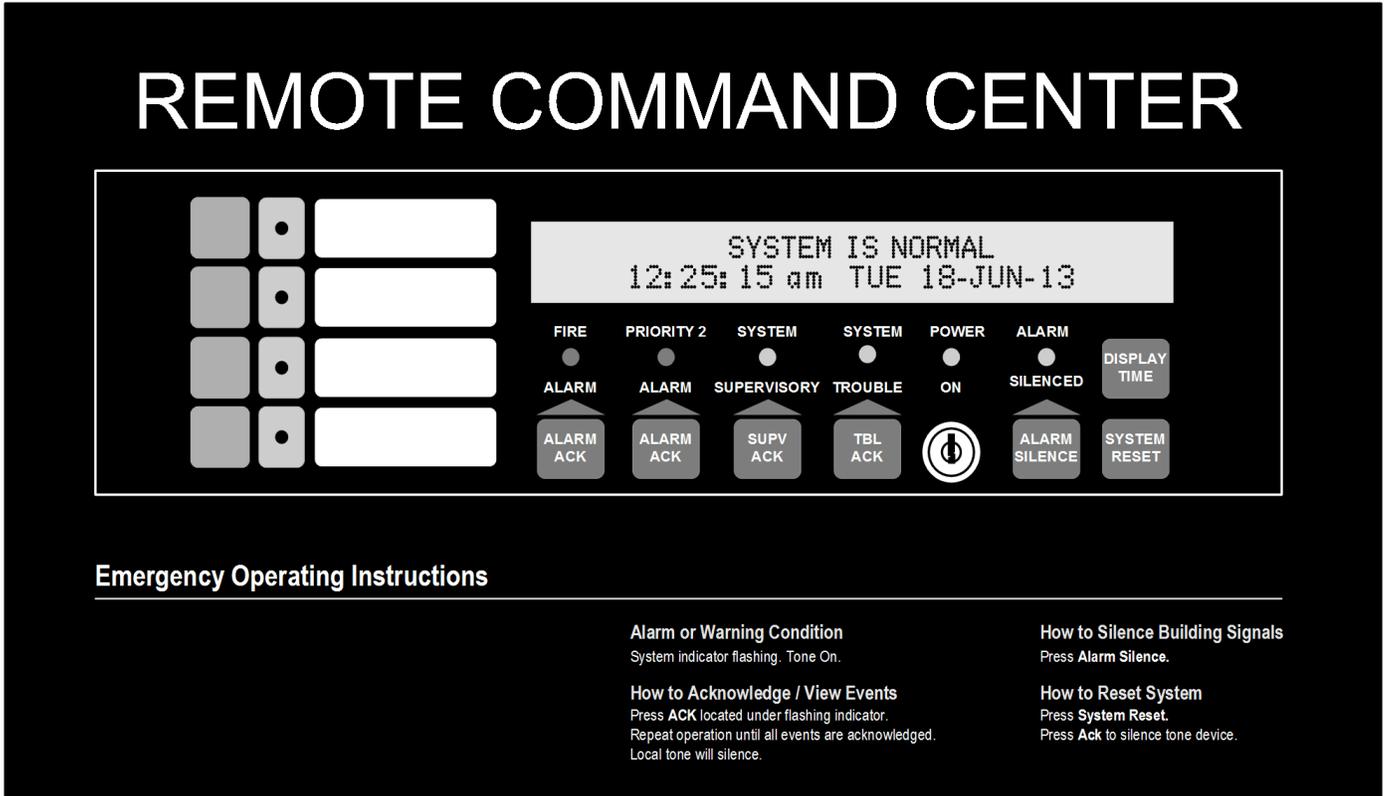
Remote annunciator audio module reference

