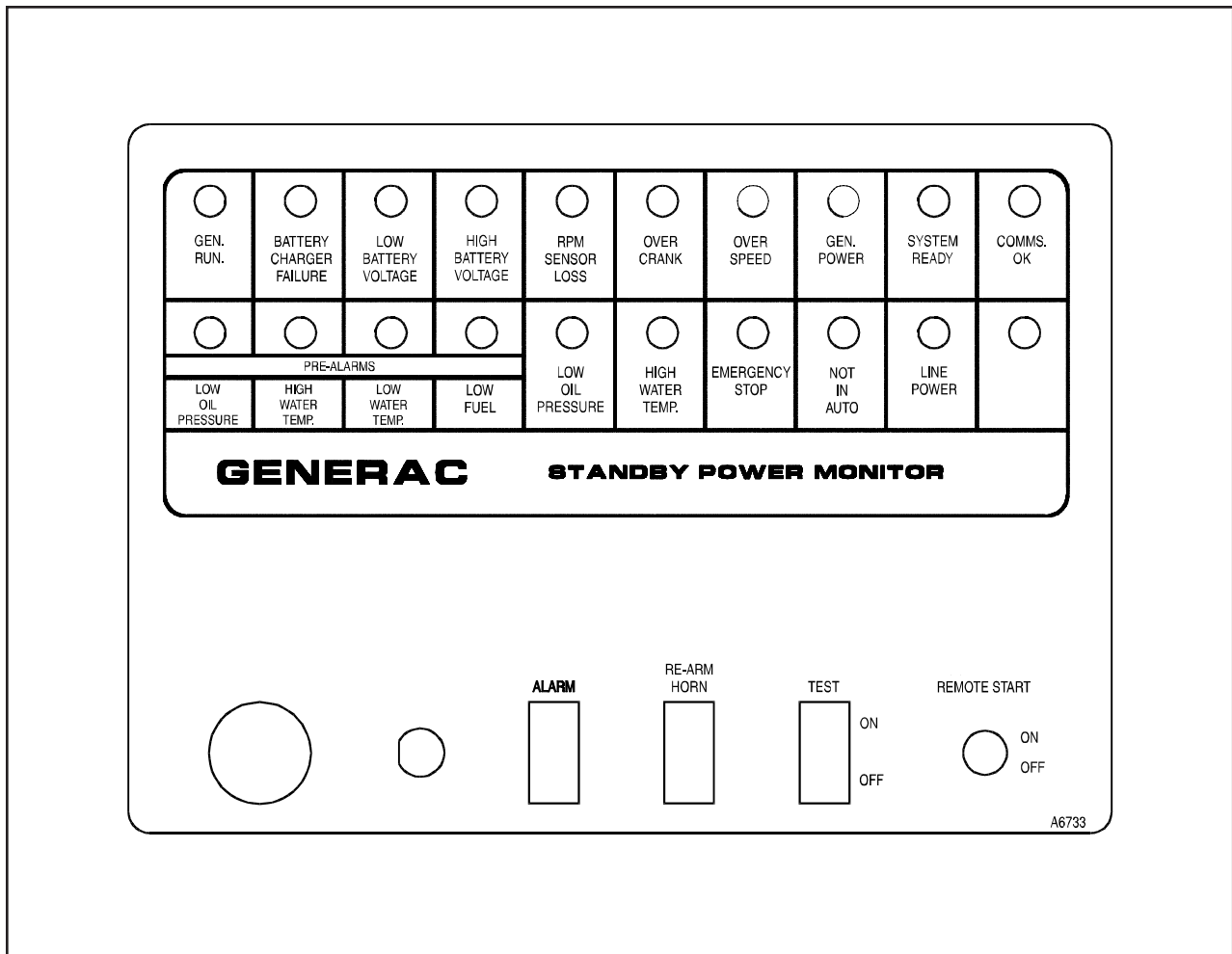


20 Light Remote Annunciator

Owner's Manual



Model Nos. 0984-0 (Surface Mount), 09845-0 (Flush Mount)



