TekTone®
SOUND & SIGNAL

IL421
SECTION E
Rev. 24- 03/2002

Tek-MICRO®
NC300 Microprocessor
Nurse Call System

UL® Listed 1069

INSTALLATION INSTRUCTIONS
AND SERVICE MANUAL

Version 1.96 - NC350C/64, NC350C/64P
Version 3.06 - NC350C128P
Version 4.06 - NC350CPX2

Alpha Communications®
42 Central Drive
Farmingdale, NY 11735-1202
Phone: (631) 777-5500
Fax: (631) 777-5599

Website:
www.alpha-comm.com

Email:
info@alpha-comm.com

TOLL-FREE Technical #:
1-800-666-4800

APPLICATION: The Tek-MICRO® NC300 Microprocessor Nurse Call System is a computer controlled, supervised system utilizing central processing equipment along with patient, staff and duty stations, emergency stations, code call stations, presence stations, dome and zone lights.

The NC300 Series is designed for individual hospital ward use, nursing homes, or congregate living centers.

Tek-MICRO®
NC300 Microprocessor
Nurse Call System

Installation Instructions and Service Manual
Version 1.96 - NC350C/64, NC350C/64P
Version 3.06 - NC350C128P
Version 4.06 - NC 350CPX2

TABLE OF CONTENTS

TABLE OF CONTENTS (cont.)

NC300 MICROPROCESSOR NURSE CALL SYSTEM SUPPLEMENT TO MANUAL IL421

1.0 SYSTEM INTRODUCTION

The NC300 Nurse Call System is a supervised (Dig. In, Dig. Com., + 12 VDC, + 24 VDC Wiring), microprocessor-based nurse call system that provides a complete range of two-way audio and visual signaling, permitting communications between nursing staff and patients, as well as staff-to-staff communications.

The master station and video monitor make up the nursing control station where patient calls are registered and displayed in order of priority and time of origin. The control 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 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 station 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.

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 nurse call 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 nurse call 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 nurse call 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 nurse call 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 & IR300A with IR311B, IR312B & IR300B, the female 6 pin connector must be replaced with a 7 pin connector P/N CT307.

2.1 EQUIPMENT REQUIREMENTS AND APPLICATION

The NC300 System is designed as a zoned floor system with the flexibility to connect to other floor systems to control an entire hospital. A typical system will include the following:

NC350C/64 Central Processing Equipment (CPE) - The NC350C/64 CPE provides for all the microcomputer multiplex technology necessary to operate all NC300 System functions and interface with up to two NC303 Master Stations, up to 64 remote patient stations, and all other emergency and presence stations associated with each nurse call system. The CPE consists of microcomputer, memory and interface circuits, and power supply. Two 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 PC type cabinet. (Optional battery backup available, TekTone® model number PK250).

NC362UP (serial interface upgrade) - The NC362UP is used to upgrade an existing NC350C/64 to add event printing capabilities to the NC300 Nurse Call System, if connected to a compatible printer. The NC362UP may also be used to interface to radio pocket paging or to connect to a NC386A/8 Management System.

SAMPLE OF EVENT PRINT OUT

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 . . .

NC350CP Series Central Processing Equipment (CPE) - The NC350CP Series CPE provides the same technology as the NC350C/64, except it provides for printer capability, and is capable of interfacing with another NC350CP Series serial interface. (DSN = Dual System Networking) The NC350C/64P provides for up to 64 addresses, NC350C128P up to 128 addresses, and the NC350CPX2 for up to 256 addresses.

The NC350CP Series also provides a means of communicating the same event information about its particular system to other intelligent systems, such as pocket paging and management monitoring computer systems, via standard 9600 baud serial communications port. (NC350C/64 with NC362UP will provide the same serial port, as does the NC350CP Series.)

NC303 Master Station - The NC303 Master Station utilizes microprocessor technology to control all the communications and programming functions provided by the NC300 Nurse Call 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.

NC310B Video Monitor - The NC310B Video Monitor provides the means for visually tracking all NC300 System activity including display of all types and exact location of calls. All calls are displayed in standard English format. The NC310B must be used in conjunction with the NC303 Master Station. The video monitor is a standard monochrome type with composite video input and minimum of 350 lines of resolution. It includes a 12" amber or green screen with power, screen contrast and brightness controls, and ON-OFF LED indicator.

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

IR300B Multipurpose Station - The IR300B 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. IR300B is mounted on a flame retardant type ABS plastic panel. The IR300B can also support a zone lamp. (Turning DIP switch 7 "ON" turns IR300B Zone Lamp function "ON". Use LI380 or LI384A for lamp.)

IR301B Single/IR302B Dual Patient Stations -The IR301B Single and IR302B Dual Patient Stations provide reliable, hands-free communication between the patient and the nurse. The IR301B provides communication for one patient; the IR302B 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. The IR301B and IR302B are mounted on an ABS plastic panel.

IR311B Single/IR312B Dual Patient Stations -The IR311B Single and IR312B Dual Patient Stations provide two-way, hands-free communication between the patient and the nurse. The IR311B provides communication for one patient; the IR312B 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. The IR311B and IR312B are mounted on a flame retardant type ABS plastic panel.

IR310B Staff Station -The IR310B 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. The IR310B is mounted on a flame retardant type ABS panel. (Turning DIP switch 7 "ON" turns IR310B into a "ROUTINE CALL STATION".)

IR315B Duty Station - The IR315B Duty Station provides for 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. The IR315B is mounted on a flame retardant type 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.

RY351B Hill-Rom® SideCom® Adapter - Provides for interface with a Hill-Rom® SideCom® unit to the NC300 Nurse Call System via an IR311B/IR312B 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 non-cancelable call at the NC310B Monitor, should the bed be unplugged from the wall.

SF337C Pull Cord Waterproof Shower 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 SF337C is waterproof if properly installed.

SF340B 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.

SF350B Nurse/Aide Presence Station - The SF350B Nurse/Aide Presence Station provides push button registration of nurse or aide presence at remote locations. The station may also be used to transfer nurse follower feature from room location to room location. The station consists of separate push button switches and light indicators (green for nurse registration, yellow for aide registration). SF350B circuitry is mounted on a durable flame retardant plastic panel.

LI380 Dome Light - The LI380 Dome Light provides visual indication of calls originating from patient, staff, duty, bath, emergency, and code call stations, and of nurse/aide presence registration. Patient priority and staff presence are indicated by red, green, yellow, and white lamps. The LI380 functions as a zone light when used with the IR315B Duty Station. The LI380 consists of four bulbs covered by translucent plastic covers and mounted on a cycolac 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.

LI386 Dome Light - The LI386 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 (ie., public area bath). The LI386 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 IR311B and IR312B Patient Stations, respectively, provide for reliable two-way, hands-free commu-

nication between patient and nurse through the SF301PI Series Pillow Speaker. The modules mount directly to the plug-in connectors located on the IR311B or IR312B 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® IR311B/IR312B 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 (use with IR301B/IR302B).
SF301P Series	- Pillow speaker (use with IR311B/IR312B).
SF301PI Series	- Pillow speaker with intercom (use with IR311B/PM311C and IR312B/PM312C combinations).
SF302	- Dual push button call cord (IR301B/IR302B).
SF301/10	- Push button call cord w/10' cord (IR301B/IR302B).
SF302/10	- Dual push button call cord w/10'cord (use with IR301B/IR302B).
SF311	- Push button call cord w/modular jack (IR311B/IR312B).
SF312	- Dual push button call cord w/modular jack (IR311B/IR312B).
SF370 Series	- Pillow speaker (use with IR157N, NC150N/NC200N, IR257/IR258, IR311/IR312).

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

2.2 EQUIPMENT LOCATION

Locate NC300 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.

