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**Tek-CHECK-IN®
HC345C Microprocessor
Senior Check-In System**

Operation, Installation and Service Manual



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The Tek-CHECK-IN® HC345 series Microprocessor Senior Check-In System is a computer controlled system utilizing central processing equipment along with occupant help stations, duty and staff stations, emergency stations, presence stations, and dome and zone lights.

The HC345 series is designed for senior citizen living centers, nursing homes, and similar applications.

Operation, Installation and Service Manual

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1.0 SYSTEM INTRODUCTION

The Tek-CHECK-IN® HC345 series Check-In System is a supervised, microprocessor-based system that provides a complete range of two-way audio and visual signaling, permitting communications between staff and patients, as well as staff-to-staff communications.

The master station with video monitor registers and displays patient calls in order of priority and time of origin. The master station provides facilities to locate or dispatch nursing staff, manage patient priority and privacy, monitor all emergency situations, monitor code, lamp, communication, station and CPE faults within the system, perform system configuration functions, scan and view master and remote station configurations, and place various types of calls. Features will be discussed in greater detail in the System Operating Instructions section.

The system is completed by a wide range of bedside stations with entertainment control options. A variety of emergency stations and a nurse/aide presence stations are also available. Staff stations for utility or examining rooms, duty stations, and corridor dome/zone lights are designed to instantly alert the nursing staff of patients' needs. Simplified wiring and plug-in design provide ease of installation in new construction or existing buildings. Modular circuits and totally interchangeable room stations permit change or expansion at any time.

The Dual System Networking (DSN) feature of this system is no longer supported. Do not connect and configure systems to operate in this mode. Strikeouts have been added to the corresponding text in this manual to identify functionality that is no longer available or supported.

A WORD ABOUT ELECTROSTATIC DISCHARGE

What Is It? Static electricity is a result of triboelectric charging of two dissimilar non-conductive materials that are rubbed together, such as rubbing your feet on a carpet on a cold winter day, or in a dry climate. The resulting charge is detected when you reach out to touch a doorknob, or some other metallic object. The resulting discharge may be only startling, or in severe cases it may even be painful. The actual electrical charge is dependent on the materials rubbed together, humidity, rate of separation and other factors.

What Can It Do? While this effect may be disturbing to humans, the effect on electronic equipment is often more serious, ranging from disrupting the operation to actual damage of the components. These effects result from the high voltages that may be developed. The simple act of walking across a carpet may develop as much as 30,000 volts; changing a bed sheet may create a charge of 100,000 volts or more. Such voltages readily cause arcing (the spark you see in the dark when you grab the doorknob, after walking across the carpet, etc.). The arcing is evidence of a discharge path. Due to the high voltage involved, the discharge current can jump to any nearby metallic object. If the discharge is to or through an electronic device, such as the check-in system, the operation of the device may be affected. If the discharge current passes through internal components, these components may be damaged or their operation degraded.

What Can We Do About It? The manufacturer of the check-in equipment has already taken steps to protect the equipment from electrostatic discharge (ESD) effects. However, since the cause of the problem is not in the equipment, but in the environment, further measures are required of the installer and the user to achieve complete protection.

What The Installer Can Do: In humid climates or in places where the relative humidity is kept at 65% or greater, there will likely be few problems with ESD. Where problems may occur, the following measures can be taken.

1. Ground all exposed metal surfaces, such as patient station panels, etc. Grounding should be to a #16 or larger conductor.
2. Install check-in system wiring in metal conduit. This conduit may also be used to ground panels. The conduit must be electrically continuous and be grounded.
3. Use shielded wire in cable for check-in system station-to-station wiring. The use of open conductors invites inductive coupling of discharge currents which can cause the same problems as direct discharge currents.
4. Ground your body before handling system components. This can be done using a wrist strap, or simply by contacting a grounded surface. Use caution to avoid hazardous voltages while grounded.

What The User Can Do: The most common generation of ESD in hospitals is due to changing linen on hospital beds while the patient call cord or pillow speaker is still connected to the nurse call system. The following precautions will help.

1. Remove the call cord or pillow speaker from the bed before changing. It will be necessary for the nursing staff to discharge themselves by contacting a grounded metal object before placing the call cord or pillow speaker back on the bed; otherwise, a spark will jump to the nurse call equipment, causing the very damage they are trying to avoid. (To avoid a shock while discharging static electricity on the body, hold a metal object, such as a key, and use that object to contact the grounded surface.)
2. Ground the bed and use antistatic mattress covers in contact with the bed frame. For safety, it may be desirable to make the ground connection through a 1 megohm resistor. Nursing staff must be trained to disconnect and reconnect the ground whenever beds have to be moved.
3. Use grounded appliances and equipment near nurse call systems. The use of approved electrical equipment will usually take care of this.

This information is provided to make you aware of ESD problems so that precautions may be taken to avoid damage and disruption of system operation.

2.0 INSTALLATION PROCEDURE

- A. Read the following instructions concerning system equipment and determine installation methods before proceeding.
- B. Determine equipment locations.
- C. Install wiring.
- D. Install housings.
- E. Check wires.
- F. Set station addresses.
- G. Connect equipment.
- H. Check connections.
- I. Test system.
- J. Configure system.
- K. Train system operators.

Note: When replacing IR311A, IR312A and IR300A with IR311B/C, IR312B/C and IR300B/C, the female 6 pin connector must be replaced with a 7 pin connector (P/N CT307).

2.1 EQUIPMENT REQUIREMENTS AND APPLICATION

The HC345C System is designed as a zoned floor system with the flexibility to connect to other floor systems to control an entire facility. A typical system will include the following:

HC345C Central Processing Equipment (CPE) - The HC345C CPE provides all the microcomputer multiplex technology necessary to operate all HC345C System functions and to interface with up to four NC303 Master Stations, up to 256 remote stations, and all other emergency and presence stations associated with the Senior Check-In System. The CPE consists of microcomputer, memory and interface circuits, and power supply. Four talk paths are provided per CPE. Power input is 115 V, 60 Hz, 125 W. All outputs are protected by self-resetting current limiting circuits. All equipment is completely contained in a steel cabinet. (Optional battery backup available: TekTone® model number PK250). The HC345C CPE also has the capability to interface with another HC345C System.

In addition, the HC345C CPE has a PROM/serial communications card NC362P built into the system which provides the capability to add event printing if connected to a compatible printer. This printer card also provides a means of communicating the same event information about its particular system to

other intelligent systems, such as pocket paging, via the standard 9600 baud serial communications port.

NC303 Master Station - The NC303 Master Station utilizes microprocessor technology to control all the communications and programming functions provided by the HC345C Check-In System and to monitor fault conditions within the system. The nurse master station consists of handset, audible signal control switches, call light, speaker, microphone, function buttons (some with LED's), 12-button digital keypad, CPE fault light, and waterproof membrane switch.

NC313, NC315 Video Monitor & NC314A Video Converter - The video monitor and converter provide the means for visually tracking all HC345C system activity; including display of all types and exact location of calls. All calls are displayed in standard English format. The NC313 or NC315 must be used in conjunction with the NC303 Master Station and an NC314A Video Converter. The video monitor is a standard VGA type.

IR019C Speaker /Microphone Station - IR019C provides audio communication when used in conjunction with the IR316 Psychiatric Station.

IR300-series Multipurpose Station - The IR300-series Multipurpose Station provides for audible, visual and digital communications to and from the central equipment, including the nurse master station and video monitor. It is used with remote devices such as switches, contact closures, loudspeakers, or other signal-originating equipment. IR300-series circuitry is mounted on a flame retardant ABS plastic panel. The IR300-series can also support a zone lamp. (Turning dipswitch 7 "ON" turns IR300-series Zone Lamp function "ON." Use LI380 or LI384A for lamp.)

IR301-series Single, IR302-series Dual Patient Stations -The IR301-series Single and IR302-series Dual Patient Stations provide reliable, hands-free communication between the patient and the nurse. The IR301-series provides communication for one patient; the IR302-series provides communication for two patients. The stations consist of LSI/microprocessor technology, yellow call-placed indicator(s), patient call cord receptacle(s), combination red in-use indicator and reset button, and speaker/microphone, mounted on ABS plastic panels.

IR311-series Single, IR312-series Dual Patient Stations -The IR311-series Single and IR312-series Dual Patient Stations provide two-way, hands-free communication between the patient and the nurse. The IR311-series provides communication for one patient; the IR312-series provides communication for two patients. The stations consist of LSI/microprocessor technology, yellow call-placed indicator(s), call cord/pillow speaker receptacle(s), combination in-use indicator and reset button, and speaker/microphone, mounted on flame-retardant ABS plastic panels.

Sample of Event Printout

NO	DATE	TIME	STATION	EVENT	ZONE	STN
00	09/19	12:28:48	8402	ROUTINE CALL	... 4 ...	
01	09/19	12:28:56	8409-1	DUTY CALL	... 4 ...	
02	09/19	12:28:58	8409	DUTY RESET	... 4 ...	
03	09/19	12:29:35	8406	BATH CALL	... 4 ...	
04	09/19	12:29:39	8406	BATH RESET	... 4 ...	
05	09/19	12:29:57	01	TALK INITIATED	... 4 ...	8402
06	09/19	12:30:06	01	NURSE REQUESTED	... 4 ...	8402
07	09/19	12:30:08	01	TALK RESET	... 4 ...	8402
08	09/19	12:30:27	8402	NURSE IN	... 4 ...	
09	09/19	12:30:27	8402	NURSE OUT	... 4 ...	
10	09/19	12:30:43	8406	CODE CALL	CALL	... 4 ...
11	09/19	12:30:48	8406	CODE CALL	RESET	... 4 ...

IR310-series Staff Station - The IR310-series Staff Station provides reliable two-way, hands-free communication between the nurse master station and any location where staff members may need to originate calls, or where cord sets are not required. The station consists of LSI/microprocessor technology, combination yellow call-placed indicator and call button, combination red in-use indicator and reset button, and speaker/microphone, mounted on a flame-retardant ABS plastic panel. (Turning dipswitch 7 "ON" turns IR310-series into a "ROUTINE CALL STATION".)

IR315-series Duty Station - The IR315-series Duty Station provides call indication and reliable two-way, hands-free communication between the nurse master station and any location where a nurse may perform a function out of hearing or sight range of the master station. The station consists of LSI/microprocessor technology, yellow call-placed indicator, combination in-use indicator and reset button, and speaker/microphone, mounted on a flame-retardant ABS plastic panel.

IR316 Psychiatric Station - Provides audible, visual and digital communication to and from the CPE, including the nurse master and video monitor. Model IR316 includes solid-state LSI/microprocessor technology, yellow call-placed indicator, key switch, and combination red in-use indicator and reset button, mounted on a rugged extruded aluminum panel.

IR145B Remote Occupant Help Station - The IR145B Remote Occupant Help Station provides emergency signaling and reliable two-way, hands-free communication between the occupant and the nurse master station. The IR145B consists of red call-placed indicator, a 6' long pull cord for call placement, and speaker/microphone, mounted on a flame-retardant ABS plastic panel. The IR145B is used in conjunction with the IR345B/C.

IR345B/C Occupant Help Station - The IR345B/C Occupant Help Station provides occupant check-in, emergency signaling and reliable two-way, hands-free communication between the occupant and the nurse master station. The IR345B/C consists of LSI/microprocessor technology, red call-placed/check-in indicator, a momentary push button for routine call placement, a 6' long pull cord for HELP call placement, a push button for system check-in, and speaker/microphone, mounted on a flame-retardant ABS plastic panel.

RY351B Hill-Rom® SideCom® Adapter - Provides for interface with a Hill-Rom® SideCom® unit to the HC345C Check-In System via an IR311-series or IR312-series Patient Station. The RY351B will transfer all functions associated with patient stations that have intercom type pillow speakers to the Hill-Rom® SideCom® unit. This includes intercom, call-placed indicator, and in-use indicator. The RY351B is mounted on a single gang aluminum subplate. The RY351B provides for a noncancelable call at the NC303 Master Station, should the bed be unplugged from the wall.

SF337C Pull Cord Waterproof Shower "Help" Emergency Station - The SF337C is used to operate all "BATH" or "EMERGENCY" signals. The station consists of a flame retardant white

plastic face plate, a red pull down lever, a white rubber gasket, a 7' nylon cord with pendant and mounting screws with 'O'-Rings. A circuit board with a reed switch, connectors, a red call-placed indicator, and electronic circuitry is mounted to the back of the face plate. The SF337 is waterproof if properly installed.

SF340B "Help" Emergency Station - The SF340B is used to operate all "BATH" or "EMERGENCY" signals. The station consists of a flame retardant white plastic face plate, a red pull down lever, a 7' nylon cord with pendant and mounting screws. A circuit board with a DPDT switch, connectors, a red call-placed indicator, and electronic circuitry is mounted to the back of the face plate.

SF341B Code Call Station - The SF341B Code Call Station is used to operate all "CODE" signals at a rate of twice that of medium priority signals. The station consists of a flame retardant white plastic face plate, a blue pull down lever, a 7' nylon cord with pendant and mounting screws. A circuit board with a DPDT switch, connectors, a red call-placed indicator, and electronic circuitry is mounted to the back of the face plate.

SF336/SF338 Staff Emergency Psychiatric Station - The SF336/SF338 provides emergency call signaling when used in conjunction with the IR316 Psychiatric Station. A centrally located push button switch enables all emergency signals, and is enabled only after the key switch located on the associated IR316 is activated. A red call-placed indicator on the SF336/SF338 flashes when a call has been placed. Reliable, solid-state components and plug-in connectors are mounted on a rugged stainless steel panel. The SF336 includes a reset button.

LI380 Dome Light - The LI380 Dome Light provides visual indication of calls originating from patient, staff, duty, bath, emergency and code call stations. Patient priority is indicated by red, green, yellow and white lamps. The LI380 functions as a zone light when used with the IR315-series Duty Station. The LI380 consists of four bulbs covered by translucent plastic covers and mounted on a Cylolac plastic base.

LI384A Dome Light - The LI384A Dome Light provides for bulb supervision with fault indication at the master station, in addition to all visual indications provided by the LI380. (Note: Do not use LI384A Dome Lights with IR345B/C Occupant Help Stations.)

LI386-series Dome Light - The LI386-series provides visual indication of call origination, as the LI380 does, but also supplies an address point for communication to and from the CPE for remotely mounted devices such as stand alone switches (i.e., public area bath). The LI386-series will also indicate calls from zones to which those stations are assigned (zone light function).

PM311C, PM312C Pillow Speaker Modules - The PM311C and PM312C, when used with IR311-series and IR312-series Patient Stations, respectively, provide for reliable two-way, hands-free communication between patient and nurse through the SF301PI Series Pillow Speaker. The modules mount directly to the plug-in

connectors located on the IR311-series or IR312-series station circuit boards. Standard SF301P Pillow Speaker or SF311/SF312 Call Cords may be added without removal of modules.

PK352 Battery Charger Assembly - The PK352 battery charger assembly provides continuous +12 volts DC to one master per system. In case of CPE failure, lamp indication of CPE fault will be seen at the master station and a continuous tone will be heard. Tone can be canceled by pressing "TALK" at master.

RY350B Multi-Channel Relay - The RY350B Multi-Channel Relay provides for the selection of entertainment program sources by the patient or user when actuated using TekTone® pillow speakers with a "RADIO" button. The pillow speaker must be plugged into a TekTone® IR311-series or IR312-series Patient Station. One relay is required per bed. The six-position, continuous operation device allows for the selection of up to four radio channels, "TV", and "OFF". The pillow speaker features simple, push button radio and TV controls. All RY350B components are mounted on a ABS plastic panel. The RY350B requires a separate DC power source; 12VDC 1.2 W.

Call Cords

- SF301 - Push button call cord (for IR301-, IR302-series).
- SF301P Series - Pillow speaker (use with IR311-, IR312-series).
- SF301PI Series - Pillow speaker with intercom (use with IR311-series + PM311C or IR312-series + PM312C combinations).
- SF302 - Dual push button call cord (IR301-, IR302-series).
- SF301/10 - Push button call cord with 10' cord (IR301-, IR302-series).
- SF302/10 - Dual push button call cord with 10'cord (use with IR301-, IR302-series).
- SF311 - Push button call cord with modular jack (IR311-, IR312-series).
- SF312 - Dual push button call cord with modular jack (IR311-series, IR312-series).

Note: Geriatric call cords available with 1/4" phone jack, modular jack, single and dual. Contact factory for details.

2.2 EQUIPMENT LOCATION

Locate HC345C system equipment in accordance with the following information. The installation of all system equipment must meet the requirements of the National Electrical Code, ANSI/NFPA #70-1987.

HC345C Series Central Processing Equipment (CPE) - Locate the CPE in an accessible area near a dedicated AC outlet, preferably central to the associated master stations. For optimum operation, locate the CPE in an area with an operating temperature of approximately 26°C. Relative humidity should not exceed 80%. Equipment must be accessible to a good earth or cold water pipe ground using a minimum #16 gauge wire. Location should have convenient cable runs to the master and occupant/patient stations. The CPE may be surface or desk mounted in a minimal amount of space. Locate optional battery backup with the CPE.

Printer - The printer may be located where convenient, but no further than 100' from the CPE.

NC303 Master Station - The NC303 Master Station(s) must be located within easy reach of operating personnel on a desk or countertop. The master station is provided with 6' of cable with a D-subminiature connector for wire termination. The master station should be located within easy reach of the wall plate supplied by TekTone® for cable termination. Locate the wall plate on a single gang ring or box. The operating temperature range of 10°C - 30°C should not be exceeded.

NC313, NC315 Video Monitor & NC314/A Video Converter - Locate the video monitor and converter near the NC303 Master Station so that light levels do not affect legibility of the video display, in a location that provides for easy access to two grounded 117 VAC outlets, and unobstructed visibility. Each video monitor is supplied with (2) RCA-type phono connectors to be added to RG59U cable at both ends. Connector adapters allow for connection of RCA-type connectors to the "Y" adapters located on the video output of the HC345C CPE and "Video In" jack on the NC314A Video Converter. Connect the VGA cable on the back of the video monitor to the "Video Out" jack on the NC314A. The operating temperature range of 10°C - 30°C should not be exceeded.

Call Cords - Insert the call cord plugs into associated station jacks or receptacles.

IR345B/C, IR145B Occupant Help Stations - Locate the occupant help stations where convenient for operation, most commonly at the head of the occupant/patient's bed. The operating temperature range of 10°C - 40°C should not be exceeded.

IR019C Speaker/Microphone Station -The IR019C should be located where audible. The IR019C is designed for use in high security areas, such as psychiatric wards. It is flush mounted, normally in the ceiling or out of psychiatric patient's reach. The IR019C should be located in conjunction with the IR316.

IR300-series Multipurpose Station - The multipurpose station should be centrally located in regard to the remotely mounted initiation devices (switches, contact closures, loudspeakers or other signal-originating equipment) with which it is used. No controls are provided. The operating temperature range of 10°C - 40°C should not be exceeded.

IR310-series Staff Station - Locate the staff station where convenient for operation in areas such as utility and exam rooms, kitchens, or where staff members may need to originate calls or where cord sets are not required. Do not locate a staff station in the same room with the NC303 Master Station. The operating temperature range of 10°C - 40°C should not be exceeded.

IR315-series Duty Station - Locate the duty station where convenient for operation in areas such as utility and exam rooms, or where a nurse may perform a function out of hearing or sight range

of the NC303 Master Station. The operating temperature range of 10°C - 40°C should not be exceeded.

IR316 Psychiatric Station - The IR316 is designed for use in psychiatric wards or other high security hospital areas and is normally flush mounted at the entrance to these areas.

LI380, LI384A, LI386-series Dome Lights - The dome light should be located in the corridor above or beside the door of the associated room. Location should provide unobstructed visibility of the corridor light in both directions. When used as a zone light, locate the LI380, LI384A, LI386-series in the corridor area nearest the nurses central monitoring station. Location should provide unobstructed visibility of each corridor zone light from the central location. When the LI380 Dome Light is used with an IR station, install jumper between brown wire on 8 pin connector to blue wire on 15 pin connector.

PK352 Battery Charger Assembly - The battery charger assembly should be located in an accessible area, preferably with the system CPE. Permitted operating temperature range of 10°C - 30°C should not be exceeded. Location should provide convenient wire run to CPE and master station. Fasten the cabinet containing the battery charger assembly to the wall using suitable fasteners.

RY350B Multi-Channel Relay - The multi-channel relay should be located for convenient access to radio audio cables. These are usually terminated behind television, if room is so equipped.

RY351B Hill-Rom® SideCom® Adapter - The adapter can be located near the Hill-Rom® P376 plug-in adapter. Both items must be located on the same wall as the patient station, towards the lower half of the wall behind the bed. The RY351B may also be located next to the patient station.

SF337C Pull Cord Waterproof Shower Emergency Call Stations - The shower emergency station should be located where convenient for operation in areas such as toilets, baths, or shower rooms. The SF337C may be used as a pull station or a pull cord station. To use as a pull cord station, thread nylon cord through hole provided in the "GUIDE" tab on lower position of the face plate and red pull down lever. Secure with a double knot; then mount station high enough for convenient operation by seated or prone patients. When used as a pull station, locate where access is convenient for both patients and nurses. If properly mounted, the SF337C is waterproof.

SF340B Emergency Station - The emergency stations should be located where convenient for operation in areas such as toilets, baths, or shower rooms. Avoid areas where direct contact with water may occur. The SF340B may be used as a pull station or a pull cord station. To use as a pull cord station, thread nylon cord through hole provided in the "GUIDE" tab on lower position of the face plate and red pull down lever. Secure with a double knot; then mount station high enough for convenient operation by seated or prone patients. When used as a pull station, locate where access is convenient for both patients and nurses.

SF341B Code Call Station - The "CODE" call station should be located for convenient operation in areas such as ICU/CCU, physical therapy rooms, post-op recovery, or any location where code call initiation may be required. The centrally located, blue pull down lever provides for simple, quick "CODE" calling.

SF336/SF338 Staff Emergency Psychiatric Station - The SF336/SF338 should be mounted within the psychiatric ward or other high security areas where those patients are accommodated and within easy reach of the nursing staff.

2.3 WIRING INSTALLATION

Wiring conduit may be run from dome light to dome light, station to station, or a combination of the two, terminating at the Central Processing Equipment (CPE). We recommend running conduit from dome light to dome light because of the reduced conduit lengths. Each run should be limited to 16 or less corridor lights, and 16 or less occupant/patient stations when used in conjunction with dome lights. Up to 64 occupant/patient stations may be used per cable run, if no dome lights are used. Select conduit size to accommodate the following cables:

- A. 1 twisted pair shielded #18 plus 1 twisted pair shielded #18 individually jacketed, plus 4 cond. #18 plus 1 cond. #16. Common cable cannot be used when connecting more than 32 stations per port. Four separate cables must be used configured as follows: 1 twisted pair #18 gauge shielded low capacitance 23 pF/ft (data) plus 1 twisted pair #18 gauge shielded (audio) plus 4 cond. #18 gauge (power cond.) plus 1 cond. #16 gauge (ESD). If possible, obtain the same color code as is used in the common cable. Cable is configured as follows:
 - Data Assembly consists of 1 twisted pair plus 1 conductor #18 gauge stranded wire wrapped by an overall aluminum/Mylar shield and an Orange PVC .020" thick jacket. The shield has a #18 gauge drain wire. The conductors are Yellow, Orange and Green insulated by .033" thick Tapolene. The capacitance between these conductors is 23 pF/foot.
 - Audio Assembly consists of 1 twisted pair #18 gauge stranded wire wrapped by an overall aluminum/Mylar shield and a Gray PVC .020" thick jacket. The shield has a #18 gauge drain wire. The conductors are Purple and Gray insulated by .015" thick PVC.
 - Power Assembly consists of three #18 gauge stranded wires wrapped by an overall aluminum/mylar shield. The shield has a #18 gauge drain wire. The conductors are Red, Brown, and Blue insulated by .015" thick PVC.
 - One #16 gauge stranded wire. The conductor is Black insulated by .016" thick PVC. (Ground)

- B. 5 cond. #22 selective for each SF340B/SF341B/SF337C/LI380 in system. Run to patient station.
- C. 8 cond. #22 selective for each LI384A in system.
- D. 6 cond. #22 selective for each SF350B presence station in system. Run to patient station.
- E. Run RG59U cable from the CPE to each NC314/A Video Converter. See notes on block wiring diagrams, Figures 28–29, for additional information.

Station Wiring Layout - Run station wiring in accordance with the following information and notes provided on the block wiring diagrams, Figures 28–29. Wiring may be run from dome light to dome light, from station to station, or a combination of the two. TekTone® recommends dome light to dome light wiring because of the reduced wire lengths. **Do not run conduit or wire to bottom knockouts of IR series station box. No access is available.**

- A. **NC303 Master Station:** Run Data Assembly (1 twisted pair plus 1 cond.) #18 gauge stranded wire, and an Audio Assembly (1 twisted pair) #18 gauge stranded wire, plus 3 single conductors #18 gauge stranded, plus 1 single conductor #16 gauge stranded directly to the HC345C Central Processing Equipment. Each master must be home run to the CPE. Maximum cable run from CPE to master station wall plate is 200'.
- B. **NC314/A Video Converter:** Run RG59U cable with connectors at both ends directly to HC345C Series CPE.
- C. **IR-series Occupant/Patient/Duty/Staff Stations:** If LI380 Dome Lights are used, run Data Assembly (1 twisted pair plus 1 cond.) #18 gauge stranded wire, and an Audio Assembly (1 twisted pair) #18 gauge stranded wire, plus 4 single conductors #18 gauge stranded, plus 1 single conductor #16 gauge stranded (common cable) directly from CPE to LI380 Dome Lights. Repeat common cable plus 5 cond. #22 directly to occupant, patient, duty, or staff stations. If LI384A Dome Lights are used, run common cable plus 8 cond. #22 directly to occupant, patient, duty or staff stations. If dome lights are not used, run common cable directly from CPE to stations. (See first paragraph under this section for specific wire type).
- D. **LI386-series Zone Dome Light** - Data Assembly (1 twisted pair plus 1 cond.) #18 gauge stranded wire, plus 3 single conductors #18 gauge stranded, plus 1 single conductor #16 gauge stranded (common cable) directly from CPE to LI386 Dome Lights.
- E. **SF-series Emergency/Code Call Stations:** Home run 5 cond. #22 from each occupant, patient, duty, or staff station for associated emergency/code call stations.

- F. **SF350B Presence Station:** Home run 6 cond. #22 from each occupant, patient, duty, or staff station for associated presence stations.
- G. **RY350B Multi-Channel Relay** - Run 1 pair #18 gauge to 12 VDC power supply from RY350B. Run 1 pair #18 gauge from RY350B to television location. Run 5 conductor #18 gauge from RY350B to IR311-series, IR312-series. (Note: One RY350B is required per pillow speaker requiring radio entertainment.) Run 1 conductor #18 gauge from television location to IR311-series, IR312-series.
- H. **RY351B Hill-Rom® SideCom® Adapter** - Run 15 conductor #22 gauge shielded wire from TekTone® RY351B location to IR311-series, IR312-series Patient Station. Run 15 conductor #22 gauge shielded wire from RY351B to P376. (Please note: a Hill-Rom® P376 Plug-in Adapter is supplied with 6' of cable. When using P376, run CABLE "B" and "C" to RY351B, run CABLE "A" to other devices as per Hill-Rom® instructions.)
- I. **NC362P Printer Output** - Use four conductor shielded cable not to exceed 100' (30.48m) in length. Set dipswitches on printer for IBM serial output 9600 baud 8 data bits, 1 stop bit, parity none. (Note: Use low capacitance cable for cable runs over 100', max. 500'.)

**NC362P SERIAL CABLE CONFIGURATION
FOR OKIDATA 182 PLUS**

DB9 FEMALE NC362	DB25 FEMALE PRINTER SERIAL PORT
8	11
5	1,7
3	3
6	6,20

**NC363 SERIAL CABLE CONFIGURATION
FOR MOTOROLA® PEOPLE FINDER**

DB25 FEMALE NC363P	DB25 FEMALE PEOPLE FINDER
1	1
2	3
3	2
5,6,8	20
20	5,6,8
22	22
7	7

**NC362P SERIAL CABLE CONFIGURATION
FOR SCOPE® SYSTEM**

DB9 FEMALE NC362	DB25 FEMALE SCOPE®
5	1
2	3
3	2
4	6
6	4
7	8
8	7

- J. **HC345C Series** - Refer to cable description, Section: 2.3-A

2.4 HOUSING INSTALLATION

- A. IR-series Occupant/Staff/Duty/Multipurpose Stations: Install the back box (Steel City #H3BD with Steel City #3GC plaster ring or exact equivalent) as shown in Figure 1 for each station in system. Minimum dimensions of the back box to be not less than 8.6" x 4.5" x 2.5". Minimum clearance from live parts on the station to dead metal parts to be not less than 1/2". (IMPORTANT: Before installing IR-series stations onto housings, each station must be programmed. See "WIRE CONNECTIONS/STATION PROGRAMMING" section 2.6.)

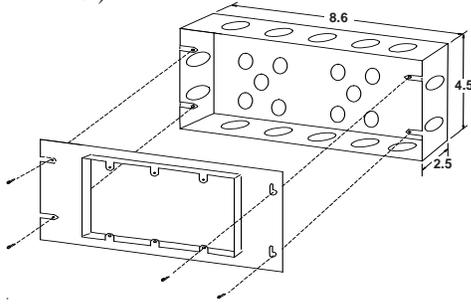


Figure 1—IR-series Installation

- B. LI380, LI384A, LI386-series Dome/Zone Lights: Install double gang ring (or double gang ring/double gang box Steel City #H2BD with #2GC or exact equivalent) as shown in Figure 2 for each corridor dome light in system. Minimum dimensions of back box to be not less than 4" x 4" x 1-1/2". Minimum clearance from live parts on the station to dead metal parts to be not less than 1/2".

