

	List of Figures.....	1a-1b
I.	EC-300 Equipment List.....	2
II.	Illustration and Explanation of Controls.....	3-9
III.	Step-by-Step Operating Instructions.....	10-15
IV.	Installation Procedures.....	15-22
	A. Installation Guidelines.....	15
	B. Wiring Procedures.....	16
	C. Resetting/Disconnecting Power Supply.....	17
	D. Installing Stations/Backbox Specifications.....	18
	E. Station Rear Views/Lead Identification.....	19-22
V.	Wiring Diagrams.....	23-29
VI.	Replacement Parts and Procedures.....	30
VII.	Periodic Maintenance.....	30
VIII.	Troubleshooting: Schematics and PCB Layouts.....	31-41

LIST OF FIGURES

<u>Station Front Views</u>		
Fig. 1	8801/8805/8809 Dome Lights, single bulb.	3
Fig. 2	8802 Dome Light, dual bulb	3
Fig. 3	8803 Dome Light, triple bulb	3
Fig. 4	8817 Visual Duty Station	4
Fig. 5	2320/2322/2331/2332 Pullcord Stations.	4
Fig. 6	8721 Single Callcord Jack Bed Station.	5
Fig. 7	8723 Dual Callcord Jack Bed Station.	5
Fig. 8	8726 Dual Callcord Jack/Dual Indicator Bed Station	5
Fig. 9	8724 Single Entertainment Receptacle Bed Station	6
Fig. 10	8725 Dual Entertainment Receptacle Bed Station	6
Fig. 11	8727 Dual Entertainment Recept./Dual Indicator Bed Stn	6
Fig. 12	8833/8835 Callcord	7
Fig. 13	6833/6835 Callcord	7
Fig. 14	8837 Geriatric Callcord.	7
Fig. 15	6837 1/4" to DIN Callcord Adapter.	7
Fig. 16	6838/6839 Pillow Speakers.	7
Fig. 17	8710 Staff Station	8
Fig. 18	8846 Pushbutton Bath/Emergency Station	8
Fig. 19	8849 Code Blue Station	8
Fig. 20	8882 Day/Night Transfer Switch	8
Fig. 21	8701/8705 Master Annunciator	9
<u>Station Rear Views</u>		
Fig. 22	8650/8651 Main Control Connections	17
Fig. 23	8801/8805/8809 Dome Lights, single bulb.	19
Fig. 24	8802 Dome Light, dual bulb	19
Fig. 25	8803 Dome Light, triple bulb	19
Fig. 26	8817 Visual Duty Station	19
Fig. 27	2320/2322/2331/2332 Pullcord Stations.	19
Fig. 28	8721 Single Jack Callcord Bed Station.	20
Fig. 29	8723 Dual Jack Callcord Bed Station.	20
Fig. 30	8726 Dual Jack/Dual Indicator Callcord Bed Station	20
Fig. 31	8724/8725 Entertainment Receptacle Bed Station	20
Fig. 33	8710 Staff Station	21
Fig. 34	8846 Pushbutton Bath/Emergency Station	21
Fig. 35	8849 Code Blue Station	21
Fig. 36	8882 Day/Night Transfer Switch	22
Fig. 37	8701/8705 Master Annunciator	22
<u>System Wiring Diagrams</u>		
Fig. 38	Non-Zoned System Wiring.	23
Fig. 39	Non-Zoned System Wiring, Pillow Speaker Stations	23
Fig. 40	Zoned System Wiring.	24
Fig. 41	Zoned System Wiring, Pillow Speaker Stations	24

LIST OF FIGURES (continued)

Detailed Wiring Diagrams

Fig. 42a Non-Zoned Remote Equipment25
 Fig. 42b Non-Zoned Remote Equipment (continued)25
 Fig. 42c Non-Zoned Remote Equipment (continued)26
 Fig. 42d Non-Zoned Remote Equipment, Pillow Speaker Stations. . .26
 Fig. 42e Non-Zoned Remote Equipment, Pillow Speaker Stations. . .27
 Fig. 43a Zoned Remote Equipment27
 Fig. 43b Zoned Remote Equipment, Pillow Speaker Stations. . . .28
 Fig. 44 Entertainment Connections, Pillow Speaker Stations . . .28
 Fig. 45 Control Unit/Master Annunciator/Duty Station29

Component Schematics and PCB Layouts

Fig. 46 Dome Light Schematics.31
 Fig. 47 8817 Visual Duty Station Schematic31
 Fig. 48 8817 Visual Duty Station PCB Layout.31
 Fig. 49 2320 Pullcord Station PCB Layout/Schematic32
 Fig. 50 2322 Pullcord Station PCB Layout/Schematic32
 Fig. 51 2331 Pullcord Station PCB Layout/Schematic33
 Fig. 52 2332 Pullcord Station PCB Layout/Schematic33
 Fig. 53 8721/8723 Bed Station PCB Layout34
 Fig. 54 8721 Bed Station Schematic34
 Fig. 55 8723 Bed Station Schematic34
 Fig. 56 8726 Bed Station PCB Layout.34
 Fig. 57 8726 Bed Station Schematic34
 Fig. 58 8724/8725 Bed Station PCB Layout35
 Fig. 59 8724 Bed Station Schematic35
 Fig. 60 8725 Bed Station Schematic35
 Fig. 61 8710 Staff Station PCB Layout.36
 Fig. 62 8710 Staff Station Schematic36
 Fig. 63 8846 Pushbutton Bath/Emergency Station Schematic36
 Fig. 64 8849 Code Blue Station Schematic36
 Fig. 65 8882 Day-Night Transfer Switch Schematic36
 Fig. 66 8701 Master Annunciator Board PCB Layout37
 Fig. 67 8701 Master Annunciator Board Schematic.37
 Fig. 68 8701 Master Common Audible/LED PCB Layout.38
 Fig. 69 8701 Master Common Audible/LED Schematic38
 Fig. 70 8650 Power Supply Board Schematic.39
 Fig. 71 8651 Power Supply Board Schematic.39
 Fig. 72 8651 Power Supply Internal Wiring Diagram.39
 Fig. 73 8650 Regulated Power Supply Board PCB Layout40
 Fig. 74 8650/8651 Main Electronics Board PCB, 3-status DC. . . .40
 Fig. 75 8650/8651 Main Electronics Brd Schematic, 3-status DC. .41

EC-300 COMPLETE EQUIPMENT LIST

- 8801 Dome Light, red bulb
- 8802 Dome Light, white/red bulbs
- 8803 Dome Light, white/red/blue bulbs
- 8805 Dome Light, white bulb
- 8809 Dome Light, blue bulb
- 8817 Visual Duty Station
- 2320 Pullcord Station, SPST, nonzoned, room/bed/bath
- 2322 Pullcord Station, DPST, zoned, room/bed/bath
- 2331 Pullcord Station, SPDT, 2-status nonzoned, bath
- 2332 Pullcord Station, DPDT, 2-status zoned, bath
- 8721 Single Jack Callcord Bed Station
- 8723 Dual Jack Callcord Bed Station
- 8726 Dual Jack/Dual Indicator Callcord Bed Station
- 8724 Single Entertainment Receptacle Bed Station
- 8725 Dual Entertainment Receptacle Bed Station
- 8727 Dual Entertainment Receptacle/Dual Indicator Bed Station
- 8833 Callcord, 6 ft., 1/4" plug for 8721/8723/8726
- 8833S Callcord, 6 ft., ESD shield, 1/4" plug for 8721/8723/8726
- 8835 Callcord, 10 ft., 1/4" plug for 8721/8723/8726
- 8835S Callcord, 10 ft., ESD shield, 1/4" plug for 8721/8723/8726
- 6833 Callcord, 6 ft., ESD shield, DIN plug for 8724/8725/8727
- 6835 Callcord, 10 ft., ESD shield, DIN plug for 8724/8725/8727
- 8837 Geriatric Callcord, 1/4" plug
- 6837 1/4" to DIN Callcord Plug Adapter
- 6838 Pillow Speaker w/ TV control for 8724/8725/8727
- 6839 Pillow Speaker w/ TV control and aux. button for 8724/8725/8727
- 8710 Staff Station
- 8846 Pushbutton Bath/Emergency Station
- 8849 Code Blue Station
- 8701 Series Master Annunciator, Standard 16-3/4x4" panels
- 8705 Series Master Annunciator, Mini-size 10-1/2x4" panels
- 8882 Day-Night Transfer Switch
- 8650 Main Control/Power Supply
- 8651 Main Control/Power Supply with Battery Backup
- 8888 Steel NEMA Enclosure for 8650, 15x12x4"
- 6888 Steel NEMA Enclosure for 8651, 24x18x4"
- 23002 Call Indicator Option (red LED) for 2320/2322/2331/2332
- 23001 Double Cord Option for 2320/2322/2331/2332
- 88001 Two-gang Trimplate Option for Dome Lights
- 51350 Relay Option for Triple Status 8650/8651.
Provides separate contact closure for each status.
- 2381 EC-300 Installation and Service Manual

II. ILLUSTRATION AND EXPLANATION OF CONTROLS

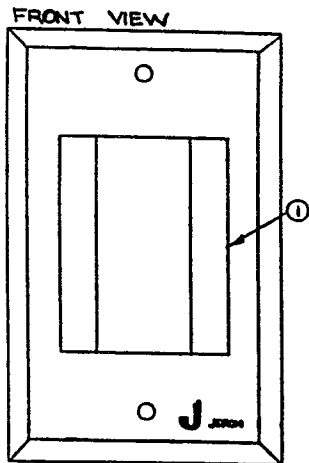


Fig. 1

8805 DOME LIGHT

Single status system--room, bath, or room with bath:
1. WHITE bulb: lit steadily when call is placed.

Dual or triple status system--room with bath:
1. WHITE bulb: lit steadily when routine (bed) call is placed.
flashes when urgent (bath) call is placed.

8801 DOME LIGHT

Single status system--corridor bath
1. RED bulb: lit steadily when call is placed.

Dual or triple status system--corridor bath:
1. RED bulb: flashes when urgent (bath) call is placed.

8809 DOME LIGHT

Triple status system--code station:
1. BLUE bulb: flashes rapidly when emergency (code) call is placed.

8802 DOME LIGHT

Dual status system--zone light:
1. WHITE bulb: lit steadily when routine (bed) call is placed.
2. RED bulb: flashes when urgent (bath) call is placed.

Triple status system--room with associated code station
1. WHITE bulb: lit steadily when routine (bed) call is placed.
flashes when urgent (bath) call is placed.
2. RED* bulb: flashes rapidly when emergency (code) call is placed.

*Order 9938 cap for blue bulb on code calls.

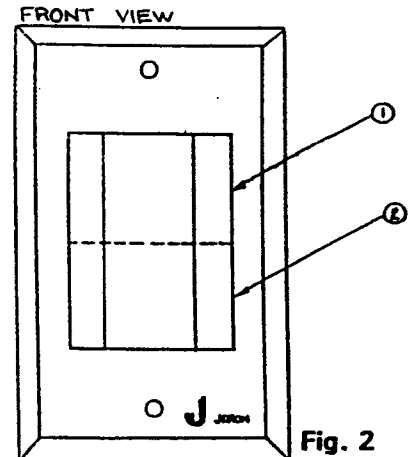


Fig. 2

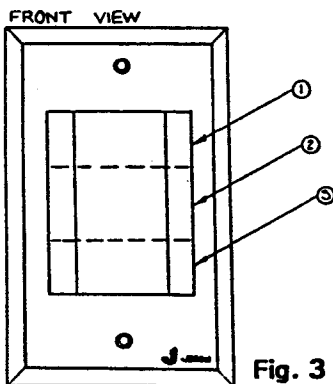


Fig. 3

8803 DOME LIGHT

Triple status system--zone light:
1. WHITE bulb: lit steadily when routine (bed) call is placed.
2. RED bulb: flashes when urgent (bath) call is placed.
3. GREEN* bulb: flashes rapidly when emergency (code) call is placed.
*Order 9938 cap for blue bulb on code calls.

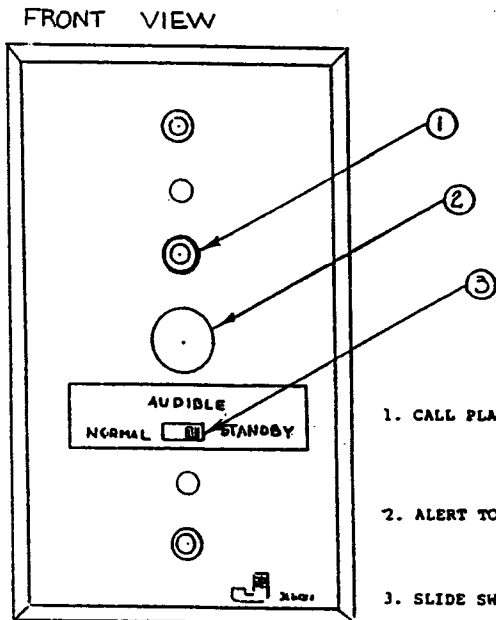
All Dome Lights:

FACEPLATE: Brushed stainless steel;
flush mount; mounting screws provided

BULB: 28V, 70 mA (T 3-1/4)

88001
2-gang
Faceplate
option





8817 VISUAL DUTY STATION

1. CALL PLACED INDICATOR (RED): Steady light indicates normal-call on system. Fast pulse indicates emergency-call on system.
2. ALERT TONE SPEAKER: Produces audible alert tones for normal-emergency calls.
3. SLIDE SWITCH: Silences normal-call tone when placed on standby position. When no calls are placed in the system and switch is in the "standby" position, the ALERT TONE SPEAKER will generate a steady audible tone.

Fig. 4

**2320/2322/2331/2332 PULLCORD STATIONS
WITH CALL PLACED INDICATOR OPTION (23002)**

2320 Bed/Room Station, SPST, nonzoned
2322 Bed/Room Station, DPST, zoned

1. CALL PLACED INDICATOR (RED): lights up steadily when call cord is pulled. Indicates normal call is placed to master.
2. CALL CORD: Places normal call to master when pulled.
3. RESET SWITCH: Resets when pushed up.

2331 Bath Station, SPDT, nonzoned
2332 Bath Station, DPDT, zoned

1. CALL PLACED INDICATOR (RED): Flashes when call cord is pulled. Indicates emergency call is placed to master.
2. CALL CORD: Places emergency call to master when pulled.
3. RESET SWITCH: Resets call when pushed up.

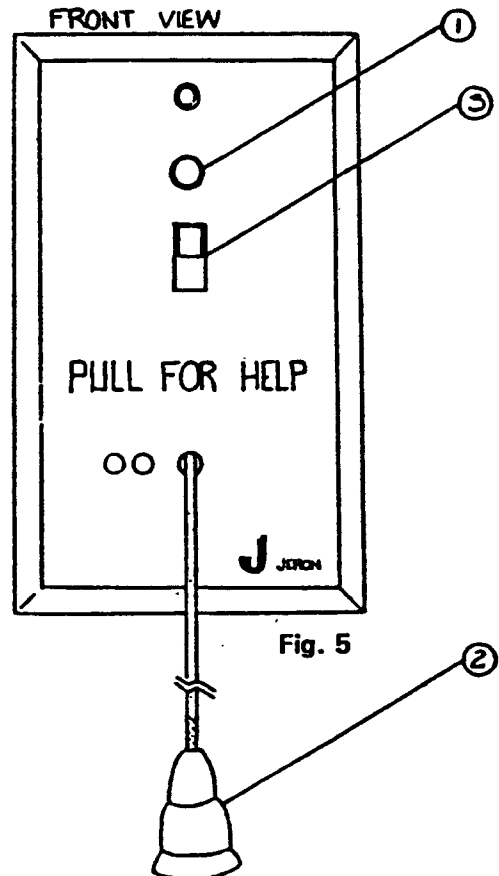
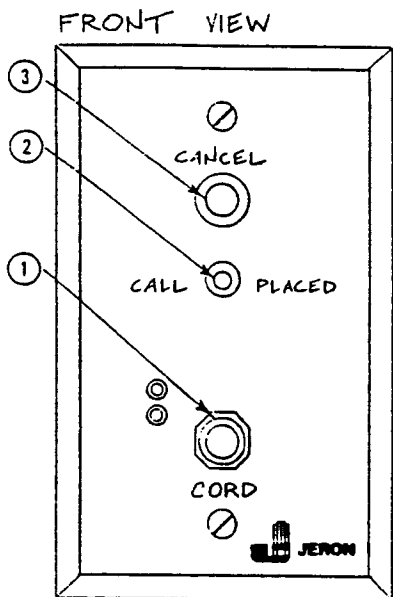


Fig. 5



8721 Single-Jack Callcord Bed Station

1. CALLCORD JACKS: Accept 8833/8835/8837 Callcord with call button to place normal call. Removing callcord activates a routine level CORDOUT call which must be cancelled at bed station.
2. CALL PLACED LED (red): Lights steadily when call is activated from station.
3. CANCEL PUSHBUTTON: Cancels call when pressed.

Fig. 6

8723 Dual-Jack Callcord Bed Station

1. CALLCORD JACKS: Accept 8833/8835/8837 Callcord with call button to place normal call. Removing callcord activates a routine level CORDOUT call which must be cancelled at bed station.
2. CALL PLACED LED (red): Lights steadily when call is activated from station.
3. CANCEL PUSHBUTTON: Cancels call when pressed.

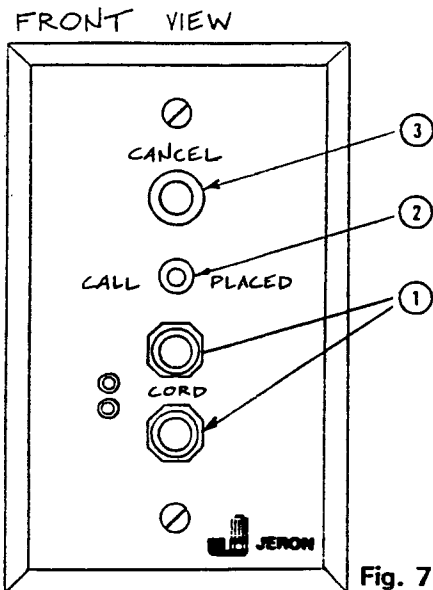
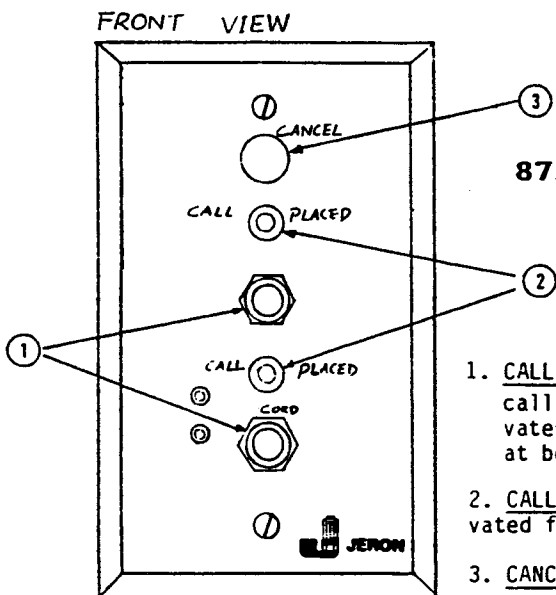


Fig. 7



8726 Dual-Jack Callcord Bed Station with dual LED call indicators

1. CALLCORD JACKS: Accept 8833/8835/8837 Callcord with call button to place normal call. Removing callcord activates a routine level CORDOUT call which must be cancelled at bed station.
2. CALL PLACED LED (red): Lights steadily when call is activated from station.
3. CANCEL PUSHBUTTON: Cancels call when pressed.

Fig. 8

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CALLCORDS

8833 Callcord, 6 ft, 1/4" plug
 8835 Callcord, 10 ft, 1/4" plug
 for 8721/8723/8726 Bed Stations.

6833 Callcord, 6 ft, DIN plug
 6835 Callcord, 10 ft, DIN plug
 for 8724/8725/8727 Bed Stations.

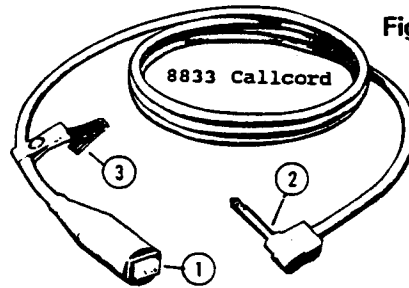
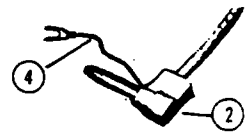


Fig. 12

8833S Callcord
 Detail of plug with shield lead



Signals for assistance through patient station.

1. Nurse Call Button. Places call when momentarily pressed.
2. Plug. Plugs into bed station jack.
3. Bed Clip, spring type. Secures pillow speaker to bedding.
Caution: Do not wrap or attach cord to metal bed frame.

4. GROUNDING LEAD: Shielded version of 8833/8835 only. Make sure that lead is secured to trim plate mounting screw and bed station CG terminal is connected to building ground.

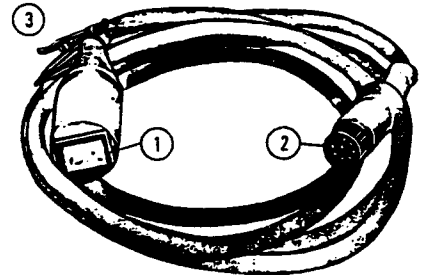


Fig. 13 6833 Callcord

GERIATRIC CALLCORD 8837

With 6 ft. nonelectric cord.
 UL rated for use in oxygen enriched atmospheres.

6837 1/4" to DIN Callcord Adapter;
 required for use of 8837 with
 8724/8725/8727 Bed Stations.

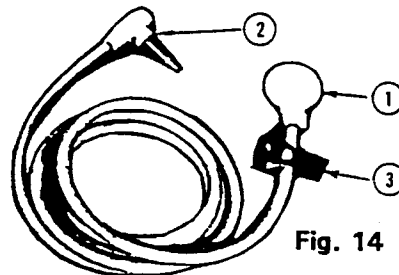
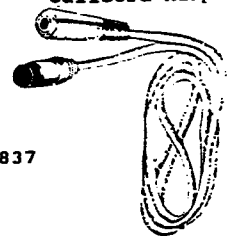


Fig. 14 GERIATRIC CALLCORD 8837

Fig. 15 6837 1/4" to DIN Callcord Adapter



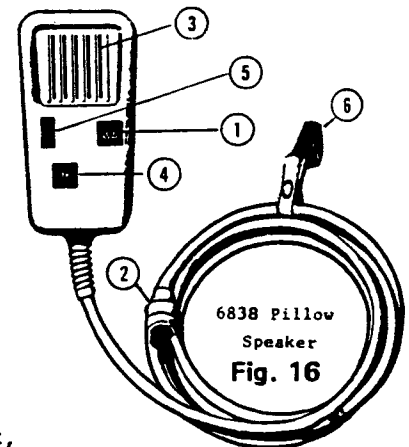
1. Pressure Bulb. Activates call when gentle pressure is applied.
2. 1/4" Plug with integral pressure switch. Plugs into Bed Station Jack.
3. Bed Clip, spring type. Secures pillow speaker to bedding.
Caution: Do not wrap or attach cord to metal bed frame.

PILLOW SPEAKERS

6838 Pillow Speaker, 8 ft, DIN plug
 6839 Pillow Spkr w/aux. button, DIN plug

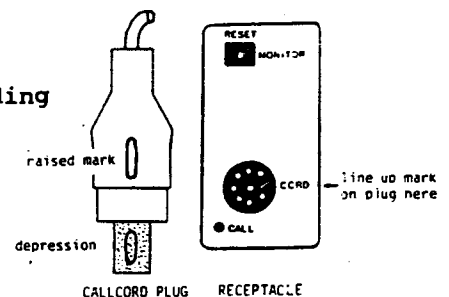
Signals for assistance and provides patient control of TV set through 8724/8725/8727 Bed Stations.

