Simplex

*UL, ULC, CSFM Listed; FM Approved, OTCR/NYC Approved**

Datasheet

# 4100ES Fire Control Panels

Remote Annunciator Panels

## Features

**Remote Annunciator Panels provide fire alarm control panel status information at locations distant from the fire alarm control panel**

**Typical functions include:**

- Remote status LED indicators and dedicated switch input controls located on LED/switch modules
- Remote status LED indicator modules with 8 red or 16 (8 red/8 yellow) LEDs that are pluggable for color choice (yellow, green, or red LEDs are ordered 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
- Also available with InfoAlarm Command Center expanded content user interface (refer to Two Bay Remote Annunciator LED/Switch Module Reference, InfoAlarm Command Center Detail Reference, and to datasheet *S4100-1045* for additional information)

**Additional optional modules include:**

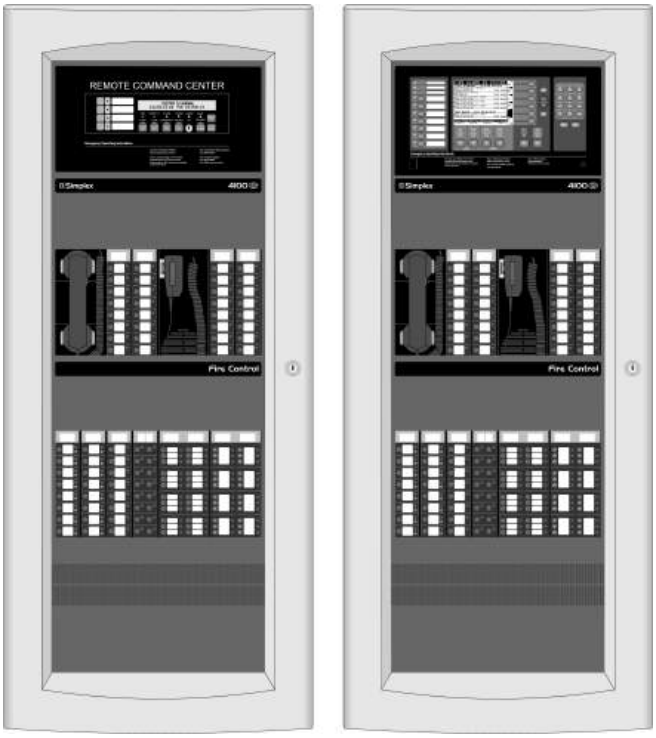
- Remote Command Center module for LCD status readout and keyswitch controlled functions
- 24 Point I/O module
- RS-232 ports for remote printer or terminal connections
- Power supplies with battery charger for annunciator
- Panel mounted printer for system status recording

**Wiring requirements:**

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

**Listed to:**

- UL 864, Fire Detection and Control (UOJZ), Smoke Control Service (UUKL), Releasing Device Service (SYZV), Emergency Communication and Relocation Equipment (UOQY)
- 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)
- 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. Typical use is when the host fire alarm control panel is located away from the area where those responding to a fire situation need status information.

### Status and Control

Controls are suitable for firefighter 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 callers can be connected to each other. Although intended for use in assisting fire responders, these system are also helpful during system setup and test.

*Additional listings may be applicable. Contact your local Simplex product supplier for the latest status.

## 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 fire alarm control panel are through a Remote Unit Interface (RUI or RUI+) connection that allows for up to 2500 ft (762 m) distance. RUI can communicate with up to a total of 31 remote devices for each master controller (on one or multiple RUI channels) and can be wired as a Class B or Class X communication pathway. Wiring can be either shielded or unshielded, twisted, or untwisted single pair wiring.