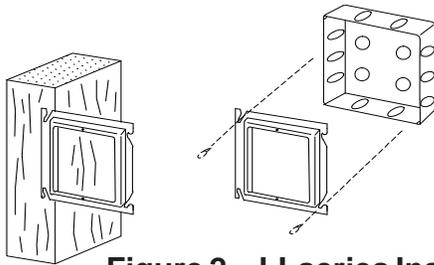


Figure 2—LI-series Installation

- C. NC303 Master Station/NC313, NC315 Video Monitor: The master station and video monitor are for desk or countertop mounting. Contact factory for custom mounting information. (Note: A single gang box or ring must be installed for the wall plate provided with the NC303.)
- D. HC345C Series Central Processing Equipment: The CPE is self-contained in a PC-type cabinet. The unit may be desk or counter top mounted. Contact factory for custom mounting information.
- E. RY350B Multi-Channel Relay: For housing installation follow the instructions as in Section 2.4, item A.
- F. RY351B Hill-Rom® SideCom® Adapter - Install dual gang back box (Steel City number 52171-1/2 and 3/4

with 52-C-13 ring). Use TekTone® single gang plate cover PL301.

- G. PK352 Battery Charger Assembly: The PK352 battery charger assembly is self-contained in a steel cabinet. The unit may be desk or wall mounted.
- H. SF Series Emergency/Code Call/Presence Stations: Install a single gang ring (or single gang ring/double gang box TekTone® #IH357 ring and #IH358 box) as shown in Figure 3 for each station in system. Minimum dimensions of the back box to be not less than 4" x 4" x 1-1/2". Minimum opening on the ring to be not less than 1-3/4" x 2-3/4". Minimum clearance from live parts on the station to dead metal parts to be not less than 1/2".

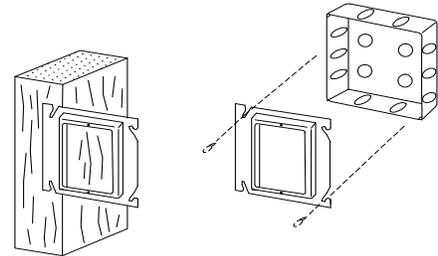


Figure 3—SF-series Installation

- I. SF337C Pull/Pull Cord Waterproof Shower Emergency Call Station: For housing installation, follow the same instructions as in section 2.4 item H. To insure a seal between SF337C face plate and wall, the gasket must be mounted between face plate and wall. The mounting screws with 'O'-Rings must be used to further assure that there is a watertight installation. Take care that the housing location will be such that the finished wall provides a flat, even surface (installation of the housing in the seams of tile will require additional caulking between gasket and wall). The SF337C is waterproof if properly installed.

2.5 WIRE CHECK-OUT

- A. Use an ohm meter or other continuity checking device to test wires for shorts or grounds. If shorts or grounds are encountered, find and correct the problem before continuing. ALL SHIELD DRAIN WIRES MUST SHOW CONTINUITY THROUGHOUT THE CABLE RUN. DRAINS MUST BE KEPT SEPARATE FROM ONE ANOTHER AND ALL OTHER CONDUCTORS. DRAINS CANNOT BE TOUCHING ANY PART OF METAL CONDUIT OR BOX. (PLEASE NOTE: THE DRAIN WIRES ARE SHORTED TOGETHER AT THE CPE PIGTAILS PROVIDED.)
- B. Make sure the minimum number of conductors needed for all of the equipment being used in the system are available.

2.6 WIRE CONNECTIONS/STATION PROGRAMMING

Make wire connections in accordance with the following information and the wiring diagrams, Figures 28–45. All stations and CPE are supplied with cable assemblies terminated by plug-in type connectors for easy wiring. **CAUTION:** Static electricity can cause damage to the stations. The green ground wire found on all IR Series Stations must be connected to the #16 gauge system ground wire or to conduit.

- A. **HC345C-series Central Processing Equipment:** Each HC345C-series CPE is supplied with four cable assemblies, terminated at one end by a male, 9-pin, D-subminiature connector and stripped at the other. These cables are plugged into the D-subminiature port connectors located at the rear of the CPE and are supplied for occupant/patient/duty/staff station wiring. Four ports maximum are available for connection of up to 64 IR345B/C, IR145B, staff or duty stations per port. An additional four ports maximum are available for connection to master stations (a cable assembly is supplied with each master station). Four RCA jacks are available for video monitors. Jacks are identified as Video Output #1, #2, #3, #4. A “Y” adapter is provided for two additional jacks, if necessary. Ports are identified as MASTER PORTS 1 - 4 and PORT OUTPUTS 1 - 4 See Figure 4 for location and identification of CPE ports. Connect the #16 gauge system ground wire to the CPE chassis. Ground the CPE chassis to a good cold water pipe ground. A grounded, 3-wire outlet must be available for 115 VAC power supply to CPE. DO NOT supply power until all connections to equipment have been checked.
- B. **NC303 MASTER STATION:** The master station cable assembly should be plugged into the wall plate supplied with each master station. Run cable from the wall plate

to the appropriate cable assembly at the CPE. See Figure 5 for details.

- C. **NC313, NC315 Video Monitor & NC314A Video Converter:** Plug one end of the RG59U cable (with connectors) to the video converter’s “VIDEO IN” jack. Plug the other end of the cable to the “Y” adapters, which connects to the appropriate output card. Plug the video monitor’s VGA cable to the video converter’s “VIDEO OUT” jack. Plug the video monitor and converter into grounded outlets supplying 115 VAC. No internal wiring is necessary.
- D. **IR-series Occupant/Patient/Duty/Staff Stations:** Before wiring, occupant, patient, duty, and staff stations must be programmed by setting station addresses. Each station on the same port must be addressed differently.

Determine the number of talk paths desired and then how the stations will be divided among the available ports. Each master station provides for one separate talk path. For example, 64 stations may be divided among two ports if two masters are being used and two talk paths are desired, even though all 64 stations may be contained on one port.

Once stations are assigned to a specific port and master station, addresses may be made. Refer to the following notes and Figure 7 for setting addresses.

1. Set separate station addresses using dipswitch located on station PCB’s. See Figure 7 for location of dipswitch on circuit board and values assigned to each switch.
2. Station addresses are comprised of 4 digits. The first digit is “8” and is a system default (Master on HC345B Series system default is “8”). Default for

Figure 4—HC345C CPE Ports

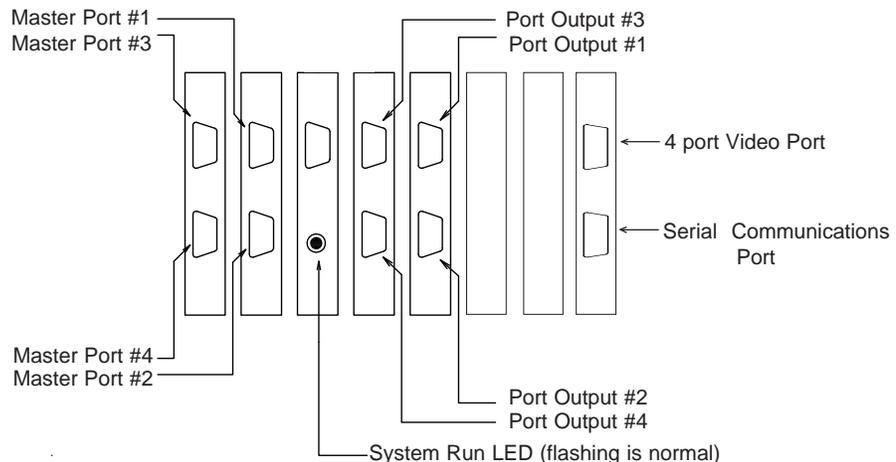
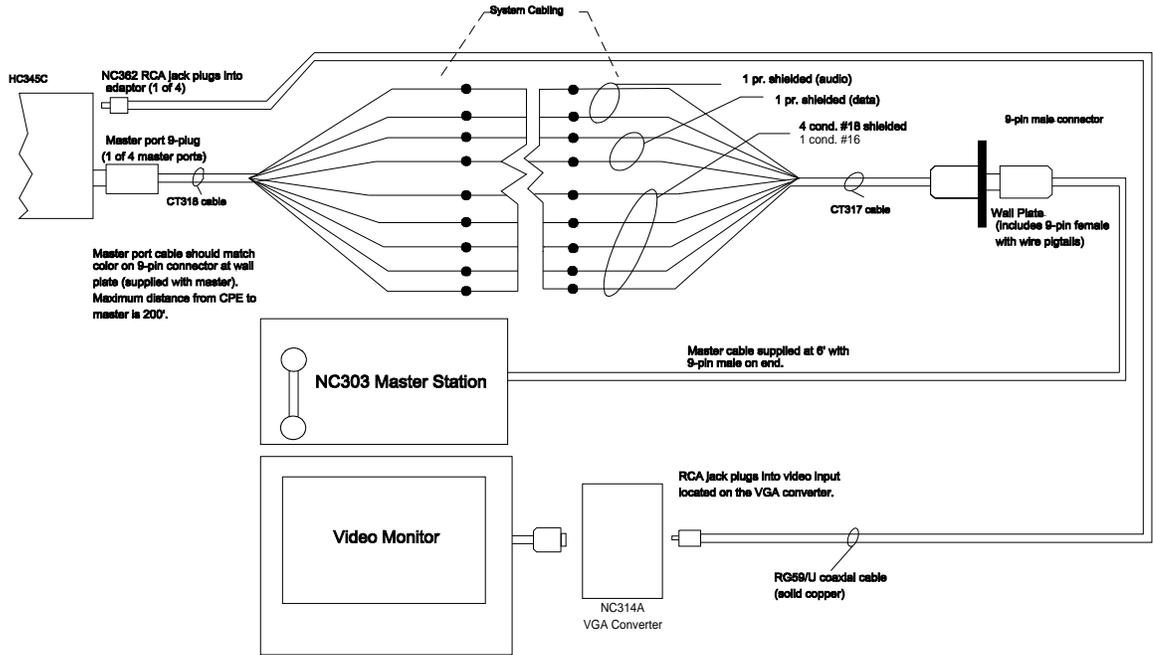


Figure 5—NC303 Master Station Cable Connections



IL421 NC303 Cable Connections Rev0 100402 1

Figure 6—IR315B/C Duty Station Layout

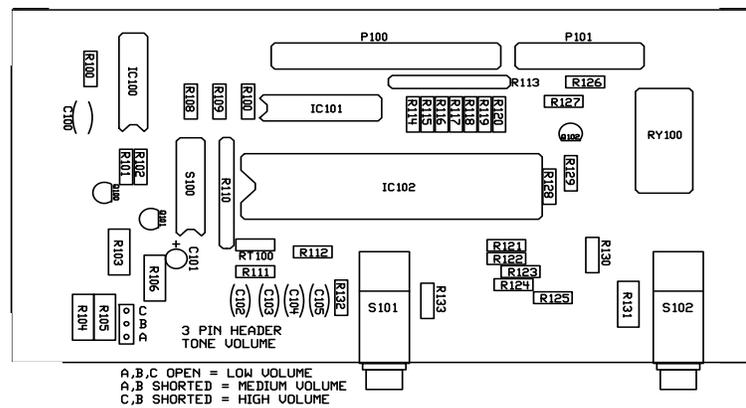
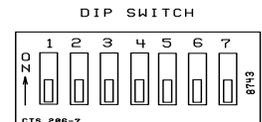
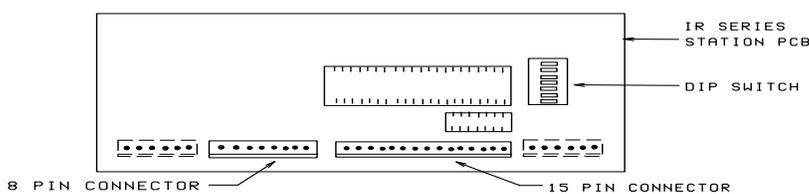


Figure 7—Dipswitch Location on IR-series Stations Printed Circuit Boards



Use only dipswitches 1-6 for station addressing. Use only dipswitches 1-3 for Masters.

NOTE: Each dipswitch in the "ON" position represents a specific value. The sum of all values represented by switches in the "ON" position form the station's address code. Valid dipswitch values are 0 - 63 for HC345C. No other numbers can be used.

Dipswitch 7 "ON" turns IR300B/C and LI386/A Zone Open Light function on, and turns IR310B/C into a "ROUTINE" call station. This is automatically set whenever the CPE is initialized or powered up. If necessary, you may change the setting of dipswitch 7 by (1) deleting station setting [System Programming Section 3.4], (2) change dipswitch, (3) add station back to system.

DIP SWITCH VALUES	
SWITCH POSITION "ON"	VALUE
1	1
2	2
3	4
4	8
5	16
6	32
7	*64

slave system is “7”). The second digit will be either “1”, “2”, “3” or “4” and will correspond to the port to which the stations are connected. The third and fourth digits are determined by dipswitch settings. EXAMPLE: For a station number of 8100, 8 is the system default, the station is connected to station port 1 and all dipswitches are in “OFF” position. All stations on one port must be numbered consecutively, e.g. 8100, 8101, 8102, 8103, etc. up to 64 stations per port. Station numbers will be assigned automatically. Use only 0-63 for station addresses.

3. During System Test (see Section 6.0), make note on the chart provided of the actual room number where station is located. The chart provides a handy reference for use in changing room numbers during system configuration.

After station addresses are set, plugin connector/cable assemblies supplied with each station into appropriate connector on station. If PM311C or PM312C Pillow Speaker modules are being used, connector/cable assembly will be plugged into module connectors. Connect wires as shown in Figures 33, 34 and 45.

- E. SF-series Emergency/Code Call/Presence Stations: Plug in connector/cable assembly supplied with each station. Connect wires as shown in Figures 33 and 45.
- F. LI380, LI384A Corridor or Dome Lights: Connect wires as shown in Figures 33, 34 and 39 as needed.
- G. LI386-series Dome Light: Connect wires as shown in Figures 29 and 35 as needed.
- H. PK352 Battery Charger Assembly: Connect wires as shown in Figure 43.
- I. RY350B Multi-Channel Relay: Connect wires as shown in Figure 37.

2.7 MASTERSTATIONSETTINGS & ADJUSTMENTS

All masters are shipped from the factory pre-set as Master #1. Master #1 must be connected to Master Port #1, Master #2 must be connected to Master Port #2, etc. To reset master, please follow the subsequent instructions.

Master stations are addressed using dipswitches 1, 2 and 3 only. Set dipswitch drawings according to Figure 9.

Example:

Master #1 (dipswitch 1 ON)
Master #2 (dipswitch 2 ON)
Master #3 (dipswitch 1, 2 ON)
Master #4 (dipswitch 3 ON)

This number also serves as the assigned master station number and is used in master-to-master communications. Example: Master #1 = 01. Ports on the CPE are identified as previously mentioned. A master station can be added and/or deleted, but it must be connected in sequential ascending order. No internal wiring is necessary.

- A. VOLUME CONTROLS - All controls are preset at factory. The following is a list of volume controls as shown in Figure 8. (All controls clockwise = Increase.)

Call Tone Volume: Adjust this control for higher or lower incoming call tones.

Master Talk Volume: Controls the talk volume from master to stations.

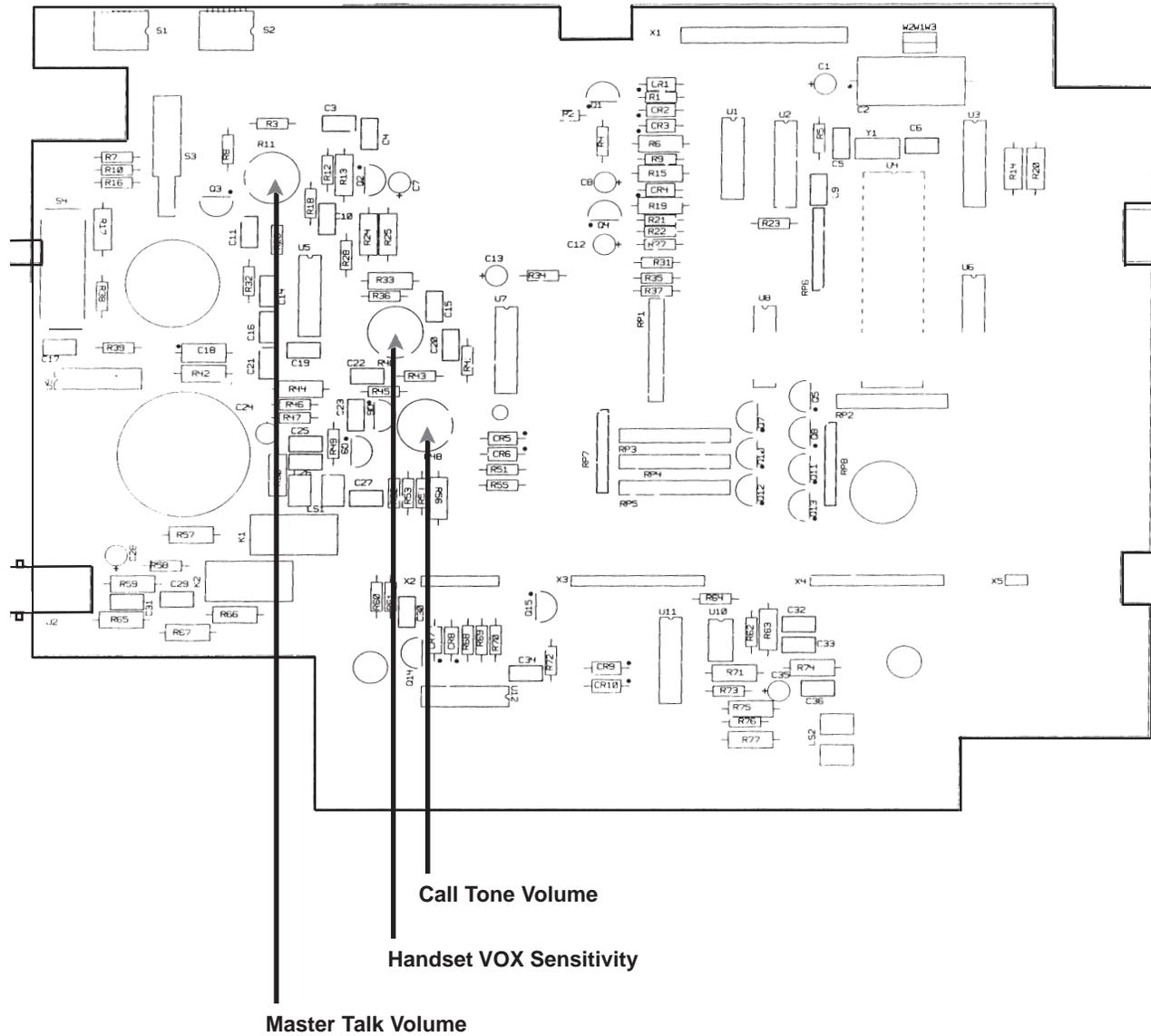
Handset VOX Sensitivity: Controls the VOX circuit sensitivity (handset switching).

- B. IR315B/C Duty Station - The Duty Station call tone and volume is adjustable via the three pin header located as shown in Figure 6.

2.8 CONNECTIONS CHECK-OUT

Re-check all connections to equipment. If all wires and connections are satisfactory, plug in CPE to dedicated outlet and turn power switch located on the right, rear side of CPE “ON”. Do System Test (see Section 6.0) then configure system as desired.

Figure 8—Volume Controls on NC303 Internal Circuit Assembly



Note: Opening the master station requires a Scrulox® size 0 screwdriver (available from TekTone®, part number HT004).

3.0 SYSTEM CONFIGURATION/PROGRAMMING

The following information should be programmed into the HC345C System by qualified administrative personnel prior to general staff operation. Information programmed at this time should require few changes.

3.1 ROOM/BED NUMBER AND ZONING ASSIGNMENTS FOR IR SERIES STATIONS

Assign station room/bed numbers and station zone assignments following the procedure listed below. System should not be in use while room/bed numbers and zone assignments are being entered.

Stations must be assigned to at least one of the 8 zones supported by the HC345C System, but may be assigned to additional zones if desired. Zoning assignments are used to send station calls to a specific master station also zoned for those call-ins. Stations must be assigned to the same zone as the master station to which they will report.

Refer to the chart provided for listing assigned room/bed numbers.

A. Press "MENU" (blue) button on NC303 Master Station.

MAIN MENU	
1	Master Assignments Menu
2	User Function Menu
3	System Function Menu
4	Set Room Priority, Privacy, Page
5	Execute a Page to a Pager
6	Check-in
7	Dual-System-Status
8	Dual-System-Zone-Capture
* = exit : select menu item	

B. Select "System Function Menu" by pressing "3" on keypad.

SYSTEM FUNCTIONS	
1	Set Time/Date
2	12/24 Hour Clock
3	Set Overtime
4	Reconfiguration
5	Hook Switch
* = prev. menu : select menu item	

C. Select "Reconfiguration" by pressing "4" on keypad.

RECONFIGURATION	
1	Program Menu
2	Reinit. System
3	Define Password
4	Set/Reset Code Call
5	Add/Del Station
* = prev. menu : select menu item	

D. Select "Program Menu" by pressing "1" on keypad.

PROGRAM STATION	
1	Program Station
2	Duty Station Call Display
3	Duty Station-DSN-Zone-Capture
4	Program Pager
* = prev. menu : select menu item	

E. Select "Program Station" by pressing "1" on keypad.

STATION ZONE ASSIGNMENTS	
ZONE	1 2 3 4 5 6 7 8
Room: _____ - ____	
* menu : # = enter : enter room id	

The currently assigned station address (dipswitch setting) must now be entered, e.g. 8100, 8101, 8200, 8201, etc. (7100, 7101, 7201, 7202, etc. when using networking capabilities). This is accomplished by entering the current

station number. (Note: The stations connected to each system should be programmed from that system.)

F. Following entry of the currently assigned station number, the program station menu will appear on the video monitor. Currently assigned station number will be highlighted. Enter new room number using keypad and observing the following: Room numbers must be four digits (excluding bed ID number). An indication of "not found: re-enter" will appear if room number is entered incorrectly. Digits may be 0 - 9, A - Z in any combination. Alpha characters can be programmed by pressing the alpha key and then the letter on the keypad (NOTE: the alpha key must be pressed before entering **each** letter). If desired, the first digit of the room number may be used to identify a specific floor or wing.

STATION ZONE ASSIGNMENTS	
Zoning	1 2 3 4 5 6 7 8
	X X X X X X X X
Room No. : 8201	Bed 1: 1 Bed 2: 2
* = menu : # = enter : enter room id	

G. Enter first bed ID number using keypad and observing the following: Bed ID numbers may be from 0-9/A-Z and must be used for single and dual patient stations. When programming bed ID numbers for dual patient stations, enter second bed ID number.

STATION ZONE ASSIGNMENTS	
Zoning	1 2 3 4 5 6 7 8
	X X X X X X X X
Room No. : 8201	Bed 1: 1 Bed 2: 2
* = menu : enter bed id	

H. Press numbers on keypad to turn zones "ON/OFF". Press "9" to assign all zones. Press "#" key to save, and then program the next station.

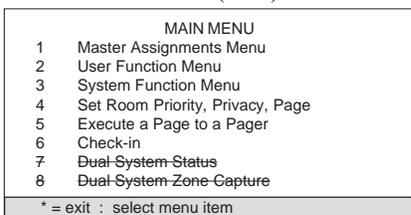
STATION ZONE ASSIGNMENTS	
Zoning	1 2 3 4 5 6 7 8
Room No. : 8201	Bed 1: 1 Bed 2: 2
* = menu : 1-9 = assign zones : # = save	

I. Updated data will now be stored. Loss of power to system will not result in loss of data; however, **system reinitialization will cause loss of all previously programmed data except password.**

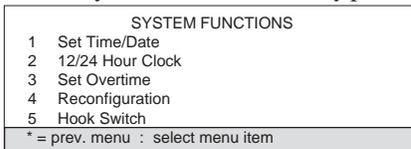
J. Repeat this procedure until all room numbers have been assigned. "RESET" will exit the program at any time.

3.2 CHANGE DUTY STATION CALL RESPONSE

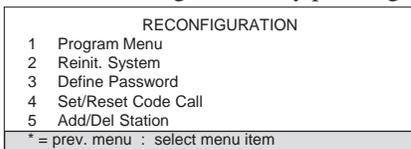
A. Press the “MENU” (blue) button.



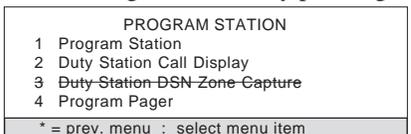
B. Select “System Function Menu” by pressing “3” on keypad.



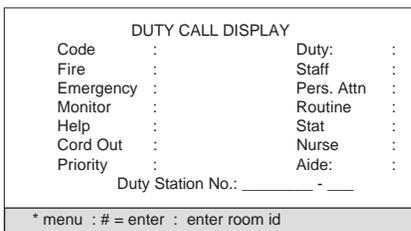
C. Select “Reconfiguration” by pressing “4” on keypad.



D. Select “Program Menu” by pressing “1” on keypad.



E. Select “Duty Station Call Display” by pressing “2” on keypad.

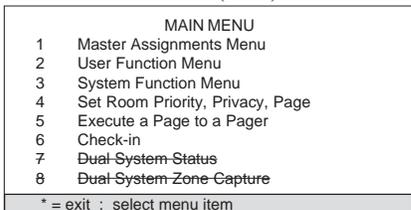


Enter the current Duty Station using the keypad. (Note: Default programming is all call responses “ON”.)

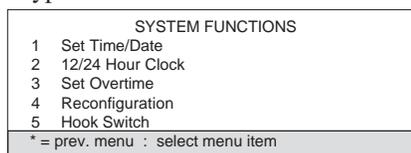
3.3 DUTY STATION DSN ZONE CAPTURE

The Duty Station DSN Zone Capture responds to other zones across the DSN port. (Default is all zones “ON”.)

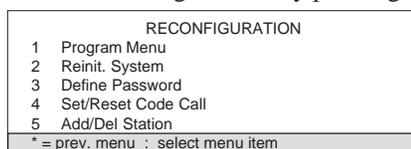
A. Press the “MENU” (blue) button.



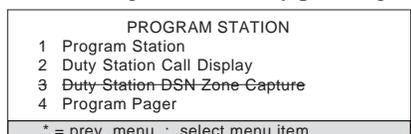
B. Select “System Function Menu” by pressing the “3” on keypad.



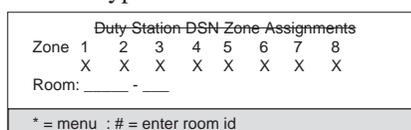
C. Select “Reconfiguration” by pressing “4” on keypad.



D. Select “Program Menu” by pressing “1” on keypad.



E. Select “Duty Station DSN Zone Capture” by pressing “3” on keypad.

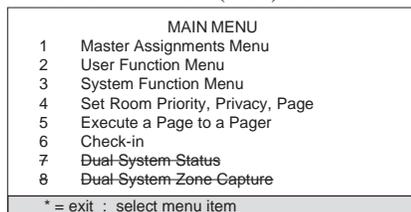


Enter the current Duty Station using the keypad.

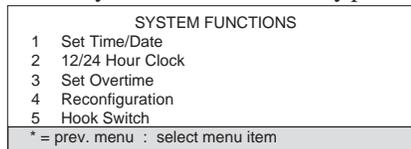
F. An “X” will appear for the zone indicating what DSN zones are in use. Press number (1-8) to remove “X”. Pressing the same number again will cause “X” to reappear. Press “9” on keypad to set all zones “ON”. Press “0” on keypad to set all zones “OFF”. “MENU” appears in Master call window during menu session.

3.4 ADD/DELETE STATION

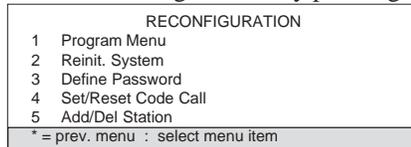
A. Press the “MENU” (blue) button.



B. Select “System Function Menu” by pressing “3” on keypad.



C. Select “Reconfiguration” by pressing “4” on keypad.



D. Select "Add/Delete Station" by pressing "5" on keypad.

ADD/DELETE STATION	
Room No.:	_____ - _____
Room Status:	_____
* = menu : # = enter : enter room id	

The "Add/Delete Station" menu above allows the addition or deletion of stations from the system without reinitialization. The software is modified so that each station has a specific address from 0 - 63 on the HC345C-series CPE. For existing installations where the dipswitches for the station devices are set outside this range, it will be necessary to readdress these devices. When the system is turned on, the new station will be assigned a number in the 8000's depending on what port they are connected to and their position in the polling loop. It will then become necessary to program the new station as desired. The new station must be addressed differently than all other stations connected to its related port.

When physically removing a station, the system must first be powered down. When the system is turned on again it will report a "COMM FAULT" for that room, until the station has been deleted from memory. **(Note: For existing installations, where the dipswitches for the station device are set outside the above mentioned range, it will be necessary to readdress these devices.)** The deleted stations will be shown in the view ALL station menu with the deleted SPUA #. The view ALL menu presents a record of the deleted stations, as shown below.

SPUA	ROOM	BED	ZONE	- NO.	PRIOR	PAG	PRV	CODE
1200	8300	1	3		R	on	off	off
1301	8401	1 2	4		DELETED			
2302	8402		4		staff	on	off	off
* = menu : # = down								

A station can also be deleted if it is still physically in the polling loop. Deletion will not shift the SPUA numbers, because the device is still there, but its presence is ignored.