NC350C/64, NC350CP Series Central Processing Equipment (CPE) - The CPE should be located in an accessible area near a dedicated AC outlet, preferably central to the associated master stations. For optimum operation, the CPE should be located in an area with an operating temperature of approximately 26°C , 70-80% relative humidity. Equipment should 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 patient stations. The CPE may be surface or desk mounted in a minimal amount of space. Optional battery backup should be located 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) should be located within easy reach of operating personnel on a desk or counter top. 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.

NC310B Video Monitor - The NC310B Video Monitor(s) should be located with the NC303 Master Station where light levels do not affect legibility of the video display. The NC310B may be desk mounted, in a location which provides for easy access to a grounded 117 VAC outlet 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 NC350C/64 CPE and "Video In" jack on the NC310B Video Monitor. The operating temperature range of 10°C - 30°C should not be exceeded.

Call Cords - The call cord plugs should be inserted into associated station jacks or receptacles.

IR Series Patient Stations - The patient stations should be located where convenient for operation, most commonly at the head of the 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.

IR300B 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.

IR310B Staff Station - The staff station should be located 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.

IR315B Duty Station - The duty station should be located 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 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 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 (Refer to WIRING DIAGRAM NL405).

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.

SF350B Nurse/Aide Presence Station - The nurse/aide presence station should be located for convenient operation, usually near the room entrance, and in the same room as the patient station to which nurse or aide presence indication is desired.

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. 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 patient stations when used in conjunction with dome lights. Up to 32 patient stations may be used per cable run (64 stations if a NC350CPX2 is used), 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. If installing NC350CP SERIES, WM300 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 WM300 cable.

OR

TekTone® WM300 nine conductor cable assembly protected by a Gray PVC .045" thick jacket. Nominal O.D. - .590". 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.

- 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.

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 NC310B Video Monitor. See notes on BLOCK WIRING DIAGRAM-NL402 for additional information.

Station Wiring Layout - Run station wiring in accordance with the following information and notes provided on the BLOCK WIRING DIAGRAM-NL402. 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 NC350C Central Processing Equipment. Each master must be home run to the CPE.

B. NC310B Video Monitor: Run RG59U cable with connectors at both ends directly to NC350CP Series CPE.

C. IR Series 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 patient, duty, or staff stations. If LI384A Dome Lights are used, run common cable plus 8 cond. #22 directly to 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 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 patient, duty, or staff station for associated emergency/code call stations.

F. SF350B Presence Station: Home run 6 cond. #22 from each 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 IR311B/IR312B. (Note: One RY350B is required per pillow speaker requiring radio entertainment.) Run 1 conductor #18 gauge from television location to IR311B/IR312B.

H. RY351B Hill-Rom® SideCom® Adapter - Run 15 conductor #22 gauge shielded wire from TekTone® RY351B location to IR311B/IR312B 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. NC357BP/NC362P Printer Outputs - Use four conductor shielded cable not to exceed 100' in length. Set DIP switches 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'.)

NC357BP SERIAL CABLE CONFIGURATION
FOR OKIDATA 182 PLUS

DB25 FEMALE (on CPE)	DB25 MALE PRINTER
1	1
2	3
5	11
6	6,20
7	7

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

NC363P 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

NC362 SERIAL CABLE CONFIGURATION
FOR Tek-MMARS® II SYSTEM

DB9 FEMALE NC362	DB25 FEMALE Tek-MMARS® II SYSTEM
2	3
5	1,7
3	2
7	20

NC362 SERIAL CABLE CONFIGURATION
FOR INTERPAGE® SYSTEM

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

J. NC350CP Series to NC350CP Series -1 twisted pair shielded #18 plus 1 twisted pair shielded #18 individually jacketed, plus 4 cond. #18 plus 1 cond. #16. Cable must be of low capacitance (23 pF/foot) type.

2.4 HOUSING INSTALLATION

A. IR Series Patient/Staff/Duty/Multipurpose Stations: Install the back box (TekTone® #IH353, Steel City #H3BD with TekTone® #IH352, Steel City #3GC plaster ring or EXACT EQUIVALENT) as shown in Fig. 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.)

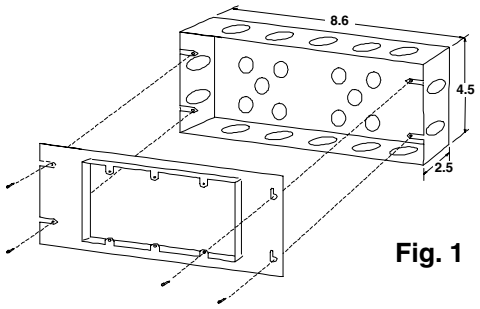


Fig. 1

B. LI380/LI384A/LI386 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 Fig. 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".

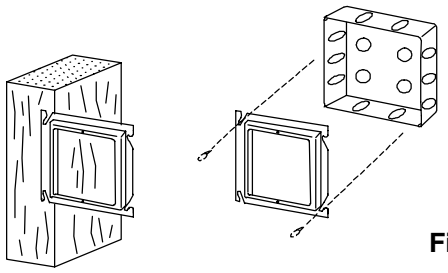


Fig. 2

C. NC303 Master Station/NC310B Video Monitor: The NC303 Master Station and NC310B Video Monitor are for desk or counter top mounting. The NC310B may be wall mounted if desired. 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. NC350C/64, NC350CP Series Central Processing Equipment: The CPE's are 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 Fig. 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".

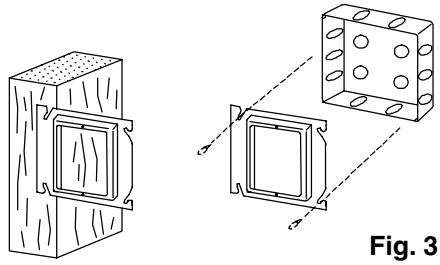


Fig. 3

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 water-tight 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 WIRING DIAGRAMS NL401, NL403, NL405, NL406, and NL415. 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. NC350CP Series Central Processing Equipment: Each NC350CP Series CPE is supplied with eight 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 master and patient/duty/staff station wiring. Maximum system capacity requires use of 8 cable assemblies. Smaller systems do not require use of all 8 assemblies. Four ports maximum are available for connection to master stations and four ports maximum are available for connection of up to 32 patient, staff, or duty stations per port. 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 Fig. 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. NC350C/64 Central Processing Equipment: The NC350C/64 CPE is the same as the NC350CP except it has the capacity of up to 64 patient, staff, or duty stations per system. The NC350C/64 also supports a maximum of 2 master stations.

C. 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 Fig. 5 for details.

D. NC310B Video Monitor: Plug one end of the RG59U cable (with connectors) to "VIDEO IN" jack located in back of the video monitor. Plug the other end of the cable to the "Y" adapters, which connects to the appropriate output card. Plug the video monitor into a grounded outlet supplying 115 VAC. No internal wiring is necessary.

E. IR Series Patient/Duty/Staff Stations: Before wiring, 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, 32 stations may be divided among two ports if two masters are being used and two talk paths are desired, even though all 32 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 Fig. 7 for setting addresses.

1. Set separate station addresses using DIP switch located on station PCB's. See Fig. 7 for location of DIP switch 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 NC350CP Series system default is "8". Default for 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 DIP switch settings. EXAMPLE: For a station number of 8100, 8 is the system default, the station is connected to station port 1 and all DIP switch's are in "OFF" position. All

stations on one port must be numbered consecutively, e.g. 8100, 8101, 8102, 8103, etc. up to 32 stations (64 stations on NC350CPX2) per port. Station numbers will be assigned automatically. Use only 0-31(0-63 for NC350CPX2) for station addresses.