1. Nurse Call Button. Places call when momentarily pressed.
2. Plug. Plugs into bed station entertainment receptacle.
3. Speaker. Provides TV audio
4. TV on/channel/off button, stepping momentary contact.
5. TV volume control, thumbwheel.
6. Bed Clip, spring type. Secures pillow speaker to bedding.
Caution: Do not wrap or attach cord to metal bed frame.
7. Auxiliary control button (8839/6839 only), momentary contact, for installer assigned function.



6838 Pillow Speaker
 Fig. 16

Callcords and pillow speakers with DIN plugs have a raised index mark molded on the plastic plug shell and a corresponding depressed mark in the metal shell which may be used to help align plug for insertion into jack. Line up marks with word 'CORD' on panel next to jack per illustration at left.



DUMMY PLUGS

Prevent CORDOUT calls when inserted into unused receptacles.

8836 Dummy Plug, 1/4", for 8721/8723/8726 Bed Stations
 6836 Dummy Plug, DIN, for 8724/8725/8727 Bed Stations

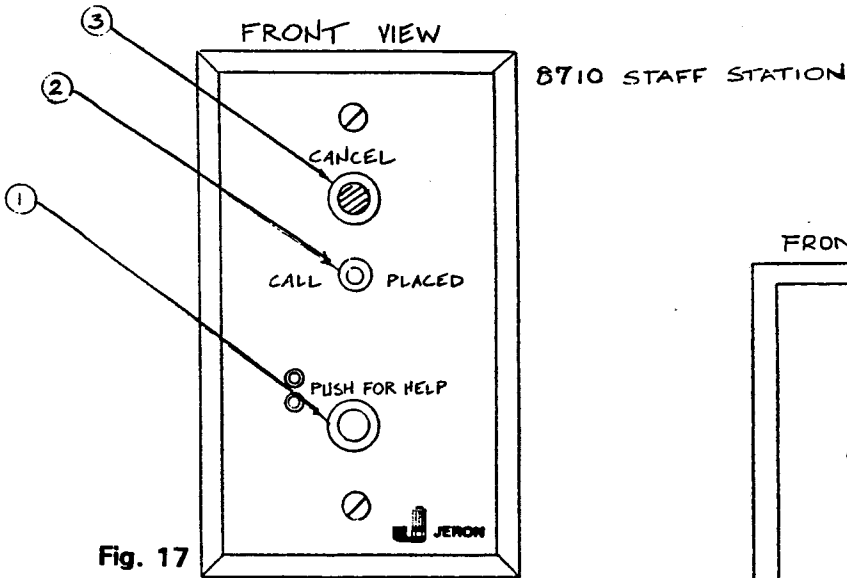


Fig. 17

8710 Staff Station

1. CALL BUTTON: Places call to master when depressed. activates call placed indicator.
2. CALL PLACED INDICATOR (RED): Lights up steadily when activated by depressing call button.
3. CANCEL Pushbutton. Cancels call

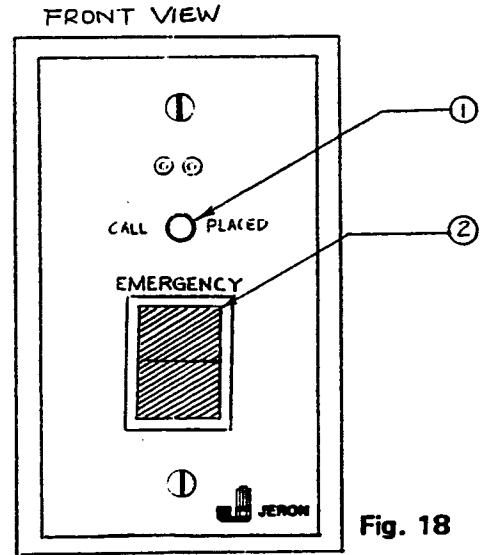


Fig. 18

**8846 Pushbutton
Bath/Emergency Station**

1. CALL PLACED INDICATOR (RED): Flashes when call switch is latched in the 'emergency' position. Indicates emergency call is placed to master.
2. CALL SWITCH: Places emergency call to master when latched in the 'emergency' position.

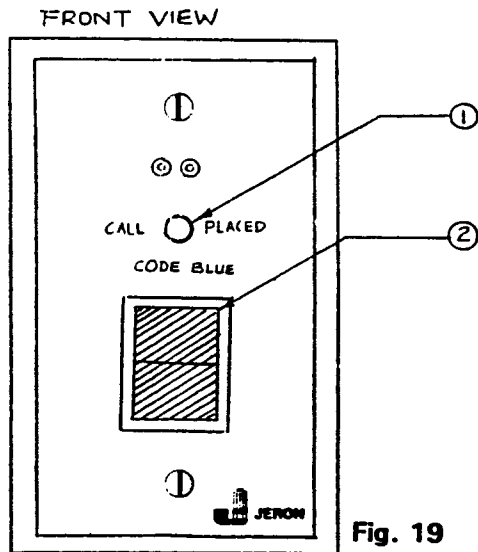


Fig. 19

8849 Code Blue Station

1. CALL PLACED INDICATOR (GREEN): Flashes when call switch is latched in the 'code blue' position. Indicates code blue status up on system.
2. CALL SWITCH: Places code blue status call to master when latched in the 'code blue' position.

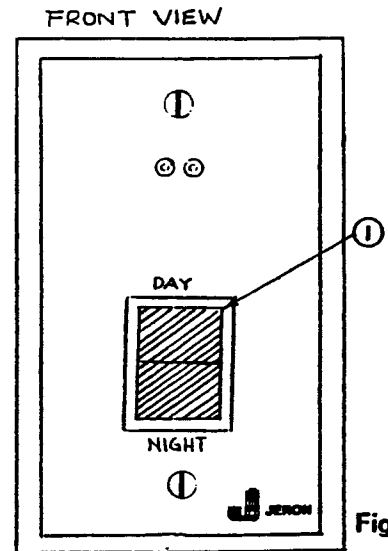
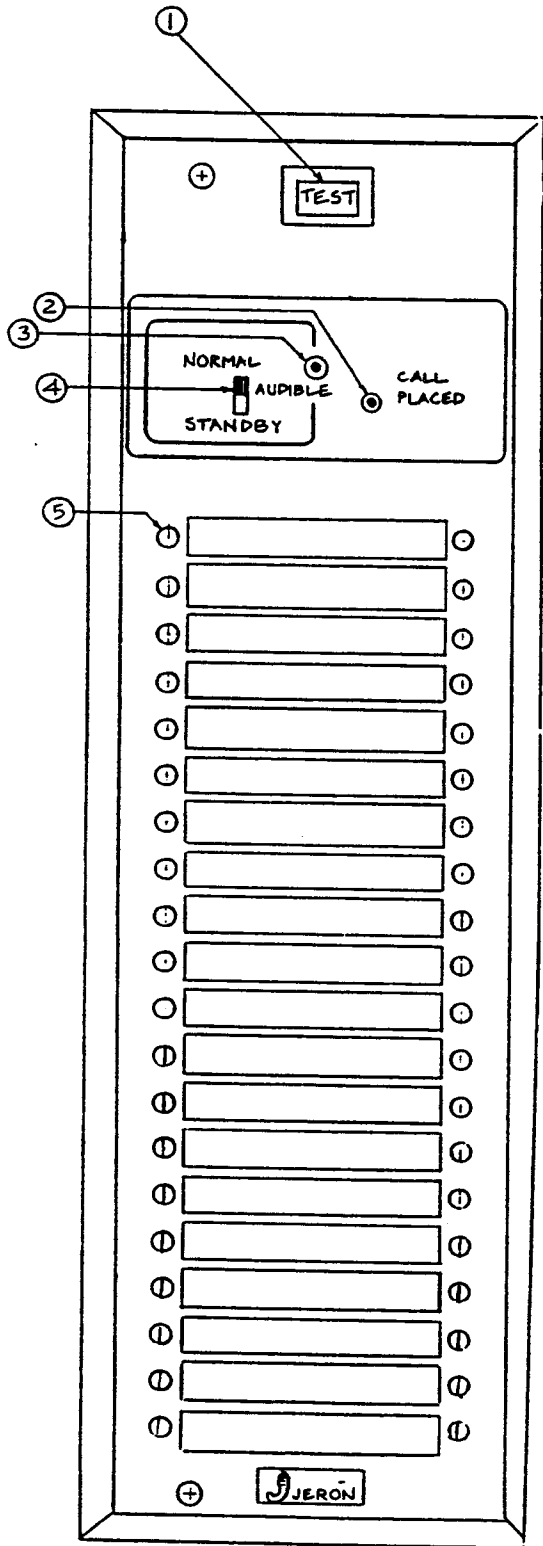


Fig. 20

**8882 Day-Night
Transfer Switch**

1. TRANSFER SWITCH: Enables 'day master' ('night master') when latched in the 'day' ('night') position.



FRONT VIEW

8701/8705 Master Annunciator

1. LAMP TEST BUTTON: Simulates "Normal Call" from all associated remote stations. The following occur when the button is depressed:
 - A) All associated station status indicators light steadily.
 - B) Call placed indicator lights steadily indicating normal call on system.
 - C) With "audible tone switch" placed in the "Normal" position, a normal audible tone is produced.
2. CALL PLACED INDICATOR (RED): Steady light indicates normal call on system; flashing light indicates emergency call on system.
3. ALERT TONE SPEAKER: Produces audible alert tones for normal-emergency calls.
4. AUDIBLE TONE SLIDE SWITCH: Silences normal-call tone when placed in standby position. When no calls are placed on the system and switch is in the "Standby" position, the ALERT TONE SPEAKER will generate a steady audible tone.
5. STATION STATUS INDICATOR (RED) (or GREEN): Steady light indicates normal call from associated remote station; flashing light indicates emergency call from associated remote station. Flashing green light indicates code blue status call up on system.

Fig. 21

III. STEP BY STEP OPERATING INSTRUCTIONS

EC-300 VISUAL ONLY NURSE CALL SYSTEM--OPERATION

The following description of the system operation and related illustrations of the equipment are provided for the use and guidance of the nursing staff. If at any time there appears to be a malfunction of any equipment or of the system operation, the nursing staff should contact qualified maintenance personnel.

1. GENERAL SYSTEM OPERATION

1.1 NORMAL CALLS--may be initiated at:

1.1-A Patient bed station, with call activated by

- a. latching pullcord switch (@2.1, 2.1-A,-B),
- b. momentary contact pushbutton callcord (@2.2, 2.2-A - H),
- c. geriatric pressure pad (@2.3);

1.1-B Staff station (@2.4).

1.2 EMERGENCY CALLS--may be initiated at:

Bath station (@2.5, 2.5-A - C).

1.3 CODE BLUE STATUS CALLS--may be initiated at:

Code blue station (@2.6).

1.4 VISUAL COMMUNICATIONS TO MASTER STATION(S)

Master may be used for visual monitor of:

- a. Bed / Staff station (@2.7-A,-C),
- b. Bath station (@2.7-B,-C).

1.5 VISUAL COMMUNICATIONS TO DUTY STATION

Duty station is used to monitor visual and audible signals received at master (@2.8).

1.6 DAY-NIGHT TRANSFER SWITCH (if system so equipped):

Allows switch of power between two masters in parallel (@2.9).

2. EC-300 SYSTEM--EQUIPMENT OPERATION

2.1 PLACING A NORMAL CALL--from a bed pullstation

When bed pullstation cord is pulled, slide switch locks into 'down' position, and all associated call signals in system activate in normal mode:

CALL PLACED indicator (option 23002) on bed station lights steadily.

Dome light at room entrance lights steady-white. At master annunciator,

common CALL PLACED indicator lights steadily accompanied by slowly pulsing audible alert tone, and appropriate station indicator lights steadily

indicating a normal call. Duty station (if system so equipped) call placed indicator lights steadily accompanied by a slowly pulsing audible alert tone.

A NORMAL CALL IS CANCELLED at the originating station, by resetting the pullcord switch to the 'up' position. All associated call signals on system are extinguished.

(Note: refer to 2.7-C for audible tone operation at the master annunciator.)

2.1-A Cat. 2320 BED PULLSTATION--NON-ZONED

See Figure 5. Bed station is ready for use when switch is in the 'up' position.

2.1-B Cat. 2322 BED PULLSTATION--ZONED

See Figure 5. Operation is same, except when cord is pulled, the associated zone light is activated in addition to other call signals.

2.2 PLACING A NORMAL CALL--from a pushbutton callcord bed station

When call pushbutton is momentarily depressed, or when plug of callcord is pulled out of bed station jack, all associated call signals in system activate in the normal mode as described @ 2.1. A NORMAL CALL IS CANCELLED by momentarily depressing the CANCEL button on the originating bed station. All associated call signals in system are extinguished. (Note: refer to 2.7-C for audible operation at the master annunciator.)

2.2-A Cat. 8721 BED STATION--SINGLE JACK

See Figure 6. Bed station is ready for use when jack has properly inserted plug of callcord (@2.2-G).

2.2-B Cat. 8723 BED STATION--DUAL JACK

See Figure 7. Replaces Cat. 8721. Operation is same as described @ 2.2, except bed station is ready for use when each jack has properly inserted plug of callcord (@2.2-G), or one jack has callcord inserted for call activation and second jack has dummy plug.

2.2-C Cat. 8726 BED STATION--DUAL JACK & DUAL CALL PLACED INDICATORS

See Figure 8. Replaces Cat. 8723. Operation is same as described @ 2.2-B, except each jack has a corresponding call placed indicator.

2.2-D Cat. 8724 BED STATION--SINGLE ENTERTAINMENT RECEPTACLE

See Figure 9. Bed station is ready for use when receptacle has properly inserted plug of pillow speaker callcord (@2.2-H). Operation is same as described @ 2.2, except two control features are added:

1. TV on/off pushbutton switch,
2. TV volume control.

2.2-E Cat. 8725 BED STATION--DUAL ENTERTAINMENT RECEPTACLE

See Figure 10. Replaces Cat. 8724. Operation is same as described at 2.2-D, except bed station is ready for use when each receptacle has properly inserted plug of pillow speaker callcord (@2.2-H), or one receptacle has callcord inserted for call activation and second receptacle has dummy plug.

2.2-F Cat. 8727 BED STATION--DUAL ENTERTAINMENT RECEPTACLE & DUAL CALL PLACED INDICATORS

See Figure 11. Replaces Cat. 8725. Operation is same as described at 2.2-E, except each receptacle has corresponding call placed indicator.

12 JERON EC-300 Installation and Service Manual

2.2-G Cat. 8833/6833 CALLCORD--6 FT. LENGTH

See Figs 12/13. To prepare for use, insert callcord plug straight into jack of bed station until firmly in place. Use clip to attach callcord securely to bedding with pushbutton pendant in position convenient for use.

- a. Momentarily depressing pushbutton on callcord of bed station activates call, as described @ 2.2.
- b. When callcord plug is pulled out of bed station jack, all associated call signals in system activate in the normal mode (@2.2). Call and associated signals must be cancelled by reinserting the plug in the jack and then depressing the CANCEL button.

Cat. 8835/6835 CALLCORD--10 FT. LENGTH

See Figs 12/13. Replaces Cat. 8833. Operation is same as described @ 2.2-G, except longer length is appropriate for use with dual jack bed station (8723, 8726).

2.2-H Cat. 6838 PILLOW SPEAKER CALLCORD

See Figure 16. To prepare for use, insert plug straight into receptacle of bed station until firmly in place. Use clip to attach callcord securely to bedding with pushbutton pendant in position convenient for use.

- a. Momentarily depressing pushbutton on callcord of bed station activates call, as described @ 2.2.
- b. When callcord plug is pulled out of bed station receptacle, all associated call signals in system activate in the normal mode (@2.2). Call and associated signals must be cancelled by reinserting the plug in the receptacle and then depressing the CANCEL button.
- c. To switch on television, depress the 'TV' pushbutton. Rotate volume knob to control TV volume emanating from the pillow speaker.

2.3 Cat. 8837 GERIATRIC PRESSURE PAD

See Figure 14. Replaces Cat. 8833. Operation is same as described @2.2, except pressure pad is placed where convenient for patient to readily activate call using gentle hand or body pressure.

2.4 Cat. 8710 STAFF STATION

See Figure 17. Replaces Cat. 8721. Operation is same as described @ 2.2, except no jack or callcord. Call is activated by momentarily depressing the CALL pushbutton on the staff station.

2.5 PLACING AN EMERGENCY CALL

When bath pullstation cord is pulled, the slide switch locks in 'down' position, all associated call signals in system activate in the emergency mode:

Note--emergency call has priority. When bath station is activated while a normal call is in progress, emergency call signals replace the existing condition.

CALL PLACED indicator (option 23002) on bath station flashes indicating emergency call is

up on system. Dome light flashes-RED. At master annunciator, common CALL PLACED indicator flashes accompanied by rapidly pulsing audible alert tone, and appropriate station indicator flashes, indicating an emergency call. Duty station (if system so equipped) call placed indicator flashes accompanied by rapidly pulsing audible alert tone. EMERGENCY CALL MUST BE CANCELLED at the originating bath station, by resetting the pullcord switch to the 'up' position. All associated call signals on system are extinguished.

2.5-A Cat. 2331 BATH PULLSTATION--NON-ZONED

See Figure 5. Bath station is ready for use when the switch is in the 'up' position.

2.5-B Cat. 2332 BATH PULLSTATION--ZONED

See Figure 5. Operation is same as described @ 2.5, except when bath station callcord is pulled, the associated zone light is activated in addition to other call signals.

2.5-C Cat. 8846 BATH-EMERGENCY STATION--ROCKER SWITCH

See Figure 18. Operation is same as described @ 2.5, except switch is rocker type instead of pullcord.

2.6 PLACING A CODE BLUE STATUS CALL

When code blue station pushbutton is depressed to CODE BLUE position, the switch is latched, all associated call signals in system activate in the code blue mode: CALL PLACED indicator on code blue station flashes-GREEN. Dome light flashes-BLUE. At master annunciator, common CALL PLACED indicator flashes accompanied by rapidly pulsing audible alert tone, and appropriate station indicator flashes-GREEN, indicating a code blue status call is up on the system. Duty station (if system so equipped) call placed indicator flashes accompanied by rapidly pulsing audible alert tone. CODE BLUE STATUS CALL IS CANCELLED by resetting the switch at the originating code blue station. All associated call signals on system are extinguished.

Cat. 8849 CODE BLUE STATION

See Figure 19. Code blue station is ready for use when the switch is in the reset position.

2.7 Cat. 8701 (8705) MASTER ANNUNCIATOR

See Figure 21.

2.7-A INCOMING CALL IN "NORMAL" MODE ('E')

NORMAL
MODE Common call-placed indicator is lit steadily accompanied by slowly pulsing audible alert tone (E Rate=1 per 3 seconds). Appropriate station indicator is lit steadily next to station designation strip that identifies the location of the call.

2.7-B INCOMING CALL IN "EMERGENCY" MODE ('EC')

EMERGENCY CALL MODE Common call placed indicator flashes, accompanied by rapidly pulsing audible alert tone (EC Rate=1 per second). Appropriate station indicator flashes at EC rate next to station designation strip that identifies location of call.

EMERGENCY CALLS HAVE PRIORITY OVER NORMAL CALLS.

A station indicator light indicating a normal call will change to indicate an emergency call if associated emergency station is activated; also, common call placed indicator and audible alert tone will operate in the emergency call mode regardless of position of audible silence switch (@2.7-D) if no "CODE BLUE" call is up on system.

2.7-C INCOMING CALL IN "CODE BLUE" MODE ('SD')

"CODE BLUE" CALL MODE Common call placed indicator flashes, accompanied by very rapidly pulsing audible alert tone (SD RATE=2 per second). Appropriate station indicator flashes at SD rate next to station designation strip that identifies location of call.

"CODE BLUE" CALLS HAVE HIGHEST PRIORITY.

A station indicator light indicating a normal/emergency call will change to indicate a "CODE BLUE" call if associated "CODE BLUE" station is activated; also, common call placed indicator and audible alert tone will operate in the "CODE BLUE" call mode regardless of position of audible silence switch (@2.7-D).

2.7-D AUDIBLE ALERT

- A. When audible switch is in the normal position, common call placed indicator light will activate in normal/emergency/code blue mode accompanied by appropriate audible alert tone.
- B. Moving switch to standby will silence/~~normal~~ audible alert tone. Common call placed indicator light activates in appropriate normal/emergency/code blue mode, but only emergency and code blue calls will be accompanied by audible alert tone.
- C. RINGBACK: When audible switch is in STANDBY and all incoming call lights have been cancelled, a steady tone will sound indicating that audible switch should be returned to NORMAL position.

2.8 CATALOG 8817 VISUAL DUTY STATION

See Figure 4. Provides staff in remote location w/parallel visual and audible signal of calls received at master.

- A. Normal calls slowly pulsing audible alert tone (E RATE= 1 per 3 seconds). Duty station indicator light and alert tone are extinguished when call is cancelled at originating station.
- B. Emergency call activates rapidly pulsing audible alert tone (EC RATE= 1 per second). Duty station indicator light and alert tone are extinguished when call is cancelled by reset of switch at originating station.
- C. Code Blue call activates very rapidly flashing indicator on duty station accompanied by very rapidly pulsing audible alert tone (SD RATE= 2 per second). Duty station indicator light and alert tone are extinguished when call is cancelled by reset of switch at originating station.
- D. Normal alert tone may be silenced at duty station by moving audible switch to STANDBY position. Duty station call placed indicator light will activate in normal/emergency/code blue mode when a call is received at the master annunciator, but only emergency and code blue calls will activate the audible alert tone.

RINGBACK: When all incoming call lights have been cleared on the master, steady audible tone at duty station indicates audible switch should be returned to NORMAL position.

2.9 Cat. 8882 DAY-NIGHT TRANSFER SWITCH (if system so equipped)

See Figure 22. The Day-Night transfer switch enables one of two masters connected in parallel. It simply switches power between the 'day-master' and the 'night-master'. Switching is initiated by flipping the selector switch on the 8882 unit.

IV. INSTALLATION PROCEDURES

A INSTALLATION GUIDELINES

1. Wire all systems in accordance with N.E.C. and local building codes, using appropriate diagrams furnished with equipment.
2. Use twisted pair wiring where noted on wiring diagram.
3. Do not run intercom wiring in same conduit, duct or adjacent to cables carrying alternating current since unwanted pickup of noise or hum will result.
4. Label all terminations in terminal cabinet to facilitate future tests and inspections.
5. When wiring and room station units are installed and before connections are made to amplifier, use ohm meter to verify that all wiring is free of shorts (interconnection between common conductors, such as 'E' and 'EC' in the same cable) and grounds (connection of any conductor to conduit system), except CG.

If conduit system is used, plug pipe where it enters and leaves box to prevent transmission of sound.
6. Turn off all power when installing or removing any unit.

B STEP BY STEP WIRING PROCEDURES

STEP 1. REMOTE STATIONS

Refer to Figures 45 - 46 and select the proper conduit size to run the 'common field wires' to the common control equipment (Cat. 8650) and the 'direct wires' to the master annunciator (Cat. 8701). Splice all wires. Connect all 'common field wires' to their corresponding terminals as labeled on 'TB3'. Each 'direct wire' corresponds to one appearance at the master annunciator. Connect each 'direct wire' to an assigned terminal on the master annunciator, marked '1', '2', ... '10'.

STEP 2. MASTER ANNUNCIATOR

Run 7 - 18ga. wires from the common control equipment (Cat. 8650) to the master annunciator (Cat. 8701). Refer to Figures 24 & 44 and connect the wires to their corresponding terminals at both ends. NOTE: If system has two master annunciators (8701's) equipped with a day-night transfer switch (Cat. 8882), 'P' should be wired according to Figure 49b.

STEP 3. 'POWER' WIRING

Both 8650 Main Control and 8651 Main Control with Battery Backup include a 24 VDC supply. See Fig. 22 for locations of power supply terminal blocks and circuit breakers.