Figure 9: Remote annunciator audio module reference
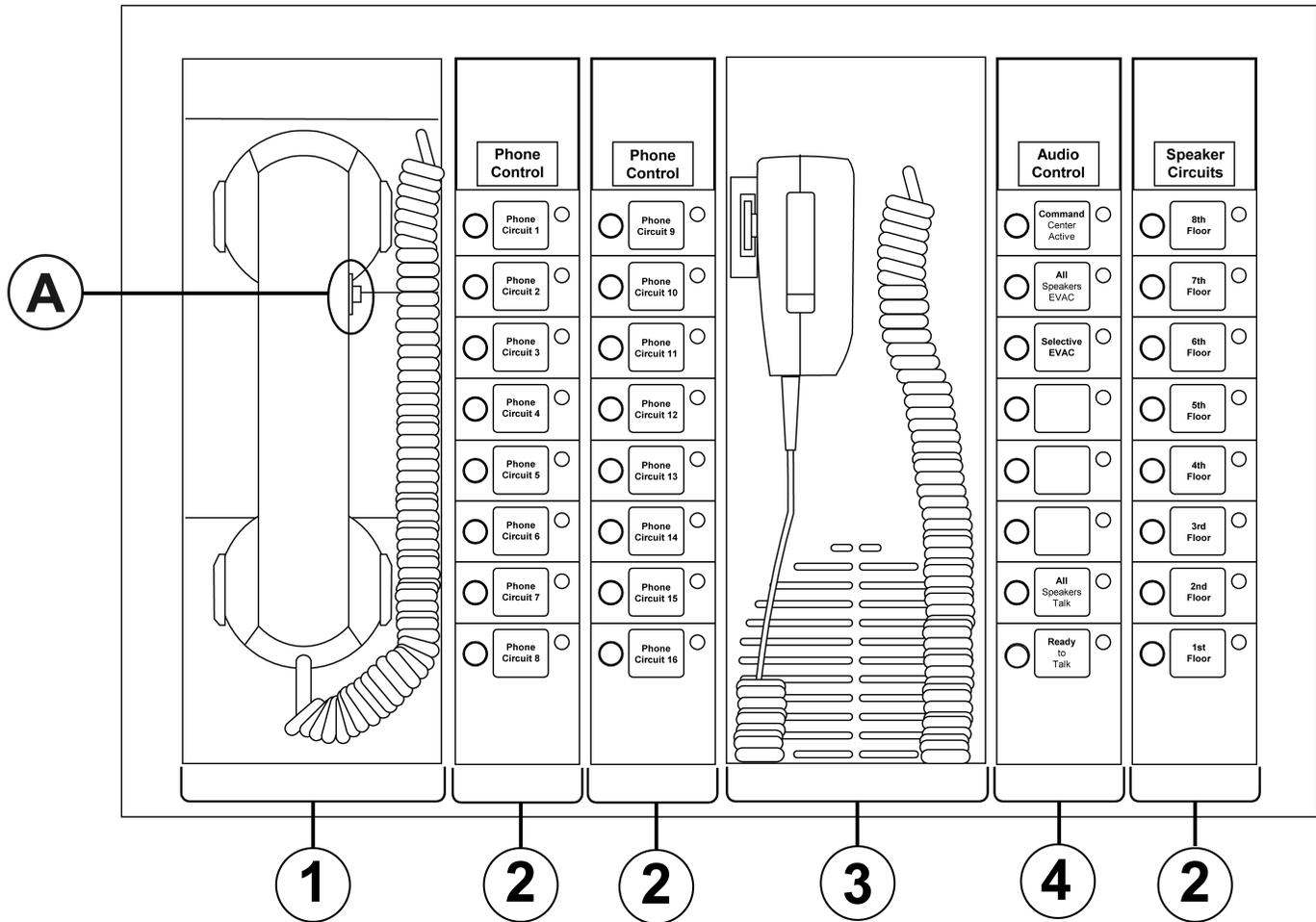
Callout	Description
A	Push-to-talk switch
1	4100-1271 remote master phone module
2	4100-1461, 8 switches with 8 RGY LEDs, with user-defined labels
3	4100-1244 remote microphone module
4	4100-1461, 8 switches with 8 RGY LEDs, with 4100-1465 labels

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Product selection

Table 2: Remote annunciator panel type

Model	Description	Details and mounting reference
4100-9616	Remote annunciator with ES touch screen display	Remote annunciator includes the following items: color ES touch screen display, Expansion bay with PDI, a 4100-0620 basic transponder interface card. Power supply is specified separately when configured. Supervisory current = 95 mA, alarm current = 165 mA
4100-9617	Basic remote annunciator with ES touch screen display, see module exclusion list.	Basic remote annunciator includes the following items: color ES touch screen display, expansion bay with PDI, transponder interface card. Power is supplied from host control panel. Supervisory current = 95 mA, alarm current = 165 mA