3. During System Test (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, plug-in connector/cable assemblies supplied with each station to 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 WIRING DIAGRAM NL401 and NL405.

F. SF Series Emergency/Code Call/Presence Stations: Plug in connector/cable assembly supplied with each station. Connect wires as shown in WIRING DIAGRAM NL401.

G. LI380/LI384A Corridor or Dome Lights: Connect wires as shown in WIRING DIAGRAM NL401 or NL405 as needed.

H. LI386 Dome Light: Connect wires as shown in WIRING DIAGRAM NL402 and NL415 as needed.

I. PK352 Battery Charger Assembly: Connect wires as shown in WIRING DIAGRAM NL406.

J. RY350B Multi-Channel Relay: Connect wires as shown in WIRING DIAGRAM NL407.

2.7 MASTER STATION SETTINGS & 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 DIP switches 1, 2 and 3 only. Set DIP switch drawings according to Figure 9, page 23.

Example:
Master #1 (DIP switch 1 ON)
Master #2 (DIP switch 2 ON)
Master #3 (DIP switch 1,2 ON)
Master #4 (DIP switch 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 found in Fig. 8. (All controls clockwise = Increase).
Call Tone Volume: Adjust this control for higher or lower incoming call tones.

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

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

B. IR315B Duty Station - The Duty Station call tone and volume is adjustable via the three pin header located as shown in Figure 6, page 11.

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 to "ON". Do System Test (Section 6.0) then configure system as desired.

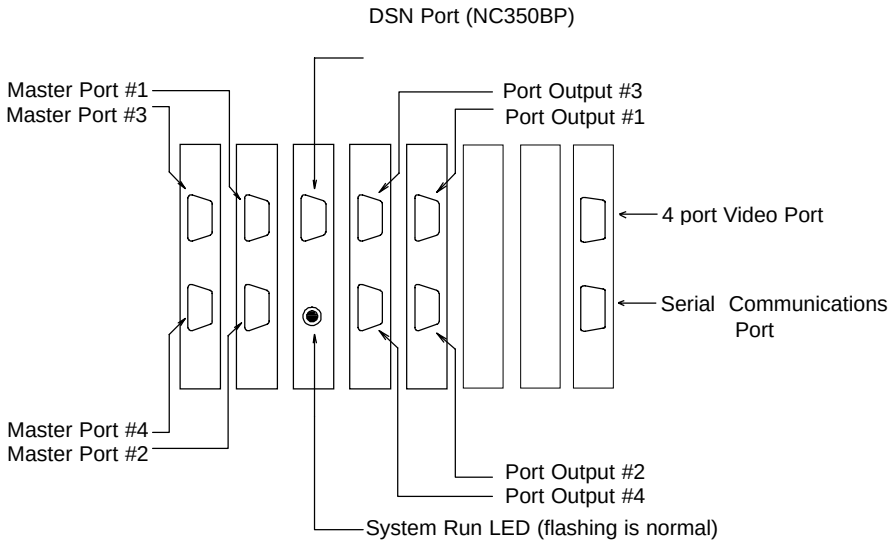


Fig. 4

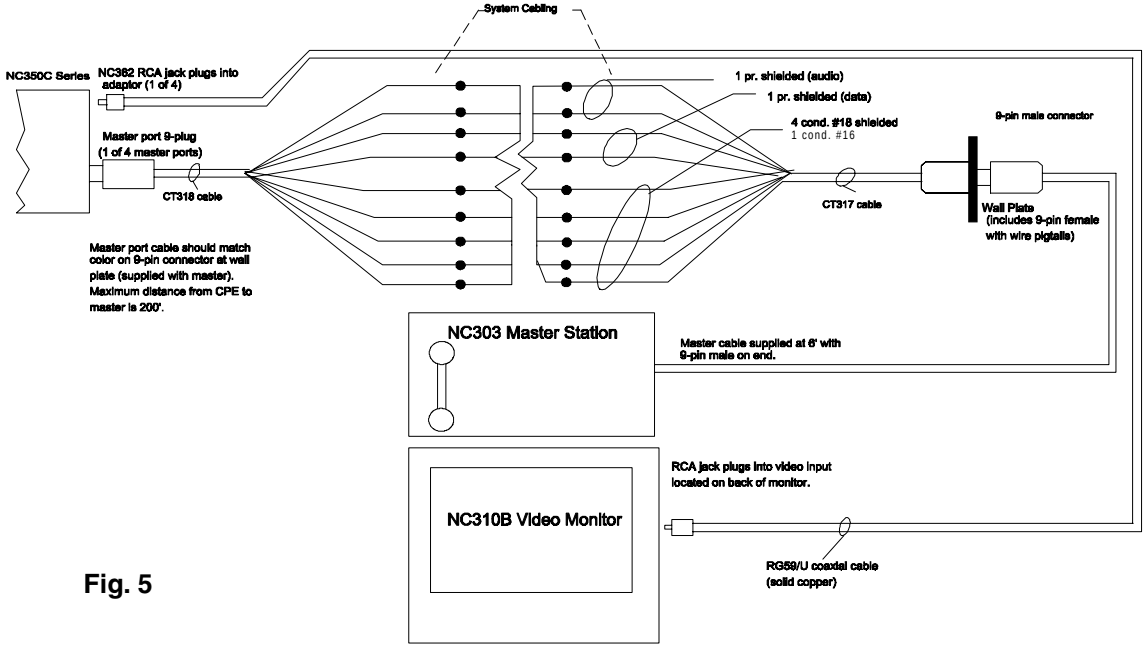


Fig. 5

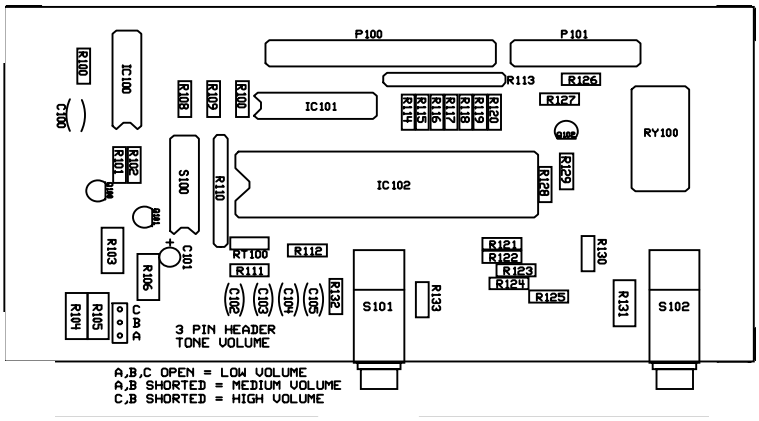
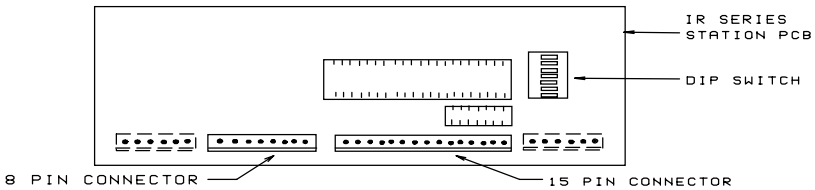
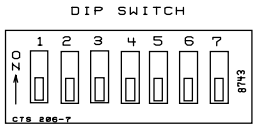