Check all previous connections made. If all wires and connections are O.K. then the primary side of the transformer of the power supply may be connected to 120VAC, 60HZ source. Open the high voltage box in the common equipment cabinet, marked 'rating 120VAC, 60HZ'. To open, unscrew both lid mounting screws located on top. Lift lid and locate power terminal block (TB1 on 8650 supply; J220 on 8651 supply with battery backup). Locate building ground terminal block (TB2 on 8650 supply; J227 on 8651 supply with battery backup). Run 3 - #18 cables: 2 - #18 cables from 120VDC, 60HZ power source to 'TB1', and 1 - #18 cable from building ground to 'TB2'.

STEP 4. POWERING-UP SYSTEM

Follow Procedure given in C. RESETTING/DISCONNECTING POWER SUPPLY on next page. Measure voltage across terminals 'P' and 'G' in the common control equipment cabinet; this should read +24VDC.

IF PROBLEMS ARE ENCOUNTERED AFTER POWER IS APPLIED

Remove all common wires connected to terminal block 'TB3' in common equipment cabinet. Connect one room station unit with approximately 10ft. of cable in place of these wires and check operation. If operation is satisfactory, problem exists in common wires; refer to installation note #5 of Installation Guidelines.

C RESETTING/DISCONNECTING POWER SUPPLY

1. Circuit breaker CB1 connects the primary winding of transformer T1 to 120 VAC source. CB1 can be switched on-off manually.
2. Circuit breaker CB2 (green) connects the battery supply of 8651 to power supply output. CB1 can be switched on-off manually.

IMPORTANT: If either CB1 or CB2 trips, make sure that cause of failure (overloading) has been eliminated before resetting.

REGULATED POWER SUPPLY 8650/8651

The main power supply is housed in a separate chassis and consists of:

1. Overvoltage and overcurrent protective devices

- a. Input circuit breaker (2A)
- b. Electronic current limit
- c. Internal thermal shutdown on regulator
- d. Output crowbar overvoltage protection

2. Stepdown power transformer

The power transformer utilizes an electrostatic shield to physically separate primary and secondary windings. This shield is bonded to the chassis.

3. Rectifier and regulator PCB

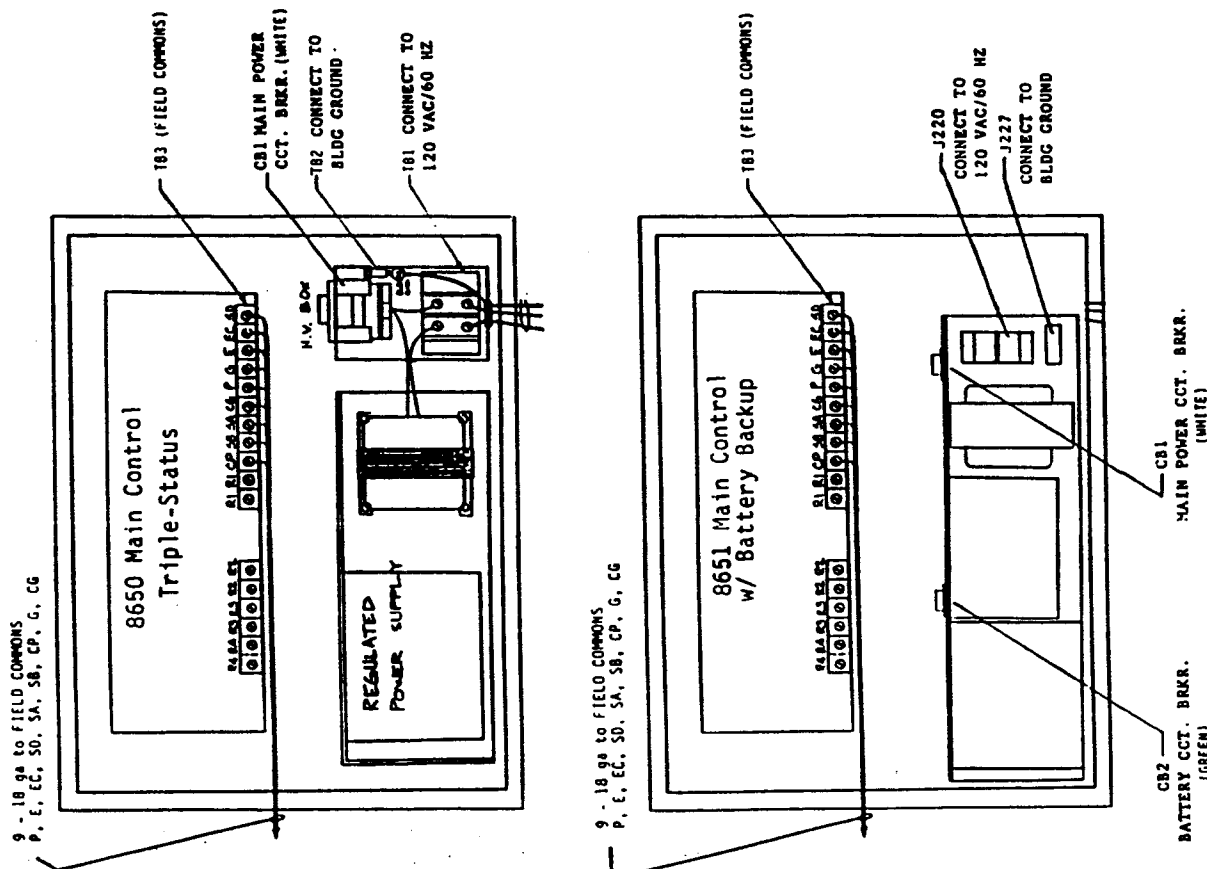
A full wave bridge rectifier, input filter capacitors and a power regulator are employed for final stepdown and regulation of the output voltage.

4. Standby Battery

When system is operating from standby battery the maximum duration for ten percent of maximum signaling capability is five minutes.

Fig. 22

8650 and 8651 MAIN CONTROL CONNECTIONS



D. INSTALLING STATIONS

All stations are designed for flush wall mounting in specified backboxes using furnished hardware. Do not run cables between rear of unit and rear of box and make sure no wires are pinched. Entertainment Receptacle Bed Stations 8724 /8725/8726 are provided on white plastic trimplates with modular subplates. Fasten subplates to backbox or ring with steel #6-32 slotted flathead screws. Then fasten trimplate to subplate with plastic #4-40 Phillips head screws. Stations with stainless steel faceplates are fastened directly to box or ring with steel #6-32 slotted flathead screws. The instruction sheet packed with 8701/8705 Master Annunciator gives instructions for installing panels and inserting room numbers.

BACKBOX SPECIFICATIONS

Master Annunciators mount in the specified UL listed Jeron Backbox:

<u>Catalog Number</u>	<u>Backbox Dimensions</u>	<u>Catalog Number</u>
8701-10, -20, -30, -40	4- $\frac{1}{2}$ "w x 17 $\frac{1}{2}$ "h x 2 $\frac{1}{2}$ "d	3160-1
8701-50, -60, -70, -80, -90	8- $\frac{1}{2}$ "w x 17 $\frac{1}{2}$ "h x 2 $\frac{1}{2}$ "d	3160-2
8701-100, -110, -120, -130, -140	12- $\frac{1}{2}$ "w x 17 $\frac{1}{2}$ "h x 2 $\frac{1}{2}$ "d	3160-3
8701-150, -160, -170, -180, -190	16- $\frac{1}{2}$ "w x 17 $\frac{1}{2}$ "h x 2 $\frac{1}{2}$ "d	3160-4
8701-200, -210, -220, -230, -240	20- $\frac{1}{2}$ "w x 17 $\frac{1}{2}$ "h x 2 $\frac{1}{2}$ "d	3160-5
8701-250, -260, -270, -280, -290	24- $\frac{1}{2}$ "w x 17 $\frac{1}{2}$ "h x 2 $\frac{1}{2}$ "d	3160-6
8701-300	28- $\frac{1}{2}$ "w x 17 $\frac{1}{2}$ "h x 2 $\frac{1}{2}$ "d	3160-7
8705-10, -20	4- $\frac{1}{2}$ "w x 11"h x 2 $\frac{1}{2}$ "d	3460-1
8705-30, -40, -50	8- $\frac{1}{2}$ "w x 11"h x 2 $\frac{1}{2}$ "d	3460-2
8705-60, -70, -80	12- $\frac{1}{2}$ "w x 11"h x 2 $\frac{1}{2}$ "d	3460-3
8705-90, -100	16- $\frac{1}{2}$ "w x 11"h x 2 $\frac{1}{2}$ "d	3460-4

Main Control Units require the following covered steel NEMA enclosures:

- Cat. 8650: use Jeron 8888 Enclosure, 15 x 12 x 4" LxWxD
- Cat. 8651: use Jeron 6888 Enclosure, 24 x 18 x 4" LxWxD

Remote equipment mounts in the following standard electrical backboxes:

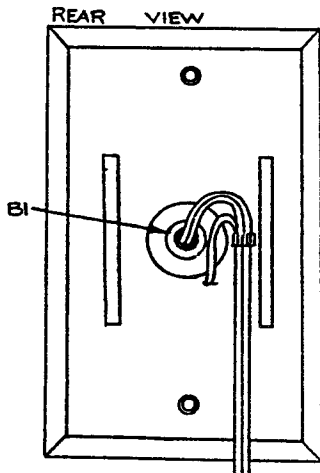
Catalog Number

2320, 2322, 2331, 2332,
8710, 8721, 8723, 8726,
8801, 8802, 8803, 8805,
8817, 8846, 8849, 8882
8724*, 8725*, 8727*

Use 1-gang backbox, RACO #670 or equiv.

- * Position Raco #670 one-gang box 1/2" behind wall for station clearance or use Raco #230 two-gang box with Raco #772 one-gang raised cover. Station dimensions 4-1/2" x 4-1/2" H x W.

E. Station Rear Views and Lead Identification



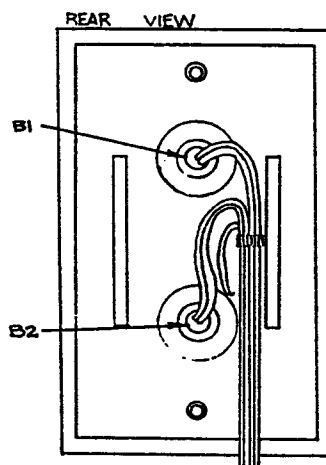
8801 (red)
8809 (blue)

COLOR CODE	
FUNCTION	COLOR
P	BK
EL	RD
CG	GN

8805 (white)

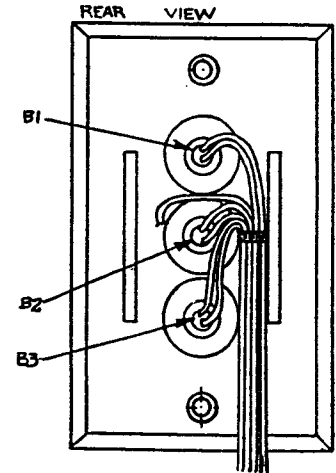
COLOR CODE	
FUNCTION	COLOR
P	BK
EL	WH
CG	GN

8801/8805/8809
Dome Lights, 1-bulb
Fig. 23



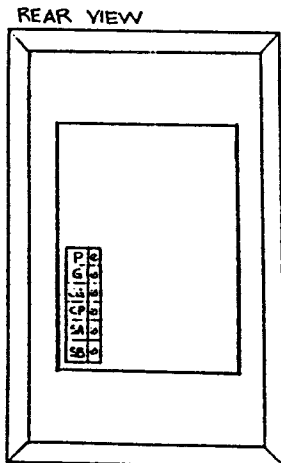
COLOR CODE	
FUNCTION	COLOR
P	BK
ZE	RD
ZL	WH
CG	GN

8802 Dome Light
2-bulb (red/white)
Fig. 24

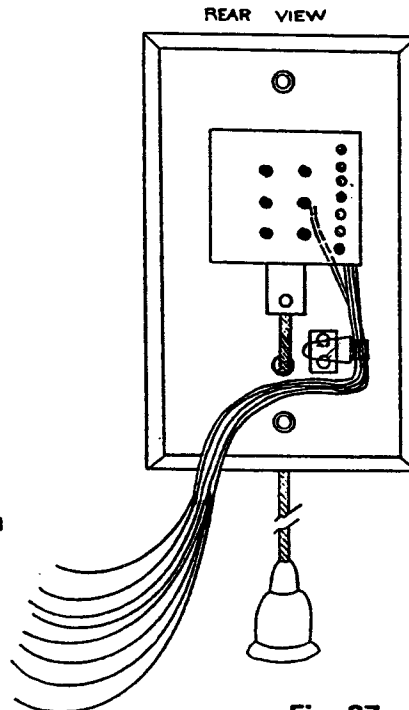


COLOR CODE	
FUNCTION	COLOR
P	BK
ZE	RD
ZL	WH
ZB	BL
CG	GN

8803 Dome Light
3-bulb (red/white/blue)
Fig. 25



8817 Visual Duty Station
Fig. 26



2320 Room/Bed/Bath
for nonzoned systems
SPST

COLOR CODE	
FUNCTION	COLOR
1	OR
2	YLW
3*	WH/OR
CG	GN

2322 Room/Bed/Bath
for zoned systems
DPST

COLOR CODE	
FUNCTION	COLOR
1	OR
2	YLW
3	WH/OR
4*	WH/BN
CG	GN

2331 Associated Bath
for 2 or 3-status nonzoned
systems, SPDT

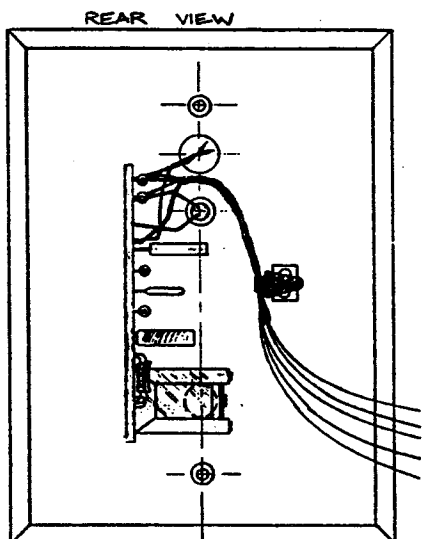
COLOR CODE	
FUNCTION	COLOR
1	OR
2	YLW
3	WH/OR
4*	WH/BN
CG	GN

2332 Associated Bath
for 2 or 3-status zoned
systems, DPDT

COLOR CODE	
FUNCTION	COLOR
1	OR
2	YLW
3	WH/OR
4	WH/BN
5	BN
6	BK
7*	WH/BN
CG	GN

NOTE: * W/23002
OPTION.

Fig. 27 2320/2322/2331/2332 Pullcord Stations

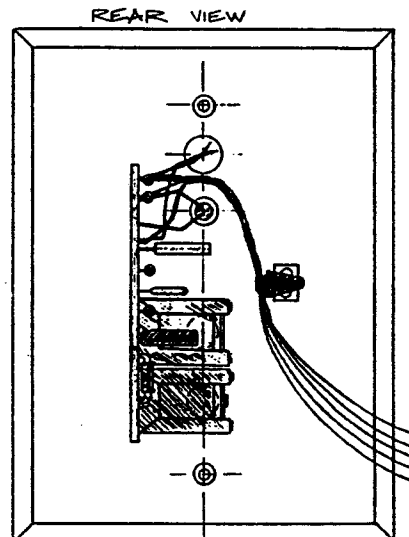


**8721 Single Jack
Callcord Bed Station**

Fig. 28

Color Code

FUNCTION	COLOR
P	OR
G	BN
A	W/OR
B	W/GN
CG	GN

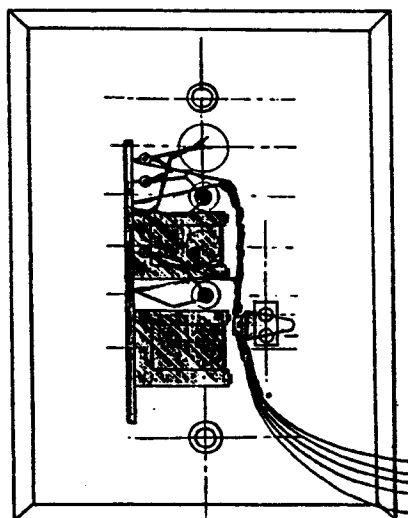


**8723 Dual Jack
Callcord Bed Station**

Fig. 29

Color Code

FUNCTION	COLOR
P	OR
G	BN
A	W/OR
B	W/GN
CG	GN

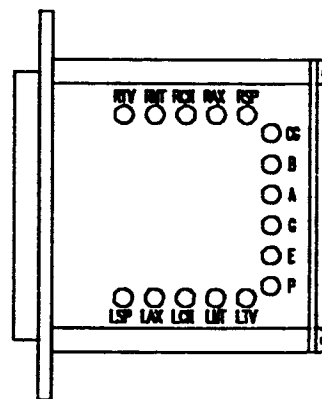


**8726 Dual Jack/
Dual Indicator
Callcord Bed
Station**

Fig. 30

Color Code

FUNCTION	COLOR
P	OR
G	BN
A	W/OR
B	W/GN
CG	GN



COLOR CODE

FUNCTION	COLOR
P	- OR
E	- BN
G	- BK
A	- W/OR
B	- W/GN
CG	- GN

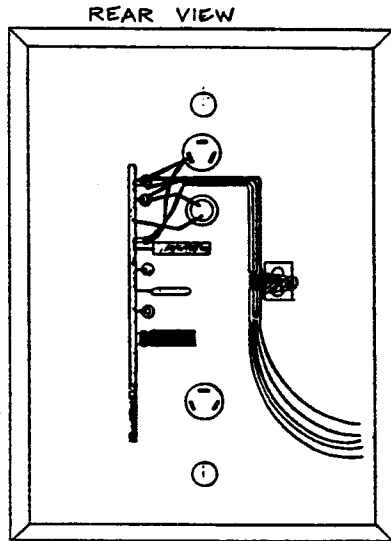
**ENTERTAINMENT
RECEPTACLE**

L(R)TV	- YEL
L(R)CN	- W/BN
L(R)SP	- RED

(CONNECT ONLY
TO CLASS 2
CIRCUIT).

Fig. 31

**8724 Single Entertainment
Receptacle Bed Station
8725 Dual Entertainment
Receptacle Bed Station**



COLOR CODE

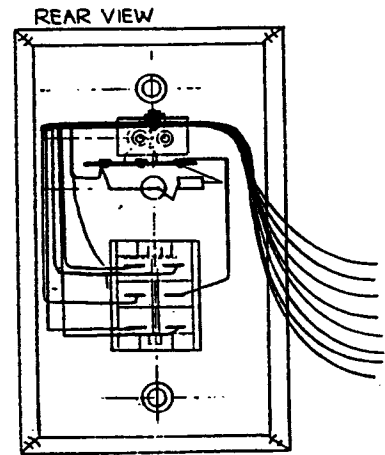
FUNCTION	COLOR
F	OR
G	BN
A	W/OR
B	W/GN
CG	GN

8710 Staff Station

Fig. 33

COLOR CODE

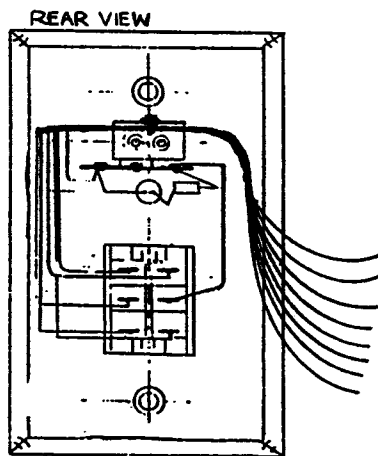
FUNCTION	COLOR
1	OR
2	YLW
3	WH/OR
4	WH/BN
5	BN
6	BK
7	WH/GN
CG	GN



8846 Pushbutton Bath/Emergency Station

Fig. 34

(FIG. 41)



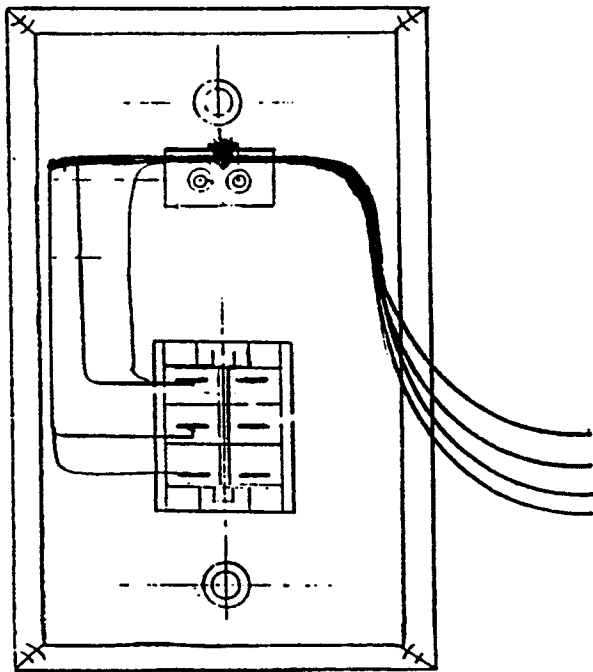
COLOR CODE

FUNCTION	COLOR
1	OR
2	YLW
3	WH/OR
4	WH/BN
5	BN
6	BK
7	WH/GN
CG	GN

8849 Code Blue Station

Fig. 35

(FIG. 42)