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DETAILED SPECIFICATIONS

ENVIRONMENTAL SPECS

Temperature	-20°C to +50°C
Humidity	0 to 95% Non Condensing

POWER SUPPLY REQUIREMENTS

Power Supply Source	Generator Battery to comply with NFPA
Nominal Supply	+12 to +24VDC
Transient protection	Spikes clamped to 40V
Power Usage	150mA maximum.
Battery Supply cable	2 wire - DC resistance less than 7 Ohms per conductor.
Fuse on front panel	1 Amp

COMMUNICATION WITH D/E PANEL

Communication link	2 wire RS485 fully isolated.
Communication cable	2 wire—twisted pair with overall screen.
Cable size	24 AWG 0-250 feet. 18 AWG 0-1,200 feet.
Overall Cable spec.	Cable is 4 conductor. 2 for Power and Ground. 2 for Communications.
Baud rate	2400/4800/9600 bd Auto detect.

INTERFACE WITH OTHER EQUIPMENT

Alarm Relay Output	1 pair N/O Volt-free contacts- 100mA, 24V DC
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AGENCY COMPLIANCE

NFPA-110	Yes
NFPA-99	Yes

TRANSPORTATION AND STORAGE

Temperature	-20°C to +80°C
Humidity	0-95% Non Condensing

PACKAGING AND MOUNTING

Enclosure type	Sheet metal box.
Base panel	Generac part #A6985/A7437
Front panel	Generac part #A6988/A7443
Panel overlay	Generac part #A6733
Field replacement	Physically replaceable with Generac Model #9556 electrically not compatible.
Mounting	Flush or Wall.
Weight requirements	None
Manuals	Yes - Operator guide

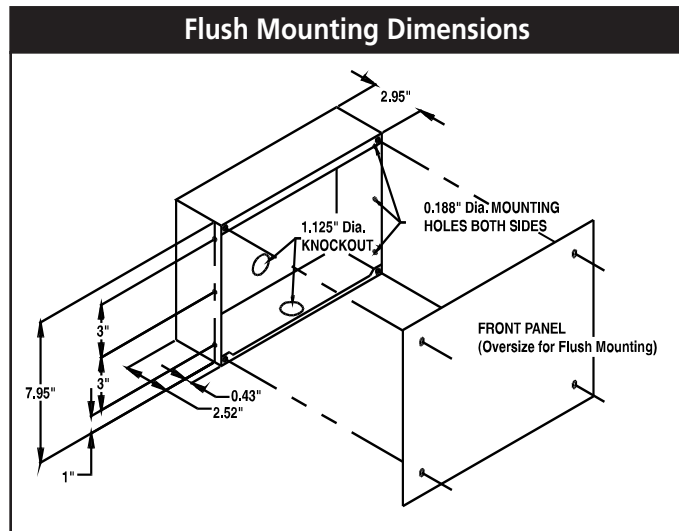
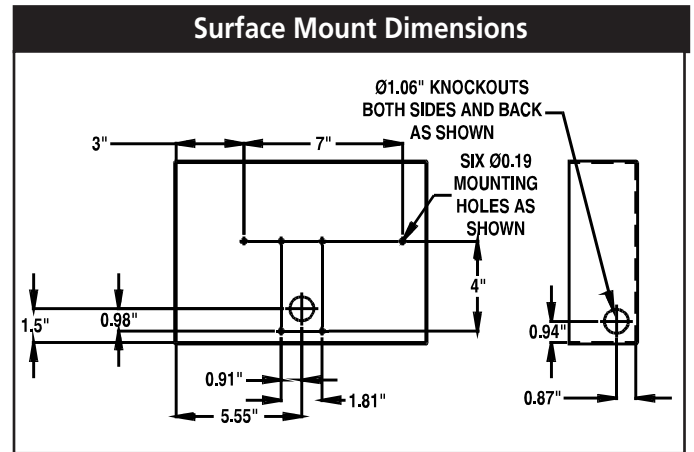


ANNUNCIATOR PANEL MOUNTING

NOTE: For both models installation must always comply with applicable codes, standards, laws and regulations. Adhere strictly to local, state and national electrical and building codes. Comply with regulations the Occupational Safety and Health Administration (OSHA) have established. Also, the generator and related components must be installed completely in conformance with the manufacturer's instructions and recommendations. Following proper installation, do nothing that might alter a safe installation and render the unit in non-compliance with such codes, standards, laws and regulations.