Fig. 6
IR315B DUTY STATION LAYOUT

Fig. 7
DIP SWITCH LOCATION ON IR SERIES STATION PRINTED CIRCUIT BOARDS





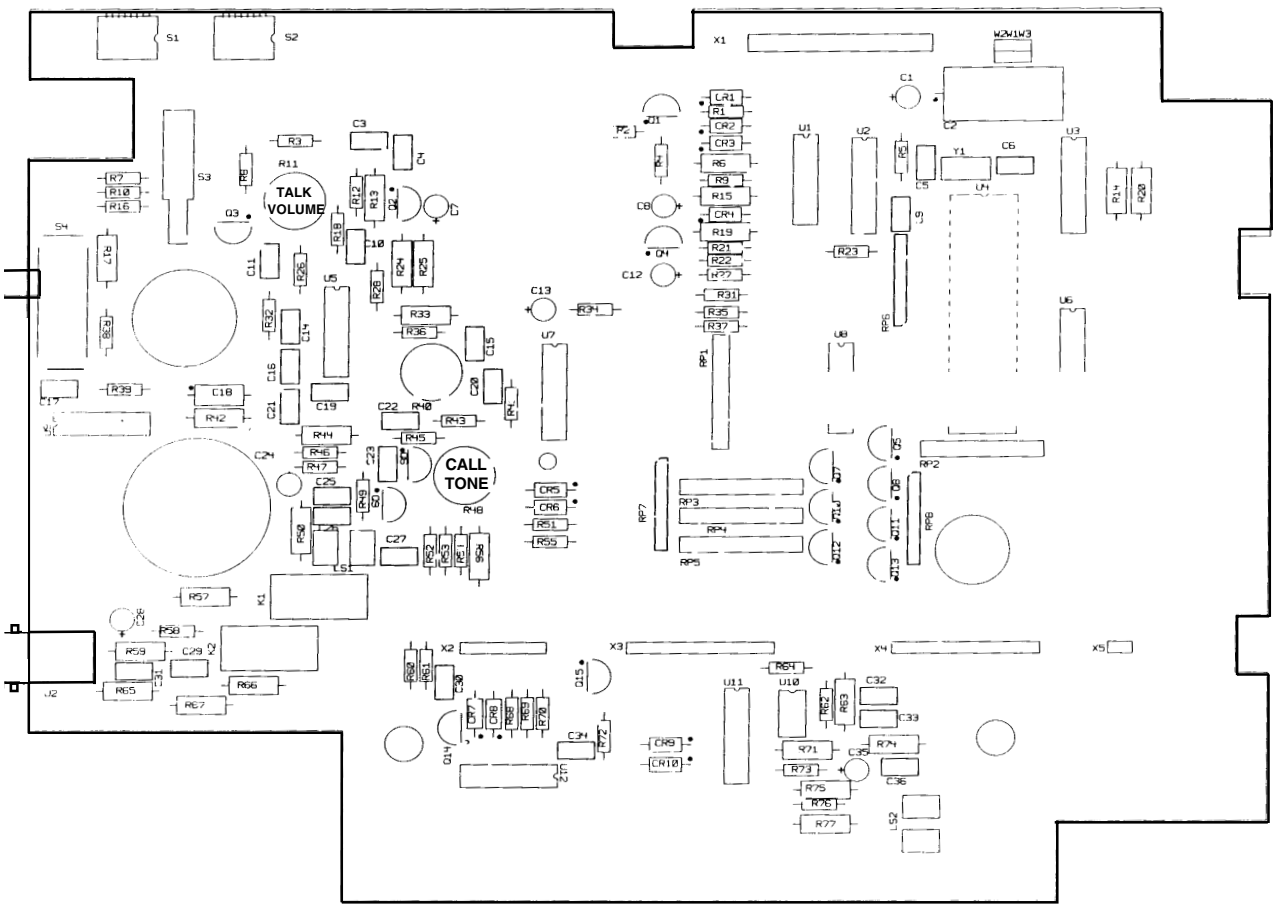
Use only DIP switches 1 - 6 for station addressing. Use only DIP switches 1 - 3 for Masters.

NOTE: Each DIP switch 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 DIP switch values are 0 - 31 (0-63 for NC350CPX2). No other numbers can be used.

DIP switch 7 "ON" turns IR300B and LI386 Zone Light function on, and turns IR310B into a "ROUTINE" call station. This is automatically set whenever CPE is initialized or powered up. If necessary, you may change the setting of DIP switch 7 by (1) deleting station setting [System Programming Section 3.4], (2) change DIP switch, (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



Note: To open 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 NC300 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 NC300 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.

Note: On Main Menu, numbers "8" and "9" used on NC350CP Series ("8" and "9" not present on NC350C/64).

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

```
MAIN MENU
1  Help Menu
2  Master Assignments Menu
3  User Function Menu
4  System Function Menu
5  Set Room Privacy, Page
6  Room Monitoring
7  Radio Pager Menu
* = exit : select menu item
```

B. Select "System Function Menu" by pressing "4" 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 (DIP switch setting) must now be entered, e.g. 8100, 8101, 8200, 8201, etc. (7100, 7101, 7201, 7202, etc. when using NC350CP Series). 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 <u>each</u> 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 now you are ready to 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, <u>system reinitialization will cause loss of all previously programmed data except password.</u>

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

3.2 TO CHANGE DUTY STATION CALL RESPONSE

Note: On Main Menu, numbers "8" and "9" used on NC350CP Series ("8" and "9" not present on NC350C/64).

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

```
MAIN MENU
1  Help Menu
2  Master Assignments Menu
3  User Function Menu
4  System Function Menu
5  Set Room Privacy, Page
6  Room Monitoring
7  Radio Pager Menu
* = exit : select menu item
```

B. Select "System Function Menu" by pressing "4" 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 "Duty Station Call Display" by pressing "2" on keypad.

```
DUTY CALL DISPLAY
Code      :        Duty:      :
Fire      :        Staff      :
Emergency :        Pers. Attn :
Monitor   :        Routine    :
Bath      :        Stat       :
Cord Out  :        Nurse      :
Priority  :        Aide:      :
Duty Station No.: _____ - ___
* menu : # = enter : enter room id
```

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

3.3 DUTY STATION DSN ZONE CAPTURE (NC350CP SERIES)

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.

```
MAIN MENU
1  Help Menu
2  Master Assignments Menu
3  User Function Menu
4  System Function Menu
5  Set Room Privacy, Page
6  Room Monitoring
7  Radio Pager Menu
8  Dual System Status
9  Dual System Zone Capture
* = exit : select menu item
```

B. Select "System Function Menu" by pressing the "4" 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 "Duty Station DSN Zone Capture" by pressing "3" on keypad.

```
Duty Station DSN Zone Assignments
Zone 1  2  3  4  5  6  7  8
     X  X  X  X  X  X  X  X
Room: _____ - ___
* = menu : # = enter room id
```

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

Note: On Main Menu, numbers "8" and "9" used on NC350CP Series ("8" and "9" not present on NC350C/64).

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

```
MAIN MENU
1  Help Menu
2  Master Assignments Menu
3  User Function Menu
4  System Function Menu
5  Set Room Privacy, Page
6  Room Monitoring
7  Radio Pager Menu
* = exit : select menu item
```

B. Select "System Function Menu" by pressing "4" 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 "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 to 31 (0 - 63 on the NC350CP Series CPE). For existing installations where the DIP switches for the station devices is 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 (For example: The station for port 2 on the NC350C/64 would be 8200 - 8231; The station for port 2 on the NC350CP Series would be 8200-8263). 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 DIP switches for the station device is 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 below 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 the presence of the device 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 NC300 System. Zoning assignments are for use in controlling the 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 patient, staff, and duty station zone assignments. Follow the procedure listed below at each master to assign master station zones.

Note: On Main Menu, numbers "8" and "9" used on NC350CP SERIES ("8" and "9" not present on NC350C/64).

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

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

```
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. Note: On Main Menu, numbers "8" and "9" used on NC350CP Series ("8" and "9" not present on NC350C/64).

A. Press "MENU" (blue) button.