COLOR CODE

FUNCTION	COLOR
P	OR
PD	WH/BN
PN	BN
CG	GN

8882 Day/Night Transfer Switch

Fig. 36

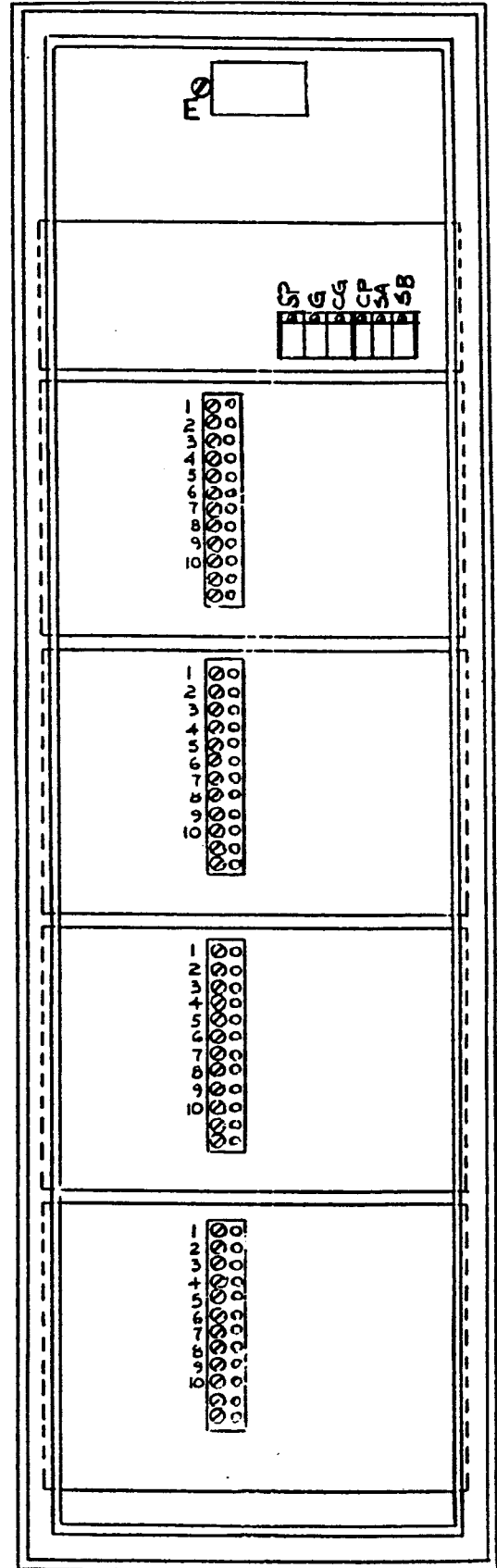
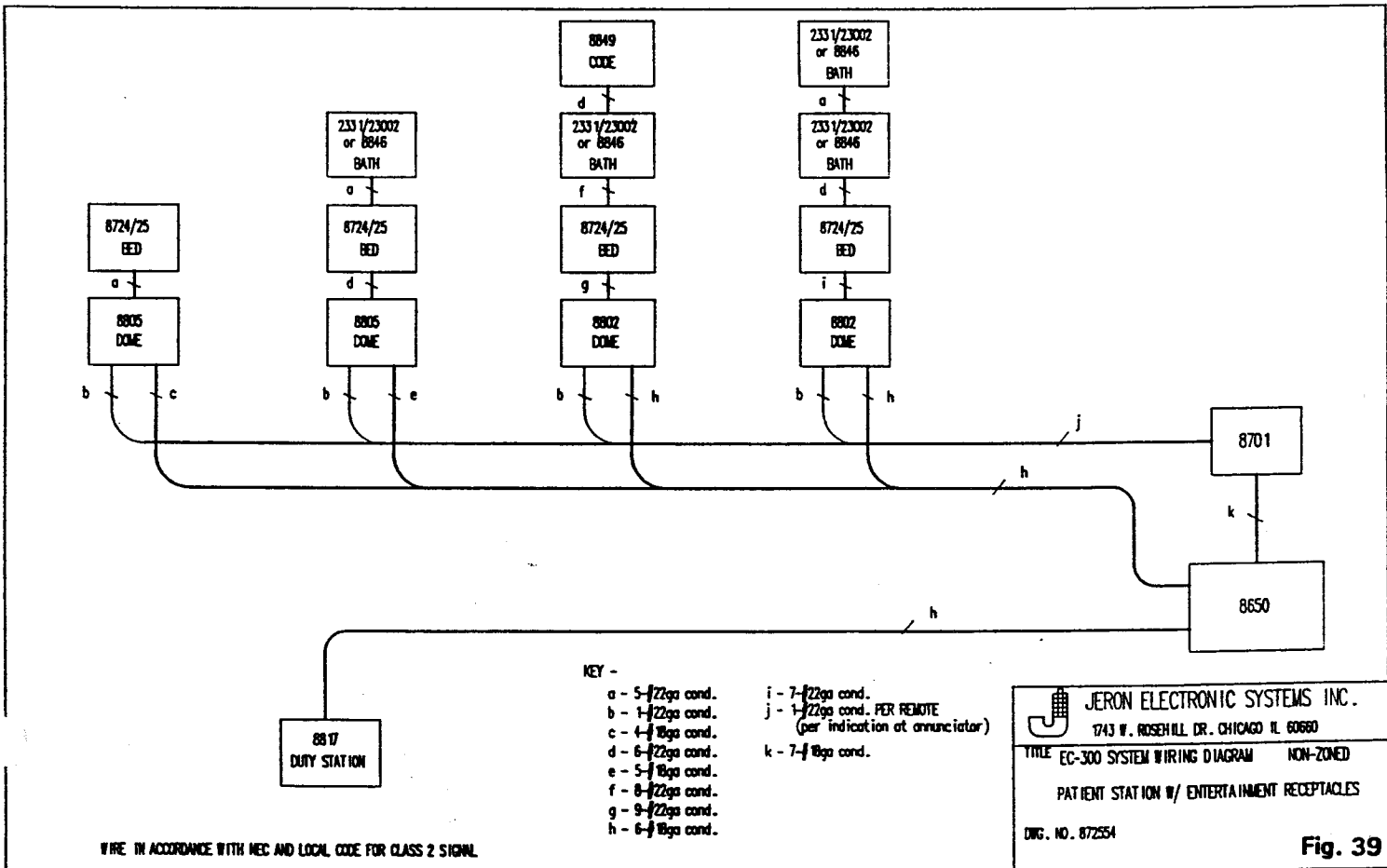
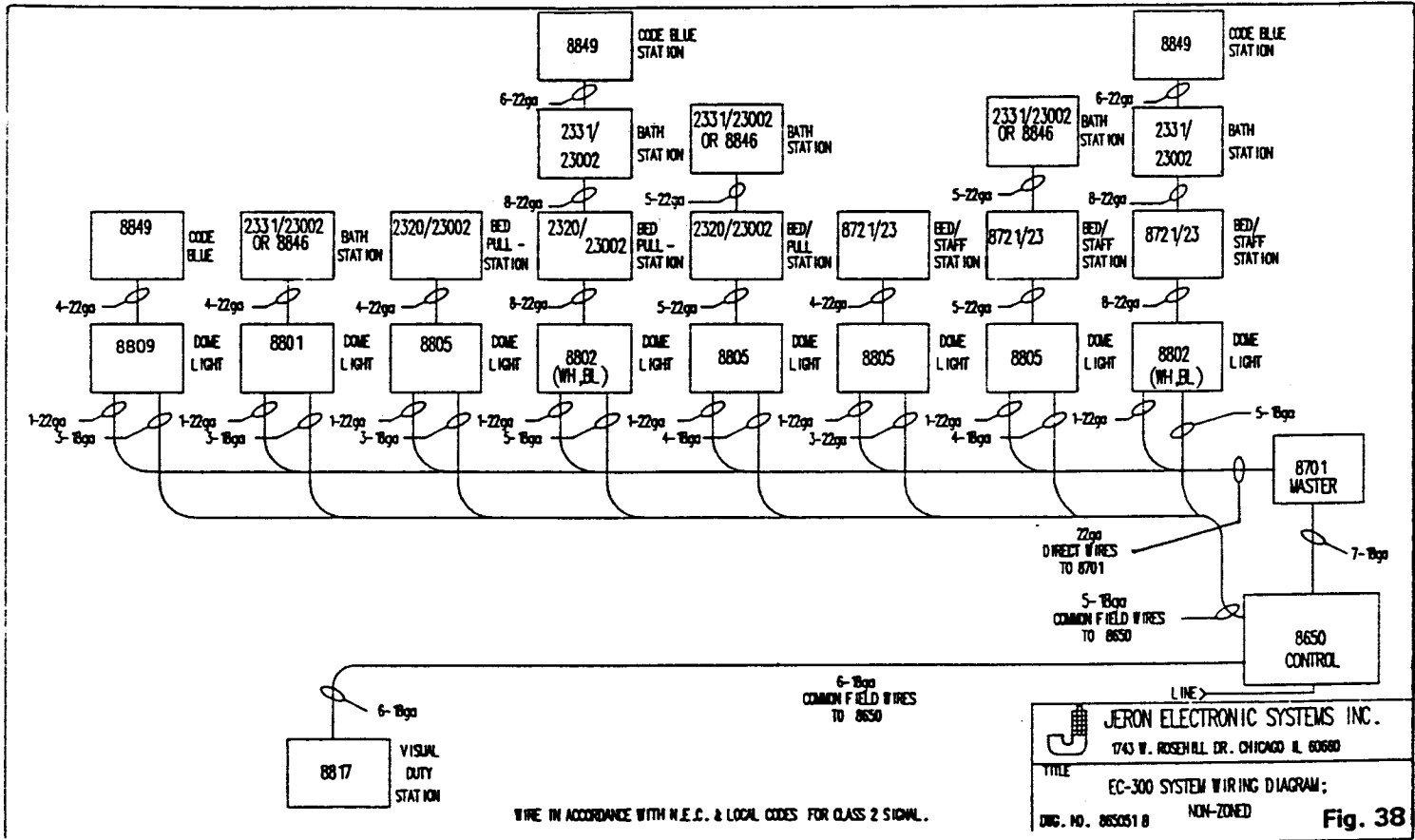
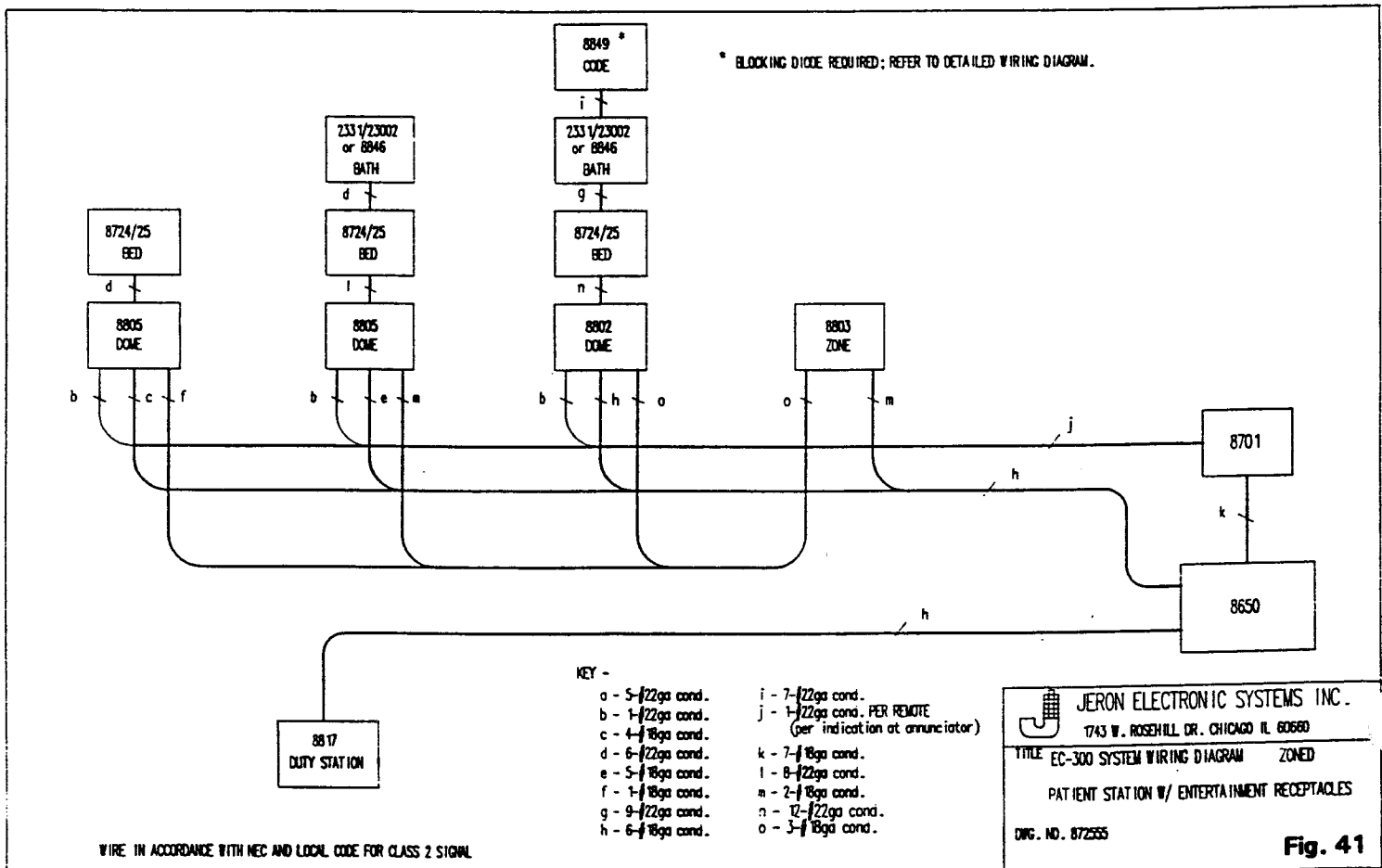
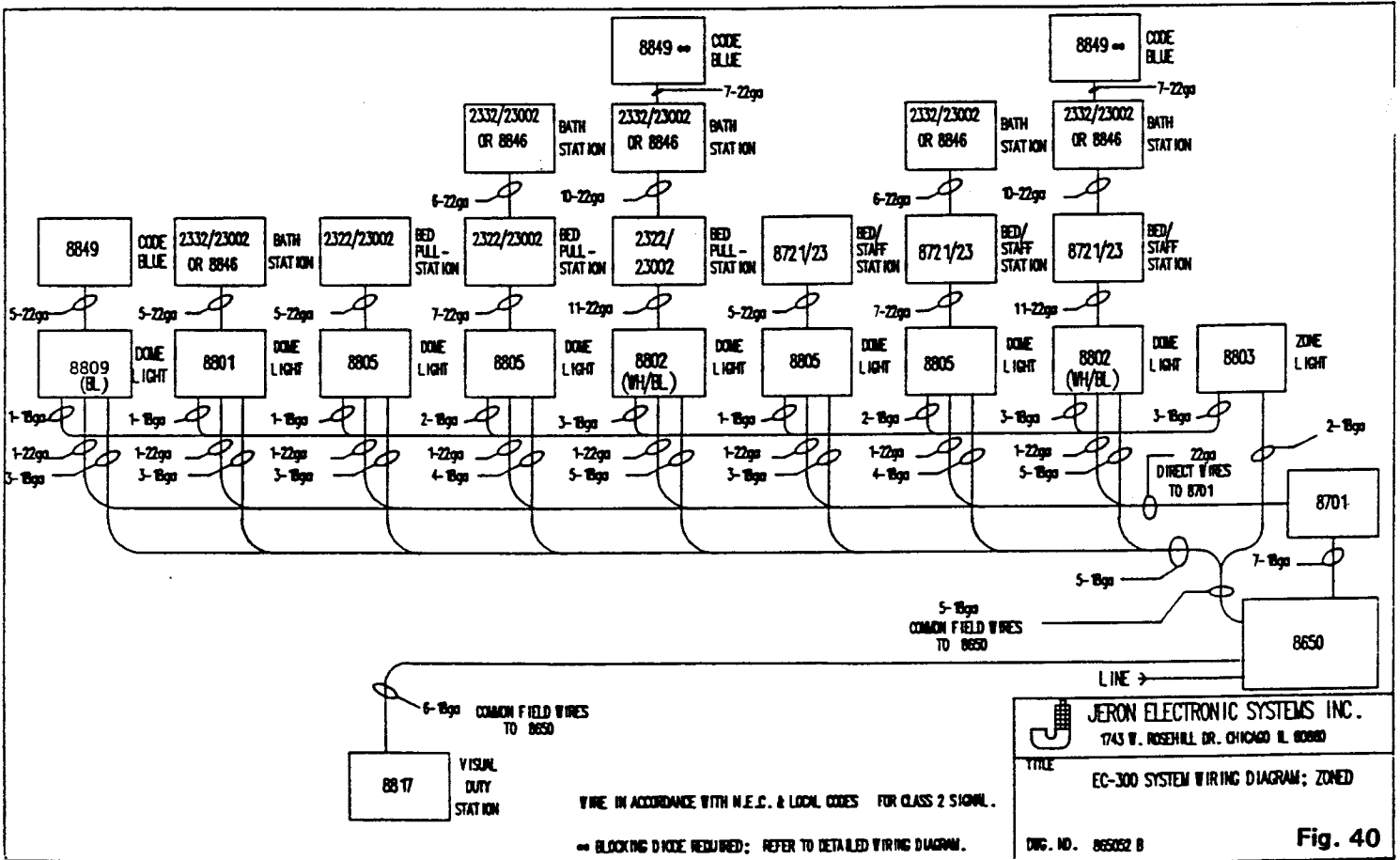


Fig. 37

8701/8705 Master Annunciator
(one 40-room panel shown)



- KEY -
- a - 5-22ga cond.
 - b - 1-22ga cond.
 - c - 4-18ga cond.
 - d - 6-22ga cond.
 - e - 5-18ga cond.
 - f - 8-22ga cond.
 - g - 9-22ga cond.
 - h - 6-18ga cond.
 - i - 7-22ga cond.
 - j - 1-22ga cond. PER REMOTE (per indication of annunciator)
 - k - 7-18ga cond.



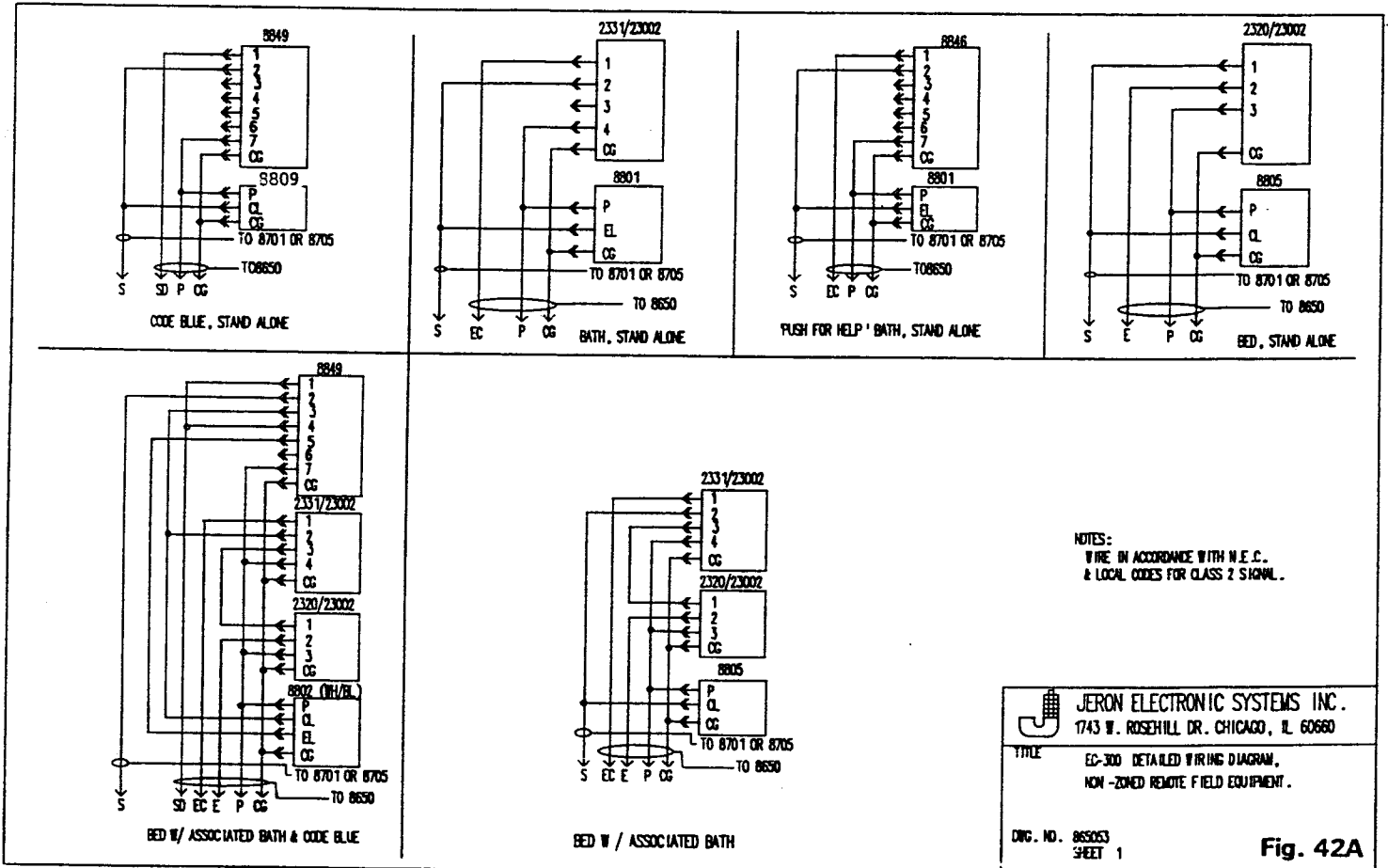


Fig. 42A

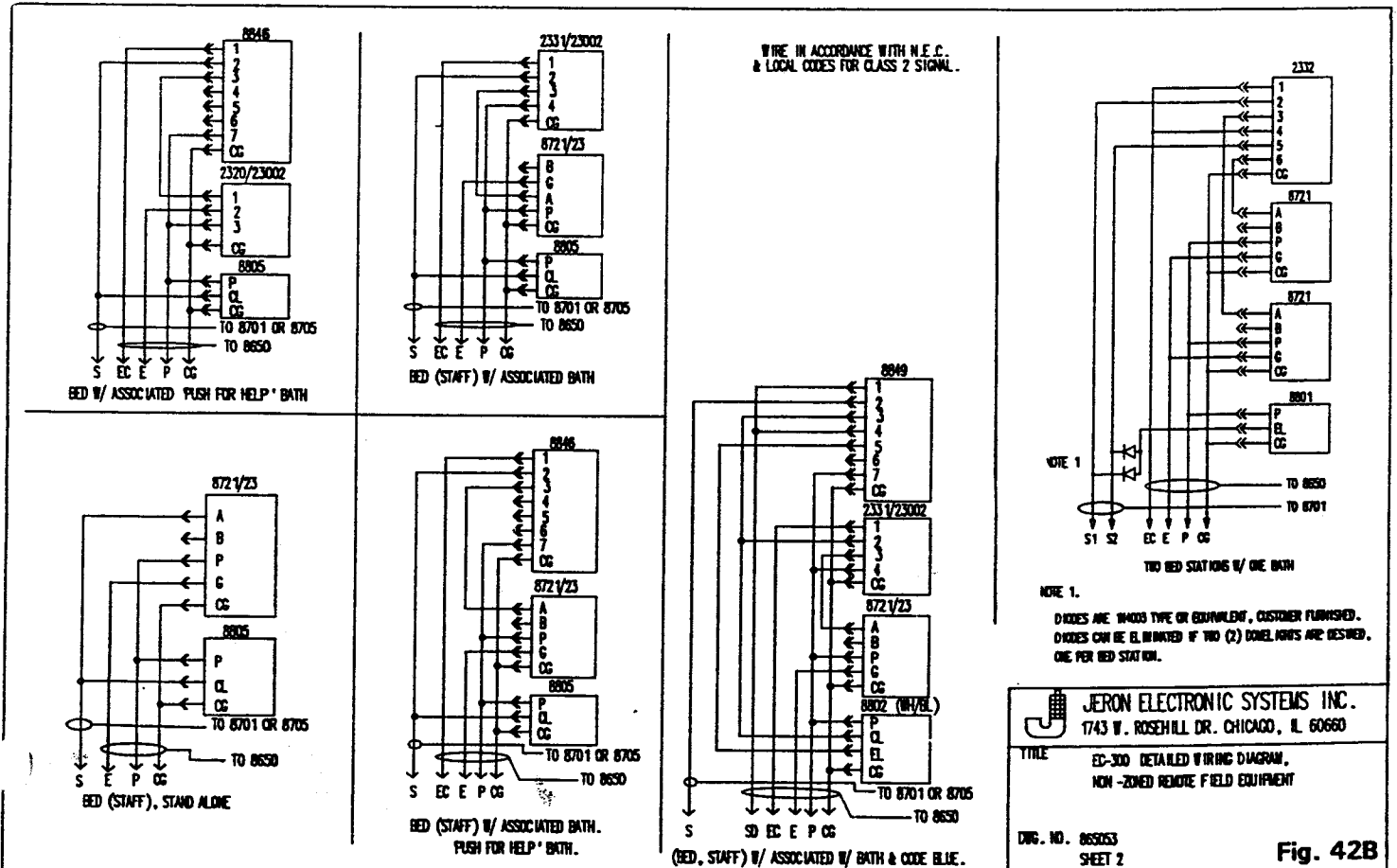
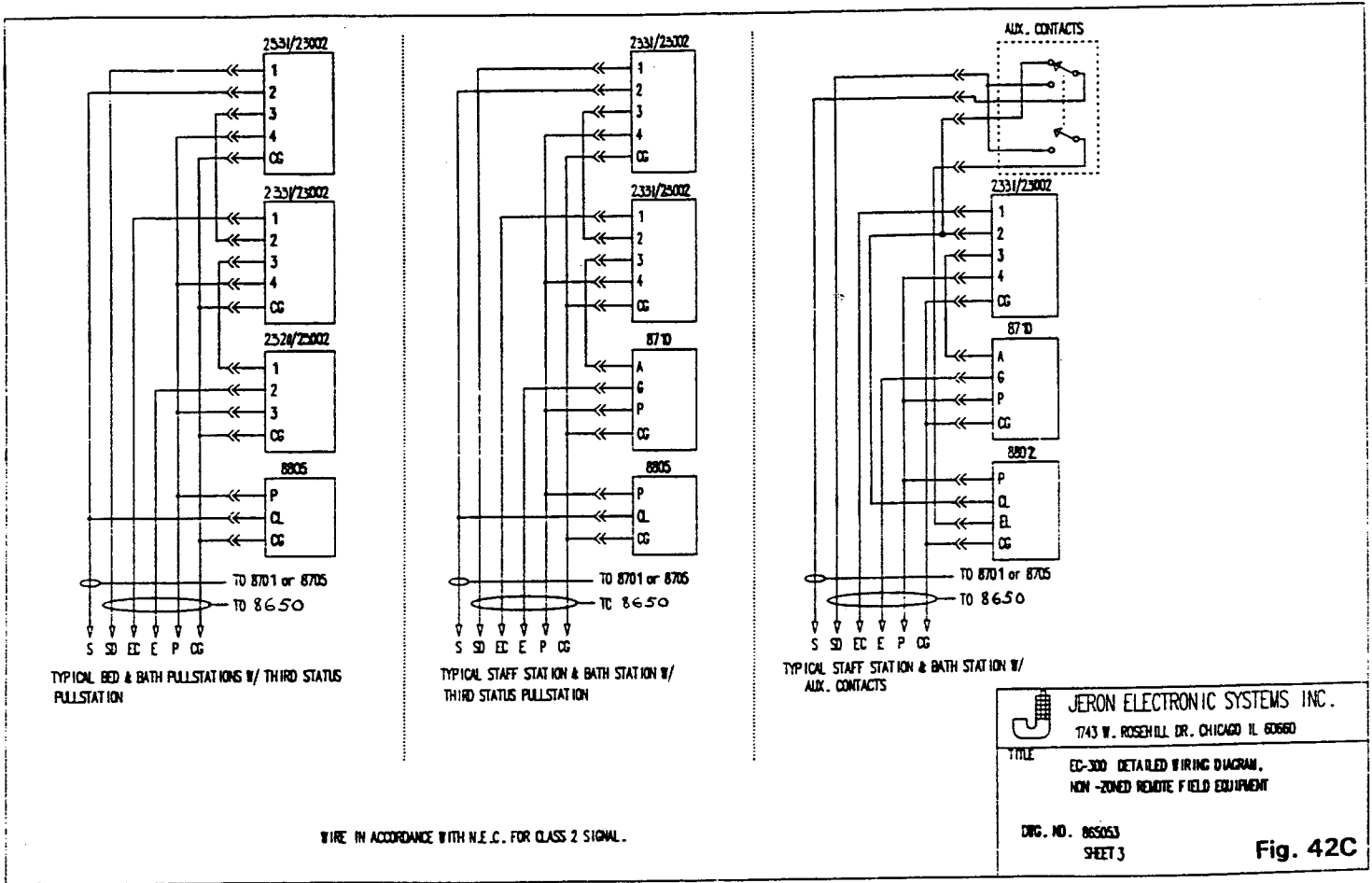