Table 3: Remote command center option

Model	Description	Details and mounting reference
4100-1292	Panel mounted LCD annunciator with 2 line by 40 character LCD with LED illumination. LED illumination is off during supervisory, turning on with alarm or when switches are activated.	Mounting requires the top bay. 4100ES/4100U flat modules are allowed behind it. RUI device and RUI/RUI+ connection is required. Supervisory current = 65 mA, without backlight Alarm current = 140 mA
4100-9616	Remote annunciator with ES touch screen display	Remote annunciator includes the following items: ES touchscreen display, expansion bay with PDI, remote TIC module. Power supply is specified separately when configured. Supervisory current = 95 mA, alarm current = 165 mA
4100-9617	Basic remote annunciator with ES touch screen display	Basic remote annunciator includes the following items: ES touchscreen display, expansion bay with PDI, remote TIC module. Power is supplied from host FACU. Supervisory current = 95 mA, alarm current = 165 mA

Note: For the color ES touch screen display user interface, order models 4100-9616 or 4100-9617. See Table 2 for remote annunciator model selections.

Table 4: Emergency voice/alarm communications operator interface options

Model	Description	Details and mounting reference
4100-1244	Remote microphone (mic) module	Front panel module requires 2 slots, 4 in. (51 mm). The space behind accepts 4100ES/4100U flat modules only and requires dedicated wiring to FACU audio control module. Supvisory current = 2.4 mA, active = 6 mA
4100-1461	8 switch, 8 RGY LED module, for audio control	Requires 4100-1450 64/64 controller. For expanded capacity, order the optional 4100-1449 controller. Requires 4100-1465 from the following row.
4100-1465	Slide in label sheet for 4100-1461	For audio channel control

Table 5: Firefighter telephone system products

Model	Description	Details and mounting reference
4100-1271	Remote master telephone	Mounts in two vertical blocks of bay front, locate as required. The space behind allows 4100ES/4100U flat modules only.
4100-1272	Phone module with 3 class B phone NACs	Single block module, mounts to bay mounting plate.
4100-1273	Phone class A adapter module	Mounts to 4100-1272, no additional space required.

Note: Refer to document *S4100-1034* for additional details.

Table 6: Multicolor LED/switch reference

Module no.	No. of switches	No. of LEDs	LED color
4100-1459	-	8	RGY
4100-1460	-	16	
4100-1461	8	8	
4100-1462	8	16	
4100-1463	16	16	
4100-1464	-	8	RGB

Table 7: LED/switch controller modules and accessories

Model	Description	
4100-1450	64/64 controller board with mounting plate. Controls up to 64 LEDs and interfaces to up to 64 switches. Mounts behind the LED/switch modules and has provisions for one 4100-1449 controller module.	**Note:** LED/switch controllers and their connected LED/switch modules must be in the same bay, see data sheet *S4100-1032* for details.
4100-1449	64/64 controller board without mounting plate. Mounts on extra space of 4100-1450 and controls an additional 64 LEDs and 64 switches.	
4100-1294	LED/switch module slide-in labels, required when LED/switch modules are present, order one for every cabinet.	

Table 7: LED/switch controller modules and accessories

Model	Description
4100-1290	24 point I/O module for external connections, select each point as either input or output. 2 in. (51 mm) wide. 1 slot, refer to *S4100-0032* for more detail.
Note: LED kits for 4100-1276/4100-1277/4100-1300 are in Product selection. Refer to data sheet *S4100-0032* for additional LED/switch module selections.	