```
MAIN MENU
1  Help Menu
2  Master Assignments Menu
3  User Function Menu
4  System Function Menu
5  Set Room Privacy, Page
6  Room Monitoring
7  Radio Pager Menu
* = exit : select menu item
```

B. Select "Master Assignments Menu" by pressing "2" on keypad.

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

C. Select "Master Call Display" by pressing "1" on keypad.

```
MASTER CALL DISPLAY
Code      : ON   Priority  : ON
Fire      : ON   Duty      : ON
Emergency : ON   Staff     : ON
Monitor   : ON   Pers.Attn : ON
Bath      : 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 Preannounce 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 the procedure below to assign Preannounce Call Tones. Note: On Main Menu, numbers "8" and "9" used on NC350CP Series ("8" and "9" not present on NC350C/64).

A. Press "MENU" (blue) button.

```
MAIN MENU
1  Help Menu
2  Master Assignments Menu
3  User Function Menu
4  System Function Menu
5  Set Room Privacy, Page
6  Room Monitoring
7  Radio Pager Menu
* = exit : select menu item
```

B. Select "Master Assignments Menu" by pressing "2" on keypad.

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

C. Select "Intercom Preannounce Tones" by pressing "2" 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 (NC350CP SERIES)

Follow the procedure listed below to display or change the DSN Status. You must have two systems connected together via NC353BDSN Link Card.

A. Press "MENU" (blue) button.

```
MAIN MENU
1  Help Menu
2  Master Assignments Menu
3  User Function Menu
4  System Function Menu
5  Set Room Privacy, Page
6  Room Monitoring
7  Radio Pager Menu
8  Dual System Status
9  Dual System Zone Capture
* = exit : select menu item
```

B. Select "Dual System Status" by pressing "8" 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 DSN ZONE CAPTURE (NC350CP SERIES)

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

A. Press "MENU" (blue) button.

```
MAIN MENU
1  Help Menu
2  Master Assignments Menu
3  User Function Menu
4  System Function Menu
5  Set Room Privacy, Page
6  Room Monitoring
7  Radio Pager Menu
8  Dual System Status
9  Dual System Zone Capture
* = exit : select menu item
```

B. Select "Dual System Zone Capture" by pressing "9" 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 what 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:

Note: On Main Menu, numbers “8” and “9” used on NC350CP Series (“8” and “9” not present on NC350C/64).

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.

Note: On Main Menu, numbers “8” and “9” used on NC350CP Series (“8” and “9” not present on NC350C/64).

A. Press “MENU” (blue) button.

```
MAIN MENU
1  Help Menu
2  Master Assignments Menu
3  User Function Menu
4  System Function Menu
5  Set Room Privacy, Page
6  Room Monitoring
7  Radio Pager Menu
* = exit : select menu item
```

B. Select “System Function Menu” by pressing “4” 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.

Note: On Main Menu, numbers “8” and “9” used on NC350CP Series (“8” and “9” not present on NC350C/64)

A. Press “MENU” (blue) button.

```
MAIN MENU
1  Help Menu
2  Master Assignments Menu
3  User Function Menu
4  System Function Menu
5  Set Room Privacy, Page
6  Room Monitoring
7  Radio Pager Menu
* = exit : select menu item
```

B. Select “System Function Menu” by pressing “4” 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
Set Time (24 hours) 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 a SF350B “nurse/aide button” and then register out again when leaving room on patient station. Follow the procedure listed to set call overtime.

Note: On Main Menu, numbers “8” and “9” used on NC350CP Series (“8” and “9” not present on NC350C/64).

A. Press “MENU” (blue) button.

```
MAIN MENU
1  Help Menu
2  Master Assignments Menu
3  User Function Menu
4  System Function Menu
5  Set Room Privacy, Page
6  Room Monitoring
7  Radio Pager Menu
* = exit : select menu item
```

B. Select "System Function Menu" by pressing "4" 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 access to 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.

Note: On Main Menu, numbers "8" and "9" used on NC350CP Series ("8" and "9" not present on NC350C/64).

A. Press "MENU" (blue) button.

```
MAIN MENU
1  Help Menu
2  Master Assignments Menu
3  User Function Menu
4  System Function Menu
5  Set Room Privacy, Page
6  Room Monitoring
7  Radio Pager Menu
* = exit : select menu item
```

B. Select "System Function Menu" by pressing "4" 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  Master Assignments Menu
ON   User Function Menu
OFF  System Function Menu
OFF  Set Room Priority, Privacy, Page
OFF  Room Monitoring
OFF  Radio Pager Menu
OFF  Dual System Status
OFF  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 "1" on keyboard to turn "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 (codes 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.

Note: On Main Menu, numbers "8" and "9" used on NC350CP Series ("8" and "9" not present on NC350C/64).

A. Press "MENU" (blue) button.

```
MAIN MENU
1  Help Menu
2  Master Assignments Menu
3  User Function Menu
4  System Function Menu
5  Set Room Privacy, Page
6  Room Monitoring
7  Radio Pager Menu
* = exit : select menu item
```

B. Select "System Function Menu" by pressing "4" 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.

Note: On Main Menu, numbers “8” and “9” used on NC350CP Series (“8” and “9” not present on NC350C/64).

A. Press “MENU” (blue) button.

```
MAIN  MENU
1   Help Menu
2   Master Assignments Menu
3   User Function Menu
4   System Function Menu
5   Set Room Privacy, Page
6   Room Monitoring
7   Radio Pager Menu
  * = exit   :   select  menu  item
```

B. Select “System Function Menu” by pressing “4” 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 NC300 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 and binary address. 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 #.

Note: On Main Menu, numbers “8” and “9” used on NC350CP Series (“8” and “9” not present on NC350C/64).

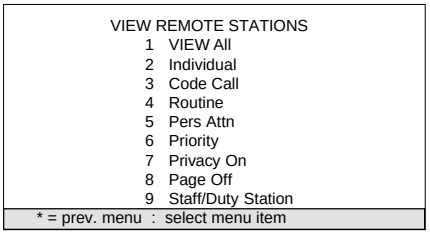
A. Press “MENU” (blue) button,

```
MAIN  MENU
1   Help Menu
2   Master Assignments Menu
3   User Function Menu
4   System Function Menu
5   Set Room Privacy, Page
6   Room Monitoring
7   Radio Pager Menu
  * = exit   :   select  menu  item
```

B. Select “User Function Menu” by pressing “3” 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".



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

3.18 ROOM MONITORING FUNCTION

Note: On Main Menu, numbers "8" and "9" used on NC350CP Series ("8" and "9" not present on NC350C/64).

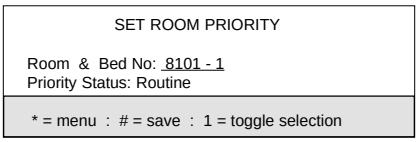
A. Press "MONITOR" (blue) button to go directly to "Enter Rooms To Be Monitored" menu, or use "Room Monitoring" on the main menu by pressing "5" on the keypad.

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 TO PROGRAM PATIENT PRIORITY

Note: On Main Menu, numbers "8" and "9" used on NC350CP Series ("8" and "9" not present on NC350C/64).

A. Press "PRIORITY" (blue) button to go directly to "Set Room Priority".



B. Enter room and bed number.

C. Select the desired priority by pressing "1".

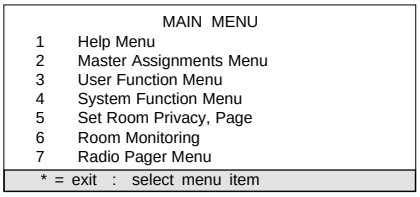
D. Press the "#" to save.