3.5 MASTER ASSIGNMENT MENU

Master stations may be assigned to one, all or any combination of the 8 zones supported by the HC345C System. Zoning assignments are for use in controlling the occupant, patient, staff, and duty stations to which the master station may communicate and to which it may control system functions such as paging, nurse follower, and other programming functions. Master stations will only communicate with stations for which they are zoned, unless the "PAGE" button and the "09" key are pressed, which will allow the user to page all zones in the system. Master station zone assignments should be made in conjunction with occupant, patient, staff, and duty station zone assignments. Follow the procedure listed below at each master to assign master station zones.

A. Establish desired zone(s) (1-8) for each master station.

B. Press "CAPTURE" (blue) button to go directly to Master Zone Assignment menu (E).

Master Zone Assignment								
ZONE	1	2	3	4	5	6	7	8
	X	.	.	.	.	.	.	.
Enter Zone Number To Change Status								
* = menu : # = save and edit								

C. An "X" will appear for zone indicating what master is in use. Press number (1-8) to remove "X". Pressing the same number again will cause the "X" to reappear. Press "9" on keypad to set all zones "ON". "MENU" appears in call window when zone assignments are being entered. (Note: Default is all zones "ON".)

3.6 MASTER CALL RESPONSE

Follow the procedure below to assign Master Call Response.

A. Press "MENU" (blue) button.

MAIN MENU	
1	Master Assignments Menu
2	User Function Menu
3	System Function Menu
4	Set Room Priority, Privacy, Page
5	Execute a Page to a Pager
6	Check-in
7	Dual-System-Status
8	Dual-System-Zone-Capture
* = exit : select menu item	

B. Select "Master Assignments Menu" by pressing "1" on keypad.

MASTER ASSIGNMENTS	
1	Master Zone Assignments
2	Master Call Display
3	Intercom Preannouncement Tones
* = prev. menu : select menu item	

C. Select "Master Call Display" by pressing "2" on keypad.

MASTER CALL DISPLAY			
Code	: ON	Priority	: ON
Fire	: ON	Duty	: ON
Emergency	: ON	Staff	: ON
Monitor	: ON	Pers.Attn	: ON
Help	: ON	Routine	: ON
Cord Out	: ON	Stat	: ON
* = menu : # = down : 0 = up : 1 = on/off			

Press "1" on keypad to turn "ON/OFF". Press "#" key until prompted to save.

3.7 INTERCOM PREANNOUNCE CALL TONES

When Intercom Preannouncement Tones is enabled, it will generate a 1 second tone when the "TALK" button is first pressed to talk to a room station. (Note: Default is "ON".)

Follow this procedure to assign Preannouncement Call Tones.

- A. Press “MENU” (blue) button.

MAIN MENU	
1	Master Assignments Menu
2	User Function Menu
3	System Function Menu
4	Set Room Priority, Privacy, Page
5	Execute a Page to a Pager
6	Check-in
7	Dual System Status
8	Dual System Zone Capture
* = exit : select menu item	

- B. Select “Master Assignments Menu” by pressing “1” on keypad.

MASTER ASSIGNMENTS	
1	Master Zone Assignments
2	Master Call Display
3	Intercom Preannounce Tones
* = prev. menu : select menu item	

- C. Select “Intercom Preannounce Tones” by pressing “3” on keypad.

INTERCOM PREANNOUNCE TONES	
Tones status: ON	
* = menu : # = save : 1 = on/off	

- D. Press “1” on keypad for desired response.

3.8 DSN STATUS

Follow the procedure listed below to display or change the DSN Status. You must have two systems connected together via NC353B-DSN Link Card.

- A. Press “MENU” (blue) button.

MAIN MENU	
1	Master Assignments Menu
2	User Function Menu
3	System Function Menu
4	Set Room Priority, Privacy, Page
5	Execute a Page
6	Check-in
7	Dual System Status
8	Dual System Zone Capture
* = exit : select menu item	

- B. Select “Dual System Status” by pressing “7” on keypad.

DUAL-SYSTEM-STATUS	
Status: Master	
# = save : 1 = toggle status	

To set DSN Status, one system must be set up as a slave and one system as a master. If DSN is not used, DSN status must be set to NOT ACTIVE. Default is NOT ACTIVE. (Note: Reinitializing system will not change DSN status.)

3.9 DSNZONECAPTURE

Follow the procedure below to display or change the DSN Zone Capture.

- A. Press “MENU” (blue) button.

MAIN MENU	
1	Master Assignments Menu
2	User Function Menu
3	System Function Menu
4	Set Room Priority, Privacy, Page
5	Execute a Page to a Pager
6	Check-in
7	Dual System Status
8	Dual System Zone Capture
* = exit : select menu item	

- B. Select “Dual System Zone Capture” by pressing “8” on keypad.

Dual-System-Zone Assignments								
Zone	1	2	3	4	5	6	7	8
	X	X	X	X	X	X	X	X
ENTER ZONE NUMBER TO CHANGE STATUS								
* = exit : # = save and exit								

- C. An “X” will appear for the zone indicating which DSN zones are in use. Press number (1-8) to remove “X”. Pressing the same number again will cause the “X” to reappear. Press “9” on keypad to set all zones “ON”. Press “0” on keypad to set all zones “OFF”. “MENU” appears in Master call window during menu session.

3.10 ADDING OR REMOVING MASTER STATIONS

As long as the master stations remain in ascending order, they can be added or deleted by doing the following:

- A. Turn the system off.
- B. Place master stations in the new ports.
 - a. Must start in port 1.
 - b. Ports must be consecutively filled.

The zone assignments and hook switch information will be retained by each port, even when master is removed.

3.11 SET 12- OR 24- HOUR CLOCK FORMAT

After initial system power-up, the time of day will be displayed in 12-hour format. To change clock format, follow the procedure listed below.

- A. Press “MENU” (blue) button.

MAIN MENU	
1	Master Assignments Menu
2	User Function Menu
3	System Function Menu
4	Set Room Priority, Privacy, Page
5	Execute a Page to a Pager
6	Check-in
7	Dual System Status
8	Dual System Zone Capture
* = exit : select menu item	

- B. Select “System Function Menu” by pressing “3” on keypad.

SYSTEM FUNCTIONS	
1	Set Time/Date
2	12/24 Hour Clock
3	Set Overtime
4	Reconfiguration
5	Hook Switch
* = prev. menu : select menu item	

- C. Select “12/24 Hour Clock” by pressing “2” on keypad.

SELECT CLOCK MODE	
Mode: 12 Hour Format	
* = menu : 1 = toggle mode	

- D. Press “1” on keypad for desired mode. Press “*” key to save and return to previous menu.

3.12 SET TIME/DATE

If the time must be corrected, follow the procedure listed below.

- A. Press “MENU” (blue) button.

MAIN MENU	
1	Master Assignments Menu
2	User Function Menu
3	System Function Menu
4	Set Room Priority, Privacy, Page
5	Execute a Page to a Pager
6	Check-in
7	Dual System Status
8	Dual System Zone Capture
* = exit : select menu item	

- B. Select “System Function Menu” by pressing “3” on keypad.

SYSTEM FUNCTIONS	
1	Set Time/Date
2	12/24 Hour Clock
3	Set Overtime
4	Reconfiguration
5	Hook Switch
* = prev. menu : select menu item	

- C. Select “Set Time/Date” by pressing “1” on keypad.

SET TIME AND DATE	
Format	hh:mm mm-dd-yy
	11:27 12-17-94
* = menu : # = save : enter time and date	

- D. Enter time and new date. Press “#” to save.

3.13 SET CALL OVERTIME

The elapsed time from when a call is placed to the master station and the call overtime indication (OT) appears may be set following the procedure listed. Call overtime may be programmed for ROUTINE, PRIORITY, and SERVICE requests. If the call overtime is exceeded on a service request, a call will be placed to the associated patient station from the master station. Service request overtime calls must be canceled from the patient station, or a nurse or aide must register their presence in the room if it is equipped with an SF350B “nurse/aide button” and then register out again when leaving the room. Follow the procedure listed to set call overtime.

- A. Press “MENU” (blue) button.

MAIN MENU	
1	Master Assignments Menu
2	User Function Menu
3	System Function Menu
4	Set Room Priority, Privacy, Page
5	Execute a Page to a Pager
6	Check-in
7	Dual System Status
8	Dual System Zone Capture
* = exit : select menu item	

- B. Select “System Function Menu” by pressing “3” on keypad.

SYSTEM FUNCTIONS	
1	Set Time/Date
2	12/24 Hour Clock
3	Set Overtime
4	Reconfiguration
5	Hook Switch
* = prev. menu : select menu item	

- C. Select “Set Overtime” by pressing “3” on keypad.

- D. Set desired overtime in 1 minute increments only, with a maximum overtime of 9 minutes, by pressing desired number of minutes on keypad. After ROUTINE overtime is set, PRIORITY overtime is immediately ready to be set, and then SERVICE overtime. Categories cannot be set out of order. If “0” is entered, no overtime is set and no overtime (OT) message will appear.

SET CALL OVERTIMES	
Routine call:	0 minute(s)
Priority call:	0 minute(s)
Service call:	0 minute(s)
* = menu : # = save : enter time [0 - 9]	

3.14 SET PASSWORD

A numerical password is used to keep unauthorized personnel from accessing system programming functions. No password is needed for access to system programming until a password is set following the procedures listed below. If password is forgotten or lost, contact factory for instructions on overriding the password requirement. System reinitialization does not cancel password.

- A. Press “MENU” (blue) button.

MAIN MENU	
1	Master Assignments Menu
2	User Function Menu
3	System Function Menu
4	Set Room Priority, Privacy, Page
5	Execute a Page to a Pager
6	Check-in
7	Dual System Status
8	Dual System Zone Capture
* = exit : select menu item	

- B. Select “System Function Menu” by pressing “3” on keypad.

SYSTEM FUNCTIONS	
1	Set Time/Date
2	12/24 Hour Clock
3	Set Overtime
4	Reconfiguration
5	Hook Switch
* = prev. menu : select menu item	

- C. Select “Reconfiguration” by pressing “4” on keypad.

RECONFIGURATION	
1	Program Menu
2	Reinit. System
3	Define Password
4	Set/Reset Code Call
5	Add/Del Station
* = prev. menu : select menu item	

- D. Select “Define Password” by pressing “3” on keypad.

DEFINE PASSWORD	
Enter 6 digit Password	
Password	
* = menu : # = none : 0 - 9 password	

- E. Enter desired password 0 - 9 (must be six digits) on keypad. Password will not appear.

- F. Enter password again to verify. If password was entered correctly, menu will disappear and operator will be prompted with “Password Protection Menu”.

PASSWORD PROTECTION	
OFF 1	Master Assignments Menu
ON 2	User Function Menu
OFF 3	System Function Menu
OFF 4	Set Room Priority, Privacy, Page
OFF 5	Room Monitoring
OFF 6	Dual-System-Status
OFF 7	Dual-System-Zone-Capture
* = menu : # = down : 0 = up: 1 = toggle	

- G. Set desired password protection to customize password requirements to any level menu. Default is all levels “OFF”. Press number “1” on keypad to toggle “ON/OFF”. Password must now be used to access customized password level selections and system reinitialization. To enter a new password or to cancel the password requirement, repeat steps “A” through “C” and enter the current password. Repeat step “D” and enter the new password or press “#” to cancel the password requirement.

3.15 SET CODE STATION ON/OFF

For any IR Series Station wired to an SF341B Code Call Station, the code station is set to “ON” at power up (code stations **cannot** be wired to duty stations). If, at a later date, it becomes necessary to disable the code call station, the station must be reset “OFF” or a code fault will result. Follow the procedure listed below.

- A. Press “MENU” (blue) button.

MAIN MENU	
1	Master Assignments Menu
2	User Function Menu
3	System Function Menu
4	Set Room Priority, Privacy, Page
5	Execute a Page to a Pager
6	Check-in
7	Dual-System-Status
8	Dual-System-Zone-Capture
* = exit : select menu item	

- B. Select “System Function Menu” by pressing “3” on keypad.

SYSTEM FUNCTIONS	
1	Set Time/Date
2	12/24 Hour Clock
3	Set Overtime
4	Reconfiguration
5	Hook Switch
* = prev. menu : select menu item	

- C. Select “Reconfiguration” by pressing “4” on keypad.

RECONFIGURATION	
1	Program Menu
2	Reinit. System
3	Define Password
4	Set/Reset Code Call
5	Add/Del Station
* = prev. menu : select menu item	

- D. Select “Set/Reset Code” by pressing “4” on keypad.

SET/RESET CODE CALL	
Room No: _____ - ____	
Code Call Status: _____	
* = menu : # = enter : enter room id	

- E. Enter room number and bed number.

SET/RESET CODE CALL	
Room No: 8108 - 1	
Code Call Status: ON	
* = menu : # = save : 1 = on/off	

- F. Press “1” to turn “ON/OFF”. Press “#” to save.

3.16 REINITIALIZE SYSTEM

System reinitialization is only necessary when system requires default programming for all devices. Reinitialization removes all previously programmed system configurations (except password), including room numbers, zoning, privacy, etc., and should not be used unless absolutely necessary. If the system must be reinitialized, follow the procedure listed below.

- A. Press “MENU” (blue) button.

MAIN MENU	
1	Master Assignments Menu
2	User Function Menu
3	System Function Menu
4	Set Room Priority, Privacy, Page
5	Execute a Page to a Pager
6	Check-in Menu
7	Dual-System-Status
8	Dual-System-Zone-Capture
* = exit : select menu item	

- B. Select “System Function Menu” by pressing “3” on keypad.

SYSTEM FUNCTIONS	
1	Set Time/Date
2	12/24 Hour Clock
3	Set Overtime
4	Reconfiguration
5	Hook Switch
* = prev. menu : select menu item	

- C. Select “Reconfiguration” by pressing “4” on keypad.

RECONFIGURATION	
1	Program Menu
2	Reinit. System
3	Define Password
4	Set/Reset Code Call
5	Add/Del Station
* = prev. menu : select menu item	

- D. Select “Reinitialize System” by pressing “2” on keypad. If reinitialization is desired, press “1” on keypad to continue or “*” to return to menu.

```

CAUTION!!!
Reinitialization will erase
all data. Do you really want to?
* = menu : 1 = reinitialize

```

- E. If “1” was selected, the system will reset.

3.17 VIEW STATION CONFIGURATIONS

The HC345C provides for scanning of various station parameters and is useful in checking programmed information. The system will scan all remote stations and provide information including system/port connection/unit address (SPUA), room number, bed number(s), assigned zone(s), station priority, paging “ON/OFF”, privacy “ON/OFF” and code “ON/OFF”. Scanning all stations can be used to list station addresses during programming. Remote stations may be scanned individually and for common settings including code call “ON/OFF” status, routine, personal attention or priority call types (R=routine, PA=personal attn., P=priority), privacy “ON/OFF” status, paging “OFF” status and staff stations. (Staff station scan also displays information for duty and utility stations.) Master stations are scanned for port connection/unit address (PUA), assigned console (master) number, display number, assigned zones, binary address and twin master transfer “ON/OFF”. Zone scanning for all remote stations assigned to a common zone is also available. Follow the procedures listed below to view station information. Any deleted station will be shown in the view ALL station menu with the deleted SPUA #.

- A. Press “MENU” (blue) button.

```

MAIN MENU
1 Master Assignments Menu
2 User Function Menu
3 System Function Menu
4 Set Room Priority, Privacy, Page
5 Execute a Page to a Pager
6 Check-in
7 Dual-System-Status
8 Dual-System-Zone-Capture
* = exit : select menu item

```

- B. Select “User Function Menu” by pressing “2” on keypad.

```

USER FUNCTION MENU
1 View Remote Stn
2 View Master Stn
3 View A Zone
* = prev. menu : select menu item

```

- C. Select “View Remote Station” by pressing “1”.

```

VIEW REMOTE STATIONS
1 VIEW All
2 Individual
3 Code Call
4 Routine
5 Pers Attn
6 Priority
7 Privacy On
8 Page Off
9 Staff/Duty Station
* = prev. menu : select menu item

```

- D. Follow additional menu instructions as prompted for specific information desired.

3.18 ROOM MONITORING FUNCTION

- A. Press “MENU” (blue) button.

```

MAIN MENU
1 Master Assignments Menu
2 User Function Menu
3 System Function Menu
4 Set Room Priority, Privacy, Page
5 Execute a Page
6 Check-in
7 Dual-System-Status
8 Dual-System-Zone-Capture
* = exit : select menu item

```

```

ENTER ROOMS TO BE MONITORED
1:          2:
3:          4:
5:          6:
7:          8:
9:          10:
* = del : # = enter room id

```

- B. Enter valid room numbers then press “#” key. If an invalid room number is entered “not found: re-enter” will display. Up to 10 rooms can be monitored at one time. After valid room numbers are entered, they will be retained until system is powered down. (Note: Room monitoring will be canceled if call is on display from a room. To cancel room monitoring, press “RESET” on Master at any time.)

3.19 PROGRAM PATIENT PRIORITY

- A. Press “PRIORITY” (blue) button to go directly to “Set Room Priority” (D).

```

SET ROOM PRIORITY
Room & Bed No: 8101 - 1
Priority Status: Routine
* = menu : # = save : 1 = toggle selection

```

- B. Enter room and bed number.
- C. Select the desired priority by pressing “1”.
- D. Press the “#” to save.

Programmable patient priorities include ROUTINE, PERSONAL ATTENTION, and PRIORITY. The call screen will immediately reflect the change in call type, the call will be positioned on the call screen according to the new priority and all other signals will react in accordance with the new priority established. A station priority changed to PERSONAL ATTENTION or PRIORITY when communication was established by the patient station will not allow reset from the Master station.

3.20 PROGRAM STATION PRIVACY

- A. Press “MENU” (blue) button.

MAIN MENU	
1	Master Assignments Menu
2	User Function Menu
3	System Function Menu
4	Set Room Priority, Privacy, Page
5	Execute a Page to a Pager
6	Check-in
7	Dual System Status
8	Dual System Zone Capture
* = exit : select menu item	

- B. Select “Set Room Priority, Privacy, Page” by pressing “4” on keypad.

SET ROOM PRIORITY, PRIVACY, PAGE	
1	Set Room Priority
2	Set Room Privacy
3	Set Room Page
* = prev. menu : select menu item	

- C. Select “Set Room Privacy” by pressing “2” on keypad.

SET ROOM PRIVACY	
Room & Bed No.	_____ - _____
Privacy Status:	
* = menu : # = enter : enter room id	

- D. Type room and bed number.

SET ROOM PRIVACY	
Room & Bed No.	8101-1
Privacy Status:	ON
* = menu : # = save : 1 = toggle selection	

- E. Select “PRIVACY” ON/OFF by pressing “1” on keypad.
F. Press “#” to save.

When a station is programmed for privacy, the patient may call the nurse and hear a reply, and paging from the master station will be heard. A call can be placed from the master station, but no audio can be heard. If two-way communication with a station in privacy mode is desired, the operator at the master station can request the patient place a call after the current call is reset from the Master only. All visual signals function as normal when the call is initiated from the patient station. Master stations cannot be programmed for privacy.

3.21 PROGRAM STATION PAGING

- A. Press the “MENU” (blue) button.

MAIN MENU	
1	Master Assignments Menu
2	User Function Menu
3	System Function Menu
4	Set Room Priority, Privacy, Page
5	Execute a Page to a Pager
6	Check-in
7	Dual System Status
8	Dual System Zone Capture
* = exit : select menu item	

- B. Select “Set Room Priority, Privacy, Page” by pressing “4” on keypad.

SET ROOM PRIORITY, PRIVACY, PAGE	
1	Set Room Priority
2	Set Room Privacy
3	Set Room Page
* = prev. menu : select menu item	

- C. Select “Set Room Page” by pressing “3” on keypad.

SET ROOM PAGING	
Room & Bed No.	_____ - _____
Paging Status:	
* = menu : # = enter : enter room id	

- D. Type room and bed number.

SET ROOM PAGING	
Room & Bed No.	8108 - 1
Paging Status:	ON
* = menu : # = save : 1 = toggle selection	

- E. Select paging “ON/OFF” by pressing “1”.

- F. Press the “#” to save.

No type of paging communication from the master station will be heard at a station programmed for no paging.

3.22 PROGRAM RADIO PAGER SYSTEM

Program Pager Zone Assignments permits programming a pager to receive event messages from specific zones.

- A. Press “MENU” (blue) button.

MAIN MENU	
1	Master Assignments Menu
2	User Function Menu
3	System Function Menu
4	Set Room Priority, Privacy, Page
5	Execute a Page to a Pager
6	Check-in
7	Dual System Status
8	Dual System Zone Capture
* = exit : select menu item	

- B. Select “System Function Menu” by pressing “3” on keypad.

SYSTEM FUNCTIONS	
1	Set Time/Date
2	12/24 Hour Clock
3	Set Overtime
4	Reconfiguration
5	Hook Switch
* = prev. menu : select menu item	

- C. Select “Reconfiguration” by pressing “4” on keypad.

RECONFIGURATION	
1	Program Menu
2	Reinit. System
3	Define Password
4	Set/Reset Code Call
5	Add/Del Station
* = prev. menu : select menu item	

- D. Select “Program Menu” by pressing “1” on keypad.

PROGRAM STATION	
1	Program Station
2	Duty Station Call Display
3	Duty Station-DSN-Zone-Capture
4	Program Pager
* = prev. menu : select menu item	

- E. Select “Program Pager” by pressing “4” in keypad.

PROGRAM PAGER MENU	
1	Specify Pager System and Status
2	Program Pager Zone Assignments
3	View Pager Zone Assignments
4	Program Pager Call Assignments
5	Assign Pager to Room
6	Execute a Page
* = prev. menu : select menu item	

This menu implements the four main pager capabilities.

- F. Select "Program Pager Zone Assignments" by pressing "2" on keypad.

PAGER ZONE ASSIGNMENTS								
Zone	1	2	3	4	5	6	7	8

Pager No: _____								
* = menu : enter pager id								

- G. Enter an assigned pager number and then press the "#" key. (See VIEW PAGER ZONE ASSIGNMENTS for the current assigned page numbers.) The system default pager numbers are 400-432. Once the pager is located the following menu appears.

PAGER ZONE ASSIGNMENTS								
Zone	1	2	3	4	5	6	7	8

Pager No: 400								
* = menu : # = enter : edit id								

- H. Press "#" to accept the pager number displayed, or enter another assigned pager number and then press the "#" key.

PAGER ZONE ASSIGNMENTS								
Zone	1	2	3	4	5	6	7	8
	.	.	X	.	.	.	.	.
Pager No: 400								
* = menu : 1 - 9 assign zones : # = save								

Press numbers "1-8" to toggle "ON/OFF". Press "#" key to save.

3.23 VIEW RADIO PAGER ZONE ASSIGNMENTS

Allows a full-screen view of pager zone assignments, and is useful for checking programmed information. Repeat steps A - E, section 3.22, and then perform the following:

- A. Select "View Pager Zone Assignments" by pressing "3" on keypad.

NO	ID	8	7	6	5	4	3	2	1
	400	.	.	.	.	X	.	.	.
	401	.	X	.	.	.	.	.	.
	408	.	.	.	.	.	.	.	X
* = exit : # = down									

3.24 PROGRAM RADIO PAGER CALL ASSIGNMENTS

Programs the individual pager for receiving specific event message types. Repeat section 3.22, steps A - E and then perform the following:

- A. Select "Program Pager Call Assignments" by pressing "4" on keypad.

PAGER CALL DISPLAY			
Code	:	Priority	:
Fire	:	Duty	:
Emergency	:	Staff	:
Monitor	:	Pers. Attn	:
Help	:	Routine	:
Cord Out	:	Stat	:
		Faults	:
Pager ID: _____			
* = menu : # = next : 0 = prev : 1 = on/off			

Enter the pager number to be programmed and then press the "#" key.

- B. Press "1" to turn "ON/OFF". Press "#" key to move through menu, until prompted to save. Default programming is all zones and call responses "ON". (NOTE: The call type "FAULTS" in this menu refers to "COMM", "LAMP" and "CODE" faults.)

3.25 SPECIFY PAGER SYSTEM AND STATUS

Toggles the event message location between printer and pager format. Repeat section 3.22, steps A - E, then perform the following:

- A. Select "Specify Pager System and Status" by pressing "1" on keypad.

PAGER STATUS	
Status: PAGING DISABLED	
# = save : 0 = off : 1 = Motorola : 2 = Scope	

Press "0" to "DISABLE PAGER OUT". Press "#" to save. Press "1" to "SELECT MOTOROLA®". Press "#" to save. Press "2" to "SELECT INTERPAGE™ (SCOPE)". Press "#" to save.

Protocols are as follows:

- Motorola® (comp 2 mode) 9600 BAUD, 8 bits, no parity, 1 stop bit
- Interpage™ (SCOPE) 9600 BAUD, 8 bits, no parity, 1 stop bit

3.26 ASSIGN PAGER TO ROOM

Assigns room numbers to pagers on system. Any or all of the 32 pagers can be assigned to each room number.

- A. Select "Assign Pager to Room" by pressing "5" on keypad.

```

PAGER ROOM ASSIGNMENTS

. . . . .
. . . . .
. . . . .
. . . . .
. . . . .
. . . . .
. . . . .
. . . . .
. . . . .
. . . . .

Room and Bed No. _____

* = menu : # = enter : enter room ID
    
```

Enter a valid room number and ID and then press the "#". All available pagers will be displayed (see next menu).

```

PAGER ROOM ASSIGNMENTS

400. 408. 416. 424. 432. 440.
401. 409. 417. 425. 433. 441.
402. 410. 418. 426. 433. 442.
403. 411. 419. 427. 434. 443.
404. 412. 420. 428. 435. 444.
405. 413. 421. 429. 436. 445.
406. 414. 422. 430. 437. 446.
407. 415. 423. 431. 438. 447.

Room and Bed No. 8101-1

# = down : 0 = up : 1 = toggle status : 2 = save
    
```

After you have entered valid room number and ID, you can select which pagers you want to be assigned to that room. Press "*" to scroll up or "#" to scroll down to the specific pager number, then press "1" to toggle on or off. A "." next to the pager number indicates not selected, "x" next to the pager number indicates that it is selected. Press "2" to save.

3.27 EXECUTE A PAGE

By entering a pager number and then selecting "0-9", a message can be sent to the specific pager number. Up to 50 messages are predefined, 10 messages are displayed at a time. (An extension of up to 6 characters can be added at the end of each message.)

- A. Select "Execute a Page" by pressing "6" on keypad.

```

PAGER EXECUTION MENU

0)
1)
2)
3)
4)
5)
6)
7)
8)
9)

Pager ID No. _____ Ext. _____

* = abort : enter pager no.
    
```

Enter a valid pager ID number. The first group of 10 messages will be displayed (see next menu).

```

PAGER EXECUTION MENU

0) Agonal Rhythm
1) Cardiac Arrhythmia
2) Chest Pain/SOB
3) Stat Call
4) Leads off Monitor
5) Replace Battery
6) Call Ext. - Ext #
7) Go to Telemetry Sta.
8) Nurse needed at desk
9) Keys Side one

Pager ID No. 400 Ext. _____

enter Ext. press # when finished
    
```

Enter extension or room number, press # sign.

```

PAGER EXECUTION MENU

0) Agonal Rhythm
1) Cardiac Arrhythmia
2) Chest Pain/SOB
3) Stat Call
4) Leads off Monitor
5) Replace Battery
6) Call Ext. - Ext #
7) Go to Telemetry Sta.
8) Nurse needed at desk
9) Keys Side one

Extension entered is xxx

select message to send or reset = cancel
    
```

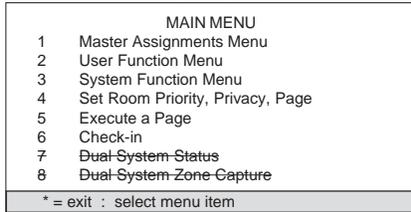
Select the message to send by pressing "0-9". Message will be sent immediately. If the message that you wish to select is not displayed, press "*" to scroll down to the next set of 10 messages, or press "*" to scroll up to the previous 10 messages. Press "RESET" to exit or cancel.

3.28 CHECK-IN TIMES

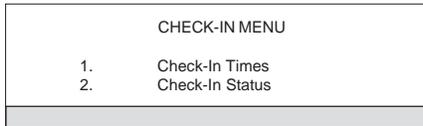
This function allows personnel to program check-in start-time and end-time. During the check-in times the check-in button located on IR345C Station becomes active.

If the HC345C System is connected to a printer, then when the check-in button is depressed on the IR345B/C station, a check-in event will be printed indicating time, date, and room number. (Note: Default start and end times are 00:00.) Follow the procedure below to program the check-in times:

- A. Press "MENU" (blue) button.



- B. Select "Check-In" by pressing "6" on keypad.



- C. Select "Check-In Times" by pressing "1" on keypad.

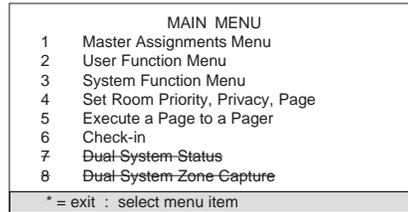


- D. Enter the start-time and end-time desired for Check-In period. (Note: Use Military Time.)
- E. For "UPDATE? (1=yes/0=no)" prompt, enter "1" to update or "0" to cancel changes. (Note: Default times are 00:00.)

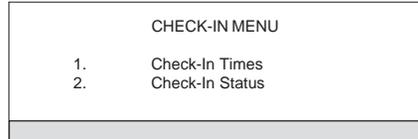
3.29 CHECK-IN STATUS

The Check-In Status function turns status of Check-In IR345B/C station ON or OFF. (Example: Room not in use or patient on vacation.) Follow the procedure listed below:

- A. Press "MENU" (blue) button.



- B. Select "Check-In" by pressing "6" on keypad.



- C. Select "Check-In Status" by pressing "2" on keypad.