The Model 985-0 Remote Annunciator panel is intended for flush mounting. Panel mounting dimensions are shown in the illustration below. The panel can be installed behind a cutout in an existing sheet metal panel by using the four mounting holes in its front panel. For wall mounting, use a square outlet box behind the annunciator panel.

The Model 984-0 Remote Annunciator panel is mounted using any combination of the mounting holes in the back panel of the box itself.



SYSTEM SPECIFICATION

The 20 Light Remote Annunciator Panel (RAP) directly interacts with the the D/E panel generator and provides remote monitoring and annunciation of 17 generator parameters, 2 system-level warnings—System Ready and Communications OK and 1 spare channel.

It is similar to the existing Model 9556 Remote Annunciator unit which interfaces with the 'C' Panel display, the main difference being that it interfaces to the D/E Panels via a 2 wire RS485 serial data link rather than a direct multiway cable.

Power to the RAP is supplied from the generator battery (+12V to +24V) via a 2 wire link.

HARDWARE FUNCTIONAL DESCRIPTION

The RAP polls the D/E panel once every three seconds and receives the generator status parameters. It will update the light panel and audible annunciator as detailed below.



■ GENERATOR STOP SIGNALS

These lights will flash when any alarm occurs and the horn will sound as follows:

Annunciator Light	Light Color	Audible Alarm
RPM Sensor Loss	Red	Yes
Overcrank	Red	Yes
Overspeed	Red	Yes
Low Oil Pressure	Red	Yes
High Water Temp	Red	Yes
Emergency Stop	Red	Yes

The 'Re-Arm Horn' switch can be used to turn off and re-arm the horn, or the alarms can be fully acknowledged using the 'Reset' switch.

The 'Reset' switch will turn off and re-arm the horn, and any flashing lights will switch to the ON state until the alarms are no longer present at the D/E panel.

Note: Alarm condition MUST be reset at the generator set control panel.

■ WARNING INDICATORS

These lights will flash when any alarm occurs and the horn will sound according to the following table :

Annunciator Light	Light Color	Audible Alarm	Latched
Pre-Low Oil Pressure	Yellow	Yes	Yes
Pre-High Water Temp	Yellow	Yes	Yes
Pre-Low Water Temp	Yellow	Yes	Yes
Pre Low Fuel	Yellow	Yes	Yes
Battery Charger AC Failure	Yellow	Yes	No
Low Battery Voltage	Yellow	Yes	No
High Battery Voltage	Yellow	No	No
Generator Run	Yellow	No	No
Generator Power	Yellow	No	No
Not in Auto	Red	Yes	No

These alarms will be latched/not latched by the RAP according to the above table. They can be acknowledged at the RAP using the 'Reset' switch—the active lamps will then stop flashing and remain in the ON state until the alarm signal disappears from the D/E Panel. The 'Reset' switch will also turn off and re-arm the horn.

Note: These lamps can only be fully reset when the alarm state is no longer active and "Reset" has been pressed at both the D/E panel and the RAP.

Alternatively, at any time the horn can be turned OFF and re-armed with the 'Re-Arm Horn' switch

■ GENERATOR POWER

Is defined as whether transfer switch is in Generator supply position—measured directly from transfer switch.

■ BATTERY CHARGER AC FAILURE

Is defined as zero AC supply to charger—detected by monitoring utility AC input to charger using a voltage relay.

Annunciator Light	Light Color	Audible Alarm
System Ready	Green	No
Communication OK	Green	Yes
Line Power	Green	No
Spare	Green	No

■ SYSTEM STATUS INDICATORS

These lamps are for Status indication only—the normal condition is ON.

■ SYSTEM READY

Status light is dependent upon the following conditions being true:

- Generator must be set to 'Auto' mode.
- Battery power (+12V or +24V) must be present (i.e. low battery voltage lamp is off).
- No alarm or pre-alarm condition exists.



■ COMMUNICATION OK

This light indicator is ON as long as there is proper communication between the RAP and the D/E panel. The light is turned OFF if the RAP does not receive a valid RS485 response from the D/E panel defined as either :

- a. 3 consecutive data requests from the RAP are ignored.
- b. 3 consecutive data responses contain data errors—string length or non valid characters.