### Optional Expansion Bays

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

### The Battery Compartment

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

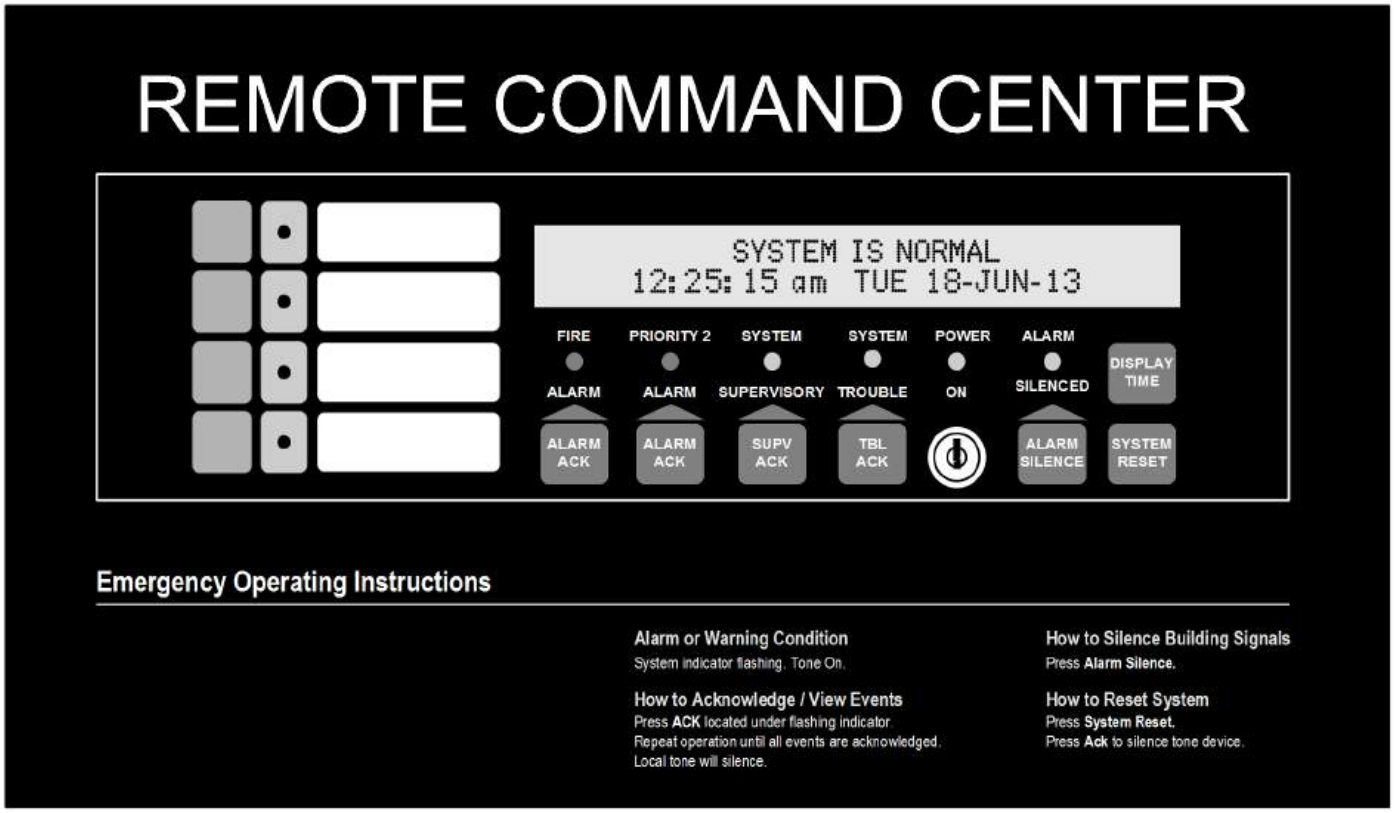
## Packaging Availability

- Modules are power-limited (except as noted, such as relay modules)
- Enclosure 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 (ordered separately)