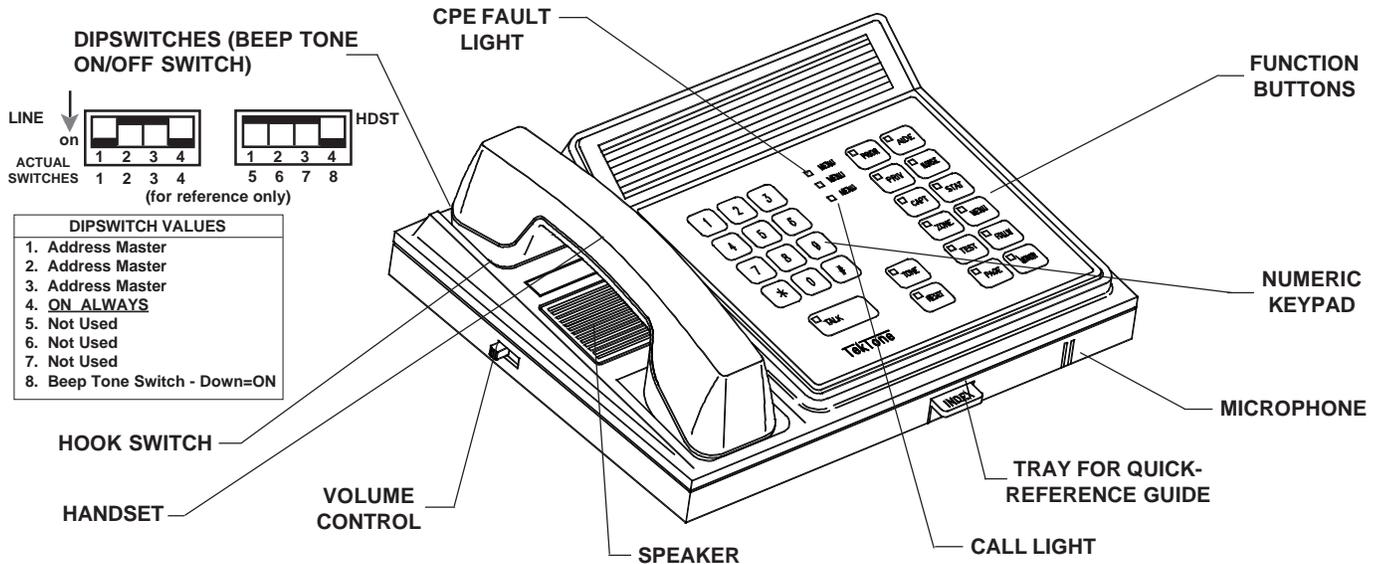


- D. Enter Valid Room Number and press "3" key. If invalid room number is entered, "Bad #" will be displayed.
- E. Enter "1" for Status to activate room number or "0" for Status to deactivate room number.
- F. Enter "#" to save and continue, or "*" to exit to menu.

4.0 SYSTEM OPERATING INSTRUCTIONS

The following section provides complete operating information for all HC345C System Equipment in addition to drawing references for use in locating and describing all controls and indicators. System operators should read the following operating instructions concerning system equipment and terms used in conjunction with the equipment.

Figure 9—NC303 Controls and Indicators



4.1 NC303 MASTER STATION & NC313, NC315 MONITOR

Refer to Figure 9 for locations, names, and functions of controls and indicators. A brief description of the operating controls for the NC303 follows.

Handset: The handset is used to provide confidential conversation when loudspeaker communication is not desired and when master-to-master communication is necessary, or to permit conversation when high ambient noise is present. To use, simply pick up handset.

Volume Control: The volume control permits adjustment of the incoming voice communication. It may also be used to reduce the level of the tone signal during quiet periods of operation.

Function Buttons: These buttons select the most-used system functions and are described below.

RESET (black)	: Terminates most operations.
AIDE (yellow)	: Enters an aide service request. Display is at master only.
NURSE (green)	: Enters a nurse service request. Display is at master only.
FOLLOW (orange)	: Initiates nurse follower operations. LED lights while nurse follower is in use.
STAT (red)	: Clears NCI (not checked-in) signal.
MENU (blue)	: Displays the system menus and permits selection of less used functions.
MONITOR (blue)	: Displays MENU for entering room numbers of areas to be monitored.
CAPTURE (blue)	: Displays MENU for reassignment of MASTER'S Zones.
PRIVACY (blue)	: Displays MENU for setting ROOM PRIVACY status.
VIEW (blue)	: Displays VIEW REMOTE STATIONS MENU.
PRIORITY (blue)	: Displays menu for setting ROOM PRIORITY status.
TONE ON (lt. gray)	: Turns ROUTINE call tone on or off. LED illuminated.
STATUS (red)	: Resets NCI status

Tone signals are as follows:

High Priority:	FAST REPEATING TONE
Medium Priority:	SLOW REPEATING TONE
Low Priority:	ONE TONE REPEATED EVERY 8 SECONDS
CPE Fault Priority:	STEADY TONE

Beep Tone Switch: Beeps when function keys and keypad numbers are pressed. It is dipswitch # 8. Place switch down to turn "ON".

Call Light: The call light flashes slowly for low priority calls, flashes at a medium rate for medium priority calls, and flashes at a fast rate for high priority calls.

CPE Fault Light: The fault light is steadily illuminated when failure of the central processing equipment (CPE) is detected.

Numeric Keypad: The numeric keypad is used for entry of station numbers, for zone and station selection, and for other programming functions.

Speaker: The speaker is used for listening to remote stations and for call tones.

Microphone: The microphone is used for talking to remote stations.

Hook Switch Option: The hook switch activates or terminates handset operation.

Tray: Tray holds Quick-Reference Guide of system operations.

TROUBLE: Station indicates a fault in the wiring to one or more patient stations or a defective patient station. The specific station room number will be displayed on the video screen with “COMM FAULT” indication. (NOTE: If a fault occurs to several stations at the same time, it indicates a probable wiring fault at the station nearest the CPE and showing a fault.)

COMM FAULT (see above) indicates the following possible conditions:

- Common wiring to station open, shorted or grounded.
- Defective station.

LAMP FAULT (with associated room number) indicates the following possible conditions:

- Dome lamp bulb defective or not in socket.
- Wires from dome light to patient station open.
- Common wiring to station or dome light open or shorted.
- Defective patient station.
- Lamp fault jumper not installed on patient station (always installed except when LI384A Dome Light is used).

TROUBLE: FAN indicates a fault in the cooling fan circuit in the CPE, which may result in overheating and system failure. Contact qualified maintenance personnel.

TROUBLE: MASTER STATION indicates a fault in the wiring to one of the master stations or a defective master station. The affected master station will be unable to operate. “FAULT” will appear in call window for master station specified.

TROUBLE: DSN indicates DSN communication link problems.

CPE FAULT indicates CPE failure. CPE light at master station will remain on steady.

Other Calls:

AIDE: Displays the room numbers where an aide is registered present, or where an aide is required.

NURSE: Displays the room numbers where a nurse is registered present, or where a nurse is required.

Call Window: Displays the currently selected call for one master station.

NURSE FOLLOW: ON: Indicates when Nurse Follower is active.

TONE: OFF: Indicates routine call tone “OFF”.

OPERATION

4.1-1 ANSWER A CALL AUTOMATICALLY

1. Press the “TALK” (white) button or pick up the handset. The call tone will be silenced and communications established to the room corresponding to the room number appearing in the call window. If pre-announce call tones are “ON,” a one second tone will be heard at master and room station when “TALK” button is first pressed.

2. To cancel, press the “RESET” (black) button or hang up handset. Medium, High Priority, and Personal Attention Calls must be reset at the point of origin.

4.1-2 ANSWER A CALL SELECTIVELY

1. Enter the room number on the keypad, followed by the “#” key. The room number will appear in the call window. If an incorrect call number is entered, press “RESET” (black) button and try again.
2. Press the “TALK” (white) button while speaking and release to listen. If the handset is being used, it is not necessary to press the “TALK” button while speaking. The call tone will be silenced during communication. If pre-announce call tones are “ON”, a one second tone will be heard at master and room station when “TALK” button is first pressed.
3. To cancel, press the “RESET” (black) button or hang up handset. Medium, High Priority, and Personal Attention Calls must be reset at the point of origin.

All calls may be answered in the same manner, either automatically or selectively. When a call is placed to the master station, a tone signal will be heard and the call number, room/bed number, and call type will be displayed. High, medium, and low priority calls generate distinctive signals as previously described.

Calls proceed by priority and time of origin. A higher priority call will replace a lower priority call by position on the call screen. The call window will display the room number with which current communications are established. As calls are answered, calls waiting (if any) will appear on the call screen in order of priority.

If a high or medium priority call is placed while a master station is in communication with another station, the “TALK” function with the current low priority call will only be active for 8-10 seconds, then the current call will be placed on hold, and the higher priority call will automatically be dropped into master box. “TALK” must be pressed to connect audio. Once the higher priority call is reset, the lower priority call is automatically dropped into master box and “TALK” must be pressed again to connect audio.

4.1-3 PLACE A CALL

1. Dial the desired room number on the keypad, followed by the “#” key. The numbers will appear in the call window as they are entered. If “BUSY” appears in the call window, the station or circuit is in use. Continue when the “BUSY” disappears.
2. Press the “TALK” (white) button or pick up handset. If pre-announce call tones are “ON”, a one second tone will be heard at master and room station when “TALK” button is first pressed.

3. Press the “TALK” (white) button while speaking and release to listen. If the handset is being used, it is not necessary to press the “TALK” button while talking.
4. To cancel, press the “RESET” (black) button, or hang up handset.

Calls may be placed to occupant, patient, staff, or duty stations in the same manner regardless of calls waiting. (NOTE: If a patient station is in privacy mode, no audio can be heard at the calling master from that station. Privacy does not affect calls initiated from the patient station.)

4.1-4 PLACE A CALL TO ANOTHER MASTER STATION

1. Dial the desired master station number (01 - 08) on the keypad. The numbers will appear in the call window as they are entered. If an incorrect master station number is entered, press “RESET” (black) button and try again.
2. Pick up the handset to talk.
3. To cancel, press the “RESET” (black) button or hang up handset at either the calling or called master.

If the called master station is in communication with another station, no visual or audible signals will be generated. Try again later. If master stations are in communication, each can discontinue communications in order to respond to another station by pressing “RESET” (black) button. Incoming high priority calls automatically cancel master-to-master communication. If a medium or low priority call zoned for a master comes in while master-to-master communication is taking place, the call can be answered by pressing the “RESET” key and “TALK” key to initiate communication.

4.1-5 REQUEST NURSE/AIDE SERVICE

1. Select the room number as for communications.
2. Press the “NURSE” (green) or “AIDE” (yellow) button. The room number will flash in the “NURSE” or “AIDE” area on the screen, depending on service requested. If desired, communication may be established with the station to inform them assistance has been requested.
3. Press the “RESET” (black) button to cancel call. This does not affect the nurse service request. Nurse or aide service may also be requested when the call is initiated at the patient station. This is accomplished as talk functions are initiated by pressing the “NURSE” or “AIDE” key as desired, then pressing reset.

4.1-6 CANCELNURSE/AIDESERVICE

1. Repeat the above procedure to cancel nurse or aide service request. (NOTE: If the room number still appears in the call window, it does not need to be selected again.)

When a service request is made, the system will continue visual signaling until a nurse or aide presses the reset button in the room.

If a service request overtime call is placed, the call cannot be canceled from the master. The call only can be canceled at the patient station.

4.1-7 PAGE A ZONE

1. Press the “PAGE” (gray) button.
2. Enter the desired zone number (01 - 08) on keypad. “PAGE” will appear in the call window. If “BUSY” appears, the page is in use by another master station in communication with the same circuit.
3. Press the “TALK” (white) button while speaking or pick up handset.
4. Press the “RESET” (black) button or hang up handset when finished.

4.1-8 PAGE A ZONE ACROSS DSN

1. Press the “PAGE” (gray) button.
2. Enter the desired zone number (11-18) on keypad. “PAGE” will appear in the call window. If “BUSY” appears, the page is in use by another master station in communication with the same circuit.
3. Press the “TALK” (white) button while speaking or pick up handset.
4. Press the “RESET” (black) button or hang up handset when finished.

4.1-9 PAGE ALL ASSIGNED ZONES

1. Press the “PAGE” (gray) button.
2. Press the “TALK” (white) button while speaking or pick up handset. If “BUSY” appears, the circuit is in use by another master. Try again later.
3. Press the “RESET” (black) button or hang up handset when finished.

4.1-10 PAGE ALL STATIONS ON SYSTEM

1. Press the “PAGE” (gray) button.
2. Press “09” on the keypad.
3. Press the “TALK” (white) button while speaking or pick up handset. If “BUSY” appears, the circuit is in use by another master. Try again later.
4. Press the “RESET” (black) button or hang up handset when finished.

Paging establishes master station communication to stations, other than masters, to which it has been previously assigned. If a specific zone is not selected after pressing the “PAGE” (gray) button, an ALL CALL is initiated when the “TALK” (white) button is pressed and the page will be heard by all stations zoned to the paging master. If “09” is selected after pressing the “PAGE” (gray) button, paging is heard at all stations on the system. Only one master at a time, per system, may be in ALL CALL paging communications. On another master attempting an ALL CALL PAGE, the display will indicate “BUSY” when one master already is in an ALL CALL PAGE mode. If a master station is assigned to all zones, no routine communication is possible anywhere on the system while it is in ALL CALL.

(NOTE: Paging communication is two-way unless the number of stations paged per port exceeds 30. Two-way paging may be used to monitor pre-assigned zones, or individual stations may be assigned to any unused zones for monitoring purposes. See System Configuration Section 3.1 for Programming Station Zone Assignments. ALL CALL feature not available across DSN.)

4.1-11 ENABLE ROOM MONITORING

1. Press “MENU” (blue) button, then press “5” Room Monitoring, ~~or~~ press “MONITOR” (blue) button.
2. If room numbers given are correct, press “TALK”.
3. If room numbers are not correct, enter valid room numbers, then press “#” key. If invalid room number is entered, display will show “not found: re-enter”. If wrong number is entered, enter the correct one, or press “*” to clear the number. Up to 10 rooms can be monitored at one time. An incoming call will cancel the monitor function .

4.1-12 USE NURSE/AIDE FOLLOWER

To send call tones to a specific room, select the room for communications, then press the “NURSE/AIDE FOLLOWER” (orange) button.

Only one master at a time may use nurse follower for masters assigned to the same zone. No restrictions apply for masters assigned to different zones.

4.1-13 OPERATE RADIO PAGER

The pager software provides the capability of selectively sending event messages to radio pagers. Up to 48 Radio Pagers can be supported, each uniquely identified by a 3-digit number. Pagers can be assigned to receive messages both by zone of origin and by call type. Pager assignments are user-programmable from the menu system.

The HC345C Software, Version 4.04.4 or higher (or optional NC363 for printer and pager at the same time), is designed to operate with Radio Pagers using the available printer/pager port as the connecting port. The HC345C Software, Version 4.04.4 or higher, may be configured for use with pagers or a line printer. The event message format may be toggled between pager and printer format from the menu system. Up to 48 pagers may be in use at any one time, and each of these may be individually programmed to receive only the specific types of calls desired. (NOTE: Default for message format is “Printer”. Since printer and pager event formats differ, the event message format should be checked and set for desired configuration.)

See System Programming, Sections 3.22 - 3.27 for complete instructions on how to program and operate pagers.

4.2 IR301-, IR302-, IR311- and IR312-SERIES PATIENT STATIONS

Refer to Figures 11 through 14 for locations, names, and functions of controls and indicators. A brief description of the operating controls for patient stations follows.

Reset Switch/In-Use Light: The reset button is used to cancel a call placed from the station. The light illuminates whenever communications to the master station is engaged.

Call-Placed Light: The call-placed light is steadily illuminated whenever a call is placed from the station. The light flashes when a medium or high priority call is placed from any emergency-type station associated with the patient station.

Call Cord Receptacle: There are two kinds of call cord receptacles. The rectangular type (found on the IR311-series and IR312-series stations) is for use with a pillow speaker or SF311/SF312 Call Cords. The round type (found on the IR301-series and IR302-series stations) is for use with a call cord (SF301, SF302). Single bed stations (IR301-series and IR311-series) have one call cord receptacle; dual bed stations (IR302-series and IR312-series) have two. Refer to Figures 15 and 16 for locations, names, and functions of controls and indicators.

Speaker/Microphone: The speaker/microphone is used for voice communications and tone signaling. Due to the high sensitivity of the microphone, it is not necessary for the patient to move close to the unit or to raise the voice above normal speaking level to be heard.

A. PLACE A CALL

Press call button located on end of call cord or press red call button indicated by nurse symbol on pillow speaker, or pull call cord on IR318/A depending upon type of station used, until the call-placed light flashes. A call will automatically be placed if call cord or pillow speaker is pulled from its receptacle.

B. REPLY TO A CALL

Reply in a normal voice when spoken to. (NOTE: For IR311-series or IR312-series Patient Stations utilizing PM311C or PM312C Pillow Speaker modules and SF301PI Series Pillow Speaker, communication with the master station will be heard through the pillow speaker. If the pillow speaker is removed from its receptacle during communication, press “RESET” (black) button, then “TALK” (white) button, and the audio will be transferred to the station speaker.)

C. CANCEL A CALL

Press the reset button until the call-placed light is extinguished. Calls from emergency-type stations associated with the patient station must be canceled at the point of origin. To cancel a call resulting from the removal of the call cord or pillow speaker, replace the jack in the receptacle.

D. SELECT TELEVISION CHANNELS:

For models IR311-series and IR312-series only when used with SF301P Series Pillow Speaker, press button indicated “TV”. If TV is off, pressing this button will turn it on. Continue pressing until desired channel is reached. TV is turned off when channel “OFF” on TV is selected. Volume control adjusts TV volume only.

Figure 11—IR301-series Single Patient Station

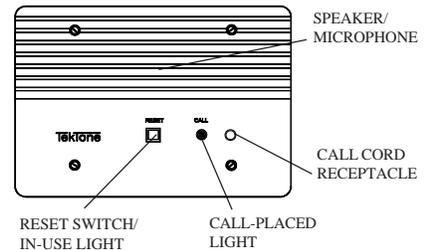


Figure 12—IR302-series Dual Patient Station

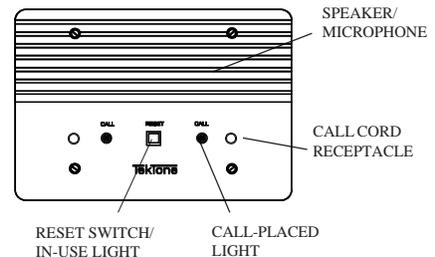


Figure 13—IR311-series Single Patient Station

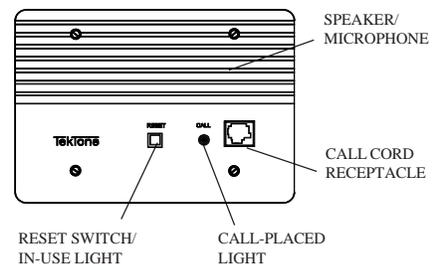


Figure 14—IR312-series Dual Patient Station

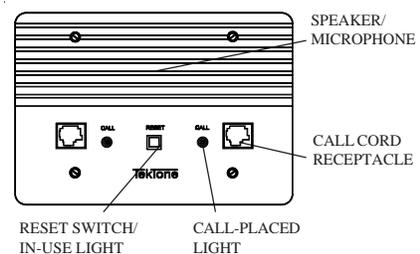
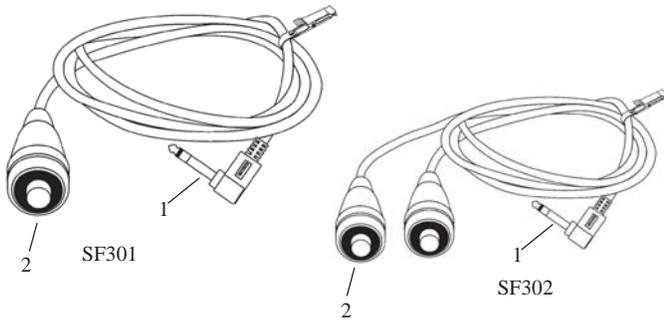
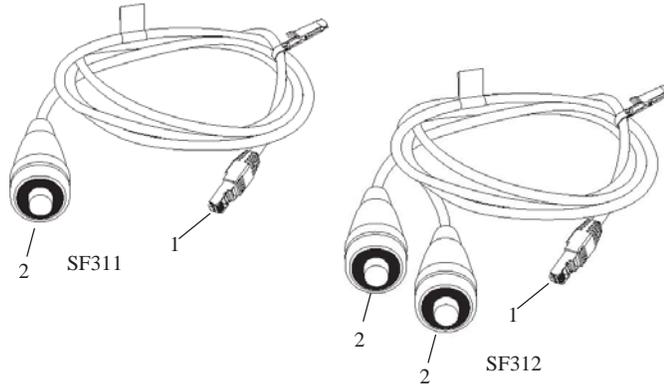


Figure 15—Call Cords

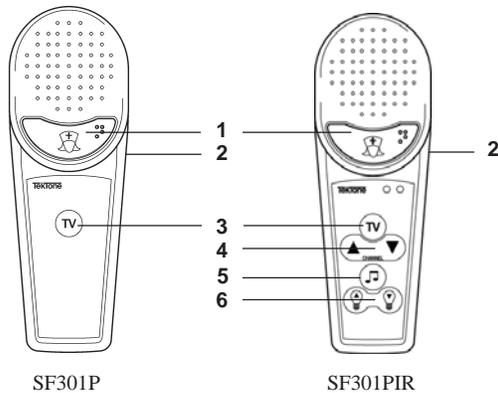


1. **Plug:** Connects call cord to patient station when plugged into call cord jack.
2. **Push Button:** Places call when pressed, if cord is connected to patient station.



1. **Plug:** Connects call cord to patient station when plugged into modular jack.
2. **Push Button:** Places call when pressed, if cord is connected to patient station.

Figure 16—Pillow Speakers



1. **Nurse Push Button:** Places a call when pressed, if cord is connected to patient station.
2. **Volume Control:** Controls volume for TV and radio only.
3. **TV Push Button:** Turns TV on/off and changes channels when pressed, if cord is connected to patient station.
4. **TV Channel Up/Down:** Changes channels when pressed.
5. **Radio Push Button:** Controls 4-channel radio selection and radio on/off.
6. **Lights On/Off:** Turns room lights on/off.
7. **Plug:** Connects pillow speaker to patient station when plugged into modular call cord jack. (not shown)

4.3 IR345B/C OCCUPANT HELP STATION

Refer to Figure 17 for locations, names, and functions of controls and indicators. A brief description of the operating controls for the stations follows.

Call Button/Call Light: The call button is used to place routine calls from the station. Call light will remain on until the reset button is pressed. **Note:** If station shunt is set to place a monitor call (refer to *Figure 45—IR345B/C, IR145B Occupant Help Station Wiring Diagram*), pushing the call button will cause the check-in/reset button to flash. Press the reset button to clear.

Call Cord: The call cord is used to place a call for help from the station.

Reset/Check-in Light: The reset/check-in light steadily flashes whenever a help call is placed from the station or an associated IR145B Remote Occupant Help Station. The light is momentarily illuminated when the station check-in button is depressed. The light also flashes when a medium or high priority call is placed from any emergency-type station associated with the IR345B/C.

Reset/Check-in Button: The reset/check-in button is used to register the resident as “checked-in” at the system master station. The check-in button must be depressed during the established check-in time, or the resident’s room number will be registered on the NCI list at the master station. The button is also used to reset routine and help calls from the station.

Speaker/Microphone: The speaker/microphone is used for voice communications and tone signaling. Due to the high sensitivity of the microphone, it is not necessary for the resident to move close to the unit or to raise the voice above a normal speaking level to be heard.

In Use Light: In use light is on when the station is communicating with the master.

A. PLACE A CALL

Pull on the attached 6' long call cord labeled “PULL FOR HELP”.

B. REPLY TO A CALL

Reply in a normal voice when spoken to.

C. CANCEL A CALL

Push the reset button as indicated by “RESET”. Calls may be reset only at the point of origin.

D. REGISTER CHECK-IN

Push the check-in button indicated “CHECK-IN” until the reset/check-in light is illuminated, then release.

E. CLEAR "NCI" CALL

Place a call to verify the tenant is up and about. Press the “STAT” button and then press reset or hang up the handset.

Figure 17—IR345B/C Occupant Help Station

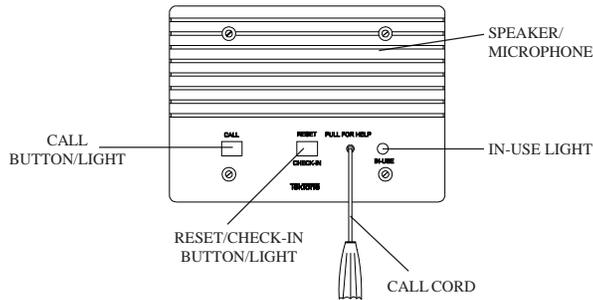


Figure 19—IR310-series Staff Station

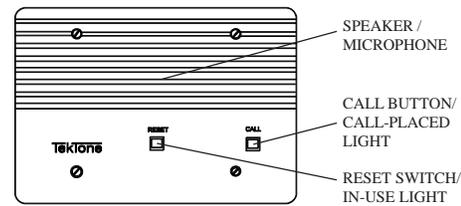


Figure 18—IR145B Remote Occupant Help Station

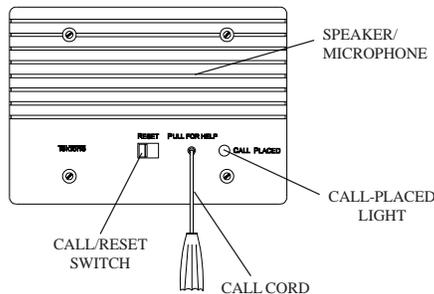
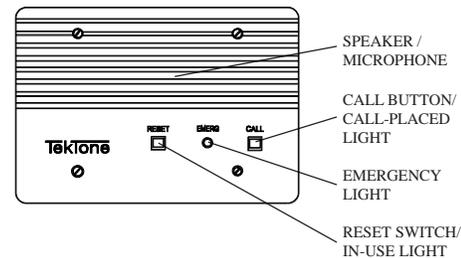


Figure 20—IR315-series Duty Station
(code stations *cannot* be wired to duty stations)



4.4 IR145B REMOTE OCCUPANT HELP STATION

Refer to Figure 18 for locations, names and functions of controls and indicators. A brief description of the operating controls for the station follows:

Call/Reset Switch: The call/reset switch is used to place and cancel a call from the station.

Call-Placed Light: The call-placed light steadily flashes whenever a call is placed from the station.

Speaker/Microphone: The speaker/microphone is used for voice communications and tone signaling. Due to the high sensitivity of the microphone, it is not necessary for the resident to move close to the unit or to raise the voice above a normal speaking level to be heard.

A. PLACE A CALL

Pull on the attached 6' long call cord labeled "PULL FOR HELP".

B. REPLY TO A CALL

Reply in a normal voice when spoken to.

C. CANCEL A CALL

Push call switch to the left as indicated by "RESET." Calls may be reset only at the point of origin.

4.5 IR310-series STAFF AND IR315-series DUTY STATIONS

Refer to Figures 19 and 20 for locations, names, and functions of controls and indicators. A brief description of the operating controls for the staff and duty stations follows.

Reset Switch/In-Use Light: The reset button is used to cancel a call placed from the station. The light illuminates whenever communications to the master station is engaged. On the duty station only, the reset button may be used to silence the tone signal for low priority calls. Medium and high priority tone signals cannot be silenced. The tone will return only after all low priority calls have been canceled, or a medium or high priority call is placed.

Call Button/Call-Placed Light: The call button is used to place a call to the master. The light illuminates when a call is placed. The call light flashes when an emergency call is placed from any emergency-type station associated with the staff or duty station.

Emergency Light: **On the duty station only**, the light alternately flashes with the call-placed light to indicate a medium or high priority call as described below.

Priority Signals: **On the duty station only**, whenever a call is placed anywhere in the zone served by the duty station, one of the following occurs:

Low Priority Calls - The call-placed light illuminates and one tone repeated every 8 seconds is heard from the speaker.

Medium Priority Calls - The emergency light and call-placed light alternately flash and a slow, repeating tone is heard from the speaker.

High Priority Calls - The emergency light and call-placed light alternately flash at twice the rate of medium priority calls and a fast repeating tone is heard from the speaker.

System Stat Priority - The emergency light and call-placed light alternately flash and a fast, repeating tone is heard from the speaker.

Speaker/Microphone: The speaker/microphone is used for voice communications and tone signaling. Due to the high sensitivity of the microphone, it is not necessary to raise the voice above normal speaking level to be heard.

- A. PLACE A CALL**
Press the call button until the call-placed light illuminates.
- B. REPLY**
Reply in a normal voice when spoken to.
- C. CANCEL A CALL**
Press the reset button until the call-placed light is extinguished. Calls from emergency-type stations associated with the staff or duty station must be canceled at the point of origin.

4.6 IR316 PSYCHIATRIC STATION

Refer to Figure 21 for locations, names, and functions of controls and indicators. Refer to Figures 34 and 35 for wiring outputs provided for dome light indication. A brief description of the operating controls for the IR316 follows.

Reset Button/In-Use Light - The reset button cancels a call to the master station, and cancels the yellow in-use light on the panel.

Key Switch - The centrally located key switch is used to place and reset placed calls. The key switch does not deactivate the speaker/microphone (IR019C) station.

Call-Placed Light - The yellow LED illuminates to indicate call placement.

- A. PLACE A CALL**
Place the key in the key switch and turn to the on position. The call light will illuminate.
- B. CANCEL A CALL**
Turn the key to the off position and press the reset switch.