Table 8: Communication modules

SKU	Description	Size	Supv.	Alarm
4100-6038	Dual RS-232 interface, mounts in slot 3 or slot 2.	1 slot	132 mA	
Note: Not available with 4100-9611				

Table 9: ES power supplies

Model	Voltage	Description	Includes	Provides power to bay	Size	Supv.	Alarm
4100-5401	120-240 V 50/60 Hz	ES-PS	24 V aux. relay, 24 V aux. power 2 A tap/simple NAC, 110 Ah battery charger, 2 PDI blocks for compatible option cards	Yes	2 blocks	68 mA	77 mA
4100-5402	120-240 V 50/60 Hz	ES-XPS	Same as ES-PS except without battery charger	No			

Table 10: Power supply accessories

Model	Description	Size	Current
4100-5152	12 VDC power option, 2 A maximum	1 Block	1.5 A maximum
4100-0156	8 VDC converter, required for multiple physical bridge modules, 3 A maximum	1 Block	Included with loads
4100-5130	Voltage regulator module, 22.8 to 26.4 VDC, 25 VDC nominal. Isolated and resettable output, includes earth detection circuit and trouble relay for status monitoring.	1 Block	3 A maximum with 2.5 A load, 4.9 A maximum with 4 A load
4100-5131	ES-PS fan module. Allows the installation of more than one power supply in a single bay and can increase total DC output power capacity for every power supply. See Table 14 for specifications.	N/A	0 mA Supv. 200 mA Alarm