- Refer to document *S4100-0037* for enclosure details.

## Remote Command Center

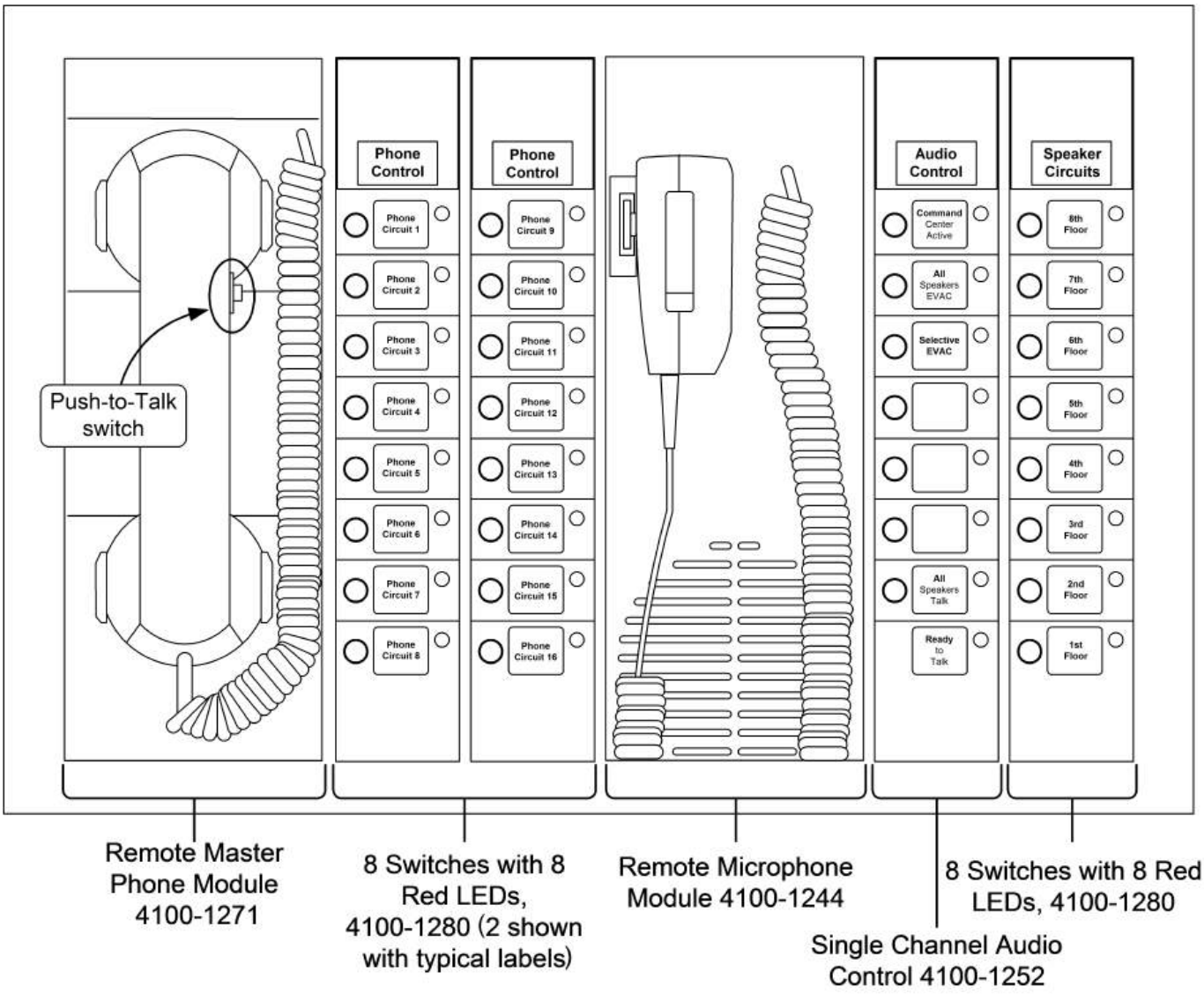
The optional Remote Command Center occupies the top bay of a Remote Annunciator. It provides an LCD status readout with keyswitch activated control switches and a local tone-alert sounder. Features are essentially identical to the Remote LCD Annunciator model 4603-9101 (reference document *S4603-0001*).