4.7 SF341B CODE CALL STATION

Refer to Figure 22 for locations, names, and functions of controls and indicators. Refer to Figures 34 and 35 for wiring outputs provided for dome light indication. A brief description of the operating controls for the SF341B follows.

Code Pull-Down Lever: The code pull-down lever is used to place and reset code priority calls.

Call-Placed Light: The red LED flashes to indicate call placement.

- A. PLACE A CALL**
Pull down on the blue lever.
- B. CANCEL A CALL**
Push the blue lever to the “UP” position. Calls may be reset only at point of origin.

4.8 SF336/SF338 STAFF EMERGENCY PSYCHIATRIC STATIONS

Refer to Figure 23 for locations, names, and functions of controls and indicators. Refer to Figures 34 and 35 for wiring outputs provided for dome light indication. A brief description of the operating controls for the SF336/SF338 follows.

Staff Assist Button: Depressing the centrally located push button enables all emergency signals, only after activation of the key switch located on the associated IR316 Psychiatric Station.

Cancel Button: The red call-placed button flashes to assure a call has been properly placed. Call cancellation is only possible at point of origin. (NOTE: The SF338 does not have a Cancel Button. Call cancellation is only possible at IR316.)

Figure 21—IR316 Psychiatric Station

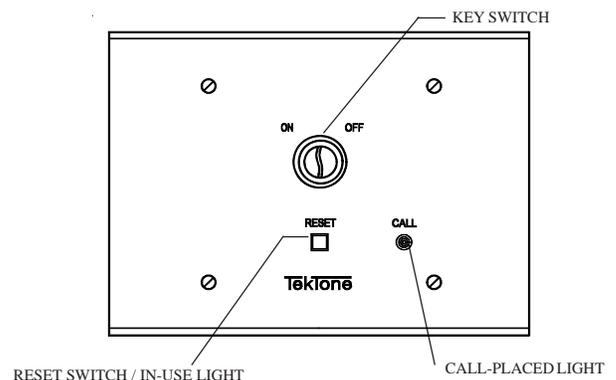
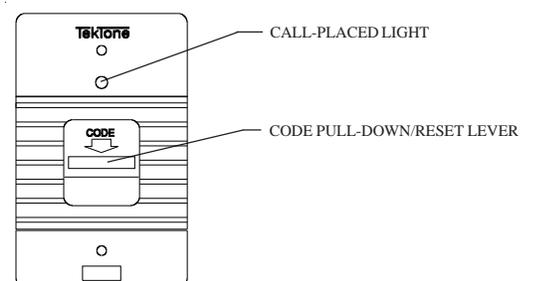


Figure 22—SF341B Code Call Station



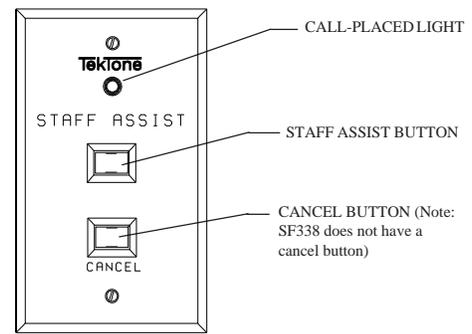
A. PLACE A CALL

Turn key to “ON” position on associated IR316. Then push centrally located staff assist button on the SF336. A red call-placed indicator on the SF336 flashes to assure a call has been placed.

B. CANCEL A CALL

Turn key to “OFF” position on associated IR316. Then either push the cancel button on the SF336, or turn the key on the IR316 to the “OFF” position if call originated from an SF338.

Figure 23—SF336/SF338 Staff Emergency Psychiatric Stations



4.9 SF337C PULL /PULL CORD WATER RESISTANT SHOWER EMERGENCY CALL STATION

Refer to Figure 24 for locations, names, and functions of controls and indicators. Refer to Figures 34 and 35 for wiring outputs provided for dome light indication. A brief description of the operating controls for the SF337C follows.

Emergency Pull-Down Lever: The emergency pull-down lever is used to place and cancel bath priority calls.

Call-Placed Light: The red LED flashes to indicate call placement.

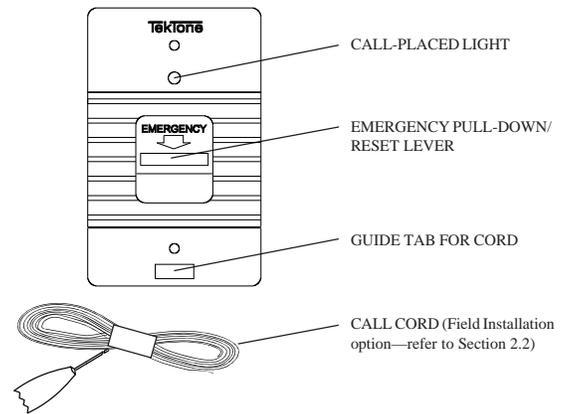
A. PLACE A CALL

Pull on the red lever or pull down on the attached 7' nylon cord.

B. CANCEL A CALL

Push the red lever to the “UP” position. Calls may be reset only at point of origin.

Figure 24—SF337C Shower Emergency Station



4.10 SF340B PULL /PULL CORD EMERGENCY CALL STATION

Refer to Figure 25 for locations, names, and functions of controls and indicators. Refer to Figures 34 and 35 for wiring outputs provided for dome light indication. A brief description of the operating controls for the SF340B follows.

Emergency Pull-Down Lever: The emergency pull-down lever is used to place and cancel “EMERGENCY” and “BATH” calls.

Call-Placed Light: The red LED flashes to indicate call placement.

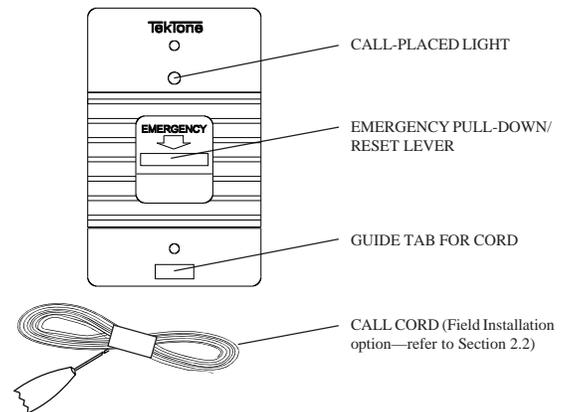
A. PLACE A CALL

Pull on the red lever or pull down on the attached 7' nylon cord.

B. CANCEL A CALL

Push the red lever to the “UP” position. Calls may be reset only at point of origin.

Figure 25—SF340B Emergency Station



4.11 LI380,LI384A,LI386-series DOME/ZONE LIGHTS

The LI380, LI384A and IL386-series Dome/Zone Lights provide for local indication of call origin, call priority and staff presence. A brief description of LI380, LI384A and IL386-series operation follows. (NOTE: Model LI384A is a Supervised Dome Light. In case of LI384A fault, "LAMP FAULT" will be indicated at the master station.)

Lights: The red, green, yellow and white lights are used to indicate call priority and staff presence. When used in association with any room station, all calls originated from that room will be indicated by light signal(s) as described below. When used as a zone light, with an IR315B Duty Station or LI386-series, all calls originated from the zones to which the duty station is assigned will be indicated by light signal(s) as described below.

LAMP INDICATION

High Priority: CODECALL - Alternately flashing red/white
 FIRE - Red flashing (supplementary only)
 EMERGENCY - White flashing
 STAT SERVICE REQUEST- Alternating
 flashing green/yellow (unavailable with
 IR345B/C Station)

Medium Priority: MONITOR - Red flashing
 HELP - White flashing
 CORD OUT - White flashing
 PRIORITY - White flashing
 NURSE SERVICE REQUEST - Green
 flashing (unavailable with IR345B/C
 Station)
 AIDE SERVICE REQUEST - Yellow
 flashing (unavailable with IR345B/C
 Station)

Low Priority: STAFF - White steady
 DUTY - White steady
 PERS. ATTN. - White steady
 ROUTINE - White steady
 NURSE PRESENT - Green steady
 (unavailable with IR345B/C Station)
 AIDEPRESENT - Yellow steady (unavailable
 with IR345B/C Station)

System Status: COMM. FAULT - No dome light indication
 CODE FAULT - No dome light indication
 LAMP FAULT - Red, yellow, or green light
 out - white light flashing on LI384A

High Priority: FAST REPEATING FLASH
Medium Priority: SLOW REPEATING FLASH
Low Priority: STEADY LIGHT

5.0 SYSTEM MAINTENANCE INSTRUCTIONS

The following section provides information regarding HC345C System user serviceable parts and their replacement. Any equipment not listed in this section is not user serviceable and should not be replaced or repaired by other than qualified service personnel.

5.1 NC303 MASTER STATION

A. Defective Handset Replacement:

1. To remove handset from cord, grip end of modular plug on cord firmly and squeeze until cord is easily pulled away from handset.
2. To replace handset, hold end of plug on the cord, squeeze and push straight into receptacle on handset. Release and plug will click into place.
3. To test handset, place a call to a patient station and establish communication using the handset.

5.2 IR301-series, IR302-series PATIENT STATIONS

A. Defective Call Cord Replacement:

1. To remove call cord, grip end of plug firmly and pull straight away from station.
2. To replace call cord, hold by end of plug and push straight into call cord jack on station.
3. To test call cord, initiate a call. Call-placed light should illuminate. Push the reset button to cancel call.

5.3 IR311-series, IR312-series PATIENT STATIONS

A. Defective Call Cord/Pillow Speaker Replacement:

1. To remove call cord, grip end of modular plug firmly and squeeze until cord can easily be pulled straight away from station.
2. To replace call cord, hold by end of plug, squeeze and push straight into the receptacle on station. Release and plug will click into place.
3. To test call cord, initiate a call. Call-placed light should illuminate. Push the reset button to cancel call.

5.4 LI380, LI384A, LI386-series DOME/ZONE LIGHTS

A. Defective Bulb Replacement:

1. To remove cover, grip firmly by sides and squeeze. Pull cover away from plate.
2. To remove bulbs, hold by glass part, push in and rotate, then pull straight away from metal socket.
3. Remove bulb covers and replace on new bulb.
4. To replace bulbs, hold by glass part and push in and rotate into socket.
5. To test lamps, place calls at all stations necessary to test all lamp combinations.
6. Replace cover.

(NOTE: Replacement of bulbs on LI384A Supervised Dome/Zone Lights will cause a "LAMP FAULT" indication at the master station until the bulb is replaced.)

5.5 REPLACEMENT PARTS

<u>Part No.</u>	<u>Description</u>	<u>Used For</u>
CA015K	pull cord kit	SF337C, SF340B, SF341B
LI028	lamp 28V	LI380, LI384A, LI386-series Dome/Zone Lights
SF301	call cord	IR301-, IR302-series Stations
SF302	dual call cord	IR301-, IR302-series Stations
SF301/10	10' call cord	IR301-, IR302-series Stations
SF302/10	dual 10' call cord	IR301-, IR302-series Stations
SF301P	pillow speaker	IR311-, IR312-series Stations
SF301PIR	pillow speaker with radio	IR311-, IR312-series Stations with PM311C/PM312C
SF311	call cord	IR311-, IR312-series Stations
SF311/10	10' call cord	IR311-, IR312-series Stations
SF312	dual call cord	IR311-, IR312-series Stations
TA030	handset	NC303 Master Stations

6.0 TEST INSTRUCTIONS

The following section provides test instructions for determining correct system operation. Stations should be checked one at a time. Before proceeding with a system test, all stations should be set to normal conditions as follows:

NC303 Master Station: All function buttons should be in normal position (no LED indication). The call light should not be illuminated, the beep tone switch should be positioned down (dipswitch #8).

IR301-, IR302-, IR311-, IR312-series Patient Stations: Insert the appropriate call cord in each call cord receptacle. If the call-placed light is illuminated, press the reset button to cancel it. Station priority should be set for "ROUTINE" or "PERSONAL ATTENTION".

IR310-series Staff, IR315-series Duty Stations: If the call-placed light is illuminated, press the reset button to cancel it.

IR316 Psychiatric Station: If the call-placed light is illuminated, turn the key to the "OFF" position and press the reset button.

IR345B/C, IR145B Occupant Help Stations: If the pull-cord has been pulled, reset the station by pushing the check-in/reset button on the IR345B/C or pushing the call/reset switch to the left on the IR145B.

SF336/SF338 Staff Emergency Psychiatric Station: If the call-placed light is flashing, reset by turning the key on the IR316 to the "OFF" position.

SF337C Pull/Pull Cord Waterproof Shower Emergency Call Station: If the red pull-down lever has been pulled, reset the call by returning the lever to the "UP" position.

SF340B Staff Emergency: If the red pull-down lever has been pulled, reset the call by returning the lever to the "UP" position.

SF341B Code Call Station: If the blue pull-down lever has been pulled, reset the call by returning the lever to the "UP" position.

6.1 IR301-, IR302-, IR310-, IR311-, IR312-series PATIENT/STAFFSTATIONTESTPROCEDURE

- A. Initiate a call on each patient or staff station as described in System Operating Section 4.0. On dual stations, both circuits should be tested. The chart provided for listing assigned room numbers should be filled in at this time.

Check for following at patient stations:

1. Call-placed light steadily illuminated.
2. Dome light (white lamp) on steady.

Check for following at master station:

1. Call light flashes every 8 seconds.
2. Tone signal every 8 seconds.
3. Call information appears on call screen with call priority as follows:

IR301-, IR302-series, IR311-, IR312-series: IR310-series:	Routine or Personal Attention Staff
---	---

Check for following at duty station in the same zone:

1. Call-placed light steadily illuminated.
2. Tone signal every 8 seconds.
3. Dome light (white lamp) on steady.

- B. Test intercom function from master station by pressing "TALK" (white) button as previously described.

Check for following at patient/staff stations:

1. Call-placed light steadily illuminated.
2. Reset/In-Use light steadily illuminated (dimly with SF301PI Series).
3. Dome light (white lamp) canceled.

- C. Press Reset/In-Use Button.

Check for following at all stations:

1. All signals canceled.

- D. Change station call priority to "PRIORITY" and repeat above procedure.

Check for following at patient station:

1. Call-placed light slowly flashes.
2. Dome light (white lamp) slowly flashing.

Check for following at master station:

1. Call light slowly flashing.
2. Tone signal slowly repeating.
3. Call information appears on call screen with "PRIORITY" call priority.

Check for following at duty station in the same zone:

1. Call-placed light and emergency light alternately flashing.
2. Tone signal slowly repeating.
3. Dome light (white lamp) slowly flashing.

- E. Reset "PRIORITY" call at patient station.

Check for following at all stations:

1. All signals canceled.

- F. Remove call cord or pillow speaker from receptacle on patient station.

Check for following at patient station:

1. Call-placed light slowly flashing.

Check for following at master station:

1. Call-placed light slowly flashing.
2. Tone signal slowly repeating.
3. Call information displayed on call screen. Call priority indication is "CORD OUT".

Check for following at duty station in the same zone:

1. Call-placed light and emergency light alternately flashing.
2. Tone signal slowly repeating.
3. Dome light (white lamp) slowly flashing.

G. Replace call cord.

Check for following at all stations:

1. All signals canceled.

(NOTE: Calls may be placed from IR315B Duty Stations in the same manner as described above.)

H. Testing for a Deleted Station.

Place a call to the deleted room and check for the following:

1. There should be no tones, signals or communication links with the deleted station.

Delete a station and create a "COMM FAULT". Check for the following:

1. The room deleted does not appear on the list of rooms with "COMM FAULT" on the monitor.

Repair the "COMM FAULT" by plugging the cable back in and check for the following:

1. No message should appear on the monitor.

Create a "LAMP FAULT" by removing a bulb from the attached dome light (IL384A), then delete the station with the lamp fault. Check for the following:

1. "LAMP FAULT" should have appeared at the monitor and then disappeared when the station was deleted.

Add the station back and then repair the "LAMP FAULT". Check for the following:

1. "LAMP FAULT" should appear back on the monitor.
2. White lamp should be flashing.
3. Station call-placed light should be blinking.
4. All signals and tones should be repaired when the bulb is replaced.

Follow the same sequence as above for "CODE FAULT" and "CORD OUT".

Initiate a call from each of the following types of stations, one at a time:

1. Duty Station
2. Staff Station
3. Code Station
4. Bath Station
5. Emergency Station
6. Fire Station

7. Monitor Station
8. Check-In Station
9. Priority Station
10. Pers. Attn. Station
11. Routine Station

After initiating each call, delete that station before resetting the call. All calls and signals should disappear.

I. Testing for an Added Station.

Add each station deleted from the section above, one at a time. Check to see that all tones and signals associated with that station are restored. For example, for a routine station check for the following:

1. Call-placed light should be steadily illuminated at the patient station.
2. Dome light (white lamp) should be on and steady.
3. Call light at master station should slowly flash.
4. A tone should signal every 8 seconds at master station.
5. Call information should appear on the call screen with call priority.

6.2 IR345B/C OCCUPANT HELP STATIONS

- A. Initiate a call on each station as described in System Operating Section 4.0. The chart provided for listing assigned room numbers should be filled in at this time.

Check for following at stations:

1. Call-placed light slowly flashing.
2. Dome lamp (white) slowly flashing.

Check for following at master station:

1. Call light slowly flashing.
2. Tone signal slowly repeating.
3. Call information appears on call screen with call priority "HELP".

Check for following at duty station in the same zone:

1. Call-placed and emergency light alternately flashing.
2. Tone signal slowly repeating.
3. Dome lamp (white) slowly flashing.

- B. Test intercom function from master station by pressing "TALK" (white) button as previously described.

Check for following at stations:

1. Call-placed light slowly flashing.
2. Dome lamp (white) slowly flashing.

- C. Reset the call switch at each station.

Check for following at all stations:

1. All signals canceled.

- D. Test check-in function by pressing check-in button.

Check for following at patient station:

1. Check-in light illuminated while check-in button is depressed.

Check for following at master station:

1. Station number should NOT appear on NCI list following completion of established check-in procedure.

6.3 IR145B REMOTE OCCUPANT HELP STATIONS

- A. Initiate a call on each station as described in System Operating Section 4.0.

Check for following at stations:

1. Call-placed light slowly flashing.
2. Dome lamp (white) slowly flashing

Check for following at associated IR345B/C:

1. Call-placed light slowly flashing.

Check for following at master station:

1. Call light slowly flashing.
2. Tone signal slowly repeating.
3. Call information appears on call screen with call priority "HELP".

Check for following at duty station in the same zone:

1. Call-placed and emergency light alternately flashing.
2. Tone signal slowly repeating.
3. Dome lamp (white) slowly flashing.

- B. Test intercom function from master station by pressing "TALK" (white) button as previously described.

Check for following at stations:

1. Call-placed light slowly flashing.
2. Dome lamp (white) slowly flashing.

- C. Reset the call switch at each station.

Check for following at all stations:

1. All signals canceled.

6.4 NC303 MASTER STATION, NC313 & NC315 VIDEO MONITOR TEST PROCEDURE

- A. Initiate a call from each master station to a patient station as described in System Operating Section 4.0.

Check for following at master station:

1. Call number, room/bed ID number, call type appear on call screen. Room/bed ID number appears in call window.

- B. Press "TALK" (white) function button.

Check for following at master station:

1. "TALK" (white) button LED steadily illuminated.
2. Communications established.

Check for following at patient station:

1. Reset/In-use light steadily illuminated.
2. Call-placed light steadily illuminated.
3. Communications established.

- C. Press "RESET" (black) function button.

Check for following at master and patient station:

1. All signals canceled.

- D. Initiate a call to another master station as described in the System Operating Section 4.0.

Check for following at master station:

1. Call light flashes two times at called master.
2. Two tones are heard at called master.
3. Master station number called appears in call window.
4. "MSTR" appears in call window of called master.
5. "TALK" (white) button LED steadily illuminated at both masters.

- E. Pick up the handset at both master stations and speak in a normal voice.

Check for following at master station:

1. Communications established through the handset.

- F. Press "RESET" (black) button or hang up handset.

Check for following at master stations:

1. All signals canceled.

- G. Request nurse service by selecting room number as for communications, then pressing "NURSE" (green) button.

Check for following at master station:

1. Call number, room/bed ID number, call type appear on call screen. Room/bed ID number appears in call window.
2. Room number flashes in "NURSE" area on call screen.

Check for following at duty station in the same zone:

3. Dome light (green lamp) flashing.

- H. Press "TALK" then "RESET" (black) function button.

Check for following at master station:

1. Room number still flashing in "NURSE" area on call screen. All other calls canceled.

- I. Cancel nurse service request by selecting room number as for communications, then pressing "NURSE" (green) button, then "TALK" and "RESET" (black) button.

Check for following at master station:

1. All signals canceled.

- J. Request aide service by selecting room number as for communications, then pressing "AIDE" (yellow) button.

Check for operation same as nurse service request with the following exceptions.

1. Room number will flash in "AIDE" area on call screen.
2. Press "AIDE" (yellow) button on master to cancel aide service.

- K. Page a zone by pressing “PAGE” (gray) button, then entering a zone number as described in System Operating Section 4.0.

Check for following at master station:

1. “PAGE” appears in call window.

- L. Press “TALK” (white) button.

Check for following at master station:

1. “TALK” button LED steadily illuminated.
2. “PAGE” remains in call window.
3. Communications established to all zoned patient stations within zone selected.

Check for following at all zoned patient stations:

1. Reset/In-use light steadily illuminated.

- M. Press “RESET” (black) button.

Check for following at master and patient stations:

1. All signals canceled.

- N. Page all assigned zones by pressing “PAGE” (gray) button, then “TALK” (white) button.

Check for following at master station

1. “TALK” (white) button LED steadily illuminated.
2. “ALL” appears in call window if the total number of stations paged per port is more than 30. “PAGE” appears in call window if the total number of stations paged per port does not exceed 30.
3. Communications (one-way for more than 30 stations paged per port, two-way for less than 30 per port) established to all zoned patient stations.

Check for following at all zoned patient stations:

1. Reset/In-use light steadily illuminated.

- O. Press “RESET” (black) button.

Check for following at master and patient stations:

1. All signals canceled.

- P. Initiate Nurse Follower by pressing “NURSE FOLLOWER” (orange) button. There should be no calls waiting on the system.

Check for following at master station:

1. “NURSE FOLLOWER” (orange) button LED steadily illuminated.
2. “NURSE FOLLOWER: ON” displays on monitor.

- Q. Register a nurse present at any presence station by pressing green “NURSE” button. Place a call from any patient station in the same zone.

Check for following at master station:

1. “NURSE FOLLOWER” (orange) button LED on and “NURSE FOLLOWER: ON” displays on monitor.

2. Call light button LED slowly flashes during signal transmission.

3. Call information appears on call screen. Room number where nurse is registered displays steady under “NURSE”.

Check for following at patient station to which a nurse is registered:

1. Reset/In-use light steadily illuminated.
2. Tone signal every 8 seconds.
3. Dome light (green lamp) on steady.

Check for following at duty station in the same zone:

1. Call-placed light steadily illuminated.
2. Tone signal every 8 seconds.
3. Dome lights (white and green lamps) on steady.

Check for following cancellation at nurse presence station to which a nurse has reset:

1. Call information disappears on the call screen where the nurse was registered.

- R. Toggle off the “NURSE FOLLOWER” key at master station.

Check for following at master station:

1. “NURSE FOLLOWER” (orange) button LED extinguished.
2. “NURSE FOLLOWER: ON” removed from monitor.

- S. Initiate “NURSE FOLLOWER” to a specific room by selecting room number as for communications.

Check for following at master station:

1. Call number, room/bed ID number, call type appear on call screen. Room/bed ID number appear in call window.
2. “NURSE FOLLOWER: ON” displayed on monitor.

- T. Press “NURSE FOLLOWER” (orange) button.

Check for following at master station:

1. Call information canceled.
2. “NURSE FOLLOWER” (orange) button LED on.
3. “NURSE FOLLOWER: ON” displayed on monitor.

- U. Place a call from any patient station in the same zone.

Check for following at patient station to which calls are sent:

1. Reset/In-use light steadily illuminated.
2. Call tone every 8 seconds.

Check for following at duty station in the same zone:

1. Call-placed light steadily illuminated.
2. Call tone every 8 seconds.
3. Dome light (white lamp) on steady.

V. Press “NURSE FOLLOWER” to toggle off.

Check for following at patient station to which calls are sent:

1. All signals canceled.

W. “TALK” (white) button, then “RESET” (black) button.

Check for following at master:

1. All signals canceled.

6.5 SF336 & SF338 STAFF EMERGENCY, IR316 PSYCHIATRIC, IR019C SPEAKER/MICROPHONE TEST PROCEDURE

A. Initiate a call on each patient or staff station as described in System Operating Section 4.0. On dual stations, both circuits should be tested. The chart provided for listing assigned room numbers should be filled in at this time.

Check for following at patient stations:

1. Call-placed light steadily illuminated.
2. Dome light (white lamp) on steady.

Check for following at master station:

1. Call light slowly flashes.
2. Tone signal every 8 seconds.
3. Call information appears on the call screen with the call priority indicated “ROUTINE” for non-emergency or “EMERGENCY” for a call from the staff emergency station.

Check for following at duty station in the same zone:

1. Call-placed light steadily illuminated.
2. Tone signal every 8 seconds.
3. Dome light (white lamp) on steady.

B. Test intercom function from master station by pressing “TALK” (white) button as previously described.

C. Reset each psychiatric and staff emergency psychiatric station as described in Systems Operating Section 4.0.

Check for following at psychiatric, staff emergency psychiatric, duty, and master stations.

1. All signals canceled.

6.6 SF337C & SF340B BATH EMERGENCY STATION TEST PROCEDURE

A. Initiate a call on each emergency station (one at a time) as described in System Operating Section 4.0.

Check for following at emergency station:

1. Call-placed light slowly flashing.

Check for following at associated patient station:

1. Call-placed light slowly flashing.
2. Dome light (white lamp) slowly flashing.

Check for following at master station:

1. Call light slowly flashing.
2. Tone signal slowly repeating.
3. Call information appears on call screen with call priority indication of “HELP”.

Check for following at duty station in the same zone:

1. Call-placed light and emergency light alternately flashing.
2. Tone signal slowly repeating.
3. Dome light (white lamp) slowly flashing.

B. Reset each emergency station as described in System Operating Section 4.0.

Check for following at emergency, patient, duty and master stations:

1. All signals canceled.

6.7 SF341B CODE CALL STATION TEST PROCEDURE

A. Initiate a call on each station (one at a time) as described in System Operating Section 4.0.

Check for following at code call and emergency station:

1. Call-placed light rapidly flashing.

Check for following at associated patient station:

1. Call-placed light rapidly flashing.
2. Dome lights (white and red lamps) alternately, rapidly flashing for call placed from code call station. Dome light (white lamp) rapidly flashing for call placed from staff emergency station.

Check for following at master station:

1. Call light rapidly flashing.
2. Tone signal rapidly repeating.
3. Call information appears on call screen with call priority indication “CODE CALL” for code call station.

Check for following at duty station in the same zone:

1. Call-placed light and emergency light alternately, rapidly flashing.
2. Tone signal rapidly repeating.
3. Dome lights (white and red lamps) alternately, rapidly flashing for call placed from code call station.

B. Reset each code call station as described in System Operating Section 4.0.

Check for following at code call, patient, duty and master stations:

1. All signals canceled.

6.8 PRIORITY CALLS TEST PROCEDURE

After the master console and patient stations have been programmed as outlined in System Configuration/Programming Section 3.0 as for Patient Priority, the following procedure should be used to confirm that the system is operating properly:

- A. Initiate a call on each station (one at a time) as described in System Operating Section.

Check to confirm that the calls are displayed in highest priority first, then the next in this order.

High Priority:	CODE CALL FIRE* (supplementary only, see note) EMERGENCY
Medium Priority:	MONITOR HELP CORD OUT PRIORITY
Low Priority:	STAFF DUTY PERSONAL ATTENTION ROUTINE

* Note: Not tested as a fire alarm system. Not intended as a primary evacuation means.

* Note: Any of the unused video outputs (video that does not have a master connected to it) display ALL-CALL types.

Check to confirm that the highest priority calls are shown in the call box for each zone:

1. Place a low priority call first, then a higher priority call to insure that the lower priority call is replaced with the higher priority.
2. While "TALK" button is pressed to initiate communication to a lower priority call, initiate an "EMERGENCY", "HELP", "FIRE", or "CODE CALL" to insure that the system interrupts and directs the communications to the emergency.

Figure 26—Event Printing Sample

NO	DATE	TIME	STATION	EVENT	ZONE	STN.
0000	10/27	08:57:28		System active		
0001	10/27	08:57:39	8101-1	ROUTINE Call	1.....	
0002	10/27	08:57:46	8101-1	ROUTINE Reset	1.....	
0003	10/27	08:58:09	8101-1	ROUTINE Call	1.....	
0004	10/27	08:58:27		Talk Initiated	.....	8101
0005	10/27	08:58:34		Talk Reset	.....	8101
0006	10/27	08:58:49	8317-1	HELP Call	..3.....	
0007	10/27	08:59:13	8317-1	HELP Reset	..3.....	
0008	10/27	08:59:32	8317	Nurse In	..3.....	
0009	10/27	08:59:48	8317	Nurse Out	..3.....	
0010	10/27	09:00:02		System active		
0011	10/27	09:00:10	8206-1	STAFF Call	..2.....	
0012	10/27	09:00:18		Talk Initiated	.....	8206
0013	10/27	09:00:27		Talk Reset	.....	8206
0014	10/27	09:00:57	01	Menu Session Begin	12345678	
0015	10/27	09:01:42	8101-1	ROUTINE Call	1.....	
0016	10/27	09:01:48	8101-1	ROUTINE Reset	1.....	
0017	10/27	09:02:01	01	Menu Session End	12345678	
0018	10/27	09:06:00		Not Checked In	8101	
0019	10/27	09:08:20	01	Talk Initiated	12345678	8101
0020	10/27	09:08:37	01	Talk Reset	12345678	8101
0021	10/27	09:23:37	01	Talk Initiated	12345678	8101
0022	10/27	09:23:39	01	Check in Cleared-manual	12345678	8101
0023	10/27	09:23:42	01	Talk Reset	12345678	8101
0024	10/27	09:24:03	8317-1	CODE CALL Call	..3.....	
0025	10/27	09:24:29	8317-1	CODE CALL Reset	..3.....	