4100-0636	Box interconnection harness kit. Order one for each close-nippled cabinet. Also used if power is supplied from host FACU.		
4100-0638	4100 slot module additional 24 VDC harness. Needed when 4100 slot module requirements exceed 2 A from ES-PS.		
4100-5403	Harness for ES-PS backup power supply		
4100-0644	120 VAC PDM harness	1 PDM harness is required per power supply, select as required for appropriate input voltage.	
4100-0645	220 VAC PDM harness		
4100-0646	230 VAC PDM harness		
4100-0647	240 VAC PDM harness		

Table 11: Power distribution modules

SKU	Voltage	Description
4100-0634	120 VAC	Power distribution module (PDM). Select for every system voltage.
4100-0635	220/230/240 VAC	

Table 12: Miscellaneous accessories

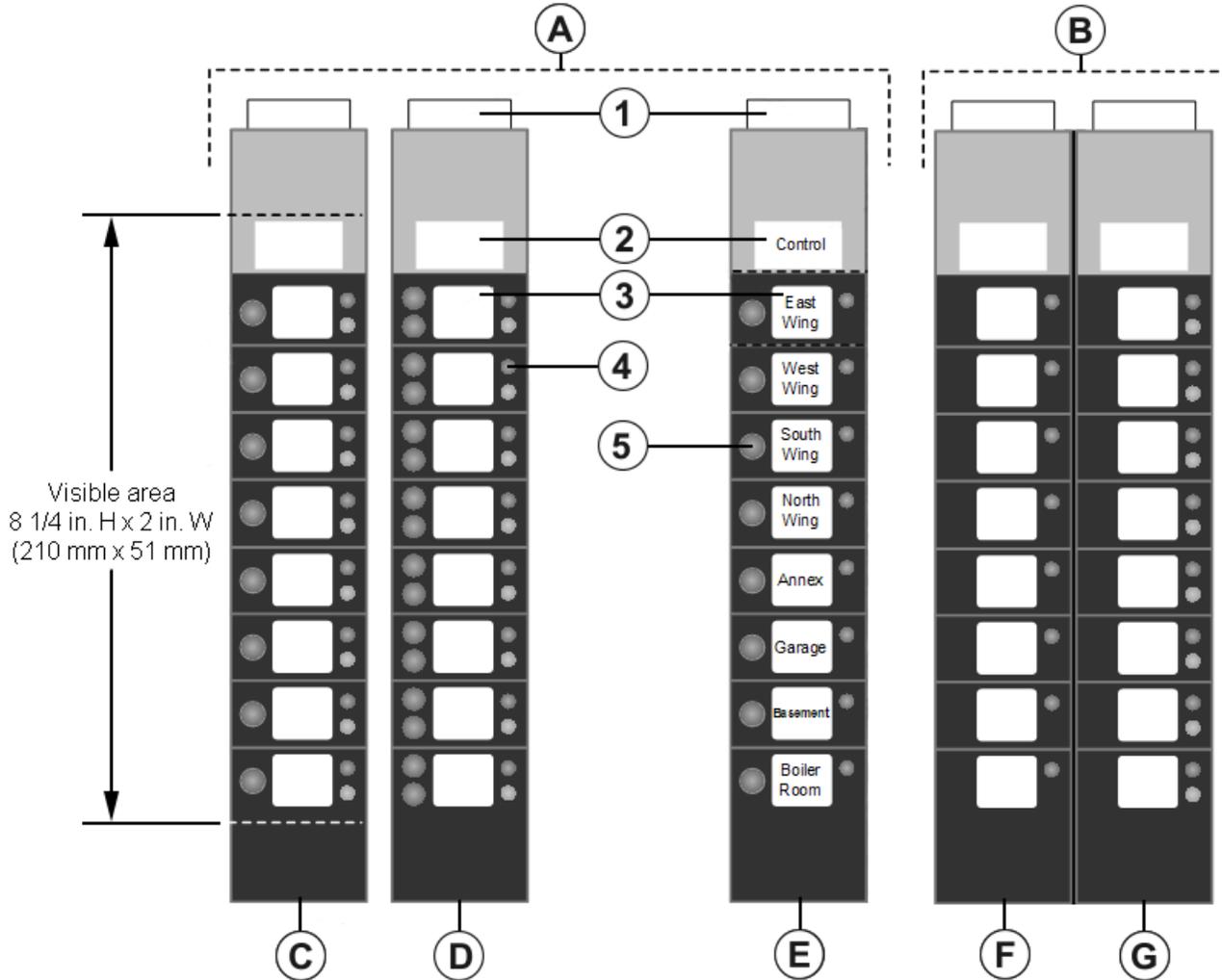| SKU	Description
4100-2300	Expansion bay hardware. Order one for each expansion bay, unless included with selected option.
4602-1476	Single blank 2 in. display cover. Order as required, 8 fill a bay front. 2 max between LED/switch modules
4100-9835	Termination and address label kit, for module marking. Provides additional labels for field installed modules.
4100-0633	Door tamper switch. Connects to transponder interface module.