When communication failure occurs, the RAP will flash the Communication OK LED, and sound the Horn. The rate of flashing will be indicative of the cause of the error.

- a. No reply from D/E panel - frequency 1 sec on/1 sec off.
- b. Consecutive data errors - frequency 0.5 sec on/2 sec off.

This alarm condition can be acknowledged at the RAP using the 'Reset' switch—the horn will be turned off and re-armed and the communication OK light will continue to flash until proper communication returns.

■ LINE POWER

Is defined as whether the transfer switch is in Utility supply position—measured directly from transfer switch.

■ AUDIBLE ANNUNCIATOR

See System Status Indicators chart for alarm occurrences.

■ TEST SWITCH

While the test switch is pressed, all lights will light and the horn will sound. When released the lights will return to their original status. During this test, communication to D/E panel will be suspended.

■ RE ARM HORN SWITCH

The re-arm horn switch will silence the horn and re-arm it for new alarm occurrences.

■ RESET SWITCH

The reset switch is used to acknowledge any active alarms. It will re-set any flashing light to ON (steady) condition. If the alarm no longer exists and it has also been latched OFF at the D/E panel (Pre-Alarm indicators only) the active light will go OFF. It will also silence the horn and re-arm it for new alarm occurrences.

Note: Pre-Alarm Conditions MUST be reset at the generator set control panel.

■ RELAY OUTPUT

The RAP will also provide a pair of Normally Open contacts which will mimic the status of the Audible alarm (Horn), The relay output is fail-safe i.e. DC supply failure will reset the relay to OFF, which will close the contacts.

SOFTWARE SPECIFICATION

In general terms, the RAP polls the D/E Panel. The D/E panel returns an ASCII text string which represents the status of the indicator lights on the panel display.

■ SERIAL INTERFACE

Default	4800,n,8,1
Auto-detect	2400, 9600bd.

■ REQUEST FREQUENCY

Once per 3 seconds.

■ OPERATOR FUNCTIONS

Switches will be scanned every 1/10 second.

■ ERROR HANDLING

An error will be reported by flashing the Communication OK light—the rate of flashing will be indicative of the cause of the error.