7.0 HC345C TROUBLESHOOTING GUIDE

- 7.1** “CODE FAULT” - Check:
- Wiring from code SF341B Station to patient station.
 - Check station “CODE” ON/OFF programming. If patient has “CODE” on and there is no “CODE” station connected, fault will appear on the video monitor.

- 7.2** “COMM FAULT” - Check:
- Wiring to station has that fault.
 - Station address. No two stations on a port can be addressed identically.

(Note: When adding or deleting stations, new stations are picked up automatically with default address, deleted stations must be deleted from the program.)

- 7.3**
- Data/Polling Noise is present on all stations on one or more ports when listening from NC303 - Check: Shield drain wire terminations of field wiring to CPE. Please see wiring diagrams for correct drain wire connections.
 - Excessive Data/Polling noise is present on one or more stations when listening from NC303 - Check: Shield drain wire terminations at station location and all locations where cable has been cut and spliced. Please see wiring diagrams for correct drain wire connections.
 - Data Polling Noise at Duty Station - IR315-series - Check: System cable length. If system cable length exceeds 500' per port, connect a 100uf 25 VDC capacitor across +12VDC (blue wire on 8 pin) to negative (red wire on 8 pin connector) + side of cap to blue wire - side of cap to red.

- 7.4** Duty Station IR315-series not responding to calls - Check:
- IR315-series zone programming. An IR315-series will only annunciate calls from stations it is zoned for. An IR315-series will default to only the zone corresponding to the port it is connected to.

- 7.5** “LAMP FAULT” - Check:
- Bulbs at LI384A, LI386-series Supervised Dome Light.
 - Brown wire on 8 pin connector jumped to blue wire on 15 pin connector.

- 7.6** “MASTER FAULT” - Check:
- Correctly addressed master is plugged into appropriate port. In multiple master systems master labeled C1 plugs into MASTER port #1, C2-MASTER port #2, etc.

- Dipswitch setting of masters. See Figure 27 for correct setting. (Note: If none of the above correct “MASTER FAULT”, corrupt data has been saved. In this unlikely event, follow the steps listed below.)
 - Turn HC345C CPE off.
 - Insert key and turn counter clockwise. Key switch is located on the front panel of HC345C CPE.
 - Turn CPE on.
 - If master operates correctly all current data must be erased. To erase all data:
 - Press “MENU” key on NC303.
 - Press 3, 4, 2
 - Turn key switch to original position.
 - Press 1.

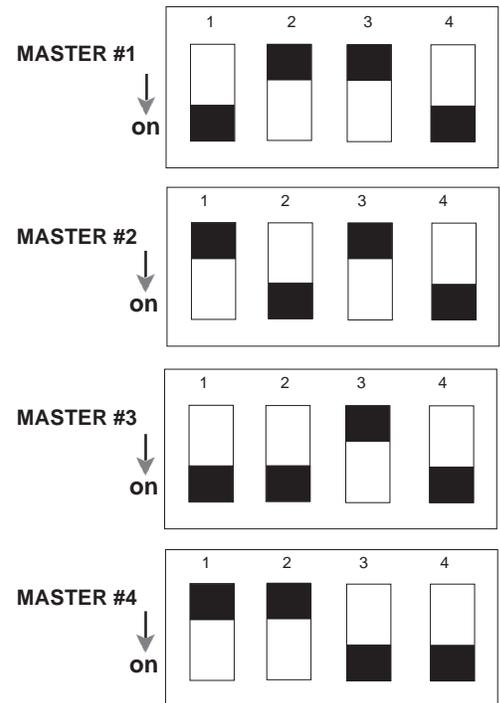


Figure 27

- 7.7** No video display on NC313, NC315 monitor - Check:
- 117 VAC connection at video monitor and at NC314A video converter.
 - 117 VAC connection at HC345C CPE.
 - ON/OFF switch at video monitor.
 - ON/OFF switch at HC345C CPE.
 - NC314A VGA Active LED must be lit. If not lit, press the NC314A VGA control button once.
 - Check NC350C CPE “RUN” red LED is flashing.
 - Monitor’s brightness and contrast controls.
 - Field wiring for video. Using test cable supplied connect NC314A Video Converter directly to CPE and connect NC313 or NC315 Monitor to NC314/A. (Note: Each system is supplied with outputs to four video monitors. If all of the above fails, and there are outputs available, connect monitor to one of those.)

Port 1 Programming Sheet

SPUA	ROOM	BED	ZONE-NO.	PRIOR	PAG	PRV	CODE
	7100=						
	7101=						
	7102=						
	7103=						
	7104=						
	7105=						
	7106=						
	7107=						
	7108=						
	7109=						
	7110=						
	7111=						
	7112=						
	7113=						
	7114=						
	7115=						
	7116=						
	7117=						
	7118=						
	7119=						
	7120=						
	7121=						
	7122=						
	7123=						
	7124=						
	7125=						
	7126=						
	7127=						
	7128=						
	7129=						
	7130=						
	7131=						

Example of how information appears on “View Station” menu

0101	7101 =	2	3	R P	ON	OFF	OFF
------	--------	---	---	-----	----	-----	-----

SPUA = System, Port, Unit Address
 ROOM = Room Number
 BED = Bed Numbers
 ZONE-NO. = Zone Station is programmed for
 System, zone will default to physical
 port station is connected to.

PRIOR = Type of station;
 R: Routine or P: Priority
 PAG = Paging set on or off
 PRV = Privacy set on or off
 CODE = On or off

Port 2 Programming Sheet

SPUA	ROOM	BED	ZONE-NO.	PRIOR	PAG	PRV	CODE
	7200=						
	7201=						
	7202=						
	7203=						
	7204=						
	7205=						
	7206=						
	7207=						
	7208=						
	7209=						
	7210=						
	7211=						
	7212=						
	7213=						
	7214=						
	7215=						
	7216=						
	7217=						
	7218=						
	7219=						
	7220=						
	7221=						
	7222=						
	7223=						
	7224=						
	7225=						
	7226=						
	7227=						
	7228=						
	7229=						
	7230=						
	7231=						

Example of how information appears on “View Station” menu

0101	7201 =		2	3	R P	ON	OFF	OFF
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SPUA = System, Port, Unit Address
 ROOM = Room Number
 BED = Bed Numbers
 ZONE-NO. = Zone Station is programmed for System, zone will default to physical port station is connected to.

PRIOR = Type of station;
 R: Routine or P: Priority
 PAG = Paging set on or off
 PRV = Privacy set on or off
 CODE = On or off

Port 3 Programming Sheet

SPUA	ROOM	BED	ZONE-NO.	PRIOR	PAG	PRV	CODE
	7300=						
	7301=						
	7302=						
	7303=						
	7304=						
	7305=						
	7306=						
	7307=						
	7308=						
	7309=						
	7310=						
	7311=						
	7312=						
	7313=						
	7314=						
	7315=						
	7316=						
	7317=						
	7318=						
	7319=						
	7320=						
	7321=						
	7322=						
	7323=						
	7324=						
	7325=						
	7326=						
	7327=						
	7328=						
	7329=						
	7330=						
	7331=						

Example of how information appears on “View Station” menu

0101	7301 =	2	3	R P	ON	OFF	OFF
------	--------	---	---	-----	----	-----	-----

SPUA = System, Port, Unit Address
 ROOM = Room Number
 BED = Bed Numbers
 ZONE-NO. = Zone Station is programmed for
 System, zone will default to physical
 port station is connected to.

PRIOR = Type of station;
 R: Routine or P: Priority
 PAG = Paging set on or off
 PRV = Privacy set on or off
 CODE = On or off

Port 3 Programming Sheet

SPUA	ROOM	BED	ZONE-NO.	PRIOR	PAG	PRV	CODE
	7332=						
	7333=						
	7334=						
	7335=						
	7336=						
	7337=						
	7338=						
	7339=						
	7340=						
	7341=						
	7342=						
	7343=						
	7344=						
	7345=						
	7346=						
	7347=						
	7348=						
	7349=						
	7350=						
	7351=						
	7352=						
	7353=						
	7354=						
	7355=						
	7356=						
	7357=						
	7358=						
	7359=						
	7360=						
	7361=						
	7362=						
	7363=						

Example of how information appears on “View Station” menu

0101	7332 =	2	3	R P	ON	OFF	OFF
------	--------	---	---	-----	----	-----	-----

SPUA = System, Port, Unit Address
 ROOM = Room Number
 BED = Bed Numbers
 ZONE-NO. = Zone Station is programmed for
 System, zone will default to physical
 port station is connected to.

PRIOR = Type of station;
 R: Routine or P: Priority
 PAG = Paging set on or off
 PRV = Privacy set on or off
 CODE = On or off

Port 4 Programming Sheet

SPUA	ROOM	BED	ZONE-NO.	PRIOR	PAG	PRV	CODE
	7400=						
	7401=						
	7402=						
	7403=						
	7404=						
	7405=						
	7406=						
	7407=						
	7408=						
	7409=						
	7410=						
	7411=						
	7412=						
	7413=						
	7414=						
	7415=						
	7416=						
	7417=						
	7418=						
	7419=						
	7420=						
	7421=						
	7422=						
	7423=						
	7424=						
	7425=						
	7426=						
	7427=						
	7428=						
	7429=						
	7430=						
	7431=						

Example of how information appears on “View Station” menu

0101	7401 =		2	3	R P	ON	OFF	OFF
------	--------	--	---	---	-----	----	-----	-----

SPUA = System, Port, Unit Address
 ROOM = Room Number
 BED = Bed Numbers
 ZONE-NO. = Zone Station is programmed for
 System, zone will default to physical
 port station is connected to.

PRIOR = Type of station;
 R: Routine or P: Priority
 PAG = Paging set on or off
 PRV = Privacy set on or off
 CODE = On or off

Port 4 Programming Sheet

SPUA	ROOM	BED	ZONE-NO.	PRIOR	PAG	PRV	CODE
	7432=						
	7433=						
	7434=						
	7435=						
	7436=						
	7437=						
	7438=						
	7439=						
	7440=						
	7441=						
	7442=						
	7443=						
	7444=						
	7445=						
	7446=						
	7447=						
	7448=						
	7449=						
	7450=						
	7451=						
	7452=						
	7453=						
	7454=						
	7455=						
	7456=						
	7457=						
	7458=						
	7459=						
	7460=						
	7461=						
	7462=						
	7463=						

Example of how information appears on “View Station” menu

0101	7432 =	2	3	R P	ON	OFF	OFF
------	--------	---	---	-----	----	-----	-----

SPUA = System, Port, Unit Address
 ROOM = Room Number
 BED = Bed Numbers
 ZONE-NO. = Zone station is programmed for
 System will default to physical part
 it's connected to.

PRIOR = Type of station;
 R: Routine or P: Priority
 PAG = Paging set on or off
 PRV = Privacy set on or off
 CODE = On or off

Port 1 Programming Sheet

SPUA	ROOM	BED	ZONE-NO.	PRIOR	PAG	PRV	CODE
	8100=						
	8101=						
	8102=						
	8103=						
	8104=						
	8105=						
	8106=						
	8107=						
	8108=						
	8109=						
	8110=						
	8111=						
	8112=						
	8113=						
	8114=						
	8115=						
	8116=						
	8117=						
	8118=						
	8119=						
	8120=						
	8121=						
	8122=						
	8123=						
	8124=						
	8125=						
	8126=						
	8127=						
	8128=						
	8129=						
	8130=						
	8131=						

Example of how information appears on “View Station” menu

0101	8101 =	2	3	R P	ON	OFF	OFF
------	--------	---	---	-----	----	-----	-----

SPUA = System, Port, Unit Address
 ROOM = Room Number
 BED = Bed Numbers
 ZONE-NO. = Zone Station is programmed for
 System, zone will default to physical
 port station is connected to.

PRIOR = Type of station;
 R: Routine or P: Priority
 PAG = Paging set on or off
 PRV = Privacy set on or off
 CODE = On or off

Port 2 Programming Sheet

SPUA	ROOM	BED	ZONE-NO.	PRIOR	PAG	PRV	CODE
	8200=						
	8201=						
	8202=						
	8203=						
	8204=						
	8205=						
	8206=						
	8207=						
	8208=						
	8209=						
	8210=						
	8211=						
	8212=						
	8213=						
	8214=						
	8215=						
	8216=						
	8217=						
	8218=						
	8219=						
	8220=						
	8221=						
	8222=						
	8223=						
	8224=						
	8225=						
	8226=						
	8227=						
	8228=						
	8229=						
	8230=						
	8231=						

Example of how information appears on “View Station” menu

0101	8201 =		2	3	R P	ON	OFF	OFF
-------------	---------------	--	----------	----------	------------	-----------	------------	------------

SPUA = System, Port, Unit Address
 ROOM = Room Number
 BED = Bed Numbers
 ZONE-NO. = Zone Station is programmed for System, zone will default to physical port station is connected to.

PRIOR = Type of station;
 R: Routine or P: Priority
 PAG = Paging set on or off
 PRV = Privacy set on or off
 CODE = On or off

Port 3 Programming Sheet

SPUA	ROOM	BED	ZONE-NO.	PRIOR	PAG	PRV	CODE
	8300=						
	8301=						
	8302=						
	8303=						
	8304=						
	8305=						
	8306=						
	8307=						
	8308=						
	8309=						
	8310=						
	8311=						
	8312=						
	8313=						
	8314=						
	8315=						
	8316=						
	8317=						
	8318=						
	8319=						
	8320=						
	8321=						
	8322=						
	8323=						
	8324=						
	8325=						
	8326=						
	8327=						
	8328=						
	8329=						
	8330=						
	8331=						

Example of how information appears on “View Station” menu

0101	8301 =		2	3	R P	ON	OFF	OFF
------	--------	--	---	---	-----	----	-----	-----

SPUA = System, Port, Unit Address
 ROOM = Room Number
 BED = Bed Numbers
 ZONE-NO. = Zone Station is programmed for
 System, zone will default to physical
 port station is connected to.

PRIOR = Type of station;
 R: Routine or P: Priority
 PAG = Paging set on or off
 PRV = Privacy set on or off
 CODE = On or off

Port 3 Programming Sheet

SPUA	ROOM	BED	ZONE-NO.	PRIOR	PAG	PRV	CODE
	8332=						
	8333=						
	8334=						
	8335=						
	8336=						
	8337=						
	8338=						
	8339=						
	8340=						
	8341=						
	8342=						
	8343=						
	8344=						
	8345=						
	8346=						
	8347=						
	8348=						
	8349=						
	8350=						
	8351=						
	8352=						
	8353=						
	8354=						
	8355=						
	8356=						
	8357=						
	8358=						
	8359=						
	8360=						
	8361=						
	8362=						
	8363=						

Example of how information appears on “View Station” menu

0101	8332 =		2	3	R P	ON	OFF	OFF
------	--------	--	---	---	-----	----	-----	-----

SPUA = System, Port, Unit Address
 ROOM = Room Number
 BED = Bed Numbers
 ZONE-NO. = Zone Station is programmed for
 System, zone will default to physical
 port station is connected to.

PRIOR = Type of station;
 R: Routine or P: Priority
 PAG = Paging set on or off
 PRV = Privacy set on or off
 CODE = On or off

Port 4 Programming Sheet

SPUA	ROOM	BED	ZONE-NO.	PRIOR	PAG	PRV	CODE
	8400=						
	8401=						
	8402=						
	8403=						
	8404=						
	8405=						
	8406=						
	8407=						
	8408=						
	8409=						
	8410=						
	8411=						
	8412=						
	8413=						
	8414=						
	8415=						
	8416=						
	8417=						
	8418=						
	8419=						
	8420=						
	8421=						
	8422=						
	8423=						
	8424=						
	8425=						
	8426=						
	8427=						
	8428=						
	8429=						
	8430=						
	8431=						

Example of how information appears on “View Station” menu

0101	8401 =		2	3	R P	ON	OFF	OFF
------	--------	--	---	---	-----	----	-----	-----

SPUA = System, Port, Unit Address
 ROOM = Room Number
 BED = Bed Numbers
 ZONE-NO. = Zone Station is programmed for
 System, zone will default to physical
 port station is connected to.

PRIOR = Type of station;
 R: Routine or P: Priority
 PAG = Paging set on or off
 PRV = Privacy set on or off
 CODE = On or off

Port 4 Programming Sheet

SPUA	ROOM	BED	ZONE-NO.	PRIOR	PAG	PRV	CODE
	8432=						
	8433=						
	8434=						
	8435=						
	8436=						
	8437=						
	8438=						
	8439=						
	8440=						
	8441=						
	8442=						
	8443=						
	8444=						
	8445=						
	8446=						
	8447=						
	8448=						
	8449=						
	8450=						
	8451=						
	8452=						
	8453=						
	8454=						
	8455=						
	8456=						
	8457=						
	8458=						
	8459=						
	8460=						
	8461=						
	8462=						
	8463=						

Example of how information appears on “View Station” menu

0101	8432 =	2	3	R P	ON	OFF	OFF
------	--------	---	---	-----	----	-----	-----

SPUA = System, Port, Unit Address
 ROOM = Room Number
 BED = Bed Numbers
 ZONE-NO. = Zone station is programmed for
 System will default to physical part
 it's connected to.

PRIOR = Type of station;
 R: Routine or P: Priority
 PAG = Paging set on or off
 PRV = Privacy set on or off
 CODE = On or off

MASTER STATION PROGRAMMING SHEET

PUA	CON#	DISP#	ZONE-NO.	DIPSWITCH	TWIN

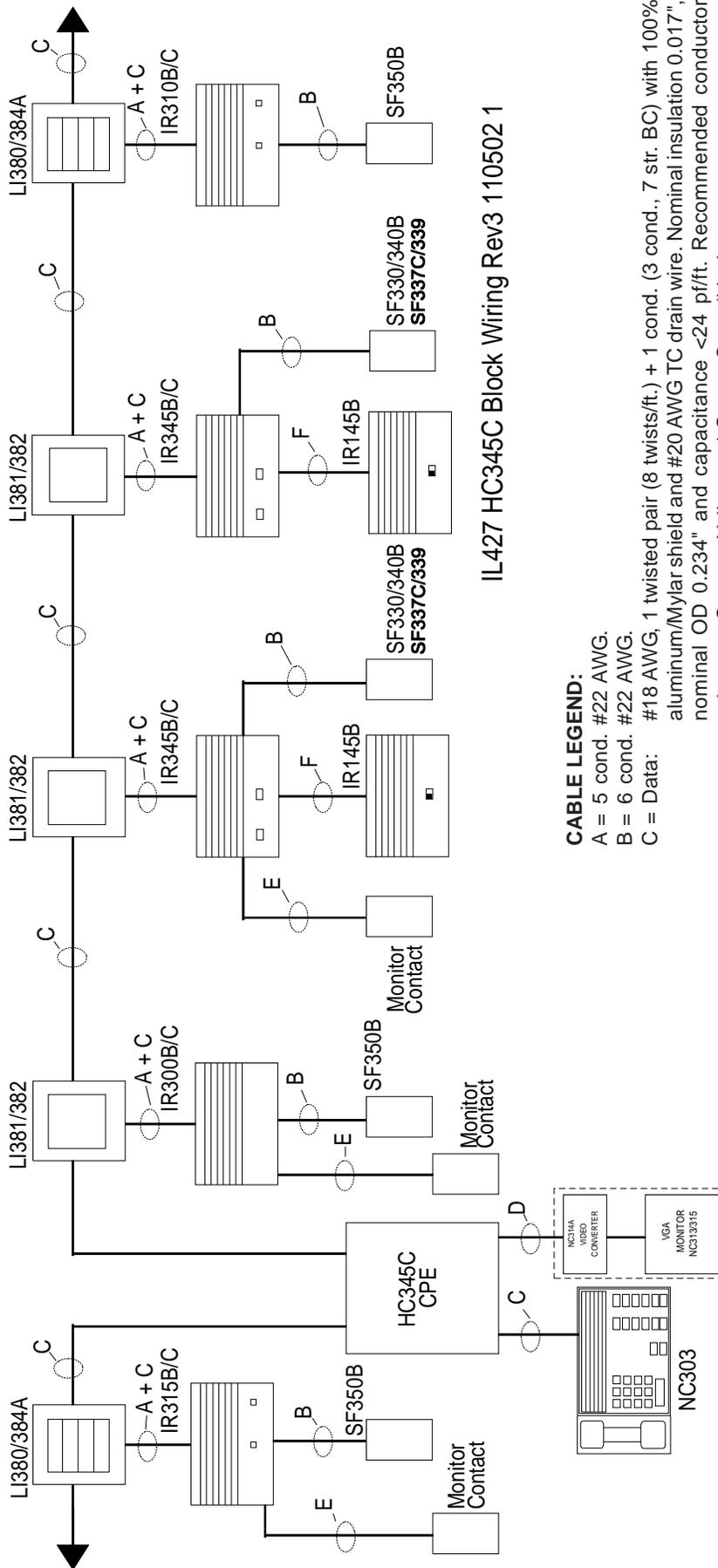
Example of how information appears on “View Master Station” menu

001	1	1	12345678	1000000	No
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PUA = Port, Unit Address
CON# = Console Master Number
DISP# = Video Output
ZONE-NO. = Zones Master is programmed for
 System will default to all zones

DIPSWITCH = Physical Dipswitch
 Setting
TWIN = Twin Master
 Transfer

Figure 28—HC345C Block Wiring Diagram #1



IL427 HC345C Block Wiring Rev3 110502 1

CABLE LEGEND:

A = 5 cond. #22 AWG.

B = 6 cond. #22 AWG.

C = Data: #18 AWG, 1 twisted pair (8 twists/ft.) + 1 cond. (3 cond., 7 str. BC) with 100% aluminum/Mylar shield and #20 AWG TC drain wire. Nominal insulation 0.017", nominal OD 0.234" and capacitance <24 pF/ft. Recommended conductor colors are Orange, Yellow and Green. Overall jacket.

Power: #18 AWG, 3 cond. (7 str. BC) with 100% aluminum/Mylar shield and #20 AWG TC drain wire. Nominal insulation 0.009" and nominal OD 0.175". Recommended conductor colors are Brown, Red and Blue. Overall jacket.

Audio: #18 AWG, 1 twisted pair (8 twists/ft., 2 cond. 7 str. BC) with 100% aluminum/Mylar shield and #20 AWG TC drain wire. Nominal insulation 0.017", nominal OD 0.234" and capacitance <24 pF/ft. Recommended conductor colors are Violet and Gray. Overall jacket.

Ground: #16 AWG, 1 cond. (26 str. BC). Nominal OD 0.101". Recommended conductor color is Black.

D = RG59U copper braid coaxial cable.

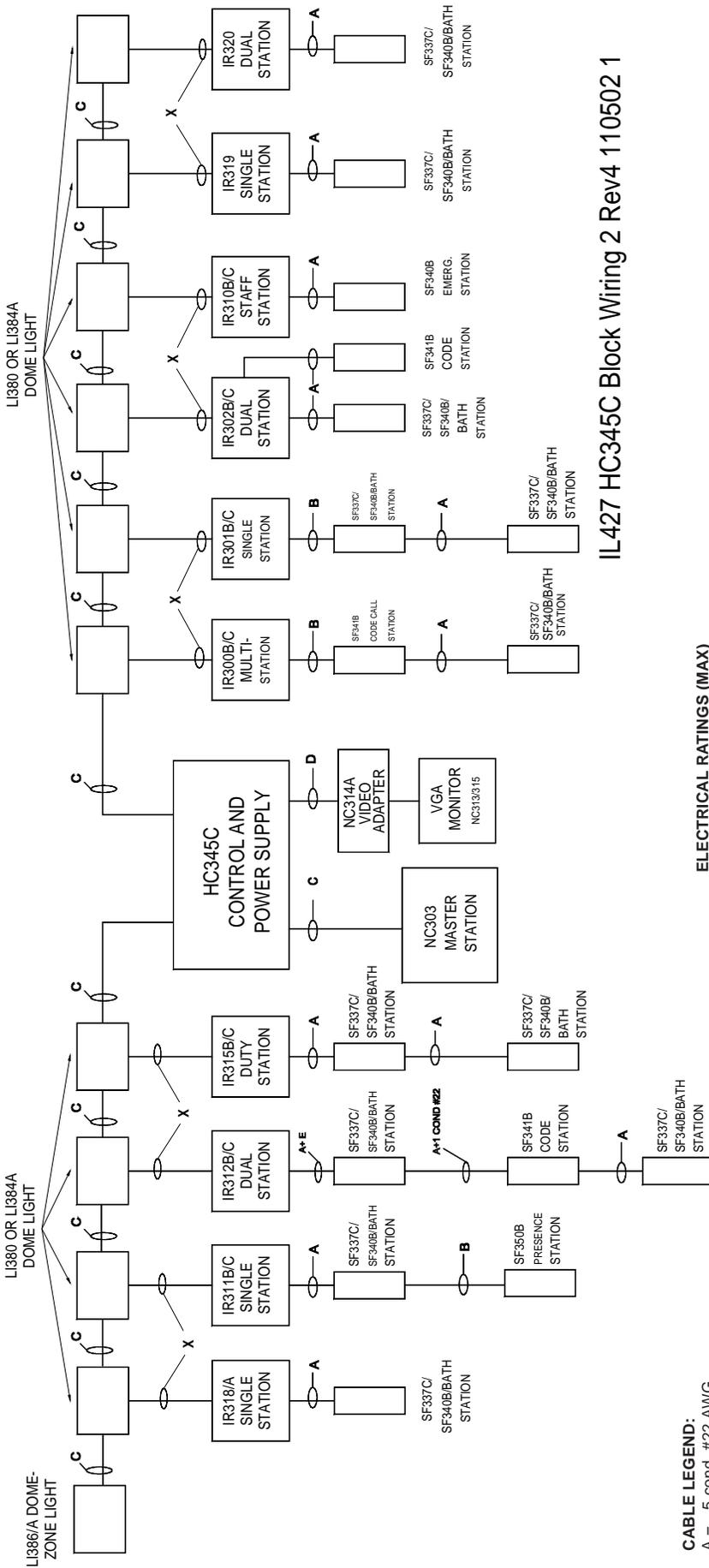
E = 2 cond. #22 AWG.

F = 2 cond. #22 AWG with 100% aluminum/Mylar shield + 3 cond. #22 AWG.

NOTES:

1. Maximum 16 stations per run when using LI380, LI384A domes.
Maximum 32 stations per run when using LI381, LI382 domes.
2. Maximum number of stations: 32 per cable run; 64 per port.
3. Total combined cable length "C" must not exceed 1500'. For runs of 1000' to 1500', use #16 AWG conductors in place of "C."
4. Do not run conduit or cable to bottom knockouts of station boxes.
5. NC303 Master Stations must be home run to HC345C CPE. Maximum run length is 200'.

Figure 29—HC345C Block Wiring Diagram #2



CABLE LEGEND:

- A = 5 cond. #22 AWG.
- B = 6 cond. #22 AWG.
- C = Data:

#18 AWG, 1 twisted pair (8 twists/ft.) + 1 cond. (3 cond., 7 str. BC) with 100% aluminum/Mylar shield and #20 AWG TC drain wire. Nominal insulation 0.017", nominal OD 0.234" and capacitance <24 p/ft. Recommended conductor colors are Orange, Yellow and Green. Overall jacket.

Power: #18 AWG, 3 cond. (7 str. BC) with 100% aluminum/Mylar shield and #20 AWG TC drain wire. Nominal insulation 0.009" and nominal OD 0.175". Recommended conductor colors are Brown, Red and Blue. Overall jacket.

Audio: #18 AWG, 1 twisted pair (8 twists/ft., 2 cond. 7 str. BC) with 100% aluminum/Mylar #20 AWG TC drain wire. Nominal insulation 0.017", nominal OD 0.234" and capacitance <24 p/ft. Recommended conductor colors are Violet and Gray. Overall jacket.

Ground: #16 AWG, 1 cond. (26 str. BC). Nominal OD 0.101". Recommended conductor color is Black.

D = RG59U copper braid coaxial cable.

E = 2 cond. #22 AWG.

X = for LI380: A and C

for LI384A: B and C

ELECTRICAL RATINGS (MAX)

HC345C Series CPE: 120 VAC, 4 AMPS

NC303 Master: 12 VDC, 300 mA

NC313, NC315 VGA Monitor: 120 VAC, .5 AMPS

NC314 Video Converter: 6 VDC, 500 mA

NC314A Video Converter: 9 VDC, 400 mA

IR300B/C, IR301B/C, IR302B/C, IR310B/C, IR311B/C,

IR312B/C, IR315B/C, IR345B/C Patient, Duty & Staff

Stations: 24 VDC, 250 mA

SF337C, SF340B, SF341B, SF350B Bath, Code,

Emergency & Presence Stations: 12 VDC, 30 mA

LI380/L384A Dome Lights: 24 VDC, 200 mA

LI386/A Dome/Zone Light: 24 VDC, 250 mA

SF301 PIR Pillow Speaker: 12 VDC, 50 mA

PK352 Battery Charger: 24 VAC, 1.25 AMPS

IL427 HC345C Block Wiring 2 Rev4 110502 1

NOTES:

1. Maximum 16 stations per run when using LI380, LI384A domes. Maximum 32 stations per run when using LI381, LI382 domes.
2. Maximum number of stations: 32 per cable run; 64 per port.
3. Total combined cable length "C" must not exceed 1500'. For runs of 1000' to 1500', use #16 AWG conductors in place of "C."
4. Do not run conduit or cable to bottom knockouts of station boxes.
5. NC303 Master Stations must be home run to HC345C CPE. Maximum run length is 200'.