Fig. 42B

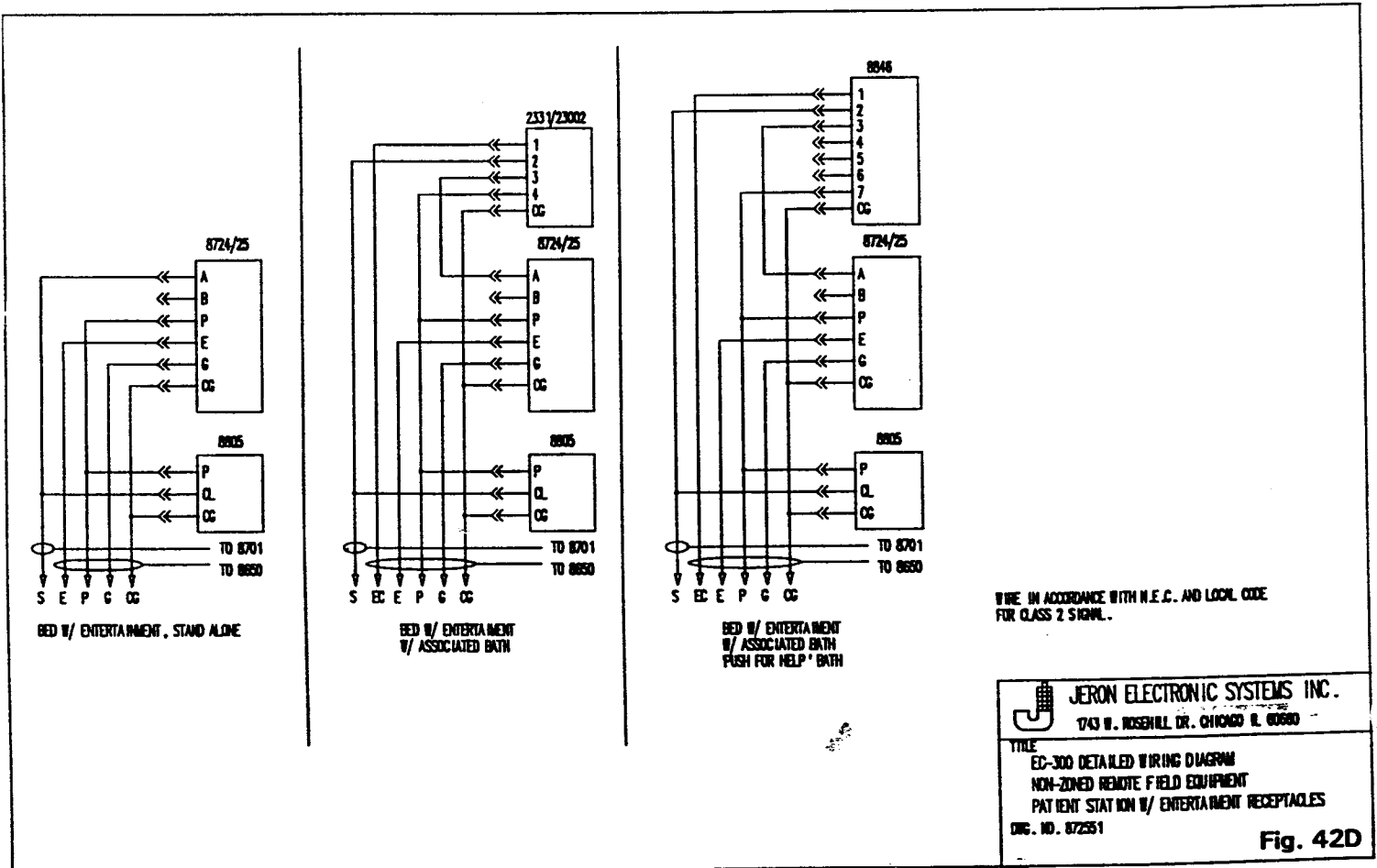


JERON ELECTRONIC SYSTEMS INC.
 1743 W. ROSEHILL DR. CHICAGO IL 60660

TITLE
 EC-300 DETAILED WIRING DIAGRAM,
 NON-ZONED REMOTE FIELD EQUIPMENT

DRG. NO. 865053
 SHEET 3

WIRE IN ACCORDANCE WITH N.E.C. FOR CLASS 2 SIGNAL.

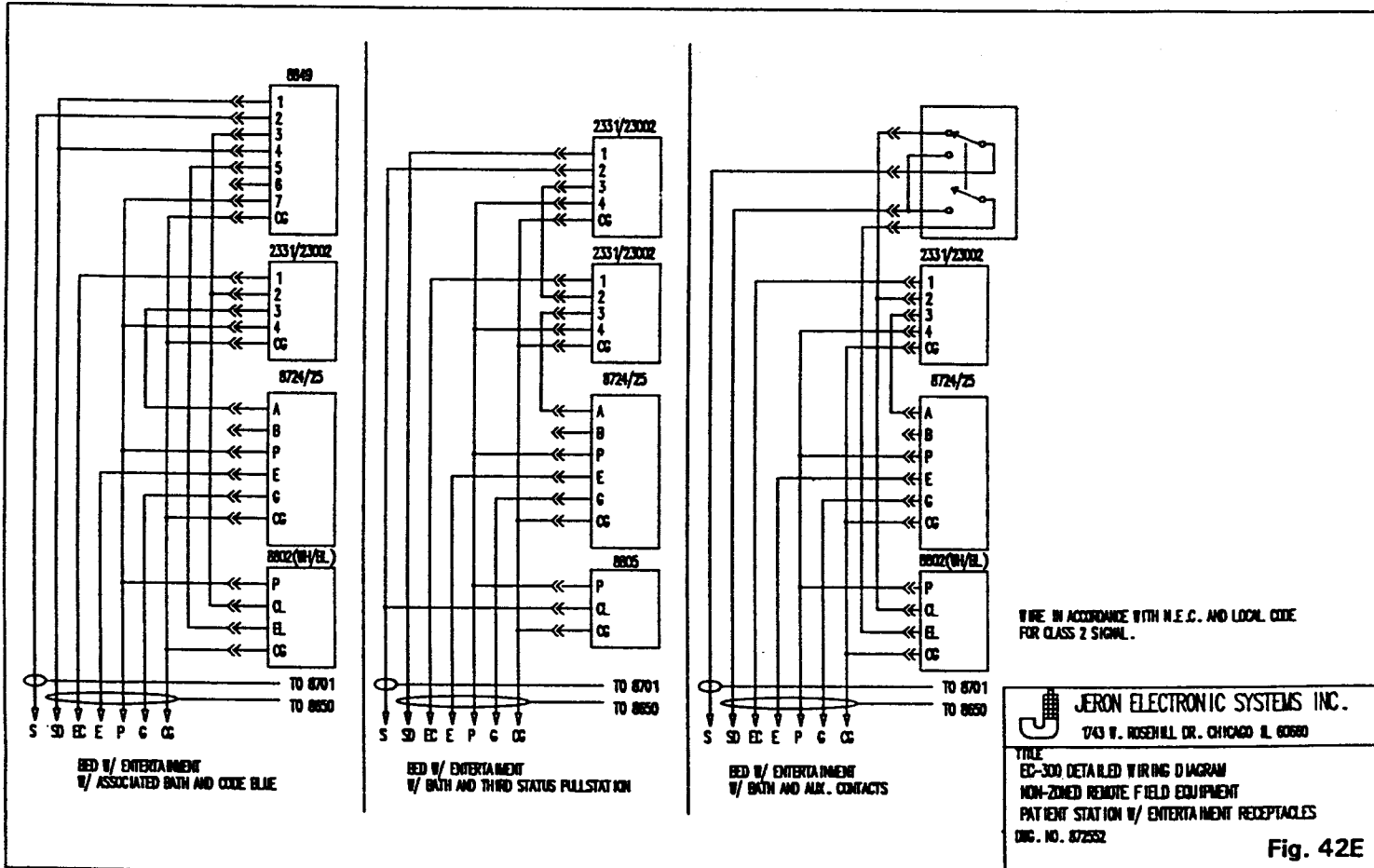


WIRE IN ACCORDANCE WITH N.E.C. AND LOCAL CODE FOR CLASS 2 SIGNAL.

JERON ELECTRONIC SYSTEMS INC.
 1743 W. ROSEHILL DR. CHICAGO IL 60660

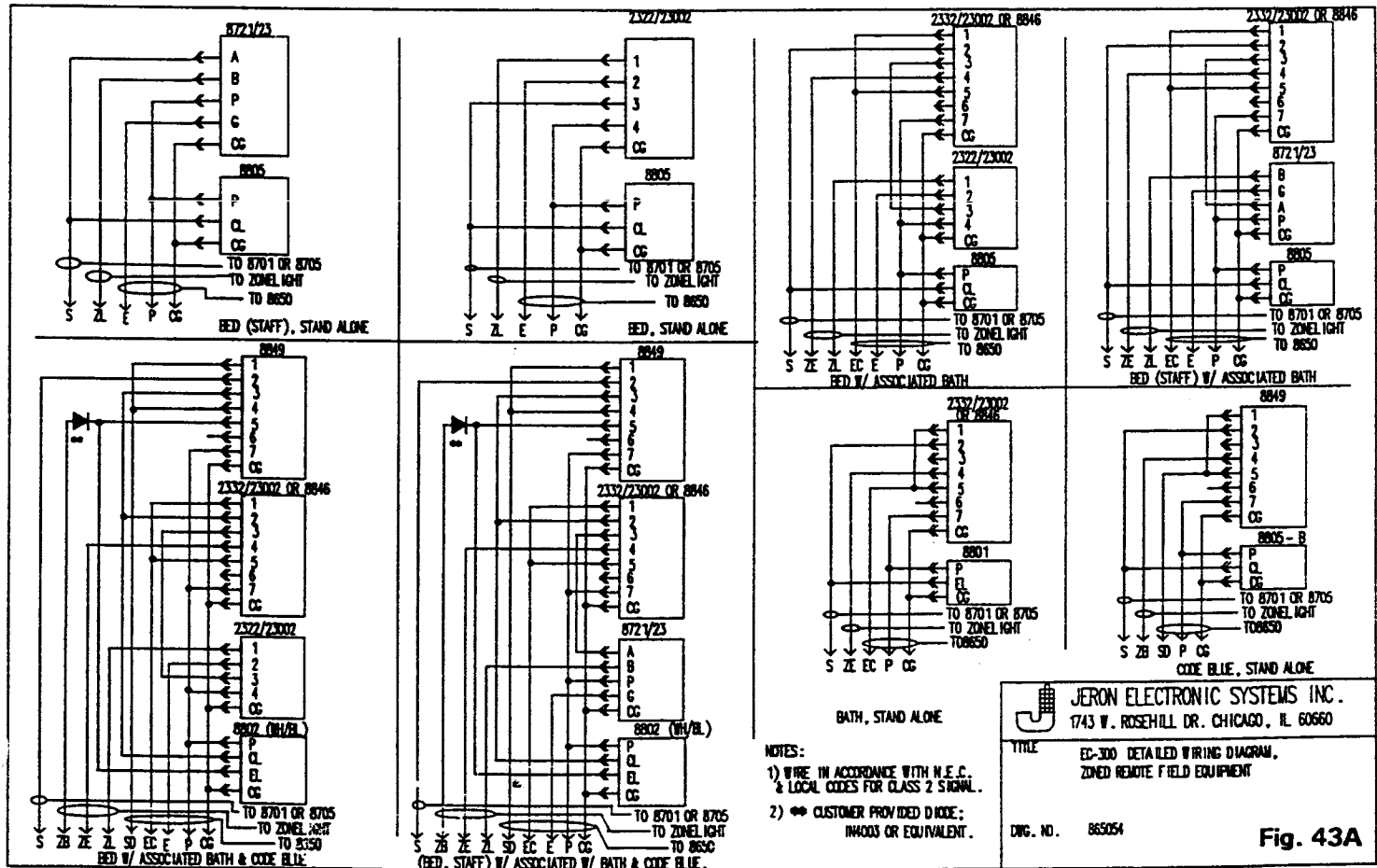
TITLE
 EC-300 DETAILED WIRING DIAGRAM
 NON-ZONED REMOTE FIELD EQUIPMENT
 PATIENT STAT ION W/ ENTERTAINMENT RECEPTACLES

DRG. NO. 87251



JERON ELECTRONIC SYSTEMS INC.
 1743 W. ROSEHILL DR. CHICAGO, IL 60660

TITLE: EC-300 DETAILED WIRING DIAGRAM
 NON-ZONED REMOTE FIELD EQUIPMENT
 PATIENT STATION W/ ENTERTAINMENT RECEPTACLES
 DWG. NO. 872552

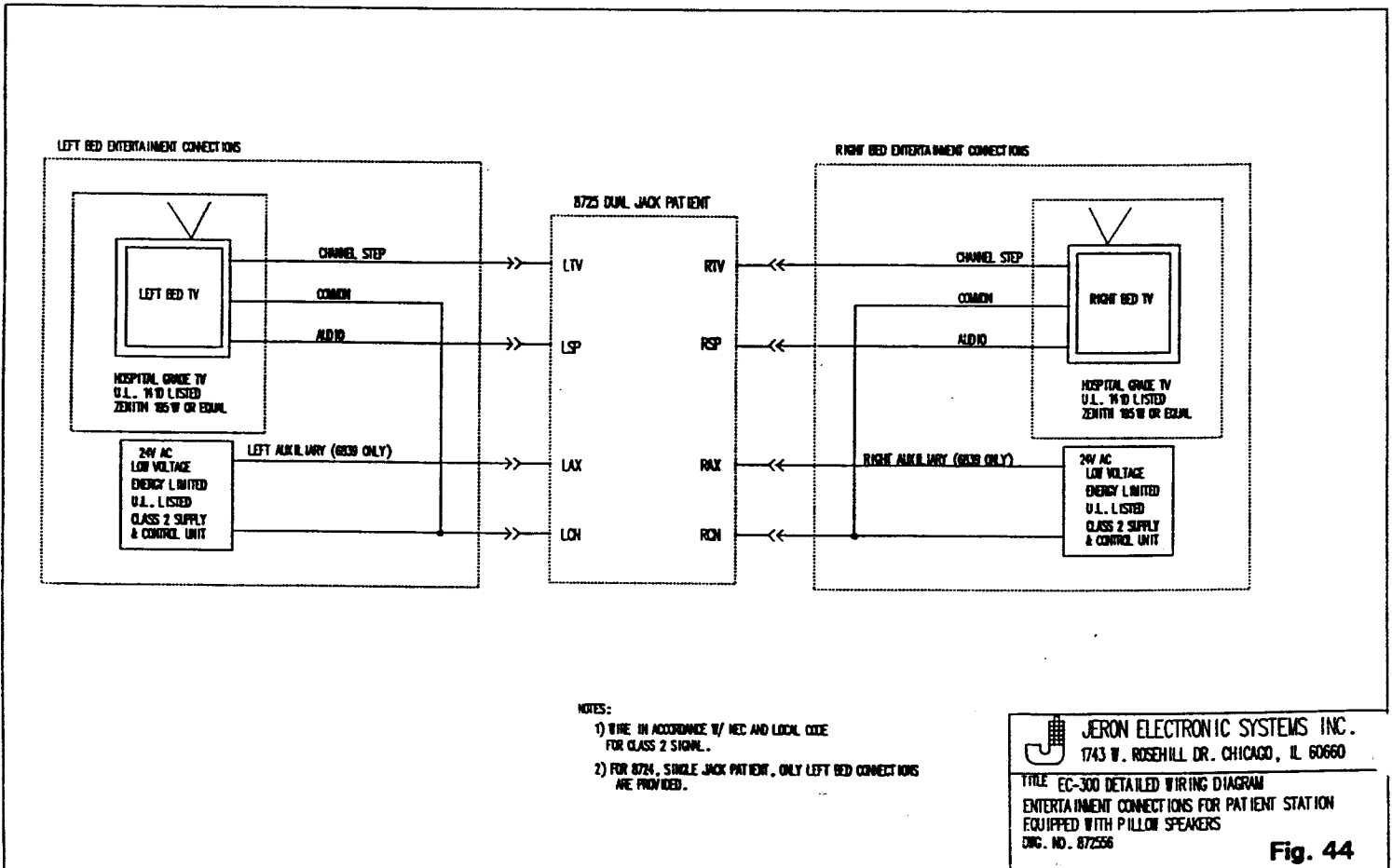
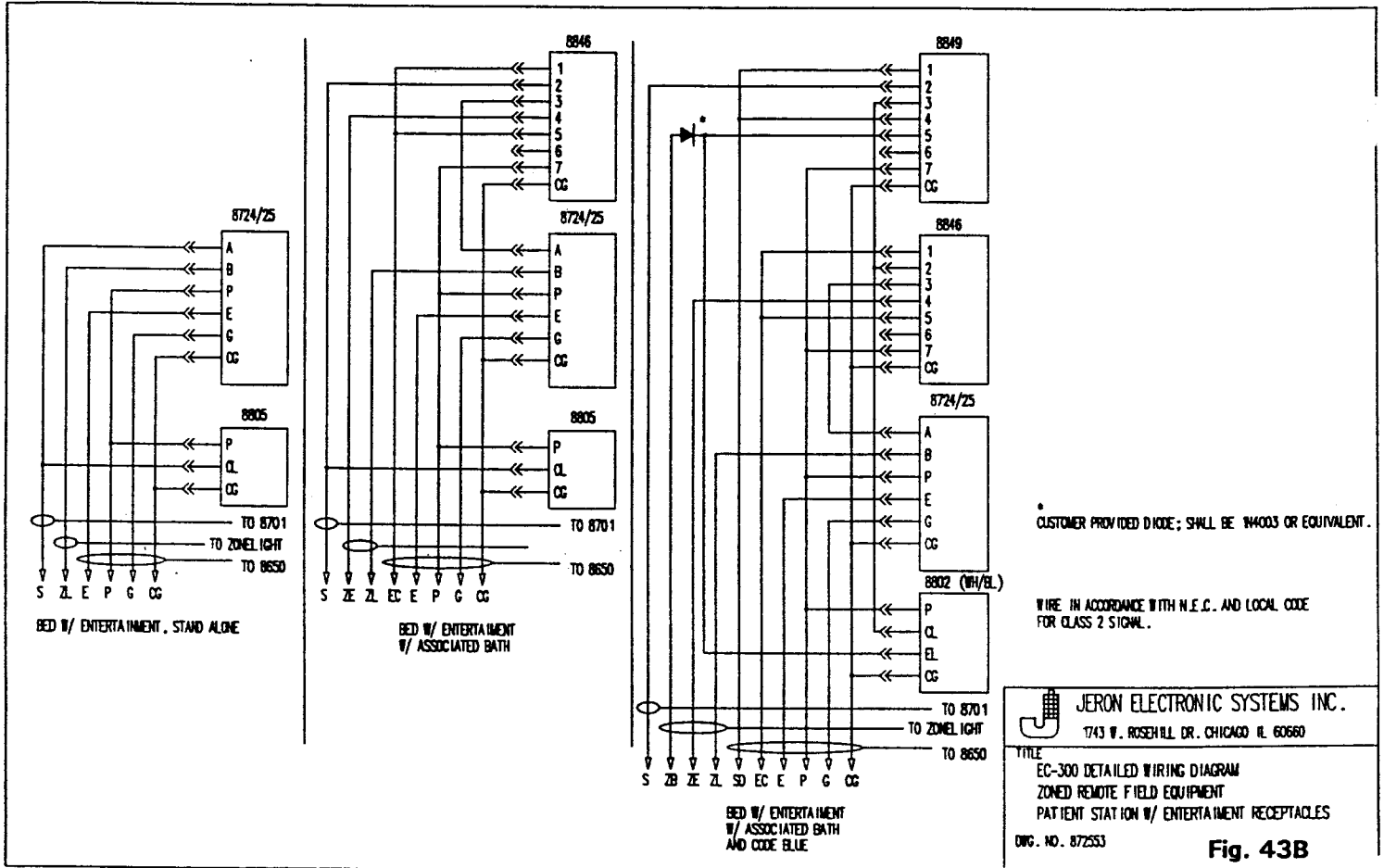


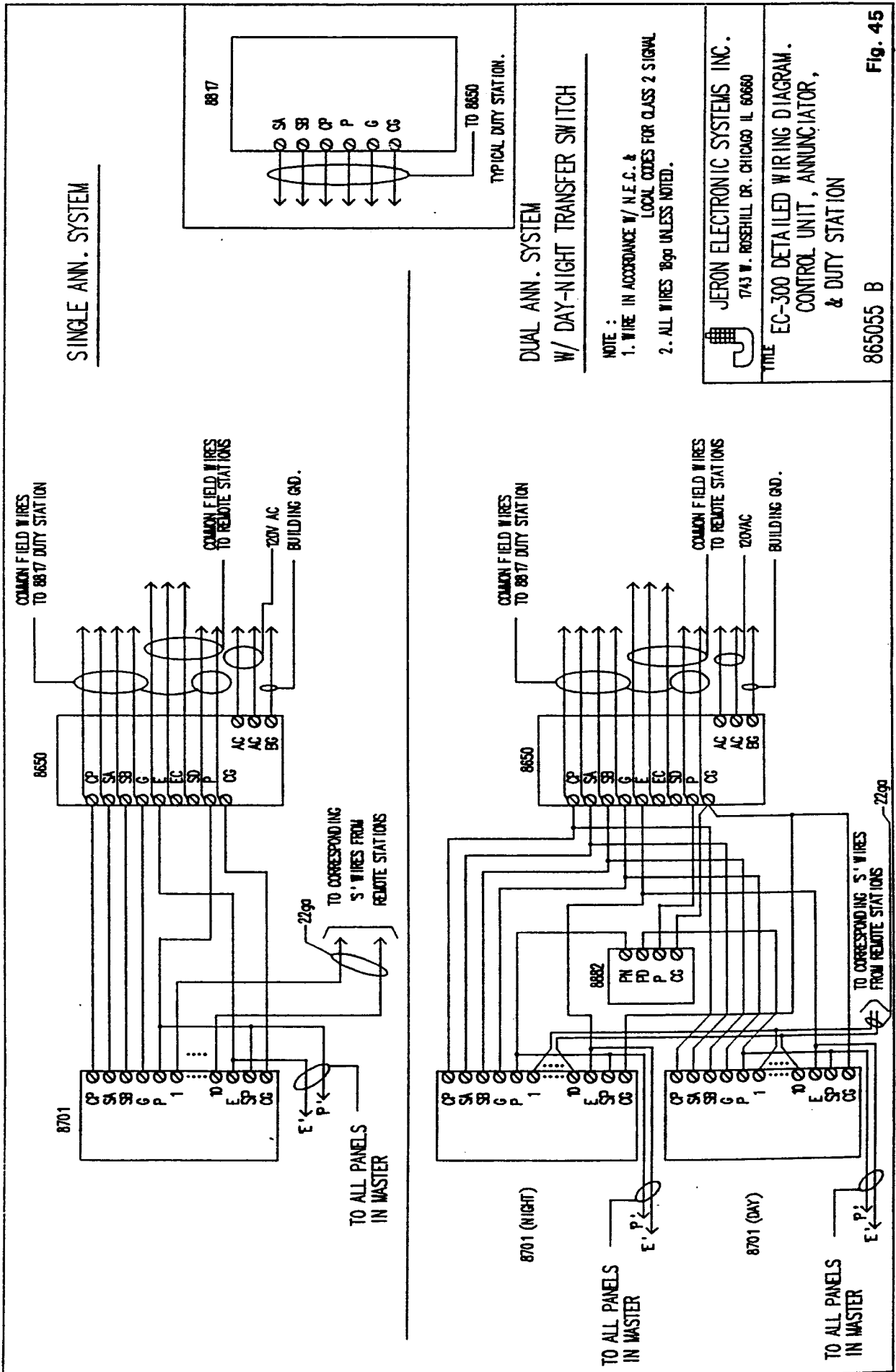
JERON ELECTRONIC SYSTEMS INC.
 1743 W. ROSEHILL DR. CHICAGO, IL 60660

TITLE: EC-300 DETAILED WIRING DIAGRAM,
 ZONED REMOTE FIELD EQUIPMENT

DWG. NO. 885054

- NOTES:
- 1) WIRE IN ACCORDANCE WITH N.E.C. & LOCAL CODES FOR CLASS 2 SIGNAL.
 - 2) ** CUSTOMER PROVIDED D.I.D.; INADDS OR EQUIVALENT.