**Figure 1: 4100-1292 Remote Command Center**



## Remote Annunciator Audio Module Reference

**Figure 2: Remote Annunciator Audio Module Reference**




## Product Selection

**Table 1: Panel Type**

| Model | Description | Details and Mounting Reference |
|---|---|---|
| 4100-9610 | Remote Annunciator Panel; requires an internal power supply | Includes a bay assembly with power distribution board, a Basic Transponder Interface Module (4100-0620) mounted in Block A, and an interconnect harness for connecting to 4100ES Slot modules |
| | | Supervisory and Alarm current = 87 mA |
| 4100-9611 | Basic Remote Annunciator Panel; requires power from another cabinet (see module exclusion list) | Includes a bay assembly with power distribution board, a remotely powered Transponder Interface Module mounted in Block A, and an interconnect harness for connecting to 4100ES/4100U Slot modules |
| | | Supervisory and Alarm current = 87 mA |

**Table 2: Remote Command Center Option**

| Model | Description | Details and Mounting Reference |
|---|---|---|
| 4100-1292 | Panel Mounted LCD Annunciator; 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, RUI/RUI+ connection is required |
| | | Supervisory current = 65 mA (w/o backlight) |
| | | Alarm current = 140 mA |
| **Note:** for InfoAlarm Command Center expanded content display products, refer to data sheet *S4100-1045* | | |

**Table 3: Emergency Voice/Alarm Communications Operator Interface Options**

| Model | Description | | Details and Mounting Reference |
|---|---|---|---|
| 4100-1244 | Remote Microphone (mike) Module | | Front panel module; requires 2 Slots (4 in. [51 mm]), space behind accepts 4100ES/4100U flat modules only (requires dedicated wiring to fire alarm control panel audio control module); Supv. = 2.4 mA, Active = 6 mA |
| 4100-1252 | 1 Channel (audio or mike) | Operator Interface Modules | Single slot modules requiring connection to an LED/switch controller; space behind accepts 4100ES/4100U flat modules only; adjacent LED/switch module(s) are required for specific speaker circuit selection (refer to document S4100-1034 for audio reference and document *S4100-0032* for LED/switch module reference); Supv. = 0, Alarm = 24 mA |
| 4100-1253 | 1.5 Channel (audio + mike) | | |
| 4100-1254 | 2 Channel (full audio) | | |
| 4100-1255 | 3-8 Channel | | |

**Table 4: 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; 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 detail | | |

**Table 5: LED and LED/Switch Modules, General Purpose**

| LEDs per Switch | LEDs | Switches | Model | LED Color(s) | Model | LED Color(s) |
|---|---|---|---|---|---|---|
| One | 8 | | 4100-1280 | Red | 4100-1281 | Yellow |
| Two | 16 | 8 | 4100-1282 | Red on top, Yellow on bottom | 4100-1283 | Yellow, top and bottom |
| Two | | | 4100-1284 | Red on top, Green on bottom | 4100-1296 | Green on top, Yellow on bottom |
| One | | 16 | 4100-1285 | Red | 4100-1278 | 8 Red on left, 8 Yellow on right |
| **Note:** LED/switch controller and label kit is ordered separately. Refer to data sheet *S4100-0032* for additional LED/Switch module selections. | | | | | | |