Figure 30—HC345C Minimum Cable Requirements Using Individual Cables (Rev. 2 - 102402 RLT)

HC345C Cable Requirements Using Individual Cables

Maximum number of stations on any one cable run: 32 (16 with dome lights)
 Maximum number of stations on a port: 64
 Note: Total combined cable lengths using #18 wire cannot exceed 1000 ft.
 Total combined cable lengths using #16 wire cannot exceed 1500 ft.

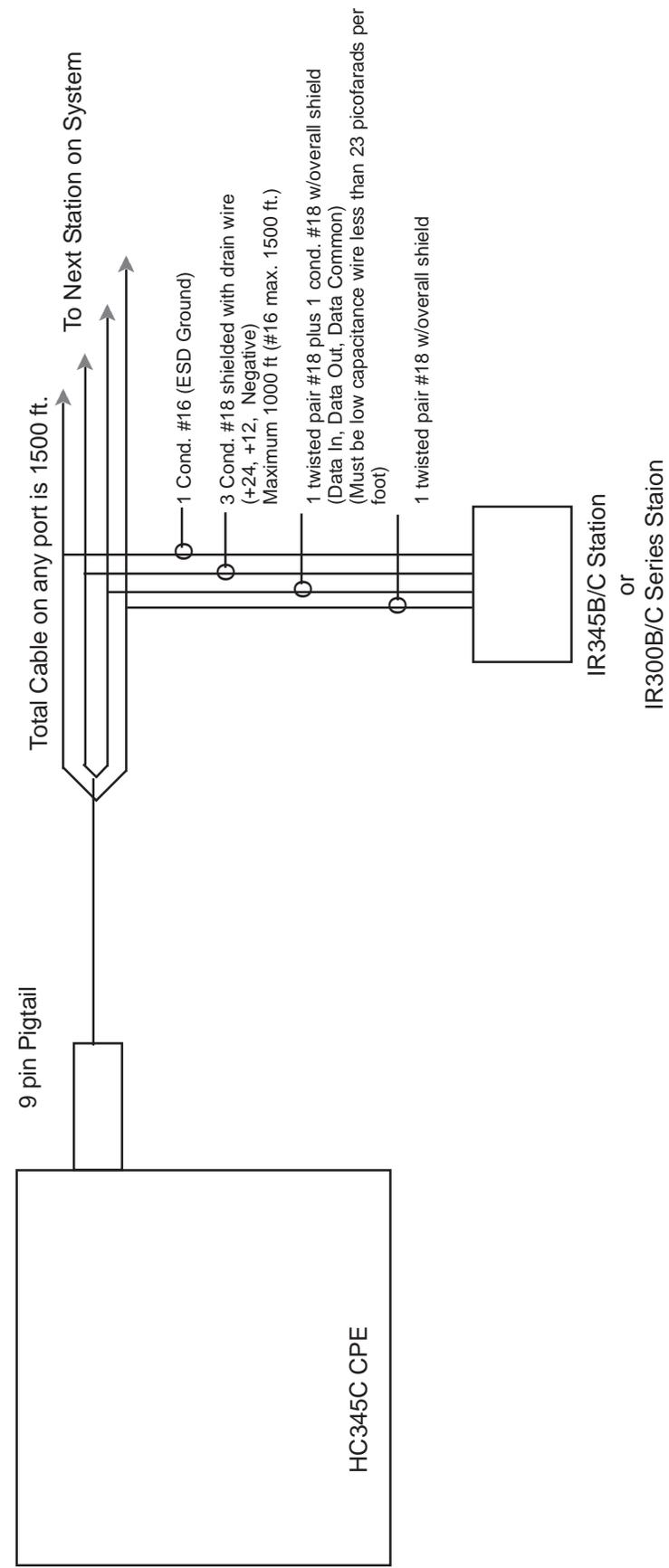
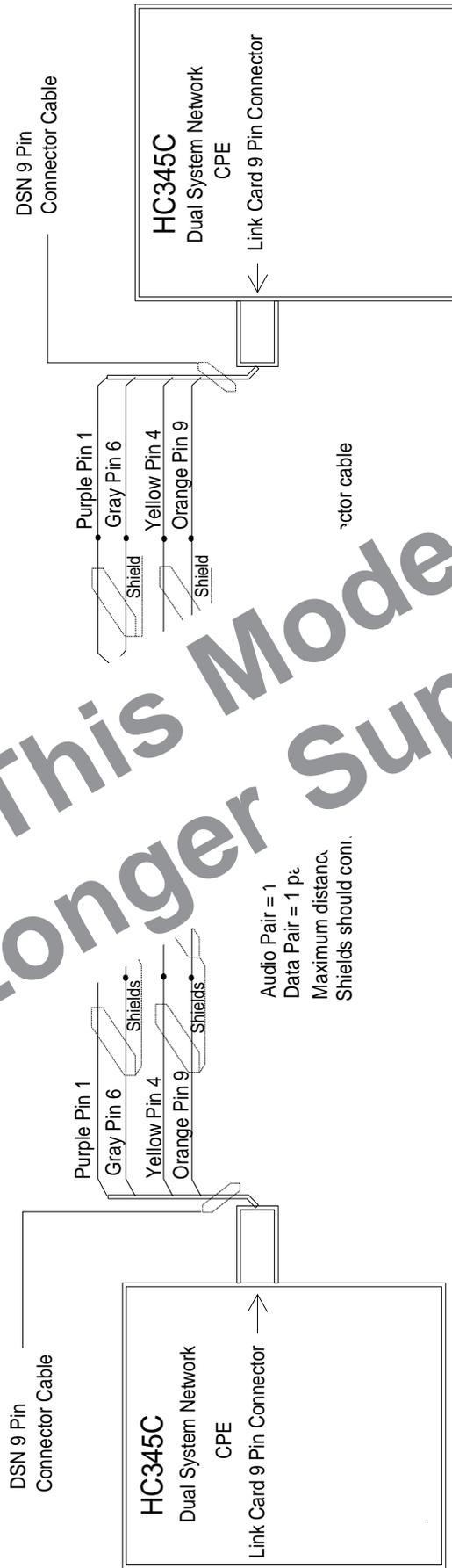


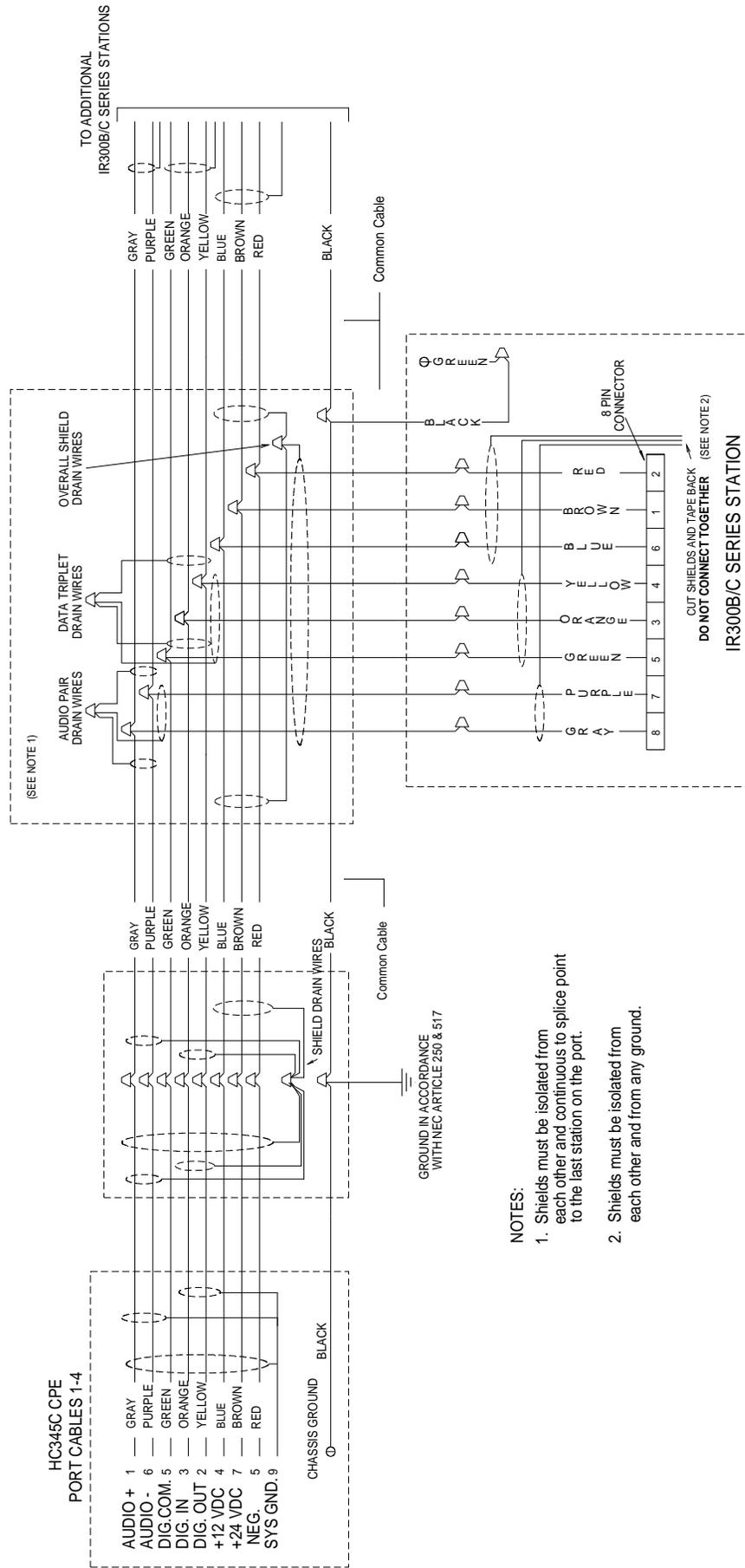
Figure 31—Dual System Network Wiring Specifications

Minimum Wiring for DSN (HC345C)



This Mode No Longer Supported

Figure 32—Connector Circuit Interconnections for Addressable Stations



- NOTES:**
1. Shields must be isolated from each other and continuous to splice point to the last station on the port.
 2. Shields must be isolated from each other and from any ground.

IL427 Port Wiring Rev2 102402 1

Figure 33—IR300-series Connections to Peripheral Devices

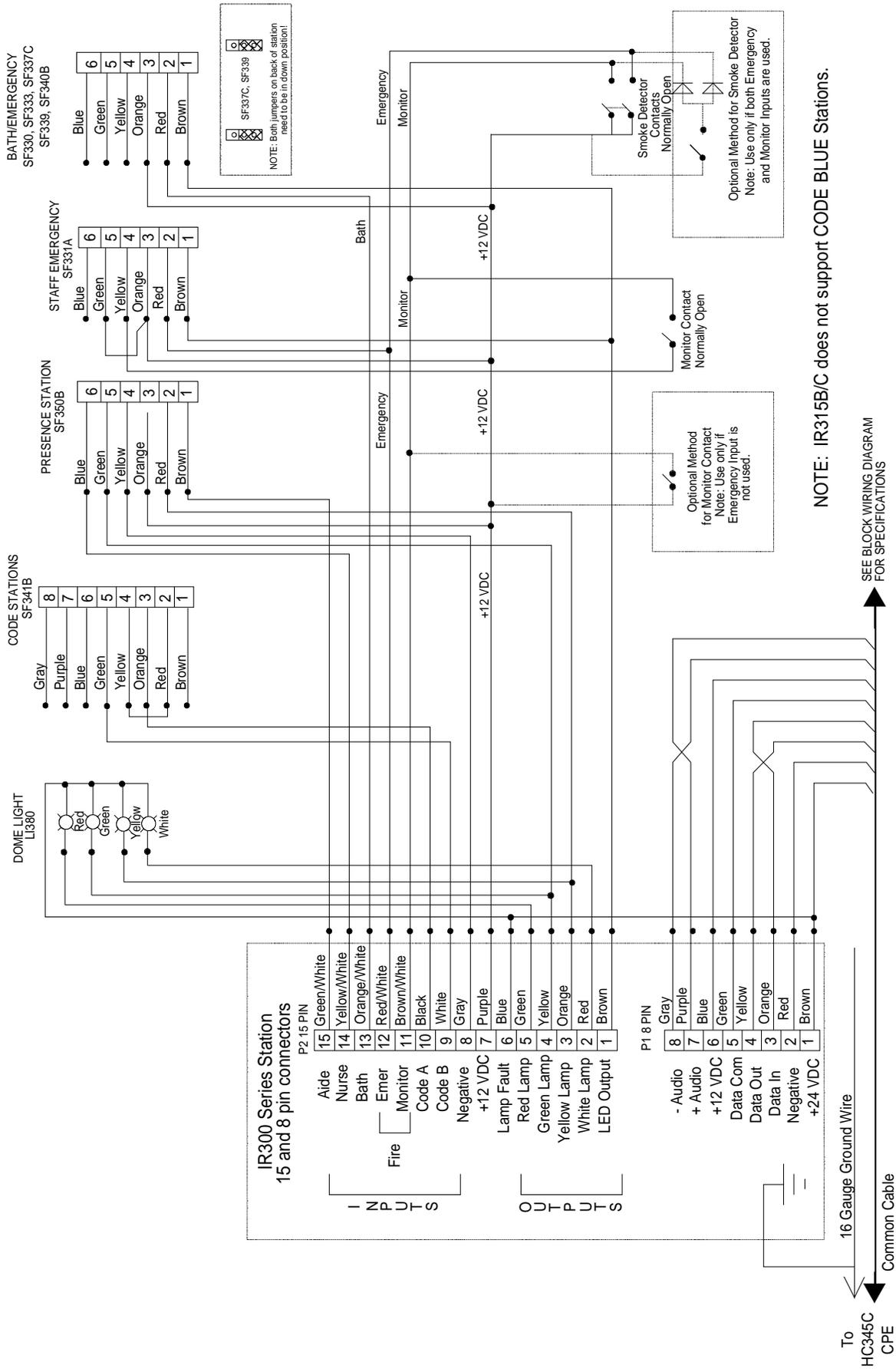
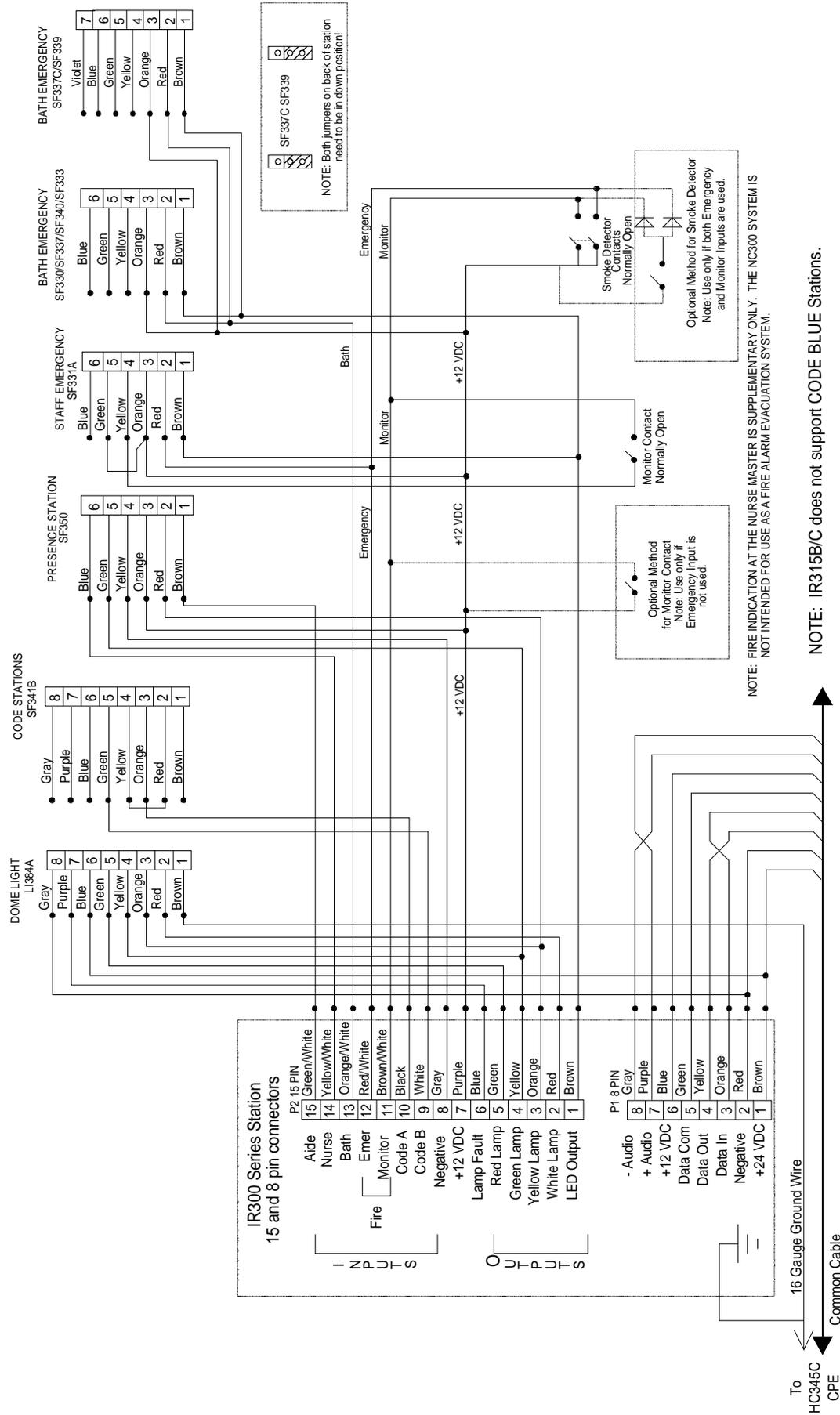
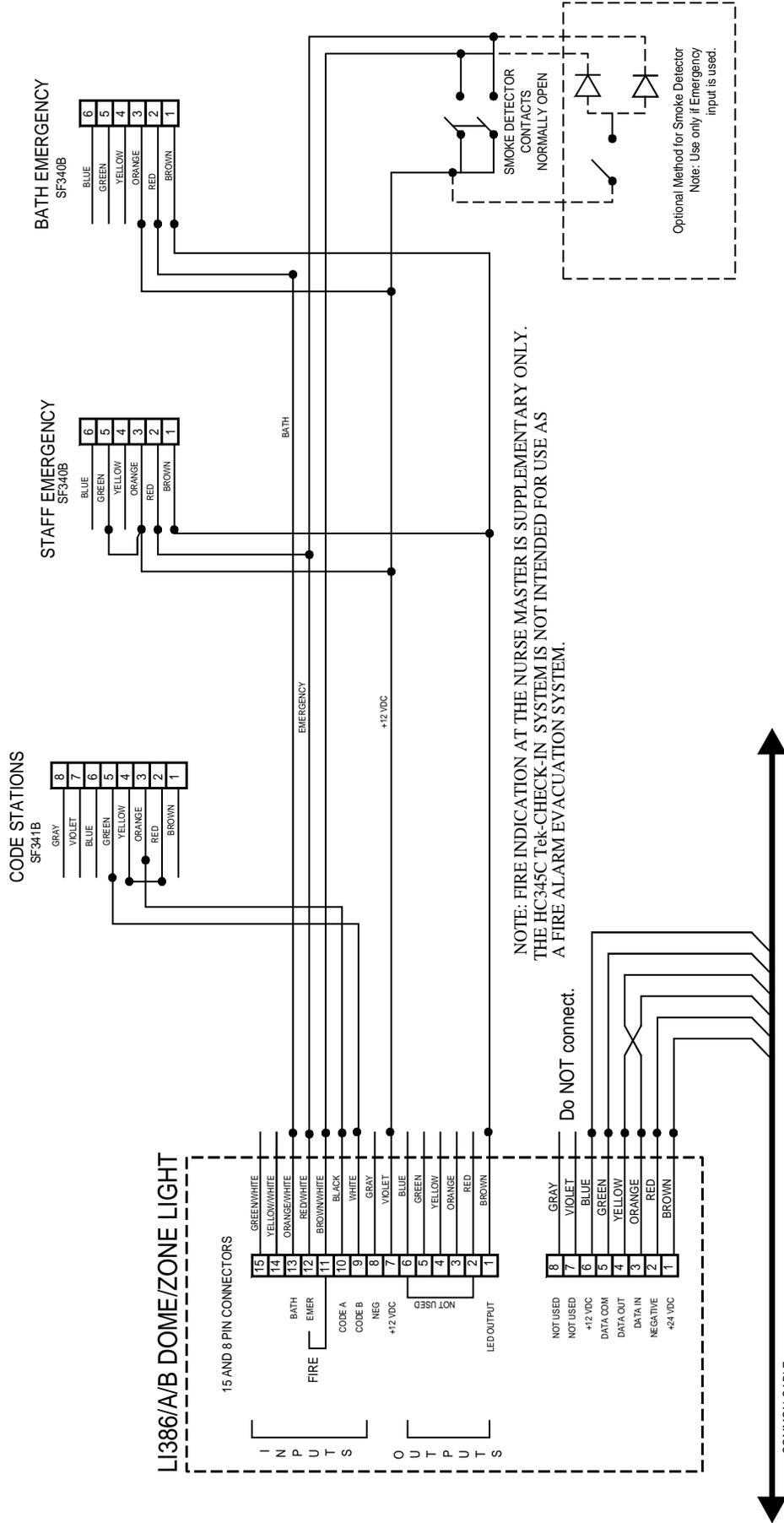


Figure 34—IR300-series Connections to Peripheral Devices—Supervised Dome Light



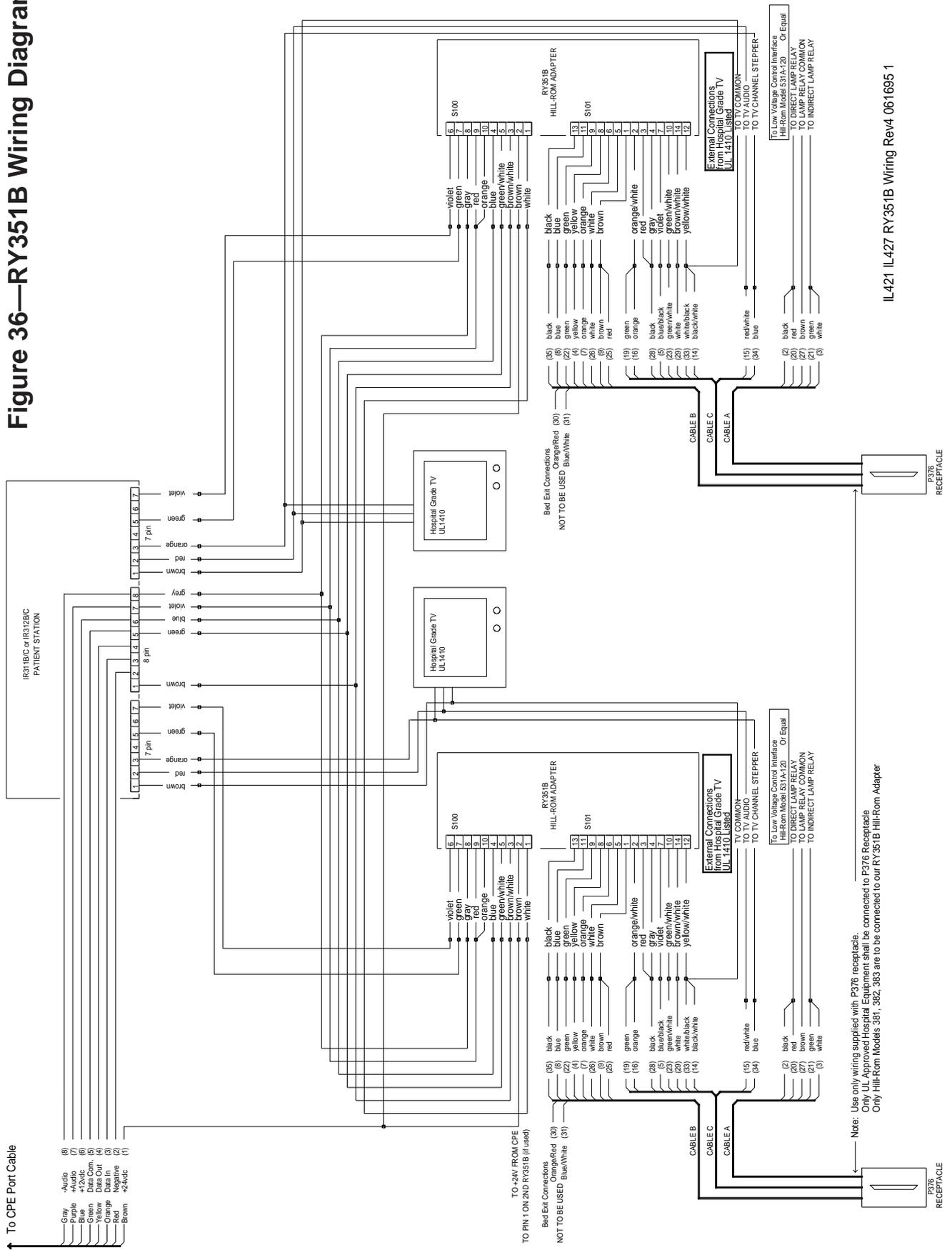
IL427 IR300 Series Wiring 2 Rev3 111802 1

Figure 35—LI386-series Dome/Zone Light Wiring Diagram



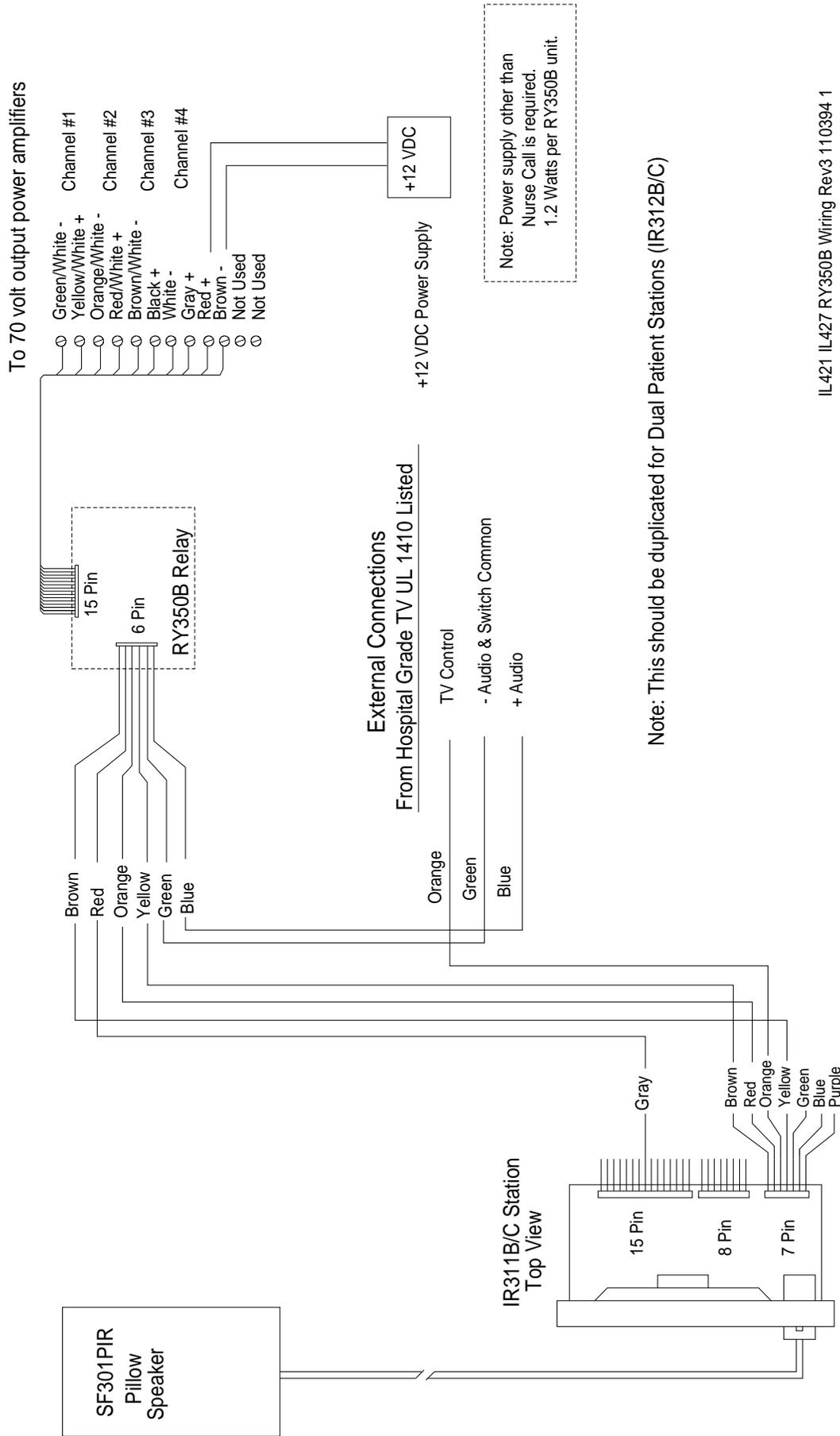
IL427 LI386 Series Wiring Rev3 041105 1

Figure 36—RY351B Wiring Diagram



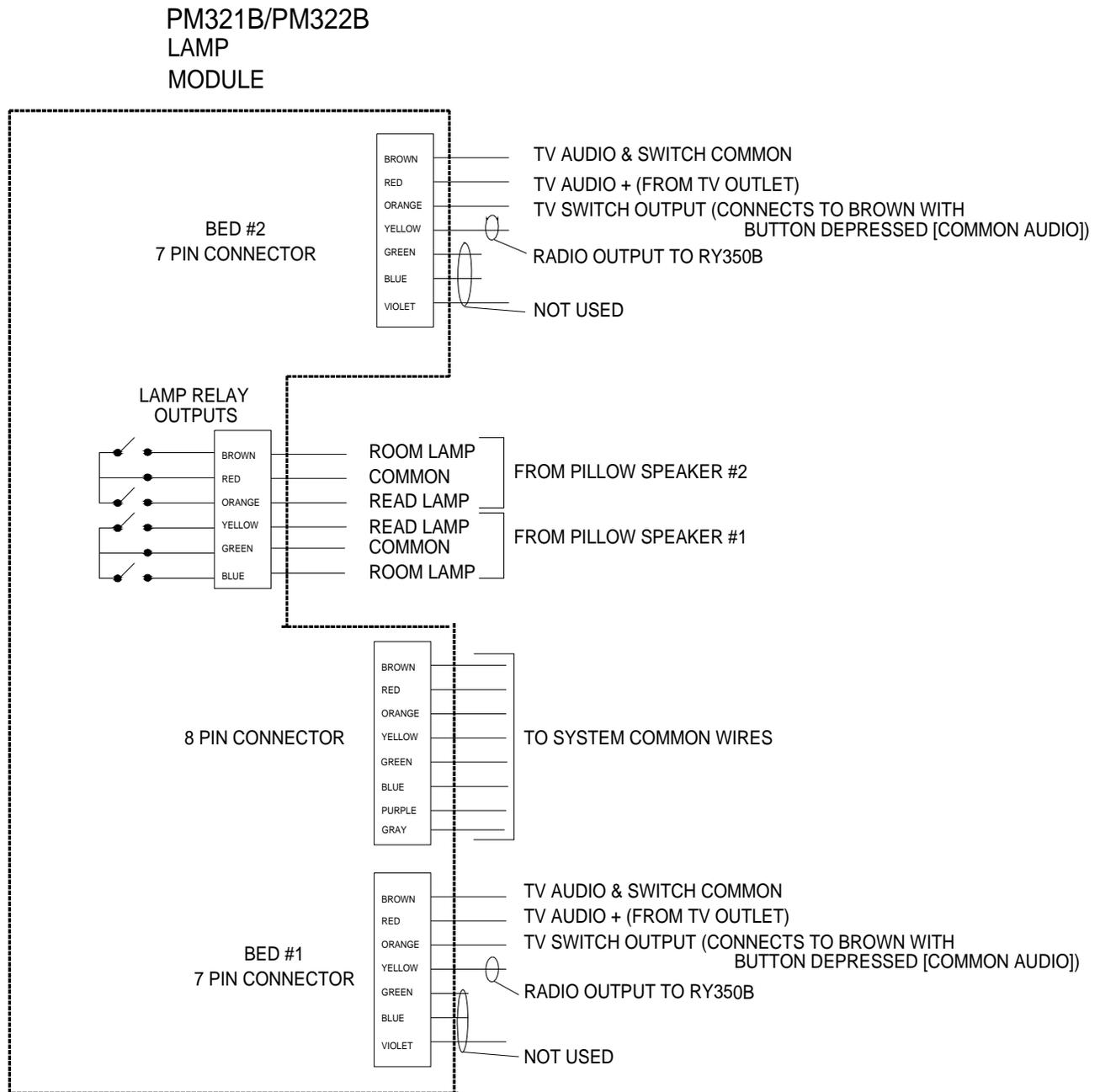
IL421 IL427 RY351B Wiring Rev4 061695 1

Figure 37—RY350B Wiring Diagram



IL421 IL427 RY350B Wiring Rev3 110394 1

Figure 38—PM321B, PM322B Lamp Module Wiring Diagram



NOTE: PM321B lamp does not include top 7-pin module.