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 TO PROGRAM STATION PRIVACY

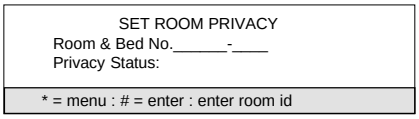
Note: On Main Menu, numbers "8" and "9" used on NC350CP Series ("8" and "9" not present on NC350C/64).

A. Press "MENU" (blue) button.

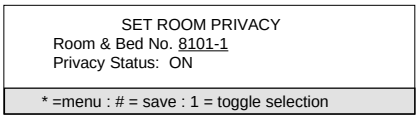


B. Select "Set Room Privacy, and Page" by pressing "5" on keypad.

C. Select "Set Room Privacy" by pressing "1" on keypad.



D. Enter room and bed number.



E. Select "PRIVACY" ON/OFF by pressing "1" on keypad.

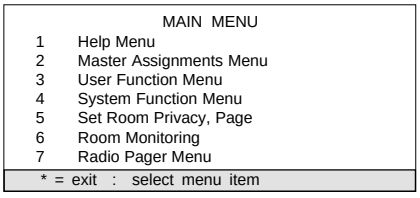
F. Press "#" to save.

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 TO PROGRAM STATION PAGING

Note: On Main Menu, numbers "8" and "9" used on NC350CP Series ("8" and "9" not present on NC350C/64).

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



B. Select “Set Room Privacy, and Page” by pressing “5” on keypad.

```
SET ROOM PRIVACY, AND PAGE
    1   Set Room Privacy
    2   Set Room Page
* = prev. menu  :  select menu item
```

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

```
SET ROOM PAGING

Room & Bed No. _____ - __
Paging Status:
* = menu  :  # = enter  :  enter room id
```

D. Enter 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 TO PROGRAM RADIO PAGER SYSTEM

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

Note: On Main Menu, numbers “8” and “9” used on NC350CP Series (“8” and “9” not present on NC350C/64).

A. Press “MENU” (blue) button.

```
MAIN  MENU
1   Help Menu
2   Master Assignments Menu
3   User Function Menu
4   System Function Menu
5   Set Room Privacy, Page
6   Room Monitoring
7   Radio Pager Menu
* = exit  :  select menu item
```

B. Select “Radio Pager Menu” by pressing “7” on keypad. This menu implements the four main pager capabilities.

C. 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
```

D. 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 400-447. 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
```