Two bay remote annunciator LED/switch module reference

Figure 10: Module reference
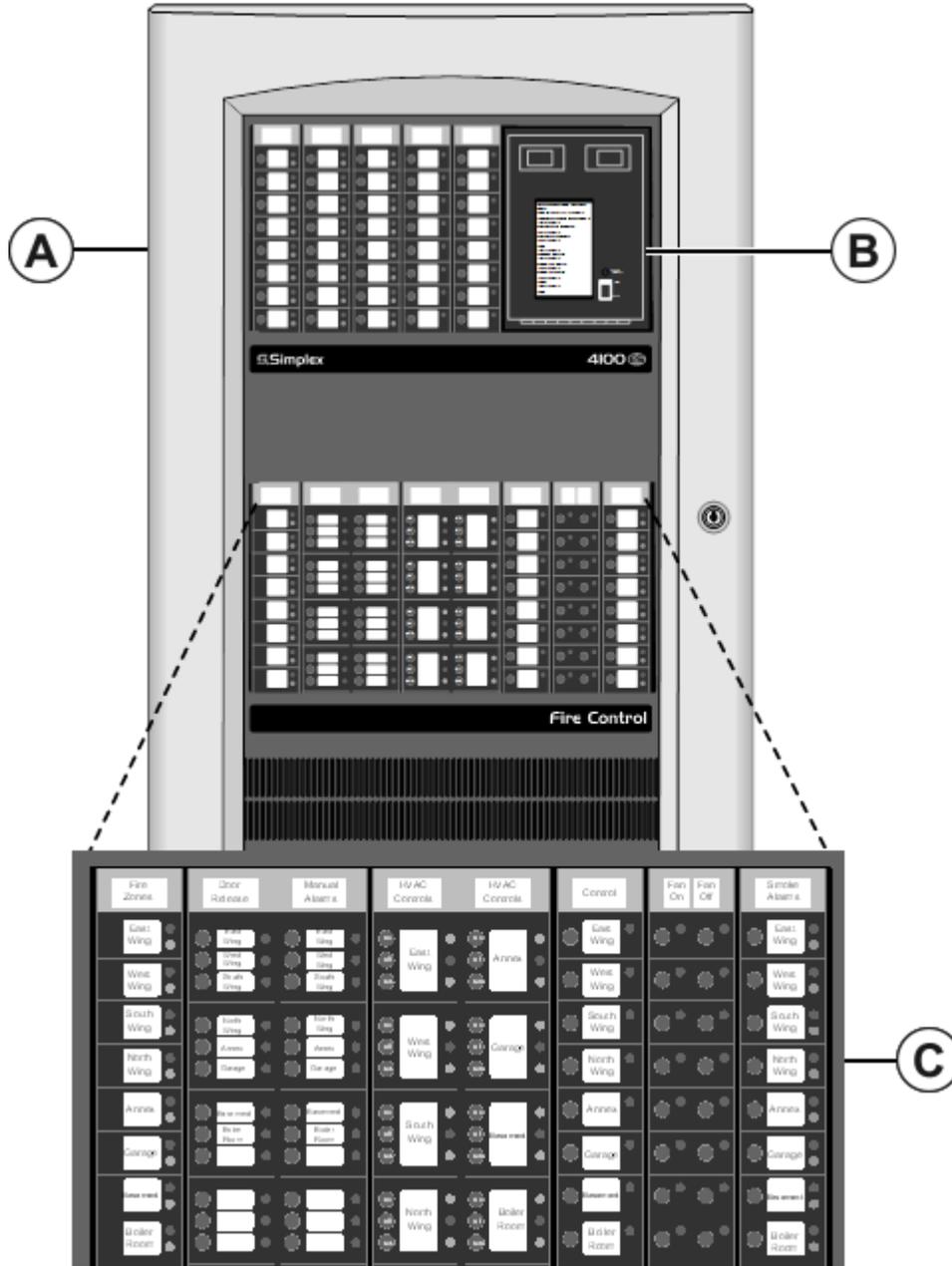
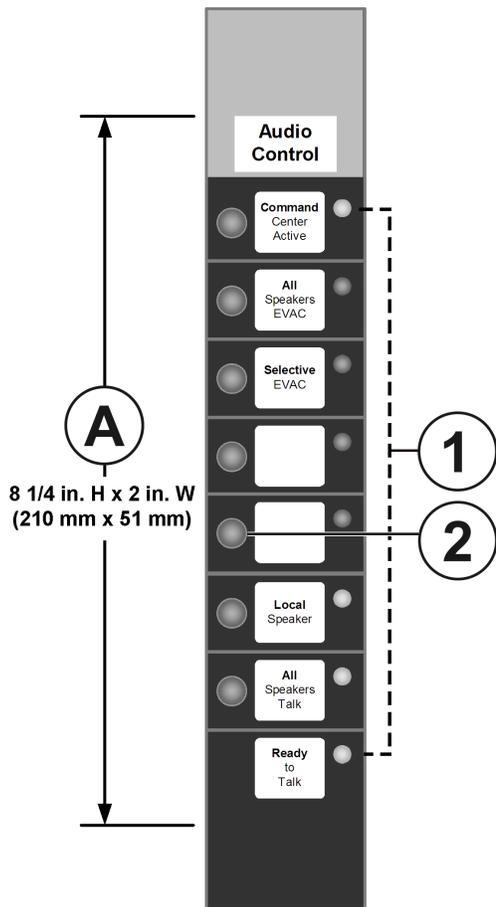| Callout	Description
A	Two bay remote annunciator panel, non-audio
B	Remote printer option, example location
C	Example non-audio LED/switch and LED modules, with module labelling

Single slot LED/switch module detail reference

Figure 11: Single slot LED/switch module detail reference

Callout	Description	Callout	Description
A	LED/switch modules	B	LED modules
C	4100-1462, 8 switches with 16 RGY LEDs	D	4100-1463, 16 switches with 16 RGY LEDs
E	4100-1461, 8 switches with 8 RGY LEDs	F	4100-1459, 8 RGY LEDs
			4100-1464, 8 RGB LEDs
G	4100-1460 16 RGY LEDs	1	Label insert
2	Primary function label	3	Custom label area
4	LEDs	5	Switches

4100-1461 8 switch, 8 RGY LED module

Figure 12: 4100-1461 8 switch, 8 RGY LED module

Callout	Description
A	Visible area
1	RGY LEDs
2	Switches. Program as required.