IL421 IL427 PM321 PM322 Connections Rev3 110499 1

Figure 39—LI384A Multiple Stations

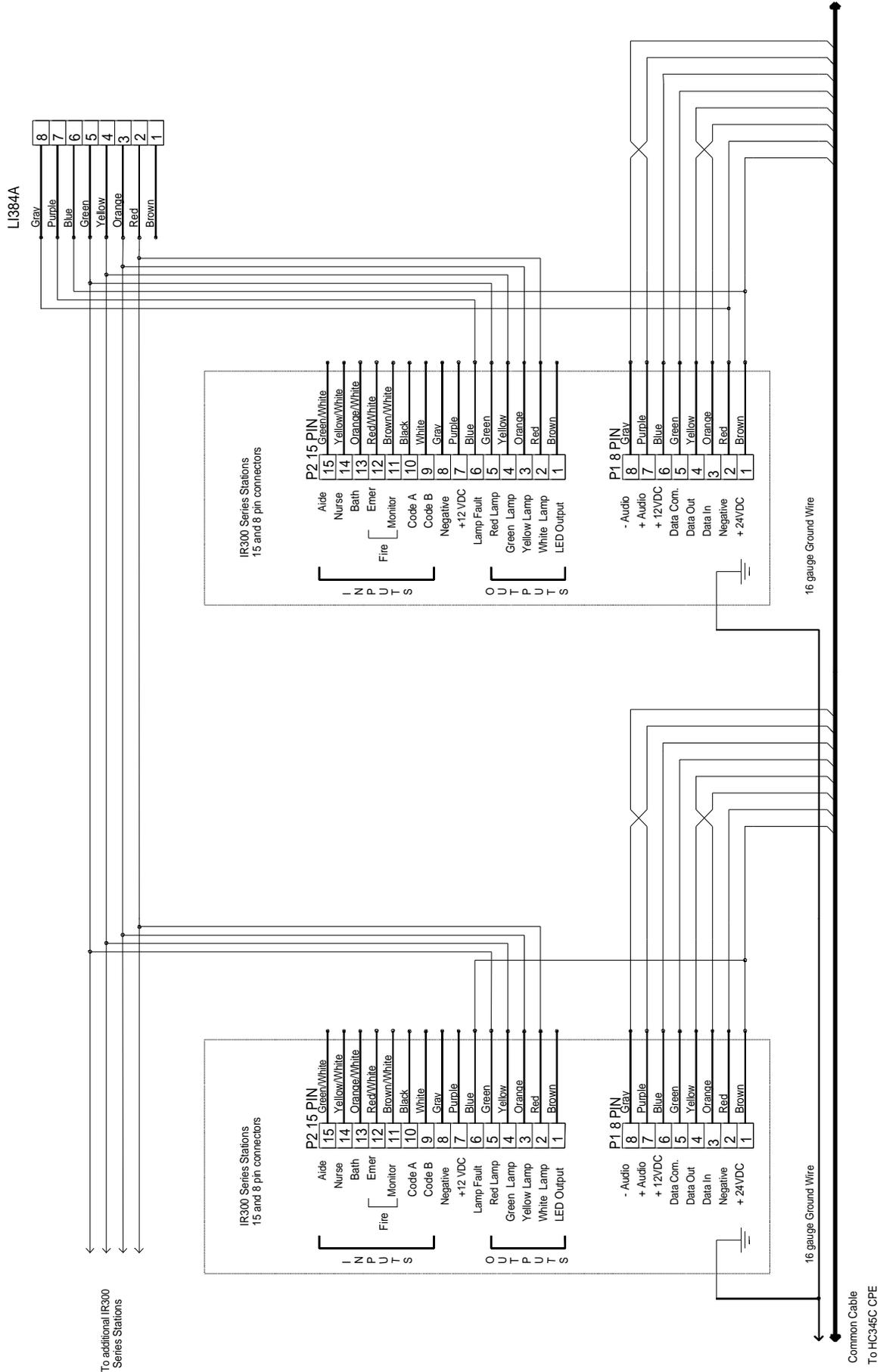


Figure 40—6 & 7 Pin Connector Outputs for IR300A/B/C, IR311A/B/C, IR312A/B/C, IR319 and IR320

**7 PIN CONNECTOR
IR300B/C STATION**

Purple	7	+12 VDC
Blue	6	CORD OUT INPUT
Green	5	IN-USE LED OUTPUT
Yellow	4	CALL INPUT +12 VDC
Orange	3	CANCEL INPUT +12 VDC
Red	2	+ AUDIO OUT
Brown	1	- AUDIO OUT

**7 PIN CONNECTOR
IR311B/C, IR312B/C, IR319, IR320 STATION**

Purple	7	CALL LED OUTPUT
Blue	6	CONTROL (PM311C/PM312C ONLY)
Green	5	CALL INPUT +12 VDC
Yellow	4	RADIO OUT +12 VDC
Orange	3	TV ON/OFF SWITCH
Red	2	TV + AUDIO
Brown	1	TV - COMMON

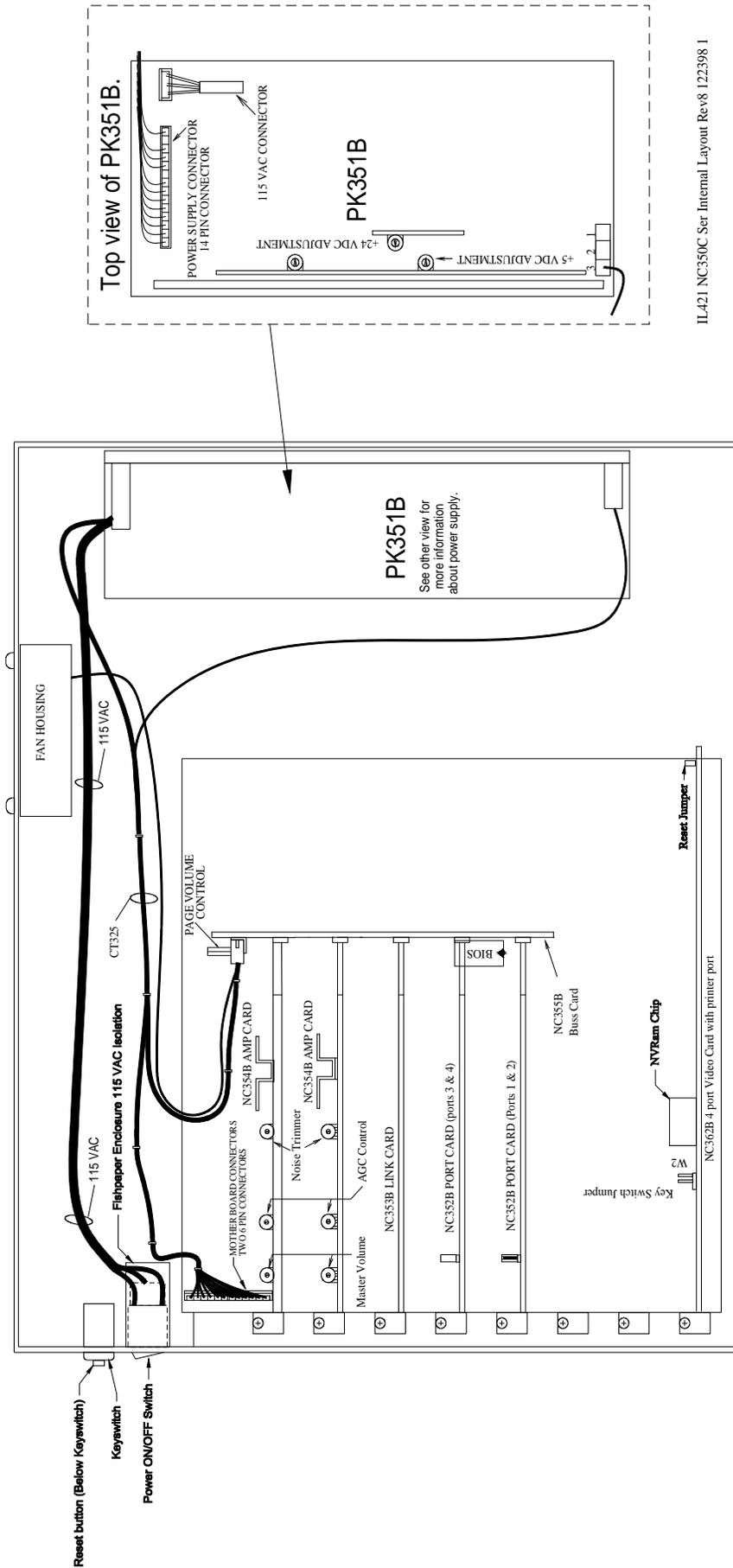
**6 PIN CONNECTOR
IR300A STATION**

Blue	6	+12 VDC
Green	5	CALL LED INPUT
Yellow	4	CALL INPUT +12 VDC
Orange	3	CANCEL INPUT +12 VDC
Red	2	+ AUDIO OUT
Brown	1	- AUDIO OUT

**6 PIN CONNECTOR
IR311A, IR312A STATION**

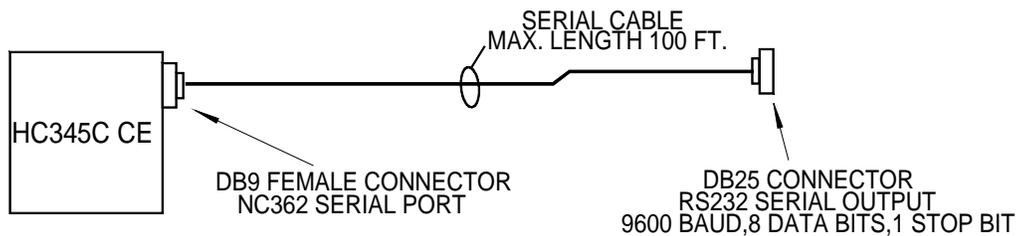
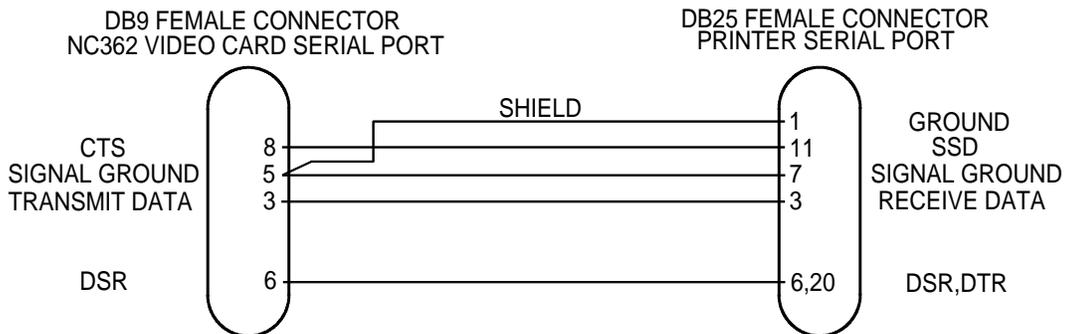
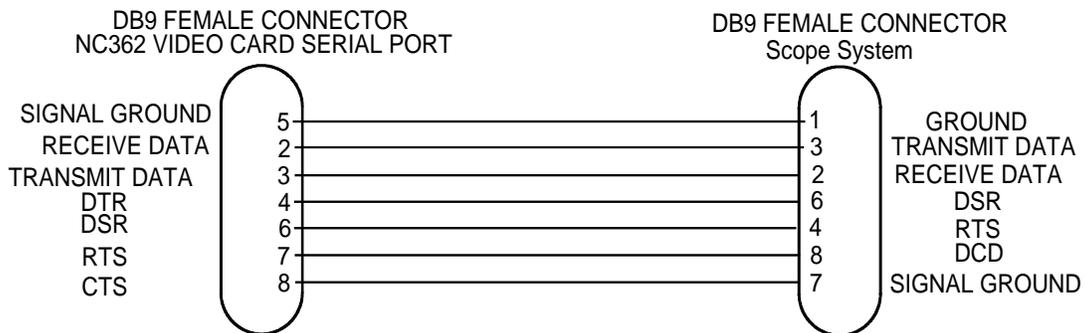
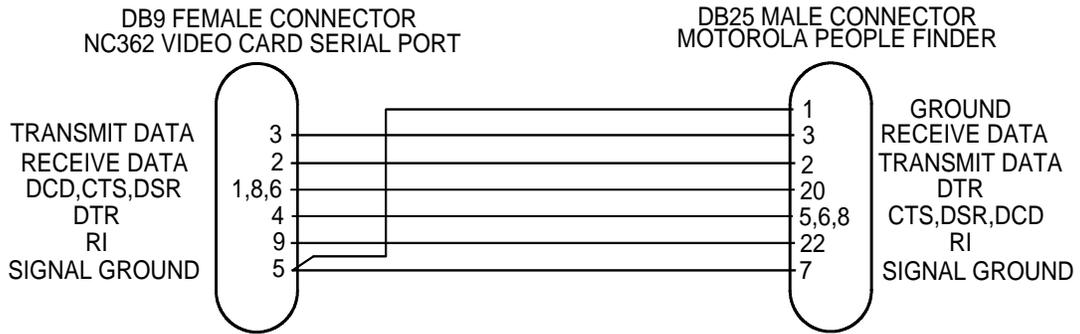
Blue	6	CALL LED INPUT
Green	5	CONTROL (PM311C/PM312C ONLY)
Yellow	4	RADIO OUTPUT +12 VDC
Orange	3	TV ON/OFF SWITCH
Red	2	TV + AUDIO
Brown	1	TV COMMON

Figure 41—HC345C Internal Hardware Diagram



IL421 NC350C Ser Internal Layout Rev8 122398 1

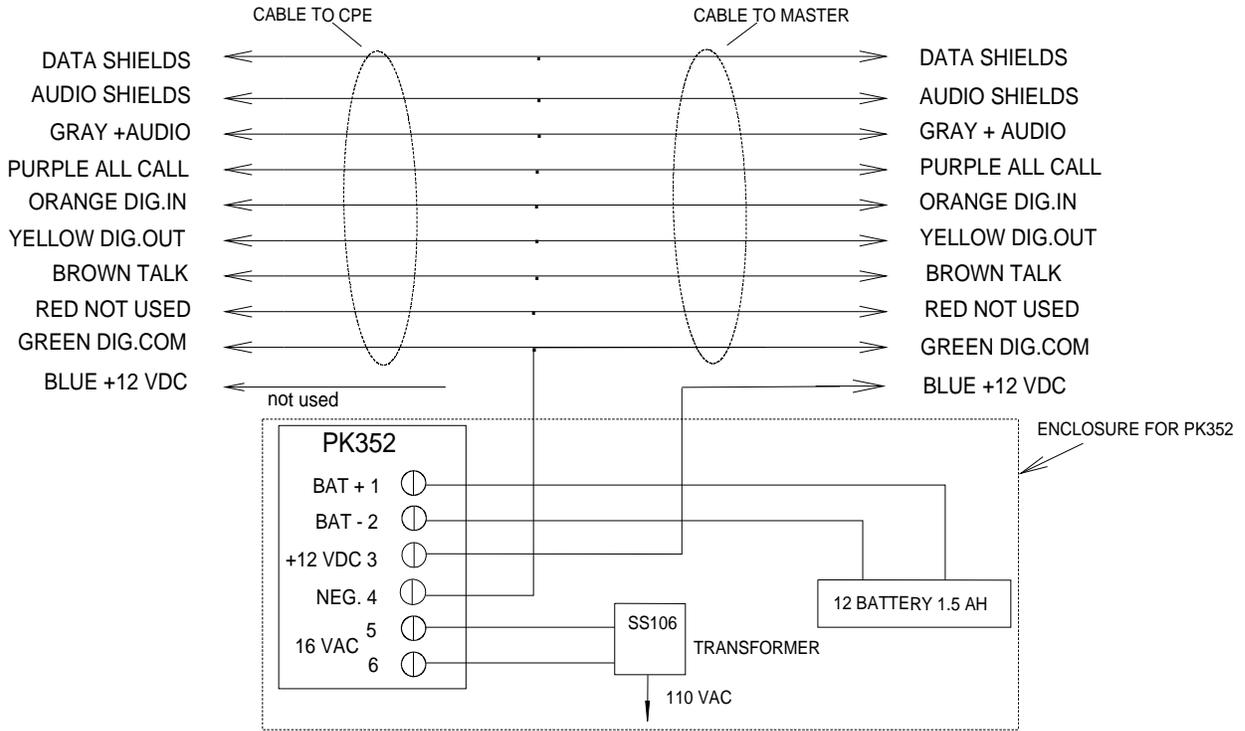
Figure 42—NC362P Video & Serial Card Wiring Diagram



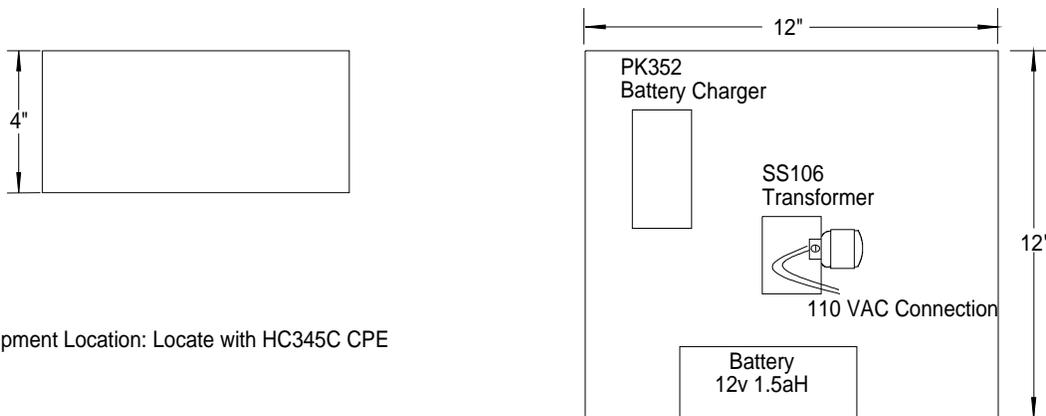
IL421 IL427 NC362P Serial Wiring Rev1 120402 3

Figure 43—PK352 Battery Charger Wiring Diagram

NOTE: ONLY NEEDED WHEN USING SUPERVISED CODE STATIONS (SF332A/SF341B)
AND SUPERVISED DOME LIGHTS (LI384A)
ONLY ONE MASTER IS REQUIRED TO BE CONNECTED TO PK352 PER SYSTEM



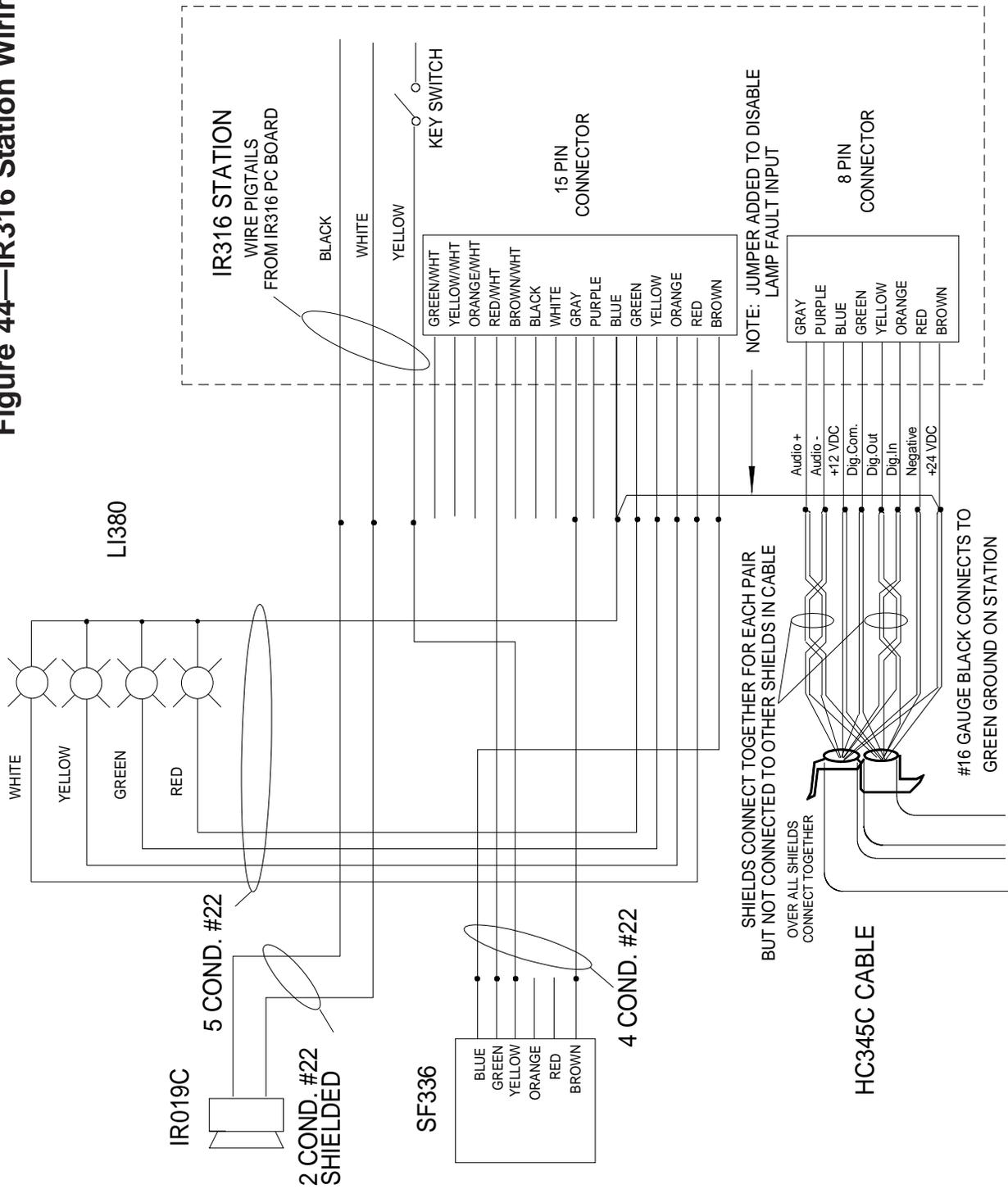
PK352 HOUSING



Equipment Location: Locate with HC345C CPE

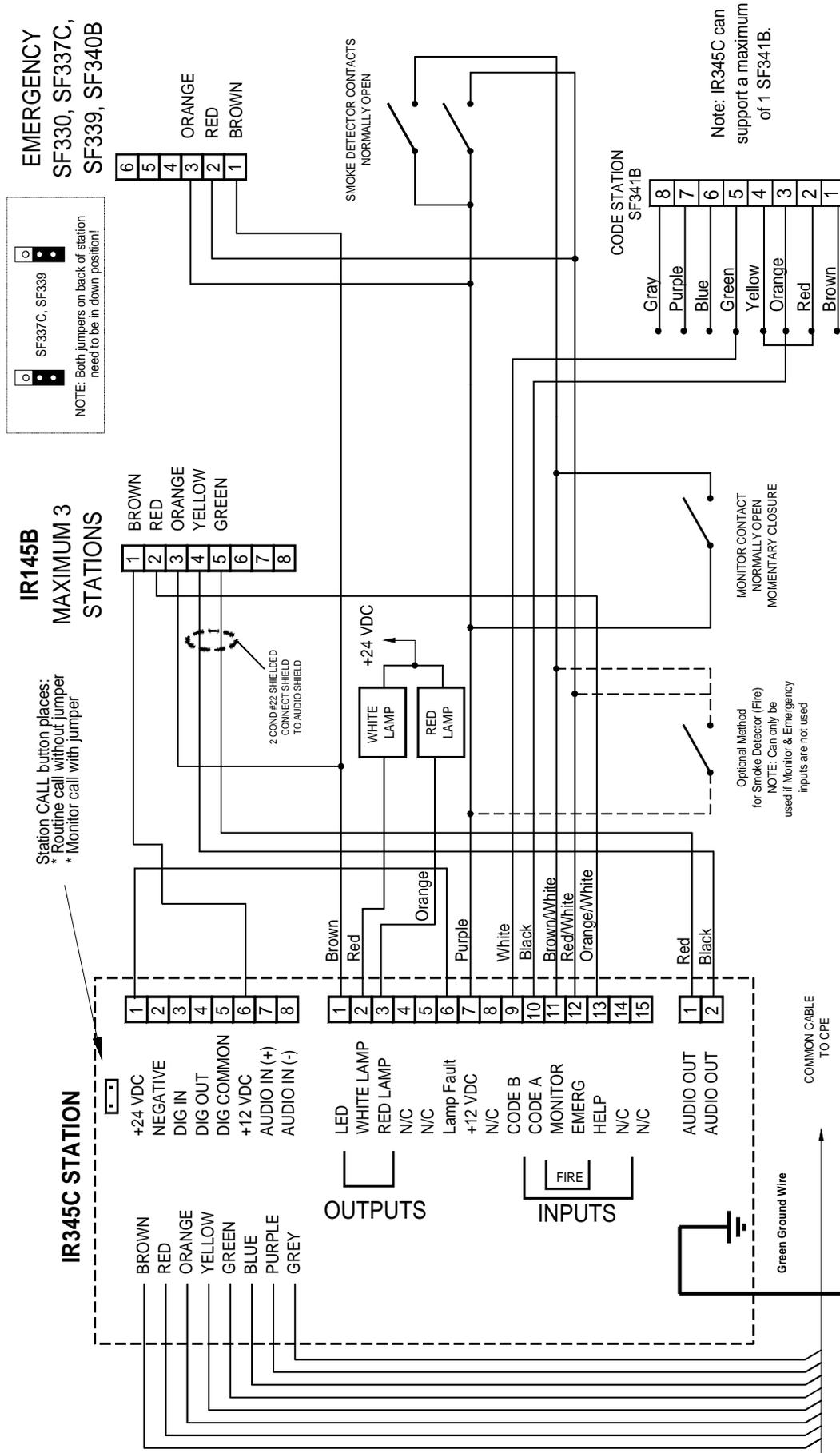
IL427 PK352 Wiring Rev2 102402 1

Figure 44—IR316 Station Wiring Diagram



IL427 IR316 Wiring Rev2 102402 1

Figure 45—IR345B/C, IR145B Occupant Help Station Wiring Diagram



IL427 IR345 Series WIRING REV7 062911 1