E. 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 turn “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 **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 steps A - E **3.22**, 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  :
Bath        :       Routine     :
Cord Out    :       Stat        :
                    Faults      :
Pager ID: _____
* = menu  :  # = next  : 0 = prev  : 1 = on/off
```

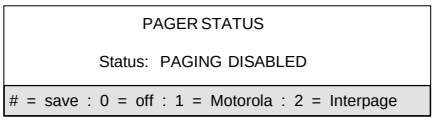
Enter the pager number to be programmed and then press the “#” key.

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 steps A - E, **3.22**, then perform the following:

A. Select “Specify Pager System and Status” by pressing “1” on key pad.



Press “0” to “DISABLE PAGER OUT”. Press “#” to save. Press “1” to “SELECT MOTOROLA®”. Press “#” to save. Press “2” to “SELECT INTERPAGE™”. Press “#” to save.

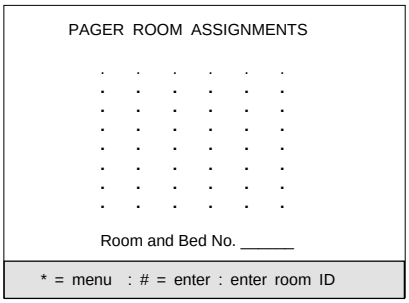
Protocols are as follows:

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

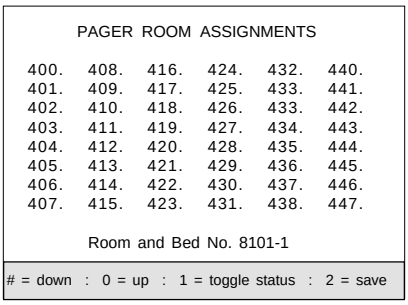
3.26 ASSIGN PAGER TO ROOM

Assigns room numbers to pagers on system. Any or all of the 48 pagers can be assigned to each room number. Repeat steps A-E section 3.22, and then perform the following:

A. Select “Assign Pager to Room” by pressing “5” on keypad.



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

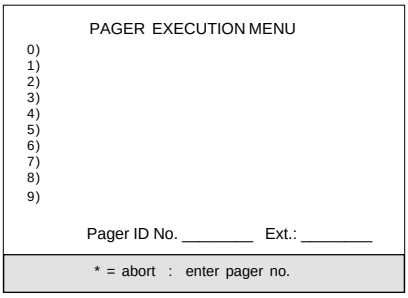


After you have entered valid room number and ID you can select which pagers you want to be assigned to that room. Press “*” to scroll up or “#” to scroll down to the specific pager number then press “1” to toggle on or off. A “.” next to the pager number indicates not selected, “x” next to the pager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

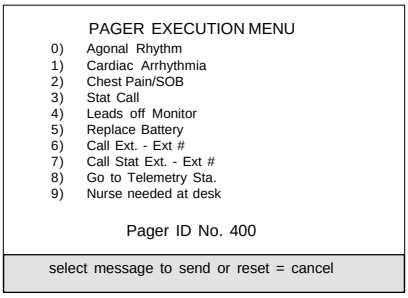
3.27 EXECUTE A PAGE

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 to a Pager” by pressing “6” on keypad.



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



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.

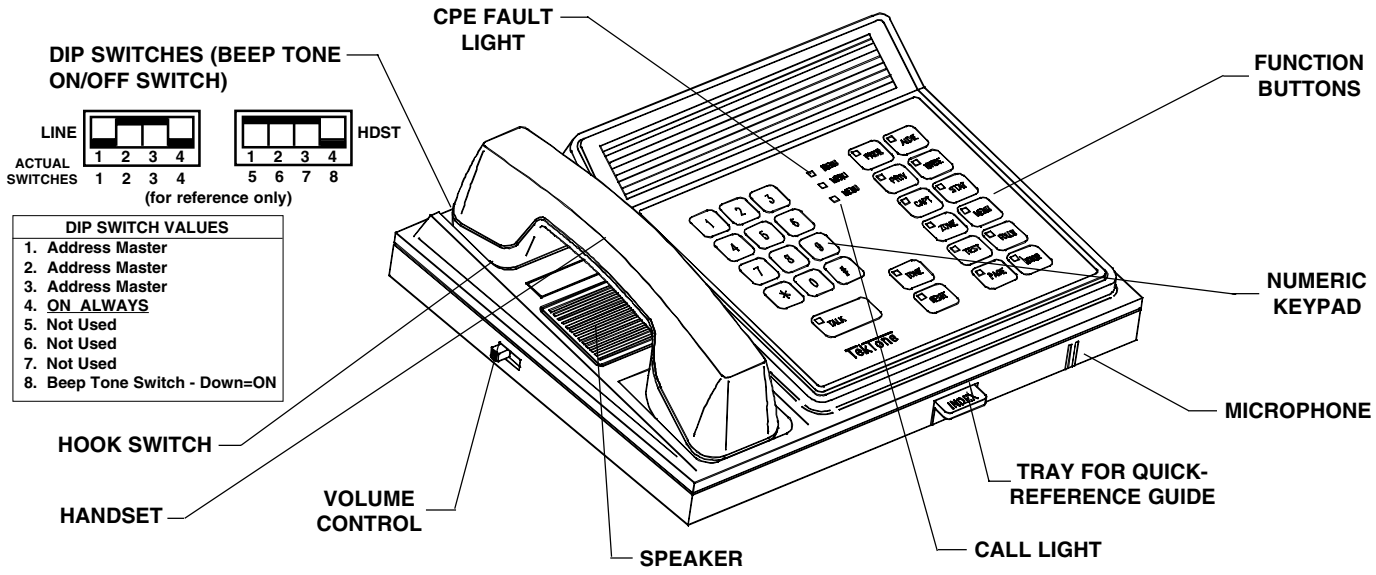
4.0 SYSTEM OPERATING INSTRUCTIONS

The following section provides complete operating information for all NC300 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.

4.1-1 NC303 MASTER STATION/NC310B VIDEO MONITOR

Refer to Fig. 9 and Fig. 10 for locations, names, and functions of controls and indicators. A brief description of the operating controls for the NC303 and NC310B follows.

NC303
Fig. 9



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.
NURSE (green) : Enters a nurse service request.
FOLLOW (orange) : Initiates nurse follower operations. LED lights while nurse follower is in use.
STAT (red) : Enters an urgent "STAT" service request for a nurse or aide.
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) : Page Down
VIEW (blue) : Page Up
PRIORITY (blue) : Displays for setting ROOM PRIORITY status.
TONE ON (lt. gray) : Turns ROUTINE call tone on or off. LED flashd.

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 DIP switch # 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.

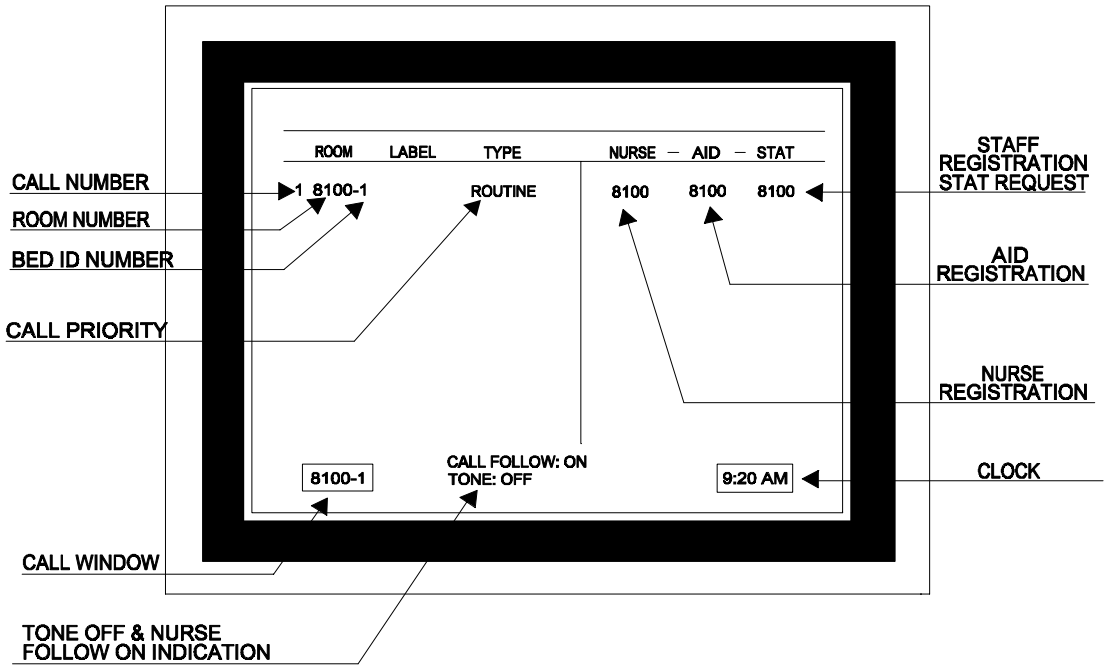
Speaker: The speaker is used for listening to remote stations and for call tones.

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

Hook Switch Option : The hook switch activates or terminates handset operation. Electrical rating 2MA, 12vdc.

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

NC310B
Fig. 10



NC310B VIDEO MONITOR

Incoming calls are displayed on the video monitor in plain English. The calls are displayed in order of origination and priority, with up to 16 calls displayed simultaneously. Additional calls are stored in memory and are identified by a "MORE CALLS WAITING" message. The call screen is divided into sections as described below.

Power Control: Controls power "ON/OFF" to video monitor. LED lights when power is "ON".

Contrast Control: Adjusts screen contrast.

Brightness Control: Adjusts screen brightness.

Call Number: Calls are displayed in order of origination and priority. Each call is assigned a call number, located at the extreme left of the call screen.

Room Number: Room number for each calling station is displayed. The number following the dash indicates bed number and will be highlighted when appearing in the call window.

Priority : Calls may have one of the following priority levels, listed in order of priority, and a field programmable overtime reminder. The letters "-OT" appear after any call that has gone unanswered for more than the preset overtime limit. If the call overtime is exceeded on a service request, a call will be placed to the associated patient station from the master station.

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

* 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.

System Status Priority: System status priority calls are generated by faults within the system and will appear on the video screen. System status calls are canceled only at such time as the fault is corrected.

TROUBLE: CODE indicates a fault in the code call circuit at one or more stations. The specific station room number will be displayed on the call screen. "CODE FAULT" indicates the following possible conditions:

- Wires from code station to patient station open.
- Wires from code station to patient station grounded or shorted to system wiring.
- Defective code station.
- Defective patient station.

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 (NC350CP Series CPE only).

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

Other Calls:

Bed Out: For use with RY351B Hill Rom® Adapter. Indicates if bed has been disconnected from wall plate.

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.

Stat: Displays the room numbers where a nurse and/or aide is registered present, or where an urgent "STAT" service request has been placed.

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

4.1-2 TO 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.

4.1-3 TO ANSWER A CALL SELECTIVELY

1. Enter the call number on the keypad, followed by the "#" key. The room number corresponding to the call number selected 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.

4.1-4 TO 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 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.)

4.1-5 TO 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 medium or low priority calls 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.

4.1-6 TO 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.

4.1-7 TO CANCEL NURSE OR AIDE SERVICE

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 registers in the selected room.