VI. Replacement Parts and Procedures

Much of the equipment composing the EC-300 VISUAL NURSE CALL SYSTEM is not user serviceable, which means that these equipment should be repaired only by qualified service personnel. The following equipment (specified by their catalog number) have no user serviceable parts. NOTIFY QUALIFIED SERVICE PERSONNEL FOR REPAIR OR REPLACEMENT:

<u>CAT. NO.</u>	<u>DESCRIPTION</u>	<u>CAT. NO.</u>	<u>DESCRIPTION</u>
2320, 2322, 2331, 2332	Patient station	8721, 8723, 8724,	Patient Station
8650	Common Control Equipment	8725, 8726, 8727	
8701, 8705	Master Annunciator	8846	Bath-Emergency Station
8710	Staff Station	8849	Code Blue Station
8817	Duty Station	8882	Day-Night Transfer Switch

The following equipment have user serviceable parts:

- | | |
|--|---------------------|
| | Bulb: 28V T3½ 70 mA |
| | Color Jeron Cat # |
| | white 9950 |
| | blue 9950B |
| | green 9950G |
| | red 9950R |
| | yellow 9950Y |
1. CATALOG NOS. 8801, 8802, 8803, 8805 (Dome Light)
REPLACEMENT PROCEDURE
 - A. Remove snap-on cover dome by gripping both sides and pulling cover away from plate surface.
 - B. Remove bulb (make sure no call is placed) by pushing bulb in towards trimplate surface, turn bulb counter clockwise and pull bulb out of socket.
 - C. Replace bulb by holding glass part and pushing its metal end into socket until resistance is encountered. Turn bulb clockwise until it falls into socket and stops turning.
 - D. Replace cover by gently pressing sides to snap into die-cut grooves of trimplate.
 2. CATALOG NOS. 8833, 8835, 8838 (Callcord)
REPLACEMENT PROCEDURE
 - A. Remove callcord by gripping end of plug firmly and pulling it straight away from bed station. Disconnect grounding lead (shielded callcords only).
 - B. Replace callcord by holding end of plug and pushing straight into callcord jack on bed station. Reconnect green grounding lead of shielded callcords to patient station trim plate screw.
 - C. Test callcord by pushing call button on end. The red "Call Placed" indicator on the bed station should light. Push "Cancel" button on the bed station to cancel the call and all associated lights that were activated.
 3. CATALOG NO. 8837 (Callcord)
REPLACEMENT PROCEDURE
 - A. Remove callcord by gripping end of plug firmly and pulling it straight away from bed station.
 - B. Replace callcord by holding end of plug and pushing straight into callcord jack on bed station.
 - C. Test callcord by applying gentle hand pressure to pressure pad. The red "Call Placed" indicator on the bed station should light. Push the "Cancel" button on the bed station to cancel the call and all associated lights that were activated.

VII. PERIODIC MAINTENANCE

The system should be tested by following the step-by-step operating instructions specified in Section III. Also, special attention should be given to fixed receptacles, equipment connected by cord and plug, and fixed electrical equipment.

Testing of the above shall take place:

1. When first installed.
2. Where there is evidence of damage.
3. After any repairs.
4. At intervals not exceeding six months.

VIII. Troubleshooting: Schematics and PCB Layouts

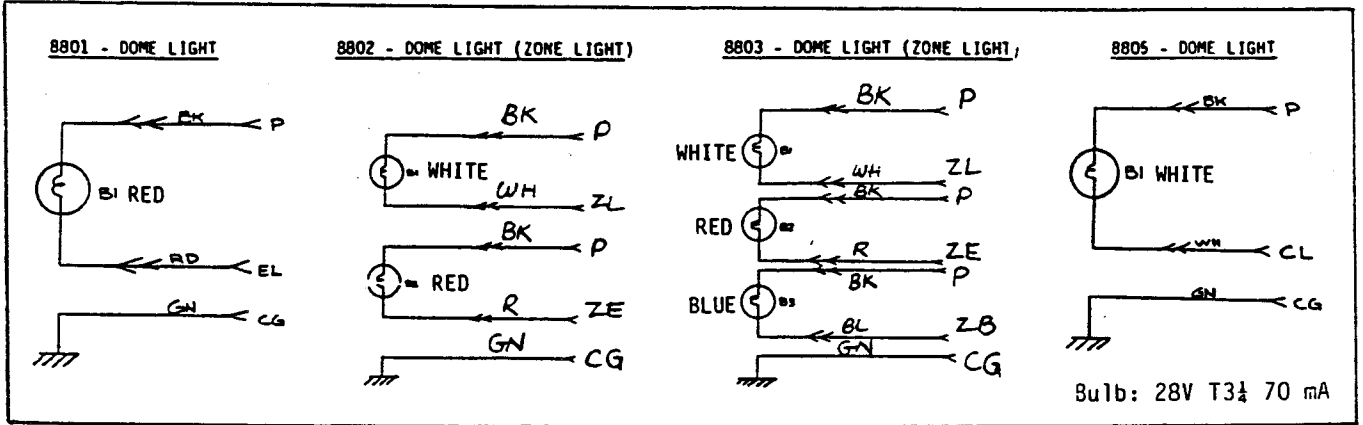


Fig. 46

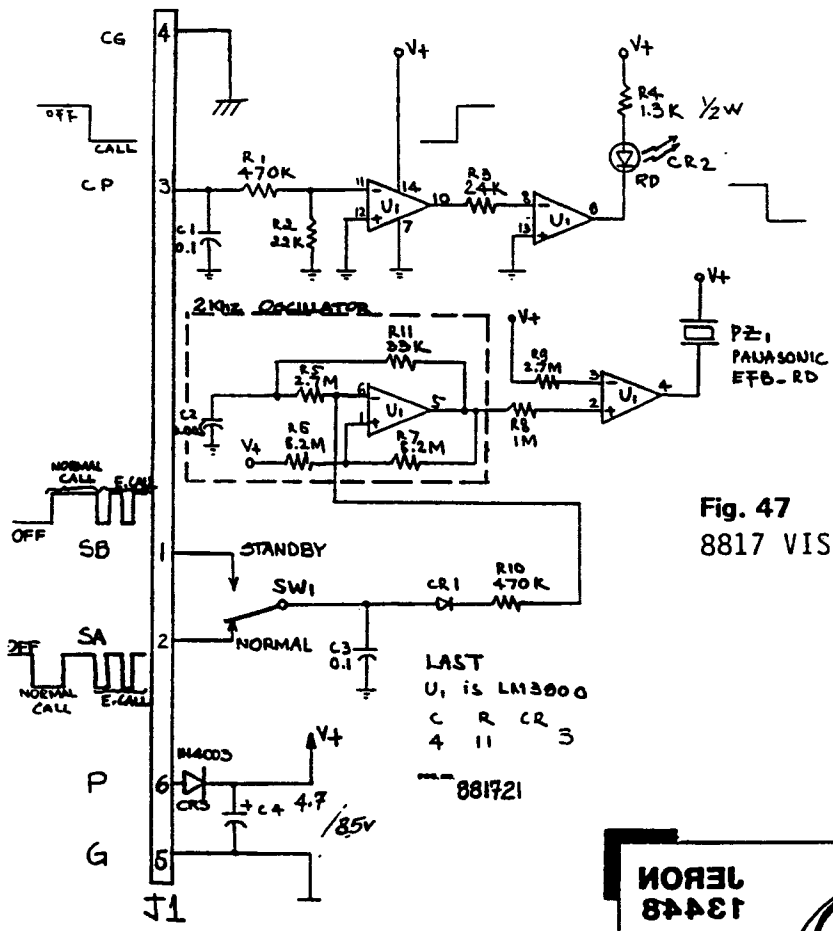
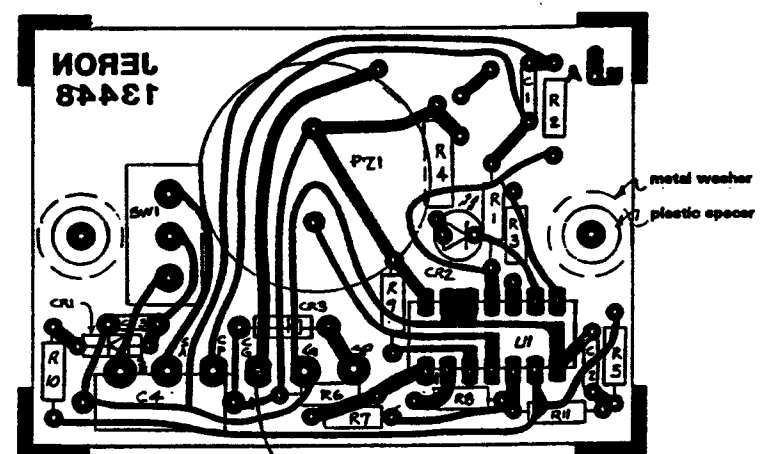


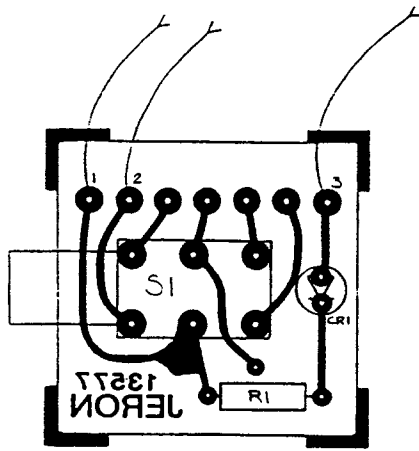
Fig. 47
8817 VISUAL DUTY STATION

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Fig. 48 Component Layout
8817 VISUAL DUTY STATION



Component Side



Component Side

TERMINAL NO.	COLOR CODE
1	OR
2	YLW
3	WH/OR

CG - GN soldered to trimplate

Component Layout
w/ 23002 call indicator option

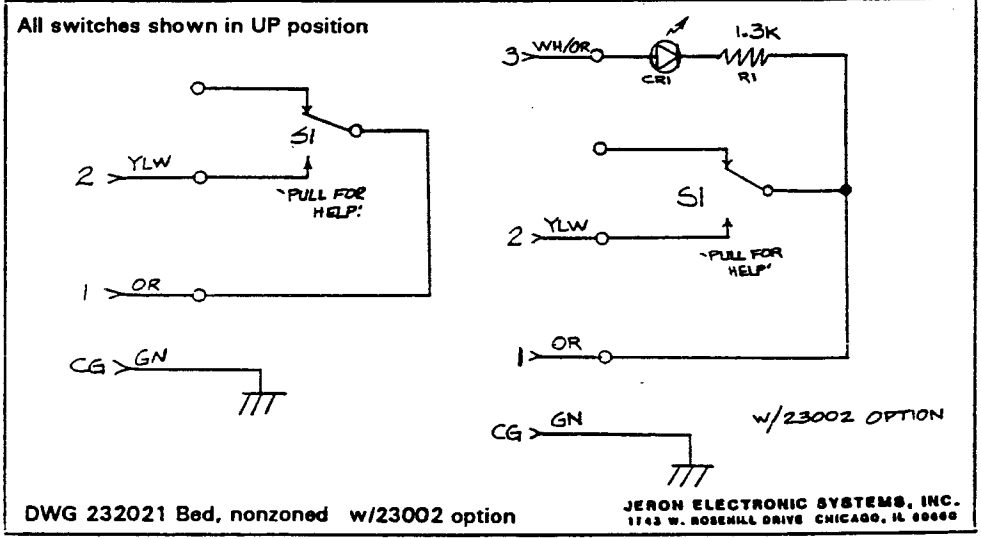
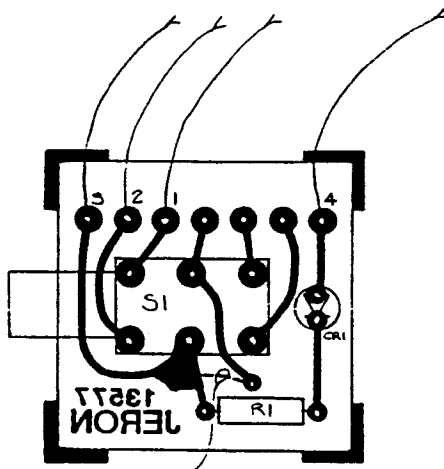


Fig. 49 2320 PULLCORD STATION



Jumper Component Side

TERMINAL NO.	COLOR CODE
1	OR
2	YLW
3	WH/DR
4	WH/BN

CG - GN soldered to trimplate

Component Layout
w/ 23002 call indicator option

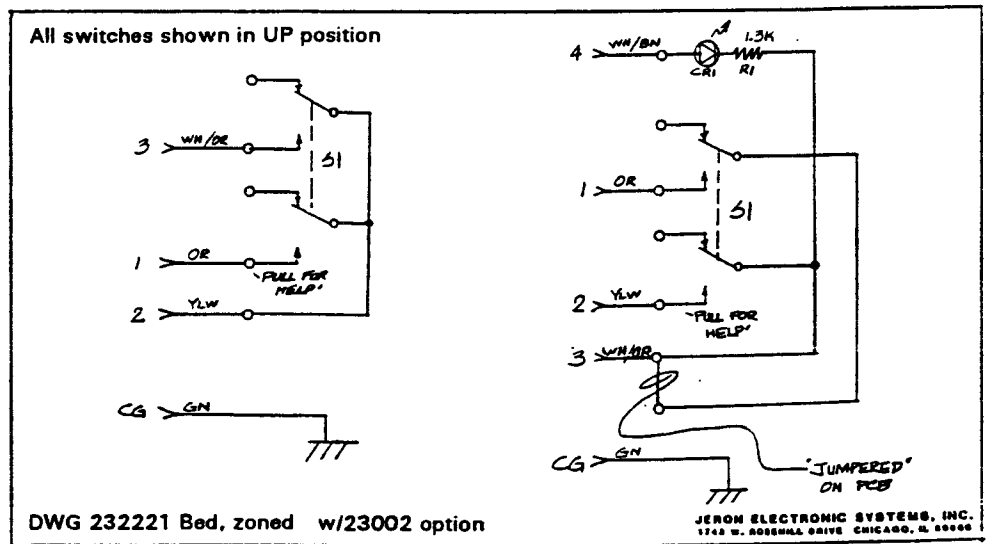
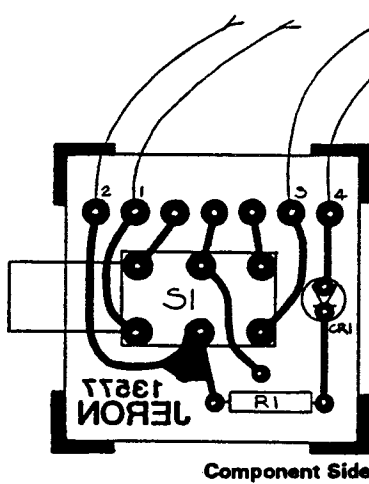


Fig. 50 2322 PULLCORD STATION



TERMINAL NO.	COLOR CODE
1	OR
2	YLV
3	WH/OR
4	WH/BN

CG - GN soldered to trimplate

Component Layout
w/ 23002 call indicator option

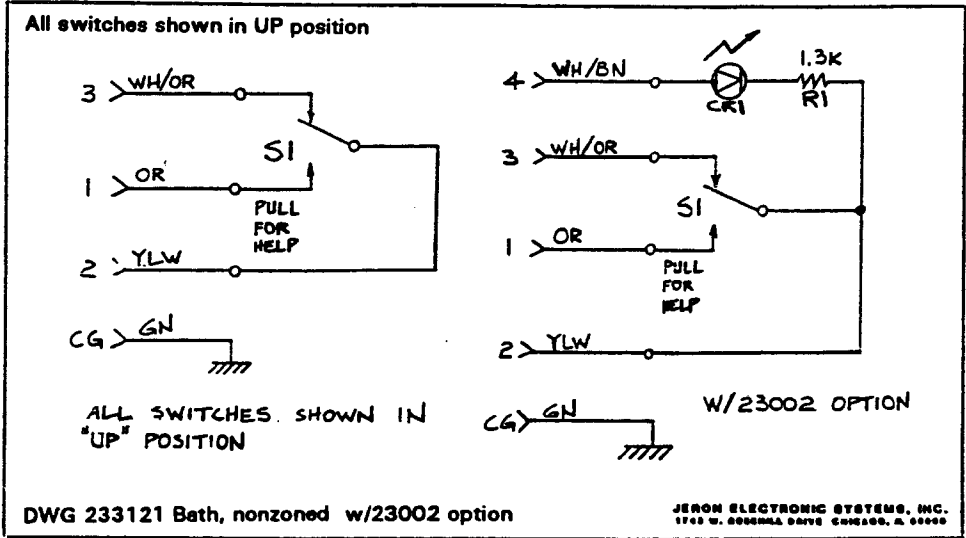
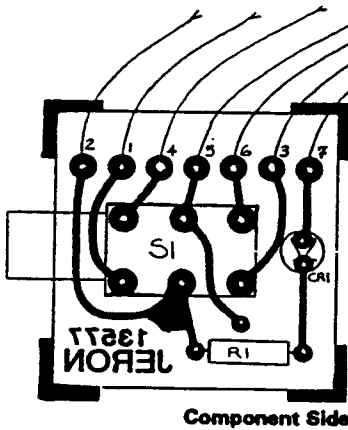