**Table 6: LED and LED/Switch Modules, General Purpose**

| LEDs per Switch | LEDs | Switches | Model | LED Color(s) |
|---|---|---|---|---|
| LEDs only | 8 | LEDs only | 4100-1276 | Red, pluggable |
| LEDs only | 16 | LEDs only | 4100-1277 | Pluggable LEDs, shipped Red on top, Yellow on bottom |
| One | | 16 | 4100-1300 | Pluggable LEDs, shipped Red on top, Yellow on bottom; Note: UL, ULC, and CSFM listed only |
| One | 24 | 24 | 4100-1287 | Red |
| **Note:** LED/switch controller and label kit is ordered separately. Refer to data sheet *S4100-0032* for additional LED/Switch module selections. | | | | |

**Table 7: LED/Switch Modules, Special Purpose**

| Model | Operation | Switch Function (Location) | LED Description |
|---|---|---|---|
| 4100-1286 | Eight function HOA (On, Off, Auto) Control Module with labeled switches | On (top) | Green LED |
| | | Off (middle) | Red LED |
| | | Auto (bottom) | Green LED |
| **Note:** LED/switch controller, label kit, and separate LEDs are ordered separately. Refer to data sheet *S4100-0032* for additional LED/Switch module selections. | | | |

**Table 8: LED/Switch Controller Modules and Accessories**

| Model | Description | |
|---|---|---|
| 4100-1288 | 64 LED/64 Switch Controller Module 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 4100-1289 Controller Module | **Note:** LED/switch controllers and their connected LED/switch modules must be in the same bay; (see data sheet *S4100-0032* for details) |
| 4100-1289 | 64 LED/64 Switch Controller Module without mounting plate; mounts on extra space of 4100-1288; 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 per cabinet | |
| 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; for more detail refer to *S4100-0032*. | |
| **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 9: Communication Modules**

| SKU | Description | Size | Supv. | Alarm |
|---|---|---|---|---|
| 4100-6038 | Dual RS-232 Interface, mounts in Slot 3 or Slot 2 | 1 Slot | 132 mA | |

**Table 10: Panel Mounted Printer**

| SKU | Description |
|---|---|
| 4100-1293 | Panel Mount Thermal Printhead Printer, supplied with one roll of paper; requires 3 expansion slots |
| 4190-9803 | Replacement Paper for 4100-1293 Printer, one roll |

**Table 11: 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 above except without battery charger | No | | | |

**Table 12: 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 w/loads |
| 4100-5130 | Voltage Regulator Module, 22.8 to 26.4 VDC (25VDC 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 more than one power supply to be installed in a single bay and may increase total DC output power capacity per power supply. See Table 16 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 fire alarm control panel | | |
| 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 13: Power Distribution Modules**

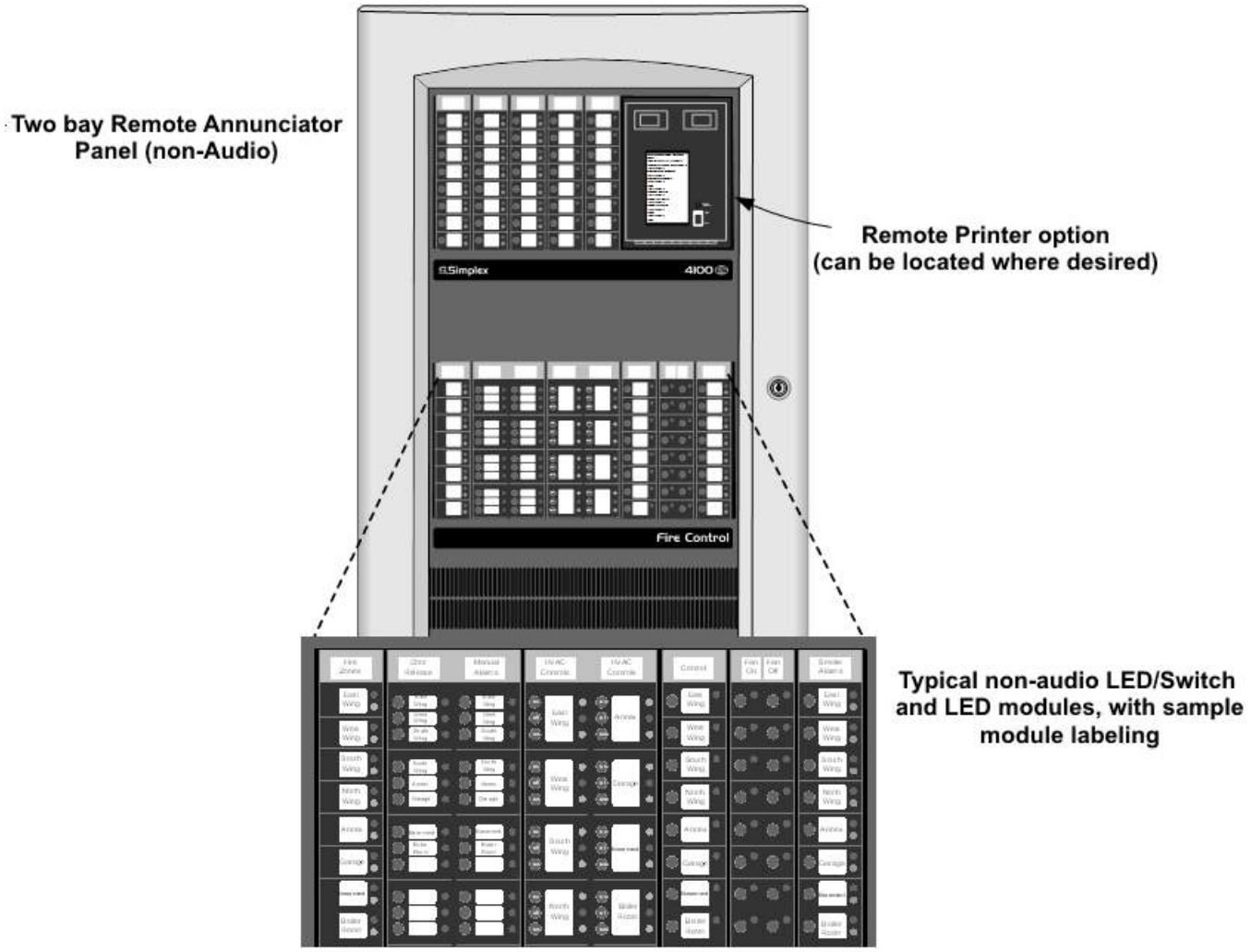
| SKU | Voltage | Description |
|---|---|---|
| 4100-0634 | 120 VAC | Power Distribution Module (PDM); select for every system voltage |
| 4100-0635 | 220/230/240 VAC | |