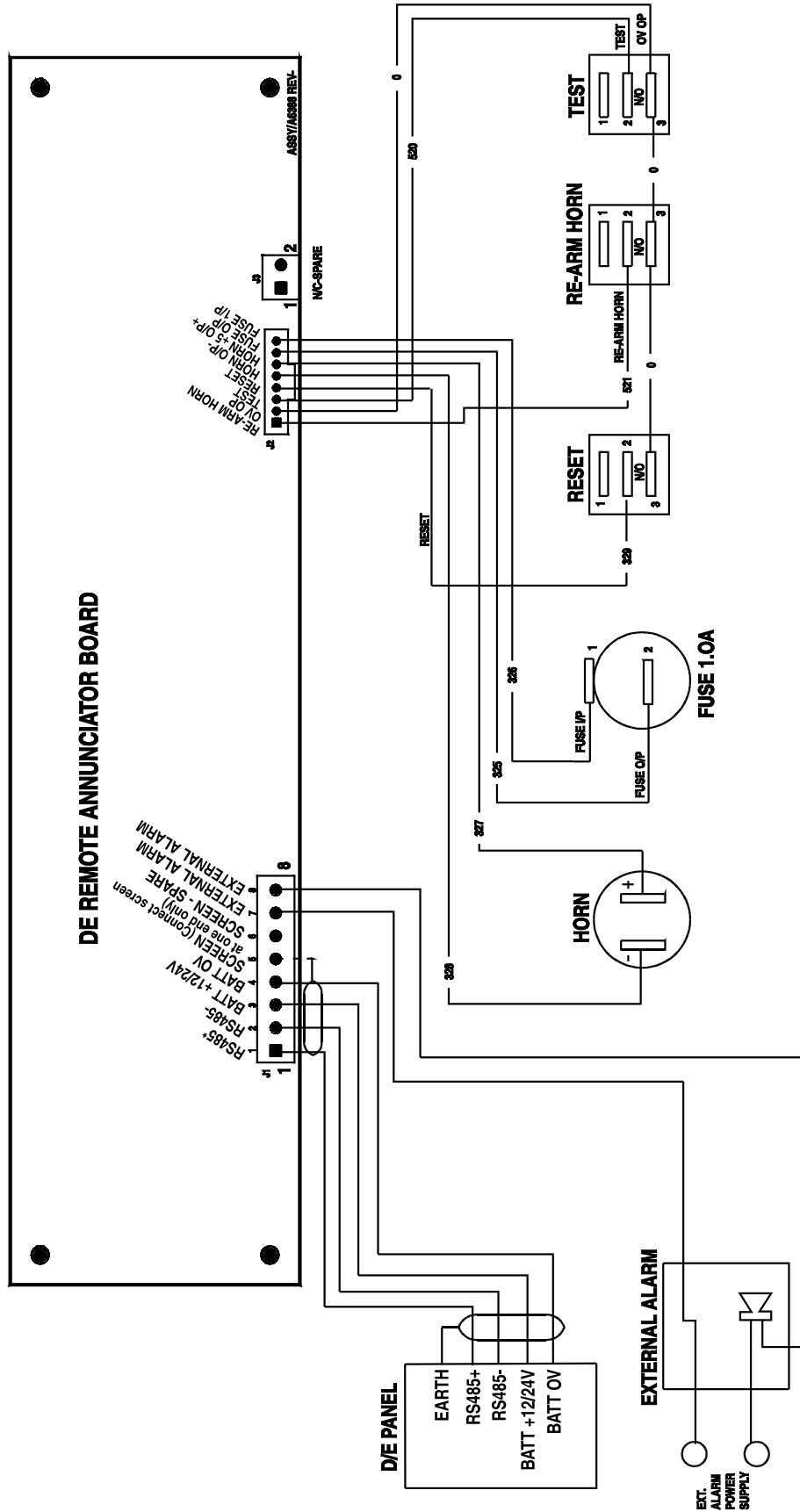
- a. No reply from D/E panel—frequency 1 sec on / 1 sec off.
- b. Consecutive data errors—frequency 0.5 sec on / 2 sec off.

■ HARDWARE WATCHDOG

Will reset the CPU if :

- a. Supply voltage at CPU drops below 4.65V.
- b. CPU activity stops for 15 sec.

ELECTRICAL SCHEMATIC



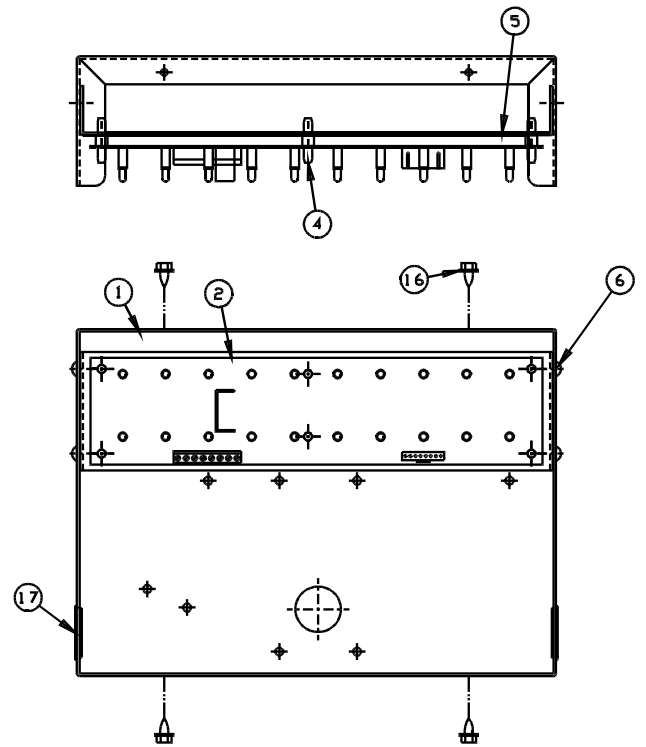
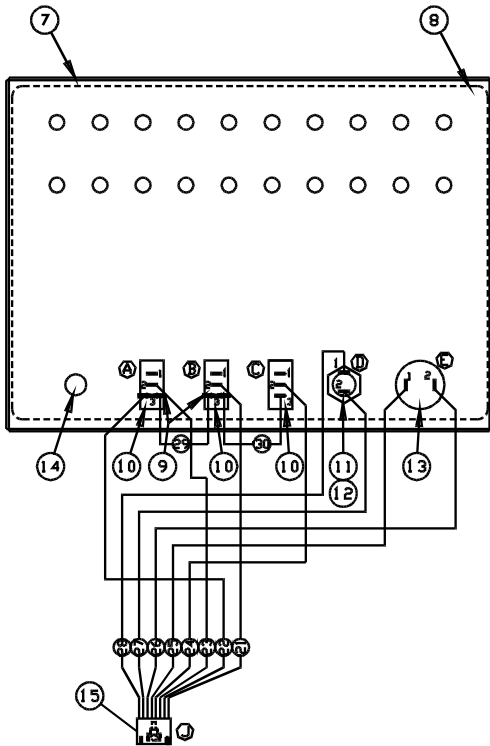
Remote Annunciator