Fig. 51 2331 PULLCORD STATION



TERMINAL NO.	COLOR CODE
1	OR
2	YLV
3	WH/OR
4	WH/BN
5	BN
6	BK
7	WH/GN

CG - GN soldered to trimplate

Component Layout
w/ 23002 call indicator option

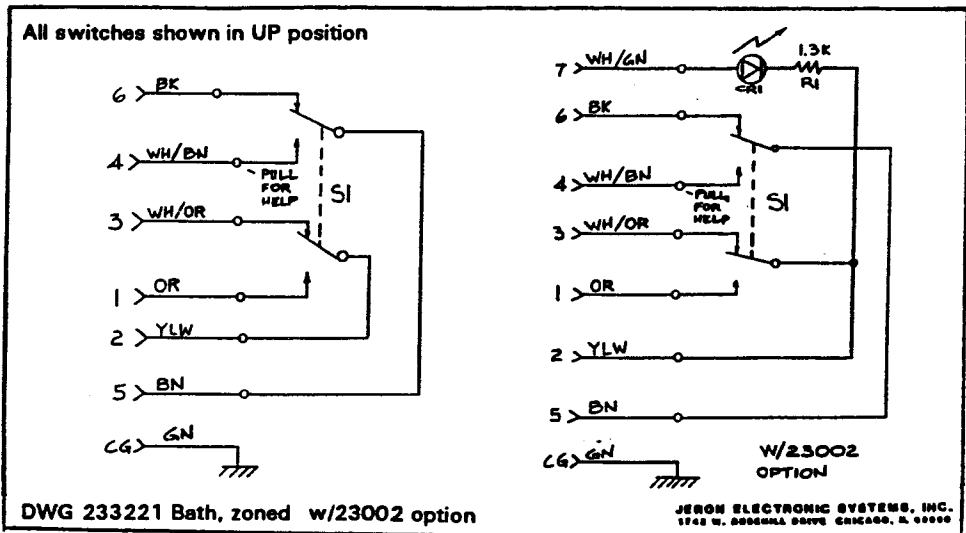


Fig. 52 2332 PULLCORD STATION

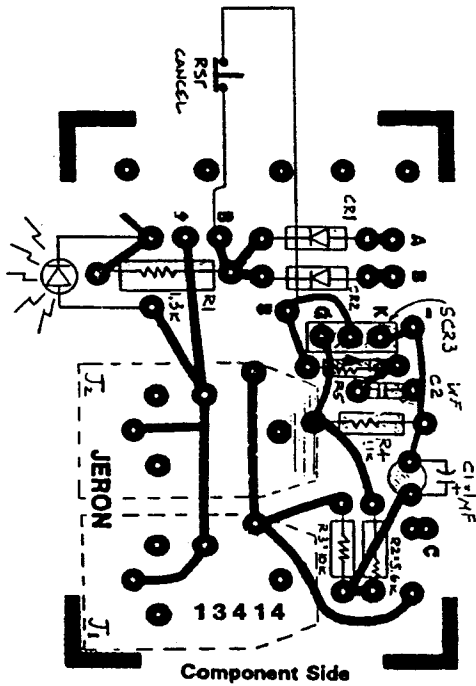


Fig. 53 Component Layout
8721/8723 BED STATION

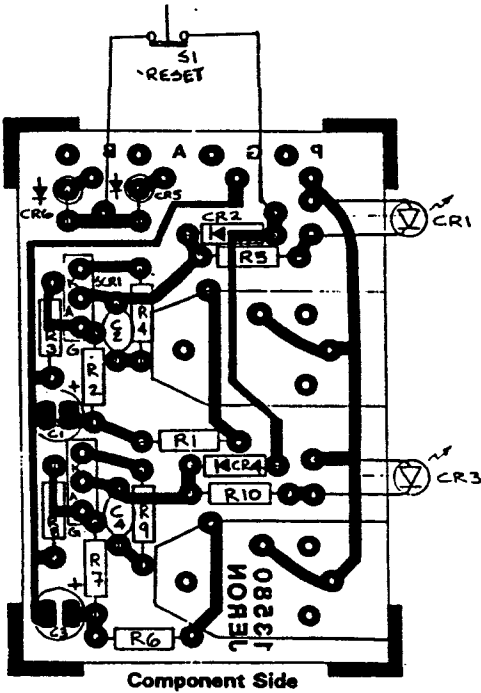


Fig. 56 Component Layout
8726 BED STATION

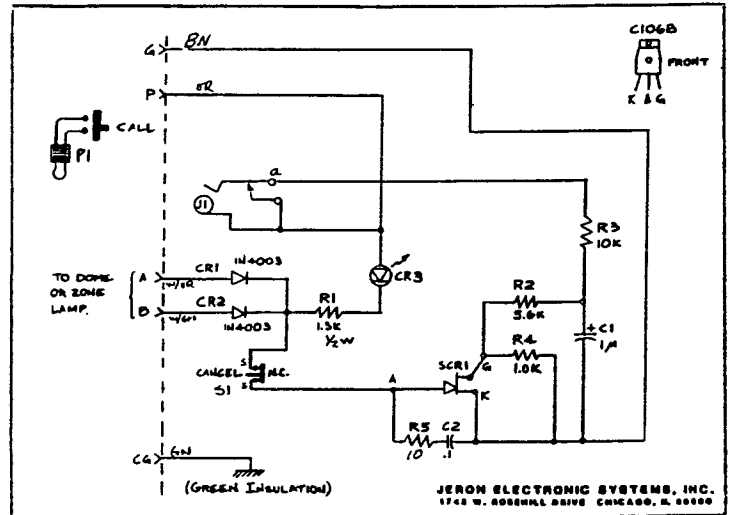


Fig. 54 8721 BED STATION

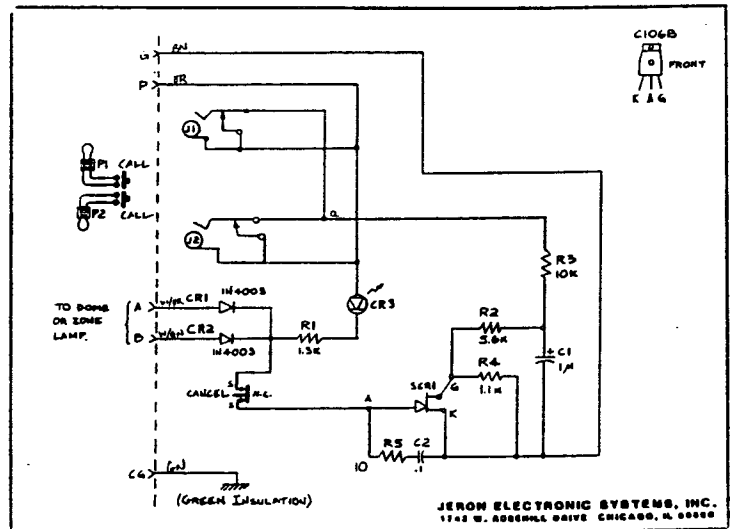


Fig. 55 8723 BED STATION

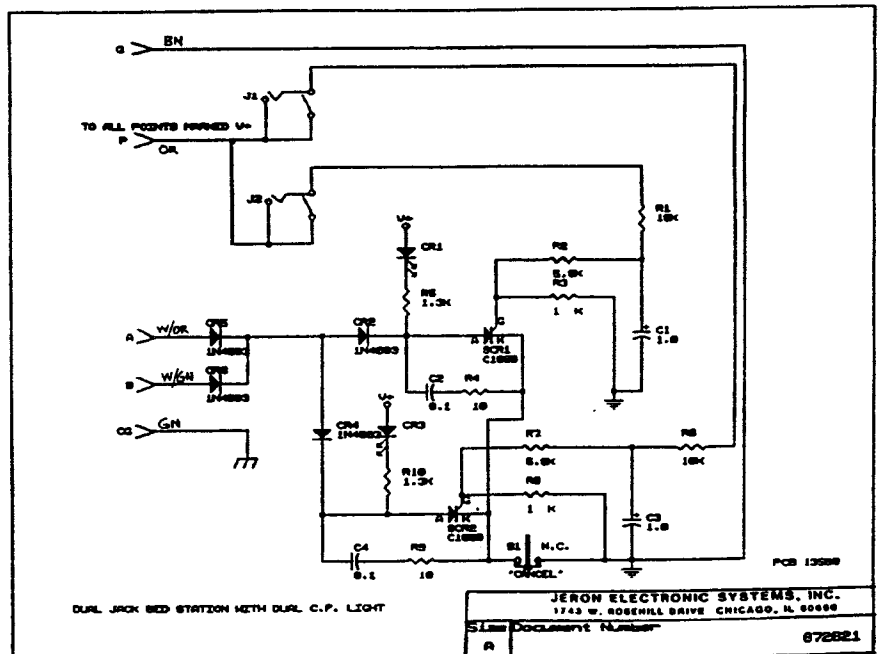


Fig. 57 8726 BED STATION

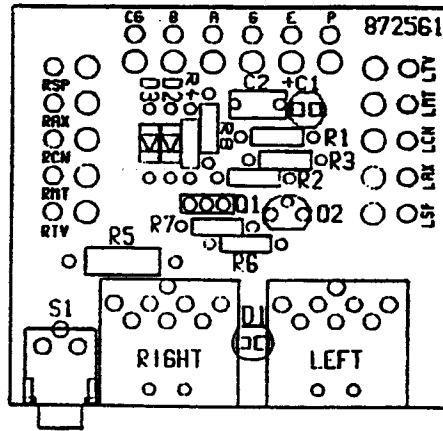
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5158 DOCUMENT NUMBER 872621

Fig. 58 Component Layout
8724/8725
BED STATION



OMIT 'RIGHT'
JACK FOR 8724

Fig. 59 8724
BED STATION

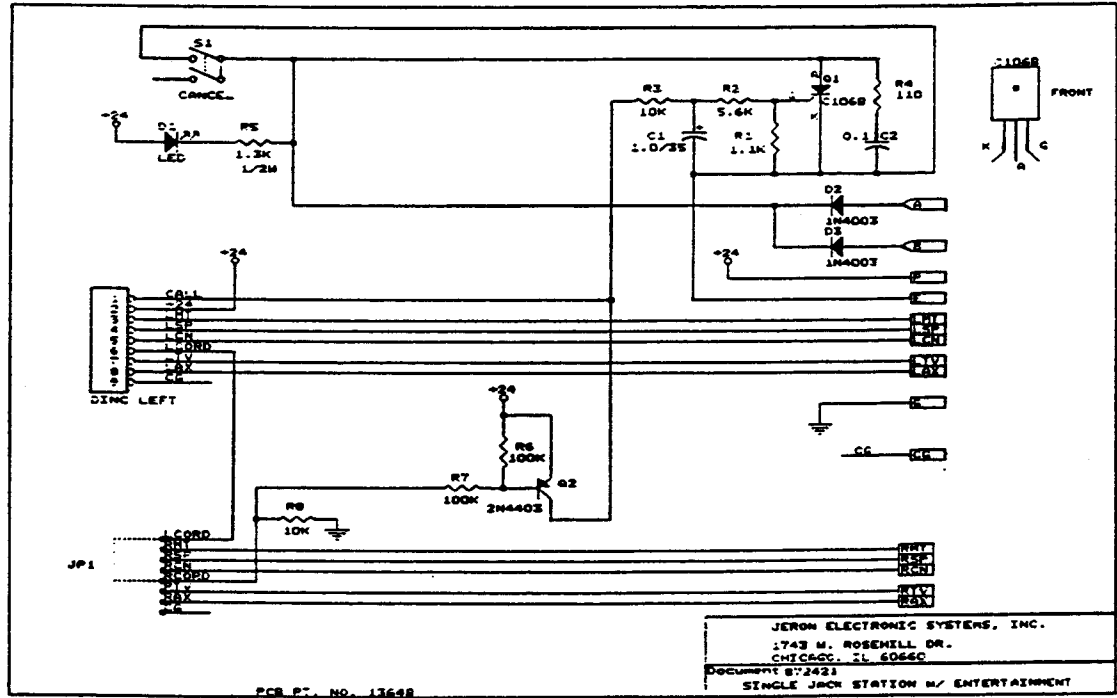
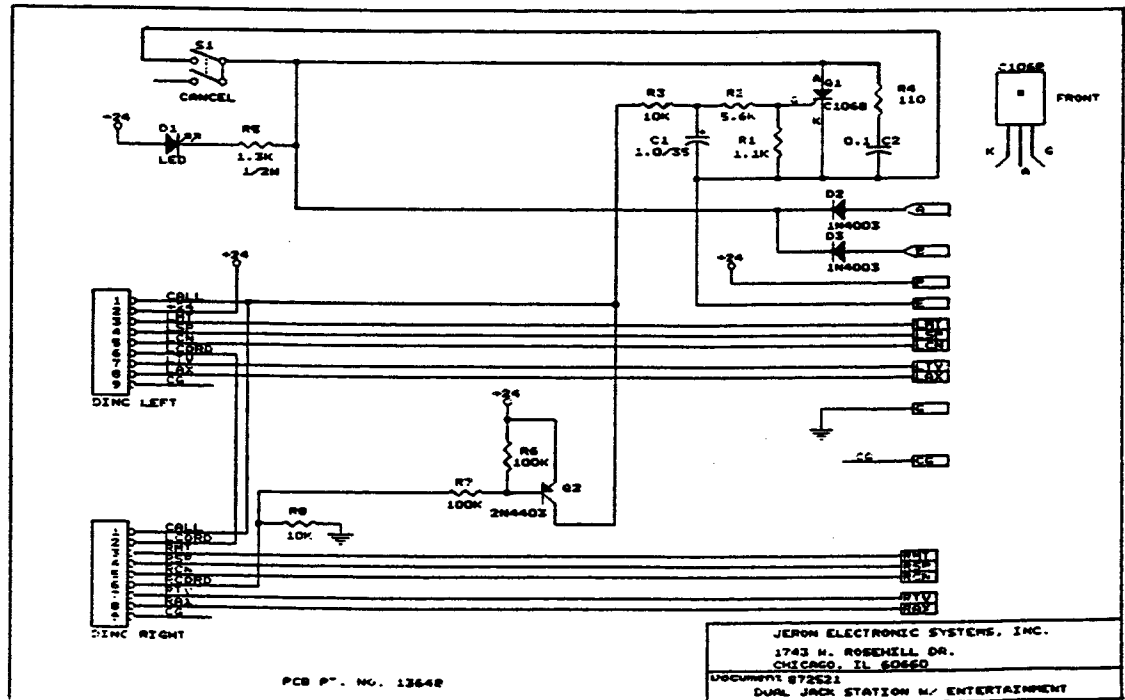