Expansion bay module loading reference

Figure 13: Expansion bay chassis, module loading reference
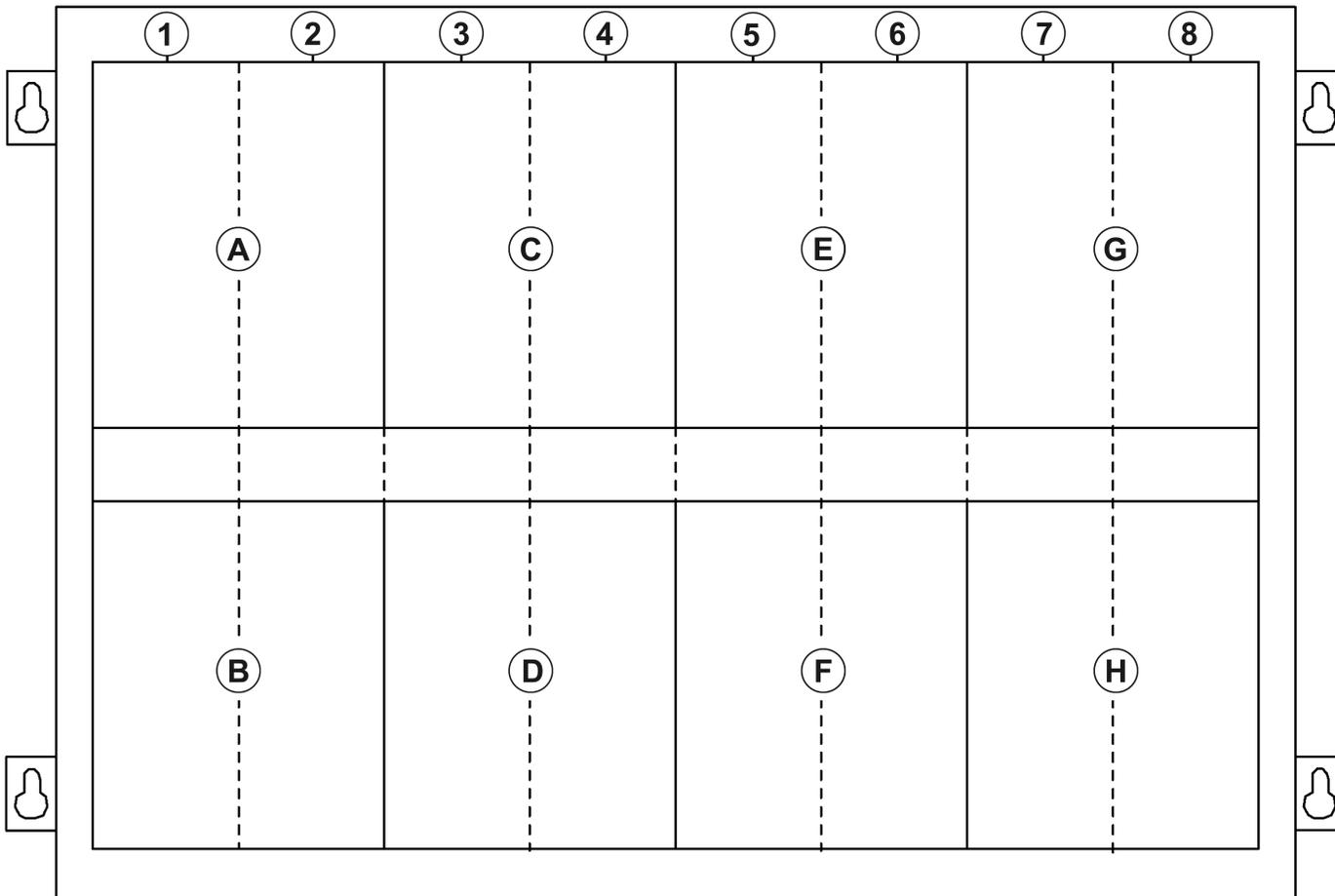
Callout	Description	Callout	Description
A	Block A	1	Slot 1
B	Block B	2	Slot 2
C	Block C	3	Slot 3
D	Block D	4	Slot 4
E	Block E	5	Slot 5
F	Block F	6	Slot 6
G	Block G	7	Slot 7
H	Block H	8	Slot 8

Table 13: Block and slot dimensions

Component	Dimensions
Block	4 in. x 5 in. (W x H) card area
Slot	2 in. x 8 in. (W x H) motherboard with daughter card