SURFACE MOUNT ASSEMBLY

ITEM	LENGTH	WIRE SIZE	LUG #1	LUG #2	FROM	TO
21	8.00"	64765E	60106	86831	B ²	J ¹
22	7.50"		60106		A ³	J ²
23	7.50"		60106		A ²	J ³
24	8.00"		60106		C ²	J ⁴
25	11.0"		56612		E ²	J ⁵
26	11.0"		56612		E ¹	J ⁶
27	9.50"		60106		D ²	J ⁷
28	9.50"		60106		D ¹	J ⁸
29	4.50"		60106	60106	A ³	B ³
30	4.50"		60106	60106	C ³	B ³

ITEM	PART NO.	QTY.	DESCRIPTION
1	A6985	1	PANEL, ANNUNCIATOR REAR
2	A6388	1	PC BOARD-MONITOR
*3	28739	2	TIE WRAP
4	40213	6	PCB STAND OFF
5	A6990	1	SUPPORT, PC BOARD
6	36261	4	RIVET
7	A6988	1	PANEL, ANNUNCIATOR FRONT
8	A6733	1	DECAL, ANNUNCIATOR
9	74094	2	LUG, 1/4" TAB SPLITTER
10	61284	3	SWITCH, MOMENTARY SPST
11	32300	1	HOLDER, FUSE
12	44299	1	FUSE, 1 AMP
13	61286	1	SOUNALERT
14	77704	1	PLUG
15	93936	1	CONNECTOR, 8P MOLEX
16	56892	4	CRIMPTITE
17	25034	2	PLUG BUTTON