Fig. 60 8725
BED STATION



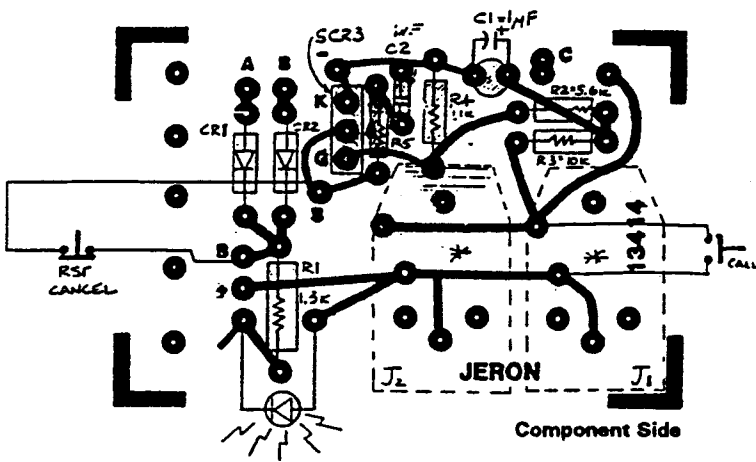


Fig. 61 Component Layout
8710 STAFF STATION

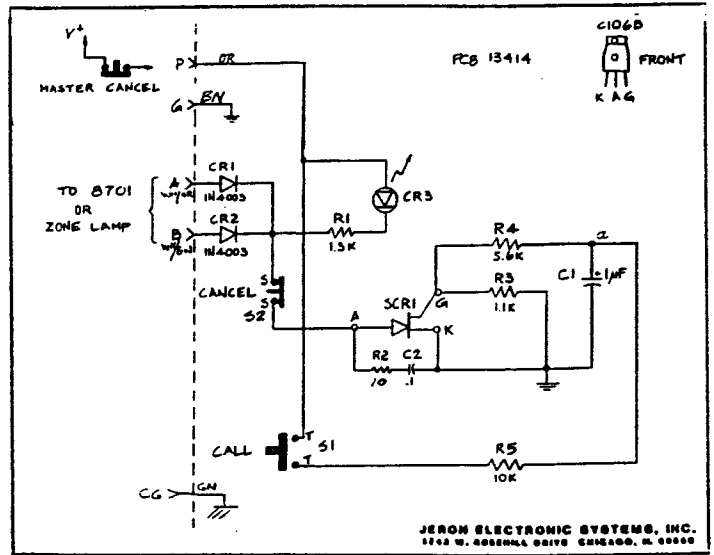


Fig. 62 8710 STAFF STATION

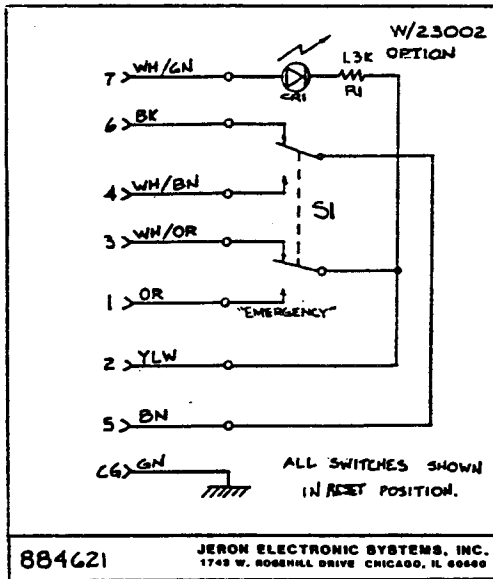


Fig. 63 8846 BATH/EMERGENCY STN

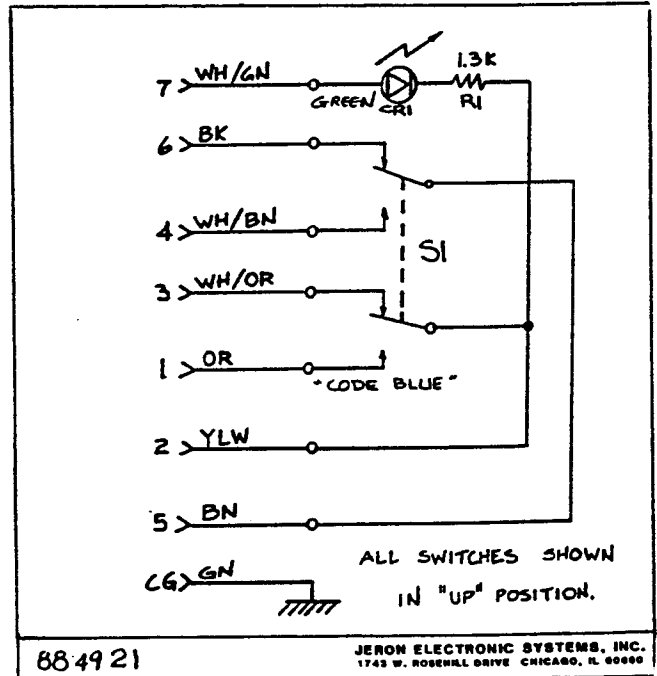


Fig. 64 8849 CODE BLUE STATION

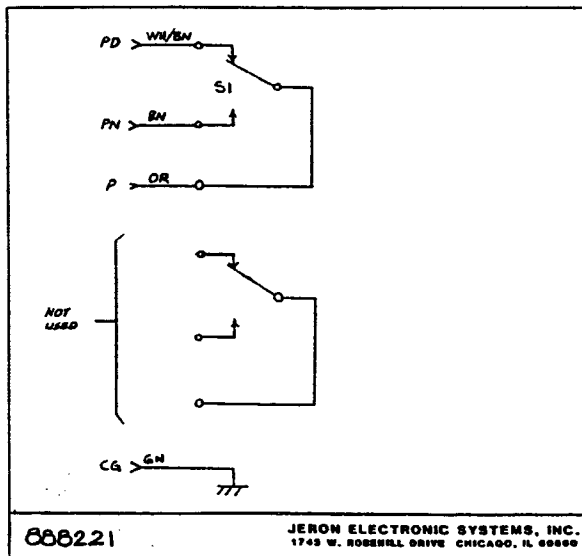


Fig. 65
8882 DAY-NIGHT
TRANSFER SWITCH

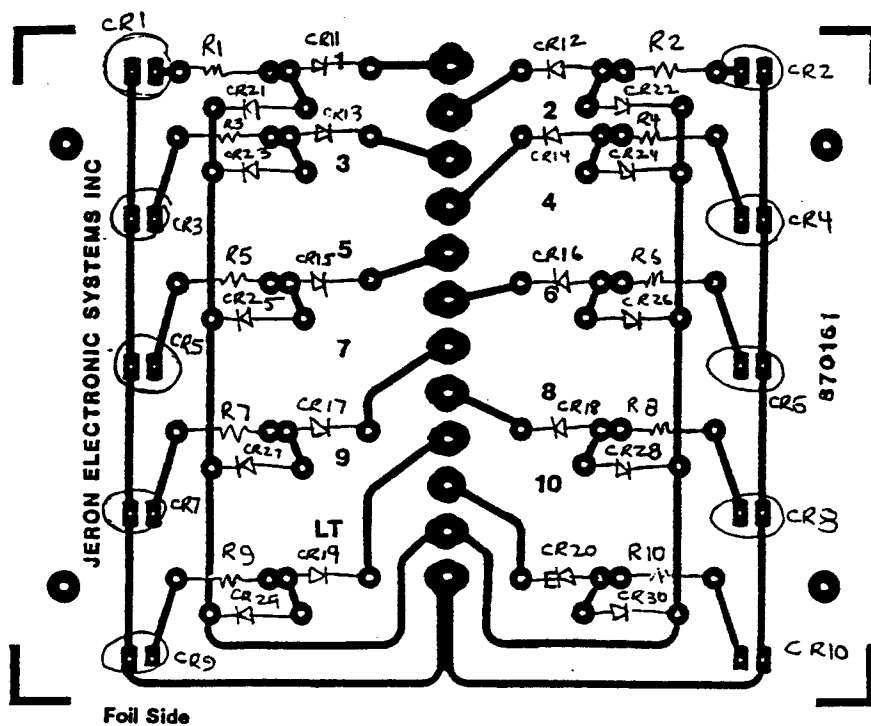


Fig. 66 8701/8705 MASTER ANNUNCIATOR Component Layout

Fig. 67 8701/8705 MASTER ANNUNCIATOR

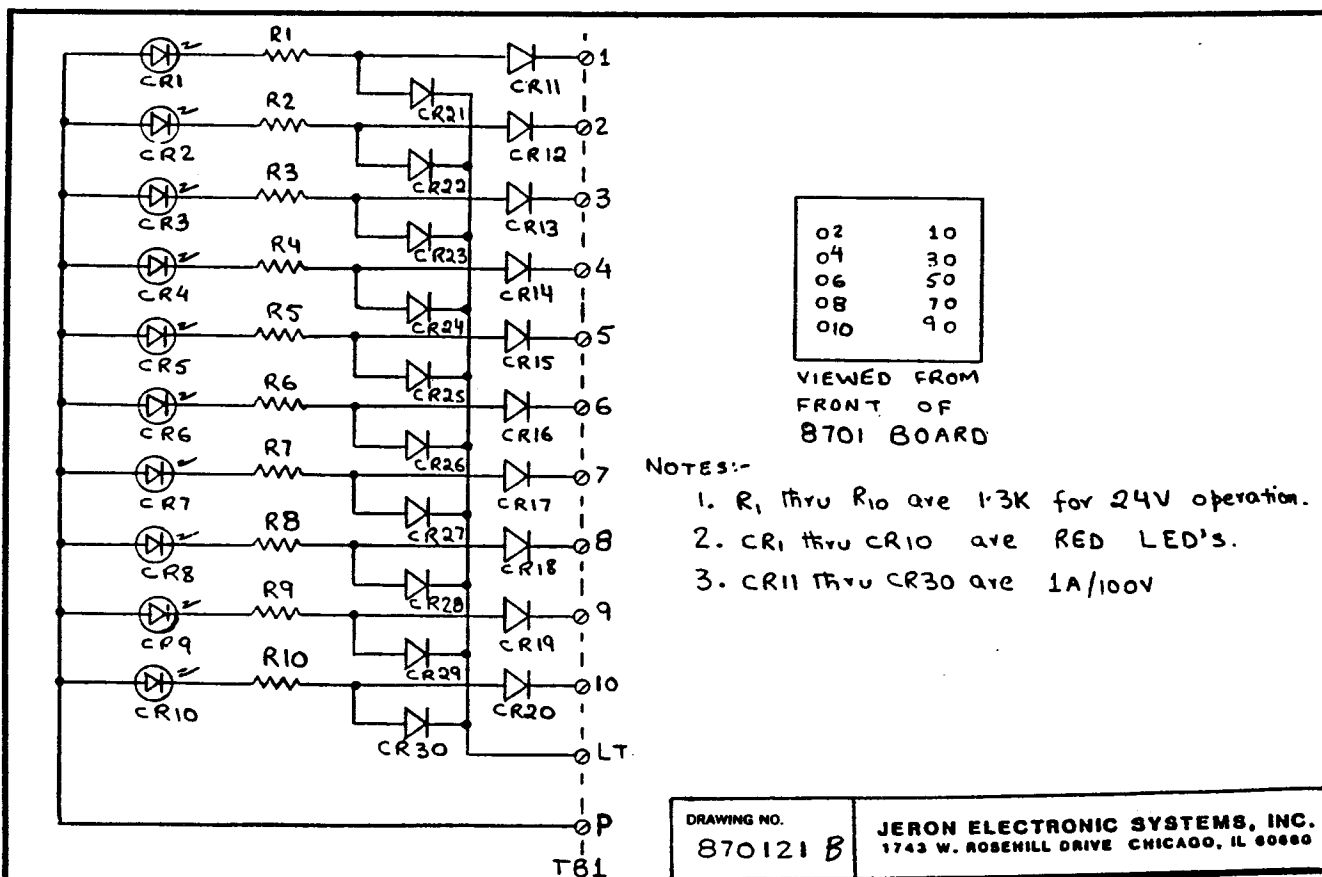


Fig. 68
8701/8705 MASTER
COMMON AUDIBLE/LED
CIRCUIT
Component Layout

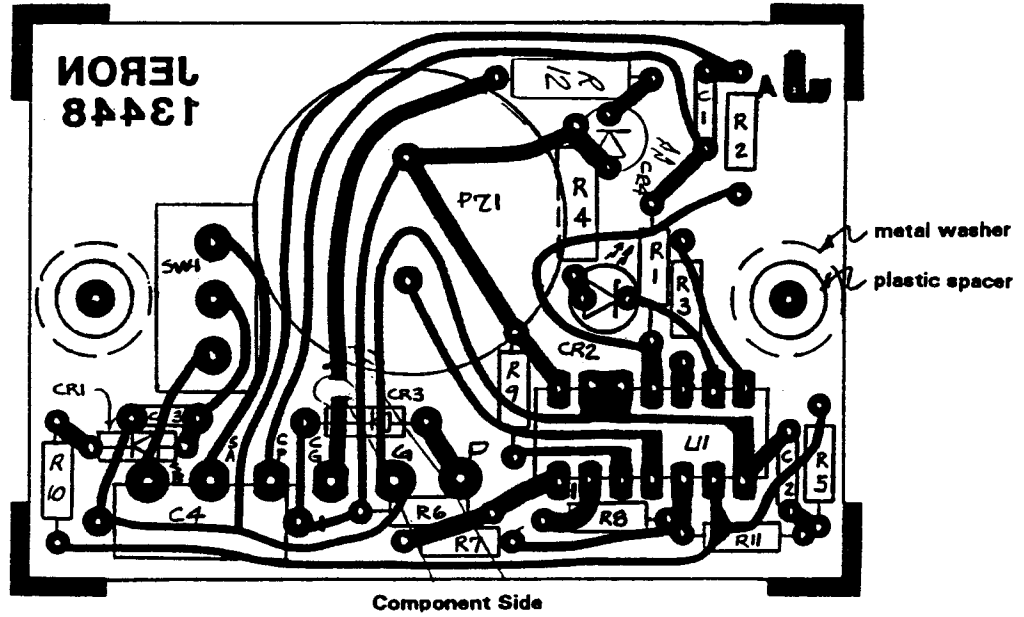
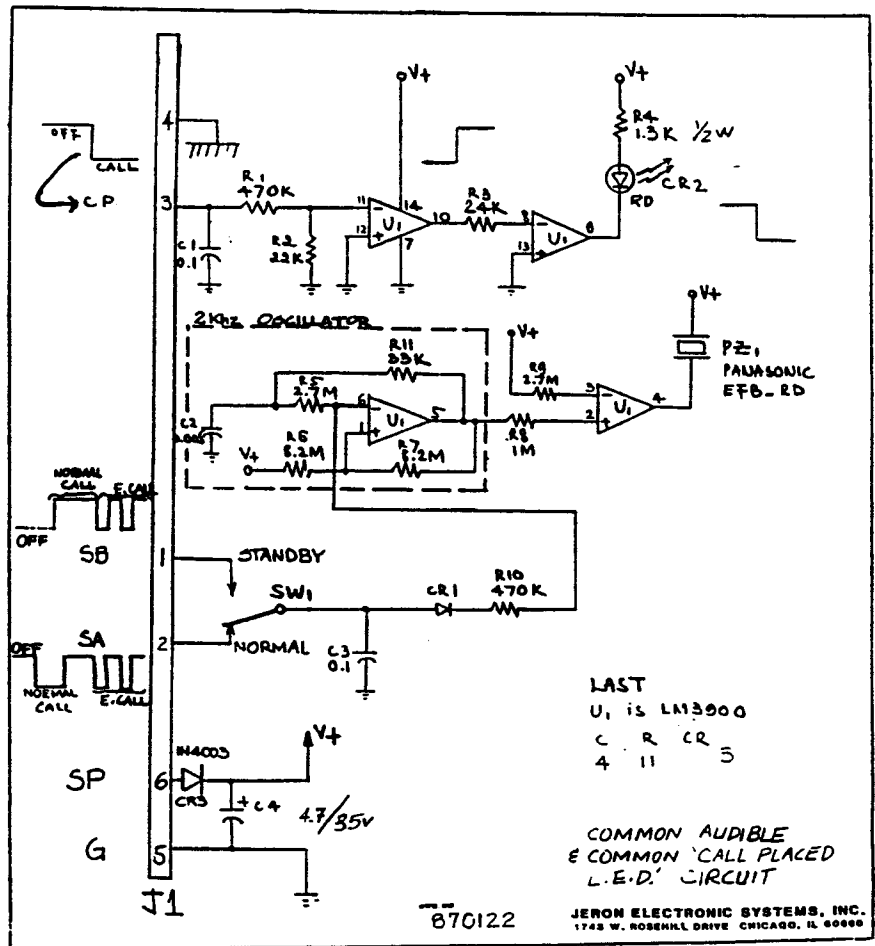


Fig. 69
8701/8705 MASTER
COMMON AUDIBLE/LED
CIRCUIT



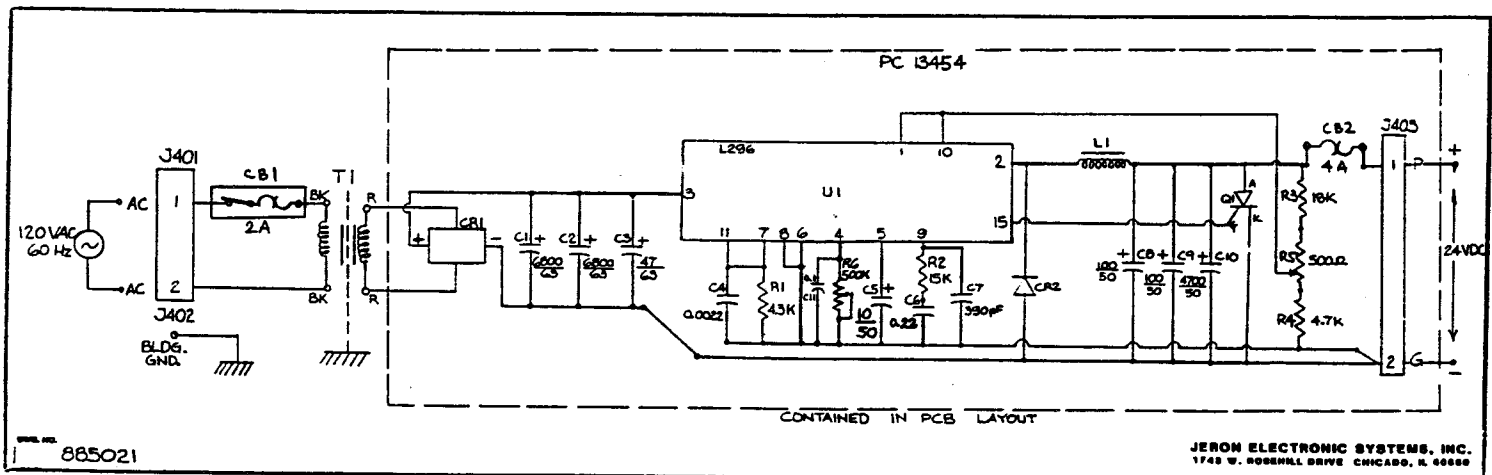


Fig. 70 8650 POWER SUPPLY

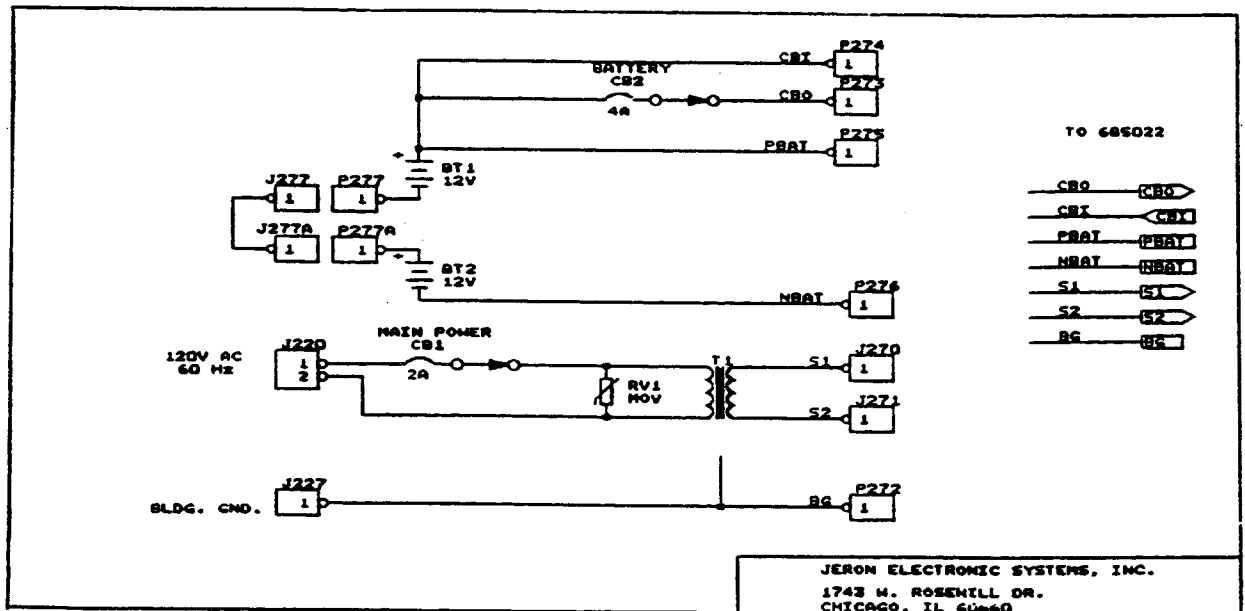
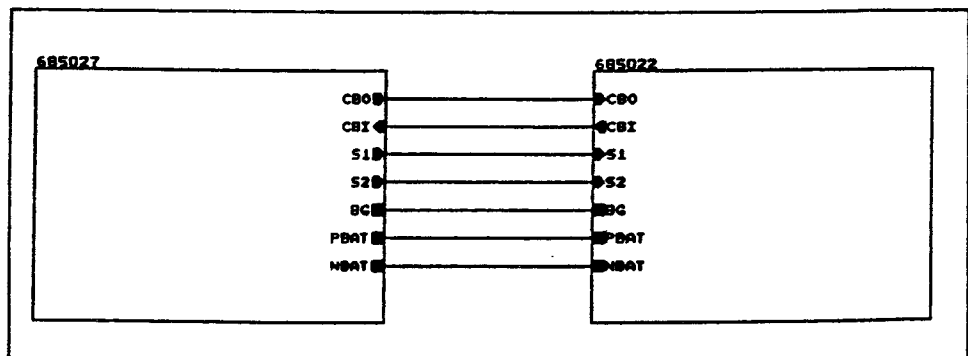


Fig. 71 8651 POWER SUPPLY

Fig. 72
8651 POWER SUPPLY
INTERNAL WIRING



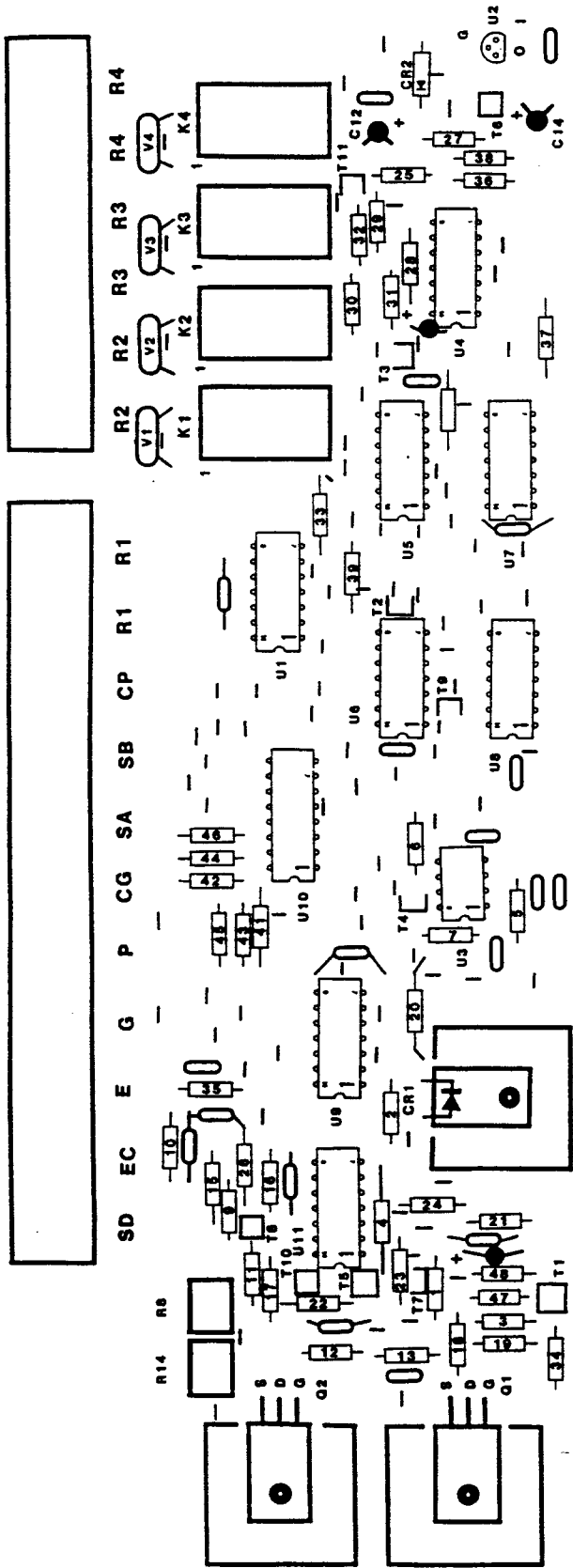


Fig. 74 8650/8651 3-status DC MAIN ELECTRONICS BOARD
 (See next page for corresponding schematic)

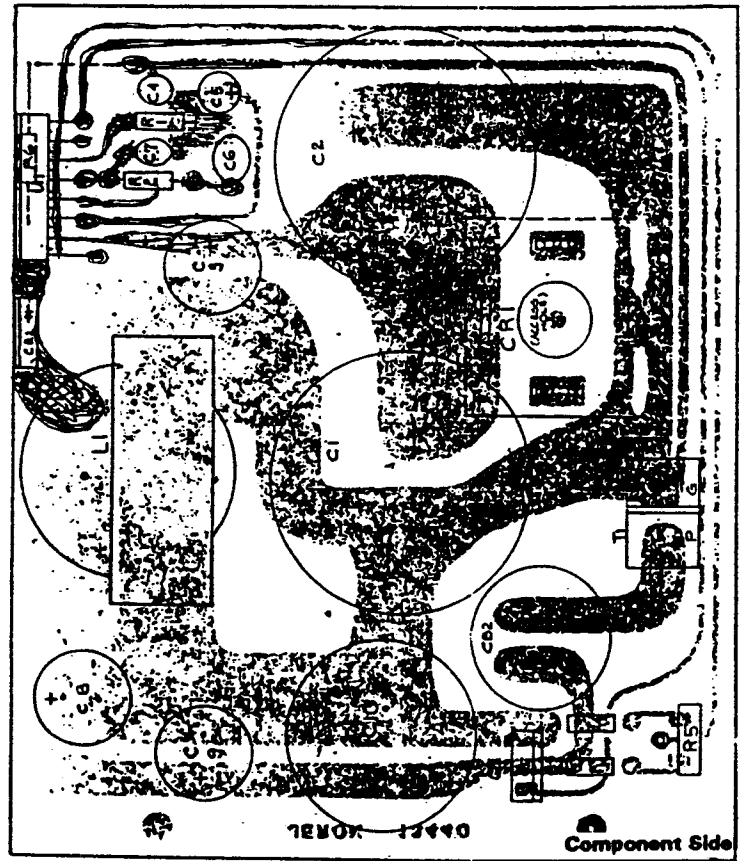


Fig. 73 8650 POWER SUPPLY Component Layout
 (See last page for corresponding schematic)

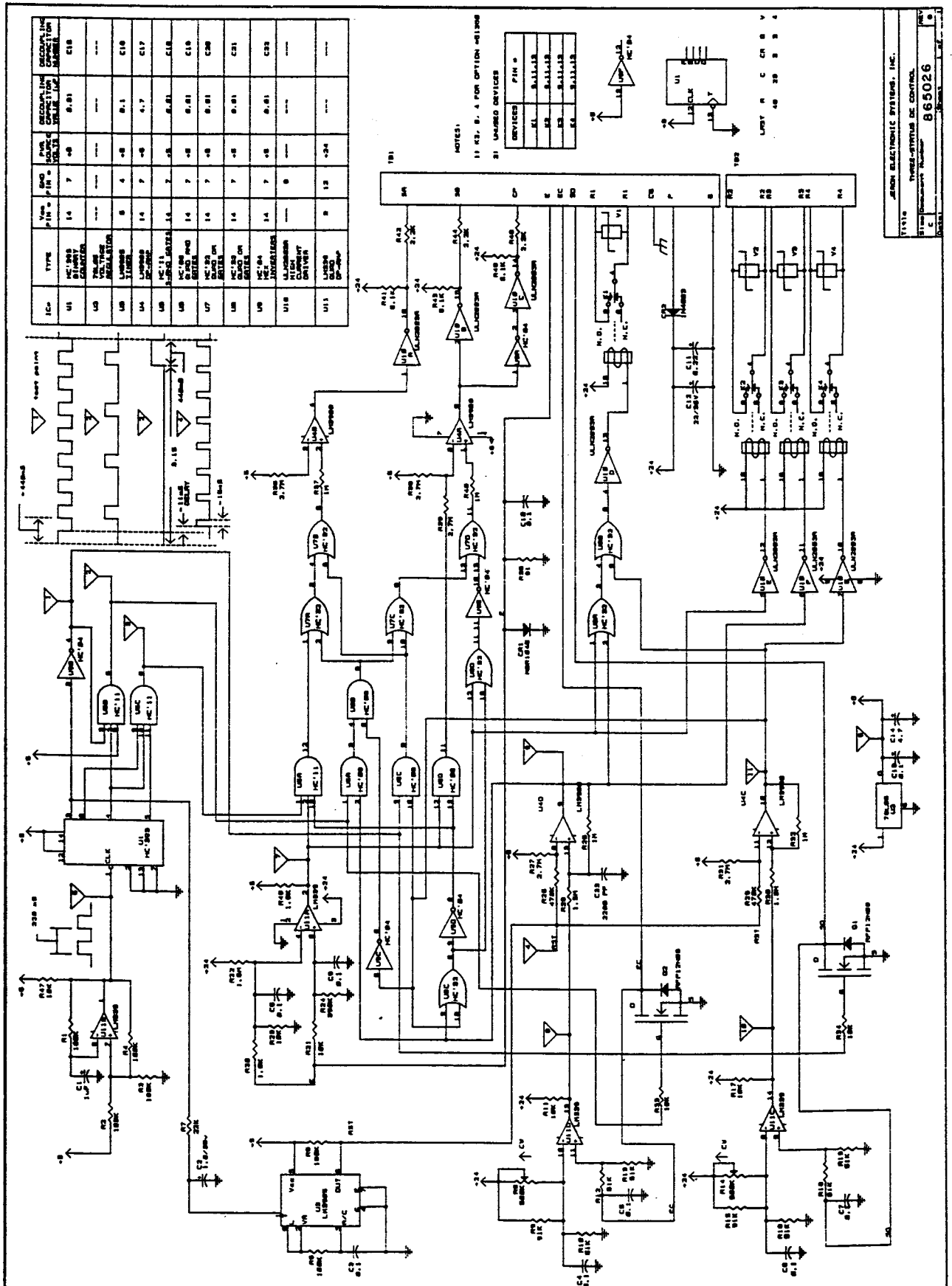


Fig.75 8650/8651 MAIN ELECTRONICS BOARD 3-status DC

JERON ELECTRONIC SYSTEMS, INC. LIMITED CUSTOMER WARRANTY

1. Subject to the Terms and Conditions below, Jeron Electronic Systems, Inc. warrants to its Customers that the PROVIDER 620, SPECTRUM 430/460 products will be free from defects in material and workmanship under normal use and service for two (2) years from the date of shipment to Customer (the "Warranty Period").
2. Terms and Conditions of Limited Customer Warranty
 - (a) Jeron extends the Limited Customer Warranty to its customers who have paid Jeron the full purchase price for the product warranted. Customers may not transfer Jeron's Limited Customer Warranty. No Jeron representative other than a corporate officer has the authority to expand the scope of or extend the duration of this Limited Customer Warranty *except under terms of written "Extended Warranty" Agreement executed by an authorized Jeron corporate officer.*
 - (b) This Limited Customer Warranty is limited to Jeron's repair or replacement, in Jeron's sole discretion, of any defective component part of a Jeron product. The obligation of Jeron is limited to the above and does not include either the cost or the furnishing of any labor in connection with the repair of any such defect and /or replacement of any such defective part unless accomplished at Jeron Electronic Systems, nor does it include responsibility for any transportation expense incurred in connection with the removal or installation of the product.
 - (c) Customer must return defective products, freight prepaid, to Jeron's factory in Chicago, Illinois, within the Warranty period. Jeron shall pay ground freight charges for shipment of repaired or replacement products to customer.
 - (d) Jeron extends this Limited Customer Warranty only on products installed by or under supervision of a factory trained authorized Jeron Distributor.
 - (e) Jeron's Limited Customer Warranty does not extend to any products that have been misused, neglected, or otherwise damaged by the negligence of customer or third party; repaired, altered, modified or changed by anyone other than Jeron or someone specifically authorized by Jeron to make repairs on Jeron's behalf; or defaced by removal of date code.
 - (f) Customer must include detailed specific information as to the nature of the defect, date of shipment, model number, original invoice number with the return of the defective product; if a defective sub-assembly, the model number of the unit from which it was removed must be included.
 - (g) Jeron shall not be liable for any delays or defaults hereunder by reason of fire, floods, acts of God, labor trouble, accidents to machinery, delays of carriers or suppliers, inability of suppliers to supply, the imposition of priorities, restrictions, or other acts of government, terrorism, product shortages or other causes beyond its reasonable control.
 - (h) **JERON'S SOLE AND EXCLUSIVE WARRANTY WITH RESPECT TO ITS PRODUCTS AND PARTS IS THIS LIMITED CUSTOMER WARRANTY. THIS LIMITED CUSTOMER WARRANTY IS IN LIEU OF ALL OTHER EXPRESS AND/OR IMPLIED WARRANTIES, INCLUDING IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.**
 - (i) **IN NO EVENT AND UNDER NO LEGAL THEORY, TORT, CONTRACT, OR OTHERWISE, WILL JERON, ITS SUBSIDIARIES, ANY OF THE DIRECTORS, OFFICERS, EMPLOYEES OR AFFILIATES OF ANY OF THE FOREGOING BE LIABLE TO CUSTOMER FOR, OR ANY OTHER PERSON FOR, ANY INDIRECT, SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES OF ANY CHARACTER (INCLUDING BUT NOT LIMITED TO, LOSS OF BUSINESS PROFITS, BUSINESS INTERRUPTIONS, LOSS OF BUSINESS INFORMATION AND THE LIKE, LOSS OF GOODWILL, WORK STOPPAGE, COMPUTER FAILURE OR MALFUNCTION, OR ANY AND ALL OTHER COMMERCIAL DAMAGES OR LOSSES), WHETHER FORESEEABLE OR UNFORESEEABLE, ARISING OUT OF THE INSTALLATION AND USE OF OR INABILITY TO USE THE PRODUCT, REGARDLESS OF THE BASIS OF THE CLAIM. JERON'S LIABILITY TO CUSTOMER FOR DIRECT DAMAGES FOR ANY CAUSE WHATSOEVER, AND REGARDLESS OF THE FORM OF ACTION, WILL BE LIMITED TO THE AMOUNTS PAID TO JERON FOR THE DEFECTIVE PRODUCT. THIS LIMITATION WILL NOT APPLY IN THE CASE OF DEATH OR PERSONAL INJURY ONLY WHERE AND TO THE EXTENT THAT APPLICABLE LAW PROHIBITS SUCH LIMITATION.**
 - (j) Customer submits to the exclusive jurisdiction of any state or federal court sitting in Chicago, Illinois in any action or proceeding arising out of or relating to this Limited Customer Warranty. Customer agrees that all claims in respect of the action or proceeding may be heard and determined in any such court, and agrees not to bring action or proceeding arising out of or relating to this Limited Customer Warranty in any other court. Customer waives any defense of inconvenience of forum to the maintenance of any action or proceeding so brought.
 - (k) All Pro-Alert 640, Pro-Alert 610, Spectrum 760, EC-300 products, pillow speakers, call cords, wireless pendants or any other products not specifically provided in this Limited Customer Warranty are covered by the Jeron one (1) year Limited Customer Warranty. This warranty period is one year from the date of shipment thereof by Jeron Electronic Systems.