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General specifications

Table 14: ES power supply specifications, ES-PS and ES-XPS

Specifications	Rating
AC input power	120 VAC to 240 VAC
120 VAC	3.72 A
220 VAC to 240 VAC	1.82 A
Total DC output power capacity	
Without fan	9.5 A
With 4100-5131 fan and 4100-5451 IDNAC module(s)	9.7 A
With 4100-5131 fan, without 4100-5451 IDNAC module	12.7 A
With regulated 24 V appliance loads, with or without 4100-5131 fan	5.0 A
Special application appliance loads: supports full total DC output power capacity ratings above	Simplex horns, strobes, and combination horn/strobes and speaker/strobes. Contact your Simplex product representative for compatible appliances.
Regulated 24 V appliances: reduces total DC output power capacity to 5.0 A	Power for other UL listed appliances. Use associated external synchronization modules where required.
Auxiliary power tap	2 A maximum, taken from total output power capacity.
NACs programmed for auxiliary power	3 A maximum for every NAC, 5 A maximum total, taken from total output power capacity.
Battery charger, ES-PS only	Sealed lead-acid batteries
Battery Ah capacity	UL/ULC listed for battery charging of up to 110 Ah. Batteries larger than 50 Ah require a remote battery cabinet.
Charger characteristics and performance	Temperature compensated, dual rate. Recharges depleted batteries in 48 hours.
Environmental	
Operating temperature	32 °F to 120 °F (0 °C to 49 °C)
Operating humidity	Up to 93% RH, non-condensing at 90 °F (32 °C) maximum
Option card mounting	2 vertical blocks are available for compatible modules. Refer to the 579-1288 installation instructions for additional details.

Note:

1. Battery charger is only available on the ES-PS power supply.
2. When an ES-PS is used to power Flex-35 or Flex-50 amplifiers the ES-PS battery charger is not available.

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Wall mounted enclosure installation reference

Figure 14: Installation reference

Front view, box outline without door

**Side view with door attached
(See note 1)**

3 Bay height = 56" (1422 mm)

2 Bay height = 40" (1016 mm)

1 Bay height = 22" (559 mm)

Doors can be hinged left or right

24" (610 mm)

Exposed cabinet for semi-flush mounting with 1/2" (13 mm) wall:
2 7/8"(73 mm) for 4"stud
7/8" (22 mm) for 6" stud

Exposed door and cabinet for semi-flush mounting with 1/2" (13 mm) wall:
7 5/8" (194 mm) for 4" stud
5 5/8" (143mm) for 6" stud

Optional semi-flush trim kit reference

Door thickness 4 3/4" (121mm)

Knockout screw/nail holes (for semi-flush mounting)

1/2" (13 mm) wall board reference for semi-flush mounting

Stud alignment markers, each side

6" stud

4" stud

6 29/32" (175 mm)

11 11/16" (296 mm)

Note:

1. Side view dimensions are shown with minimal cabinet and door protrusion from the exterior wall. For 6 in. stud construction with minimum protrusion shown, the door opens 90 degrees. For the door to open 180 degrees, the exposed cabinet dimension from the exterior wall must be a minimum of 3 in. (76 mm) for both 4 in. and 6 in. stud construction.

2. A system ground must be provided for Earth Detection and transient protection devices. This connection is made to an approved, dedicated Earth connection for every NFPA 70, Article 250, and NFPA 780.

Additional 4100ES data sheet reference

Table 15: Data sheet reference

Subject	Datasheet
Battery and Battery Cabinet Reference for 4100ES	S2081-0006
110 Ah Batteries and Cabinets for 4100ES	S2081-0012
Graphic I/O Modules for 4100ES, 4010ES, 4007ES	S4100-0005
4100ES LED/Switch Modules and Printer	S4100-0032
Master Clock Interface	S4100-0033
4100ES Enclosures	S4100-0037
4100ES Basic Panels with ES-PS Power Supplies	S4100-1031
4100ES Emergency Voice/Alarm Communications Equipment	S4100-1034
NDU with ES-PS Power Supplies for 4120 Network	S4100-1036
Remote ES Touch Screen Displays for 4100ES and 4010ES Panels	S4100-1070
NDU with ES-PS Power Supplies for ES Net	S4100-1077