* Not shown on assembly



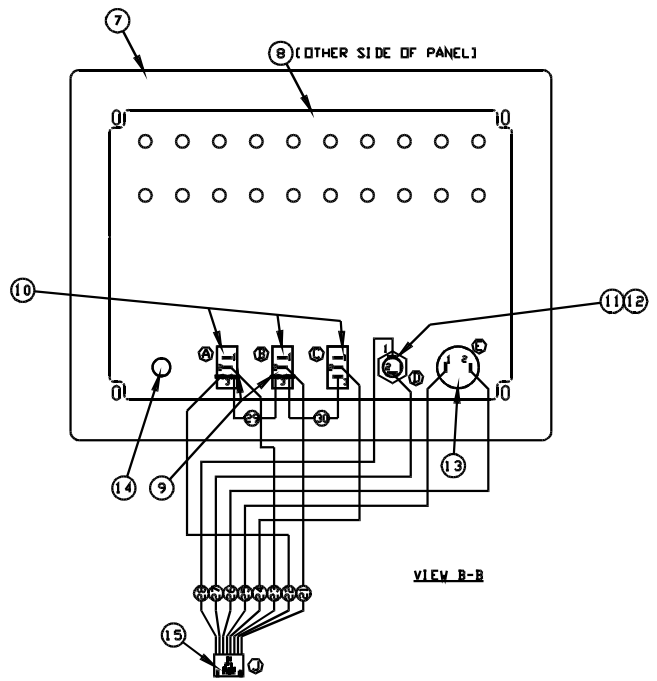
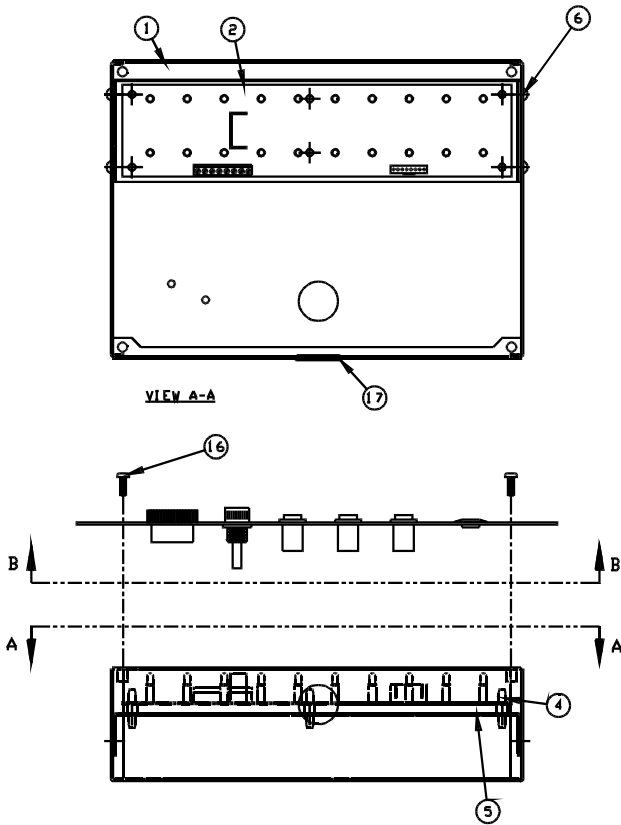
FLUSH MOUNT ASSEMBLY

Drawing No. A7440

ITEM	LENGTH	WIRE SIZE	LUG #1	LUG #2	FROM	TO
21	8.00"	64765E	60106	86831	B ²	J ¹
22	7.50"		60106		A ³	J ²
23	7.50"		60106		A ²	J ³
24	8.00"		60106		C ²	J ⁴
25	11.0"		56612		E ²	J ⁵
26	11.0"		56612		E ¹	J ⁶
27	9.50"		60106		D ²	J ⁷
28	9.50"		60106		D ¹	J ⁸
29	4.50"		60106	60106	A ³	B ³
30	4.50"		60106	60106	C ³	B ³

ITEM	PART NO.	QTY.	DESCRIPTION
1	A7437	1	PANEL, ANNUNCIATOR REAR
2	A6388	1	PC BOARD-MONITOR
*3	28739	2	TIE WRAP
4	40213	6	PCB STAND OFF
5	A6990	1	SUPPORT, PC BOARD
6	36261	4	RIVET
7	A7438	1	PANEL, ANNUNCIATOR FRONT
8	A7443	1	DECAL, ANNUNCIATOR (FLUSH)
9	74094	2	LUG, 1/4" TAB SPLITTER
10	61284	3	SWITCH, MOMENTARY SPST
11	32300	1	HOLDER, FUSE
12	44299	1	FUSE, 1 AMP
13	61286	1	SOUNALERT
14	77704	1	PLUG
15	93936	1	CONNECTOR, 8P MOLEX
16	36918	4	PHMS #8-32 X 1/2"
17	25034	1	PLUG BUTTON

* Not shown on assembly



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ITEM	PART NO.	QTY	DESCRIPTION
1	91471	1	TERM BLOCK, 10 POS. #6 PANEL
2	73194F	1	CONNECTOR HOUSING , 4P .156 CTR
3	71270	7	CONNECTOR CONTACTS, AMP SL156
4	61446	11	LUG, SPD 22-18 I-T
5	93914A	1.6'	WIRE, 600V TEW, 16 AWG RED
6	93914B	1.6'	WIRE, 600V TEW, 16 AWG BLACK
7	86156	1.6'	CABLE, BELDEN 9464
8	50696	.1'	HEATSHRINK TUBING, 1/8" BLACK
9	55199L	6.4'	WIRE, 600V TEW, 16 AWG DK BLUE
10	A9994	1	DECAL, REM ANNUNC HARNESS

WIRES AND PINS ARE TO BE ADDED TO EXISTING 12-PIN CONNECTOR