**Table 14: Miscellaneous Accessories**

| SKU | Description | |
|---|---|---|
| 4100-2300 | Expansion Bay Hardware, **order one for each expansion bay** (unless included with selected option) | |
| 4100-1279 | 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) | |
| 4100-9843 | Yellow | Kits of 8 LEDs; order as required for 4100-1276/1277/1300 modules |
| 4100-9844 | Green | |
| 4100-9845 | Red | |
| 4100-9855 | Blue | |

## Two Bay Remote Annunciator LED/Switch Module Reference

Figure 3: Module Reference




## InfoAlarm Command Center Detail Reference

Figure 4: InfoAlarm Command Center Detail Reference



## Single Slot LED/Switch Module Detail Reference

Figure 5: Single Slot LED/Switch Module Detail Reference

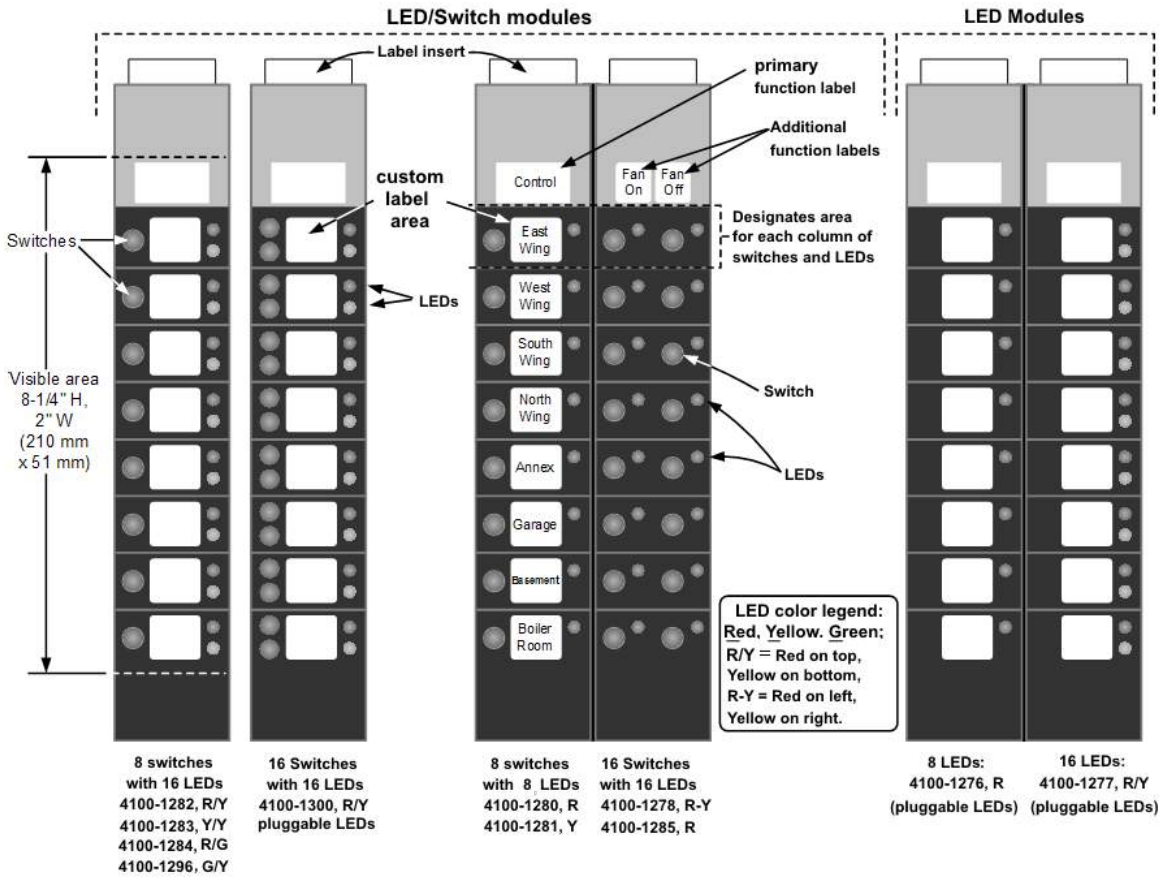
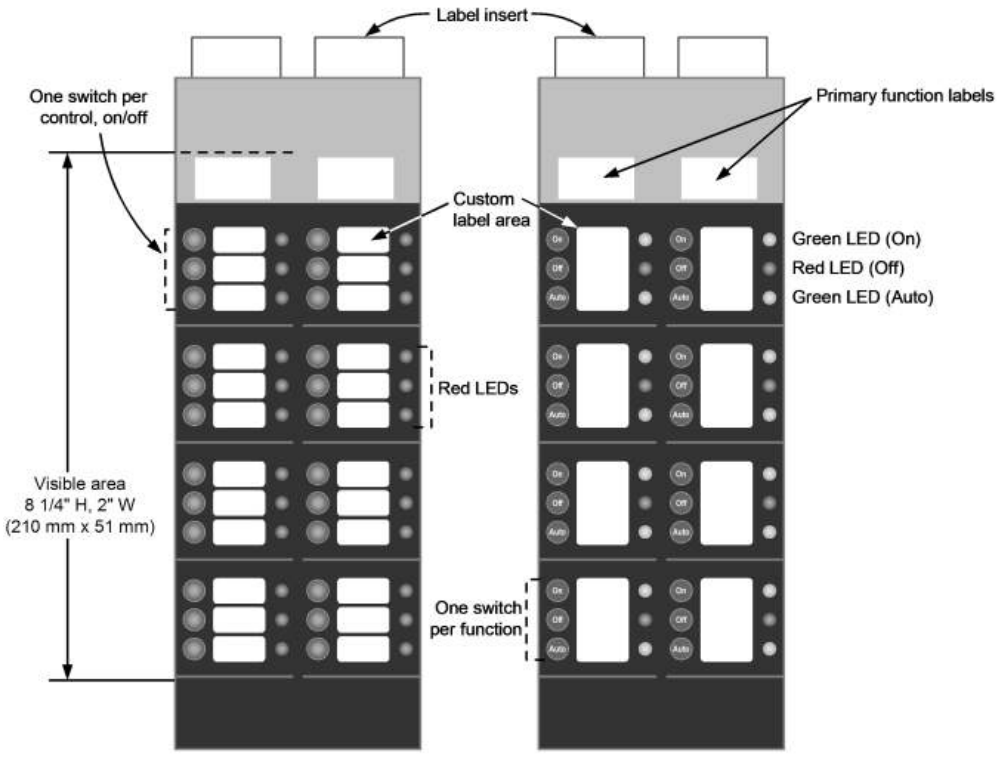



Table 15: LED/Switch reference

| Module no. | No. of switches | No. of LEDs | LED color | LED position |
|---|---|---|---|---|
| 4100-1276* | - | 8 | red | right |
| 4100-1277* | - | 16 | red | top |
| | | | yellow | bottom |
| 4100-1278 | 16 | 16 | red | left |
| | | | yellow | right |
| 4100-1280 | 8 | 8 | red | right |
| 4100-1281 | 8 | 8 | yellow | right |
| 4100-1282 | 8 | 16 | red | top |
| | | | yellow | bottom |
| 4100-1283 | 8 | 16 | yellow | top |
| | | | yellow | bottom |
| 4100-1284 | 8 | 16 | red | top |
| | | | green | bottom |
| 4100-1285 | 16 | 16 | red | left/right |
| 4100-1296 | 8 | 16 | green | top |
| | | | yellow | bottom |
| 4100-1300* | 16 | 16 | red | top |
| | | | yellow | bottom |
| *Models with pluggable LEDs | | | | |

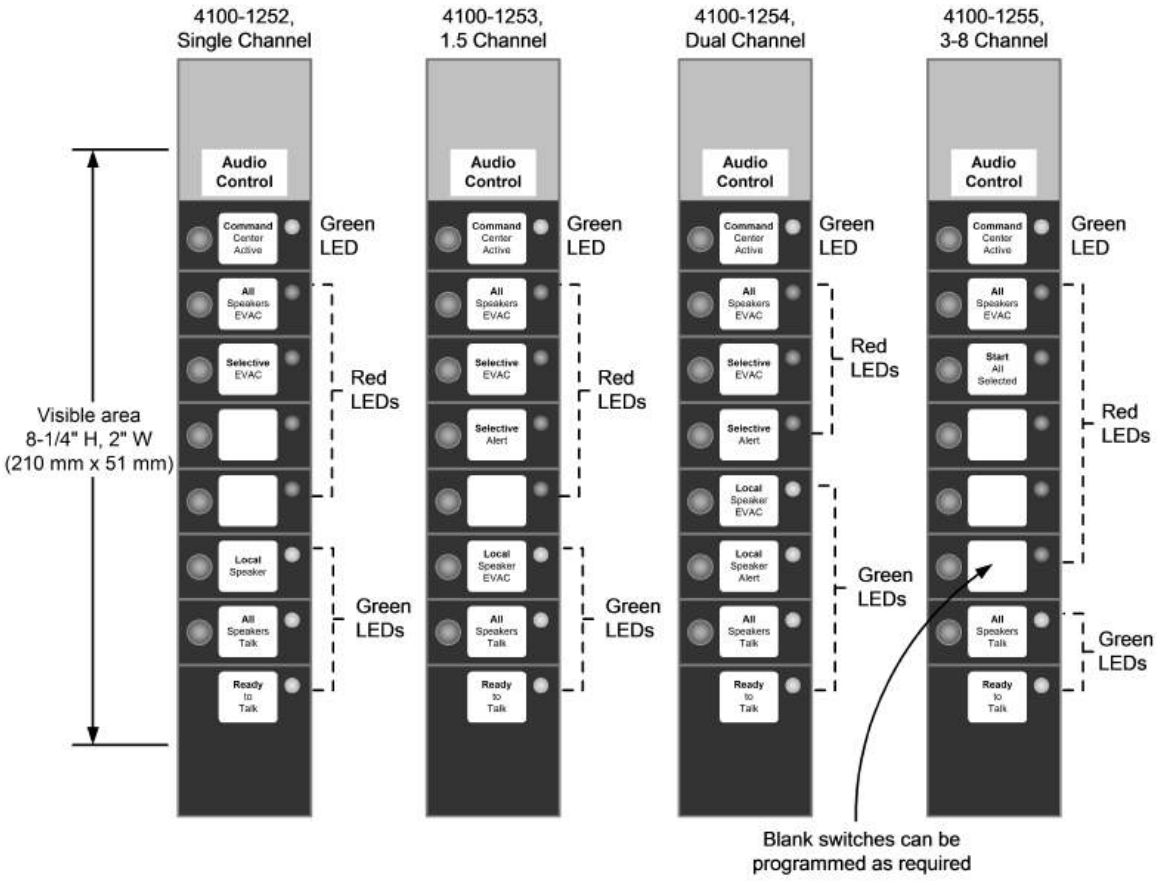
## Dual Slot LED/Switch Module Detail Reference

Figure 6: Dual Slot LED/Switch Module Detail Reference


Label insert
One switch per control, on/off
Primary function labels
Custom label area
Green LED (On)
Red LED (Off)
Green LED (Auto)
Red LEDs
Visible area
8 1/4" H, 2" W
(210 mm x 51 mm)
One switch per function
4100-1287
24 Switches, 24 LEDs
HOA Modules, 8 Controls (3 switches each), 24 LEDs:
4100-1286, with labelled switches (shown)

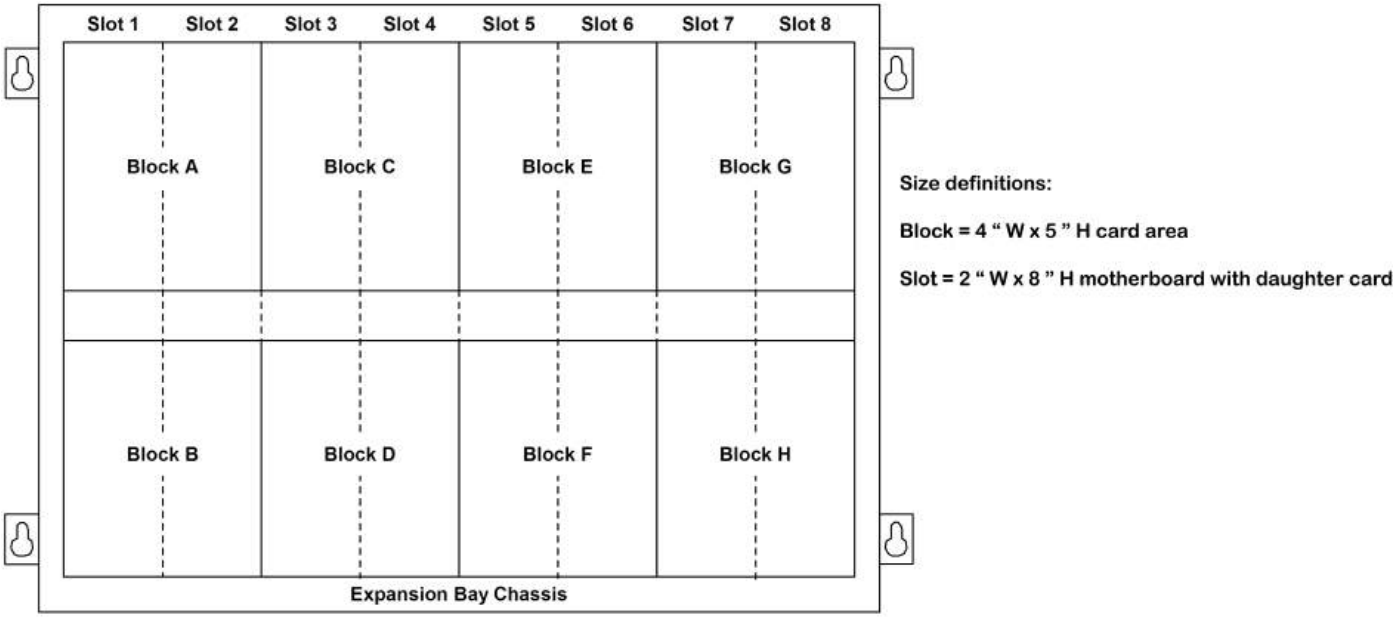
## Audio Control Module Detail

Figure 7: Audio Control Module Detail




## Expansion Bay Module Loading Reference

Figure 8: Expansion Bay Module Loading Reference



## General Specifications

**Table 16: ES Power Supply Specifications (ES-PS and ES-XPS)**

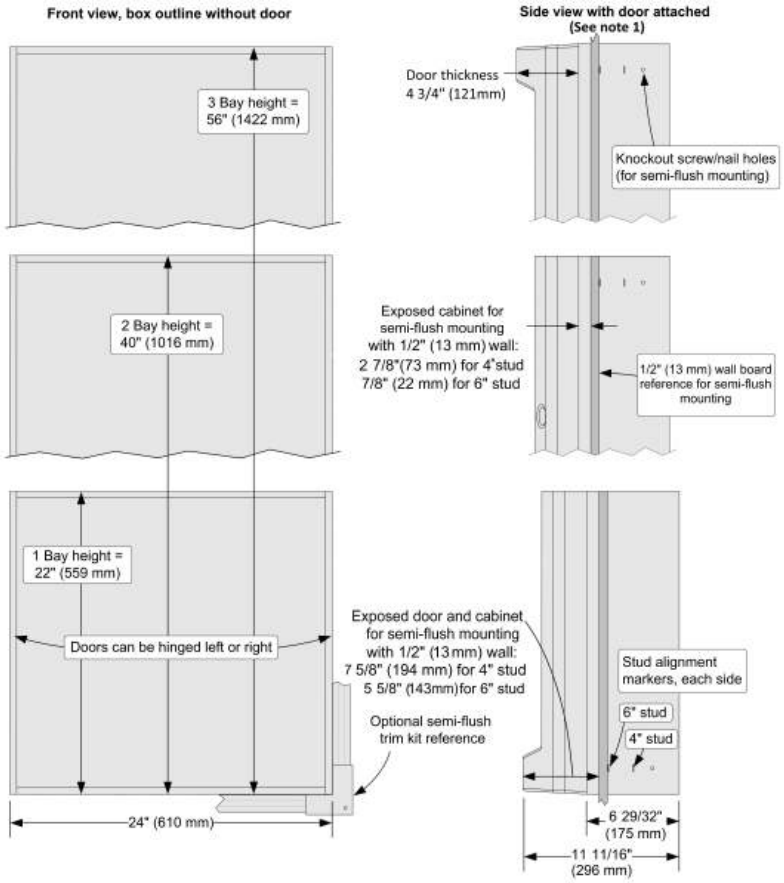
| Specifications | Rating |
|---|---|
| **AC Input Power** | 120-240 VAC |
| 120 VAC | 3.72 A |
| 220 - 240 VAC | 1.82 A |
| **Total DC Output Power Capacity** | |
| Without Fan | 9.5 A |
| With 4100-5131 Fan and 4100-5451 IDNAC Module(s) | 9.7 A |
| With 4100-5131 Fan (without 4100-5451 IDNAC Module) | 12.7 A |
| With Regulated 24V 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 24V 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 per 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 within 48 hours |
| **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 |
| **Option Card Mounting** | 2 vertical blocks are available fore compatible modules (refer to 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.

## Wall Mounted Enclosure Installation Reference

**Figure 9: Installation Reference**




**Note:**

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

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

## Additional 4100ES Data Sheet Reference

**Table 17: Datasheet 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 & 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 |
| InfoAlarm Command Center with ES-PS Power Supplies | S4100-1045 |
| NDU with ES-PS Power Supplies for ES Net | S4100-1077 |

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