   When a nurse or aide registers by pressing the appropriate button on the room's SF350B Presence Station, the room number will remain on steady in the “NURSE” or “AIDE” area. When the nurse or aide leaves the room and presses the appropriate button on the Presence Station again, the “NURSE” or “AIDE” registration is canceled and will disappear from the screen.

   If a service request overtime call is placed, the call cannot be canceled from the master. The call can only be canceled at the patient station or as a result of the nurse or aide registering presence in the room, then pressing the appropriate “NURSE” or “AIDE” button again when leaving.

4.1-8 TO REQUEST STAT SERVICE

1. Select the room number as for communications.
2. Press the “STAT” (red) button. The room number will flash in the “STAT” area on the screen. If desired, communication may be established with the station to inform them assistance has been requested. A stat service may also be requested when a call is initiated at the patient station: when the “TALK” key is pressed to answer the incoming call, then “STAT” can be pressed and the reset button is pressed to cancel communication.

NOTE: “STAT” service cannot be requested to locations where devices are connected to an LI386 Addressable Dome/Zone Light.

4.1-9 TO CANCEL STAT SERVICE REQUEST

1. Stat service request must be canceled at the selected station.

   Stat service requests require attention from the nearest staff member. The system will continue signaling at the associated dome light until the selected station is "RESET", indicating that a staff member has responded. If an overtime call is placed, the call can only be canceled at the patient station.

4.1-10 TO PAGE A ZONE

1. Press the "PAGE" (gray) button.
2. Enter the desired zone number (1 - 8) 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.

4.1-11 TO 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.

4.1-12 TO 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.

4.1-13 TO PAGE ALL STATIONS ON SYSTEM

1. Press the "PAGE" (gray) button.
2. Press "9" 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 "9" 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 preassigned 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.)

4.1-14 NURSE/AIDE PAGING

1. Press "PAGE" (gray) button. Press "NURSE" (green) button and or "AIDE" (yellow) button. Press "TALK" or lift handset. (NOTE: Only locations that have Nurse or Aide presence indicated will be paged using SF350B Presence Station.)
2. Enter desired zone number (1-8) on keypad. (NOTE: if no numbers are entered, the page will default to the zones programmed for the master in use.) "PAGE" will appear in the call window. If "BUSY" appears, the zone being paged is in use from another Master in communication.
3. Press "TALK" (white) button while speaking or pick up handset.

4.1-15 ENABLE ROOM MONITORING

1. Press "MONITOR" (blue) button, or select "Room Monitoring" by pressing "6" on the keypad.
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: reenter". 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. Call displayed cancels monitor.

4.1-16 TO USE NURSE/AIDE FOLLOWER

1. Make sure there are no calls waiting, then press the "NURSE/AIDE FOLLOWER" (orange) button. Call tones will be sent to any room in the system where a nurse is registered, (provided the master is zoned for those calls).

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

   Nurses register their whereabouts by pressing the "NURSE/AIDE" button on the SF350B Presence Station. The room number where the nurse is registered will appear in the "NURSE" area on the call screen. If presence stations are not used, call tones may still be sent to specific rooms as indicated in step 2. (NOTE: Pressing the "NURSE FOLLOWER" button cancels the currently selected call, as this is the room to which the nurse should be responding first.)

   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.

4.1-17 PAGE UP/DOWN FEATURE

If more than 16 calls are displayed on the screen the rest of the calls can be seen by pressing the Page Up/ Down keys.

1. Page Up = View Key
2. Page Down = Privacy Key

4.1-18 TO OPERATE RADIO PAGER

The pager software addition to TekTone®'s NC300 Nurse Call System provides the capability of selectively sending event messages to radio pagers. Up to 48 Radio Pagers can be supported, each uniquely identified by its 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 NC300 Software, Version 1.94 or higher (or optional NC363 for printer and pager at the same time), is designed to operate paging functions using the available printer/pager port as the connecting port. The NC300 Software, Version 1.94, 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, Section 3.22 - 3.25 for complete instructions on how to program and operate pagers.

4.2 IR301B/IR302B/IR311B/IR312B/IR318 PATIENT STATIONS

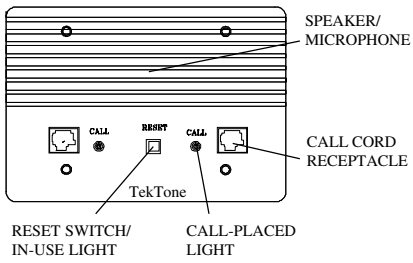
Refer to Figures 11 through 15 for locations, names, and functions of controls and indicators. A brief description of the operating controls for the patient stations follows.

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 flashes when any call is placed from the patient station.

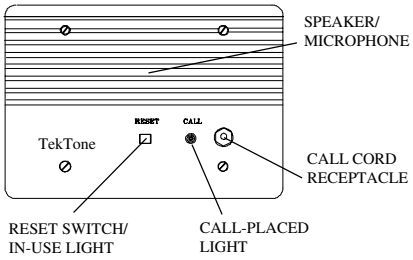
IR312B DUAL PATIENT STATION

Fig. 14



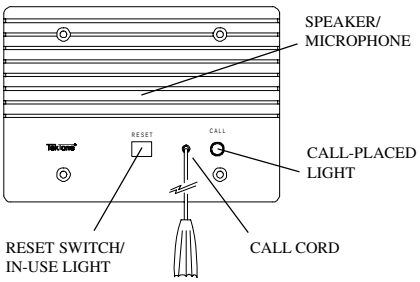
IR301B SINGLE PATIENT STATION

Fig. 11



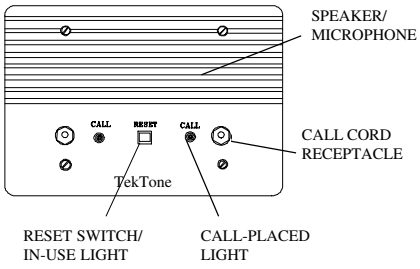
IR318 SINGLE PATIENT STATION

Fig. 15



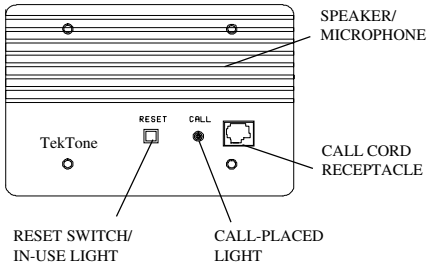
IR302B DUAL PATIENT STATION

Fig. 12



IR311B SINGLE PATIENT STATION

Fig. 13



Call Cord Receptacle: There are two kinds of call cord receptacles. The rectangular type (found on the IR311B/IR312B Stations) is for use with a pillow speaker or SF311/SF312 Call Cords. The round type (found on the IR301B/IR302B stations) is for use with a call cord (SF301, SF302). Single bed stations (IR301B/IR311B) have one call cord receptacle; dual bed stations (IR302B/IR312B) have two. Refer to Fig. 16 and Fig. 17 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.

OPERATION

A. TO PLACE A CALL

1. 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 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. TO REPLY TO A CALL

1. Reply in a normal voice when spoken to. (NOTE: For IR311B or IR312B 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. TO CANCEL A CALL

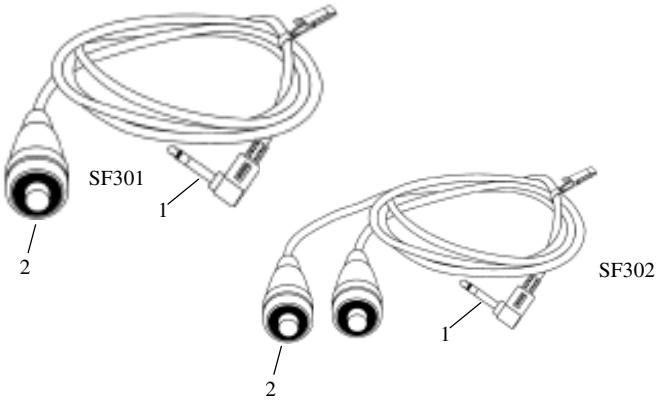
1. Press the reset button until the call-placed light is extinguished. Calls from emergency-type stations associated with the patient station must be canceled at the point of origin.

2. To cancel a call resulting from the removal of the call cord or pillow speaker, replace the jack in the receptacle.

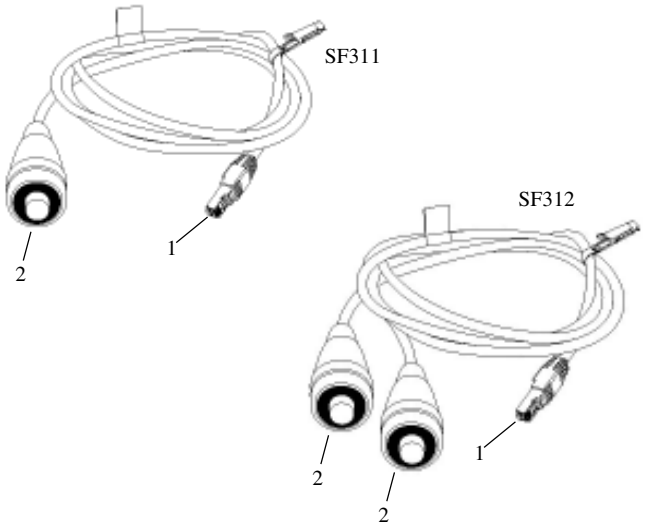
D. TO SELECT TELEVISION CHANNELS:

1. For models IR311B/IR312B 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.

Fig. 16

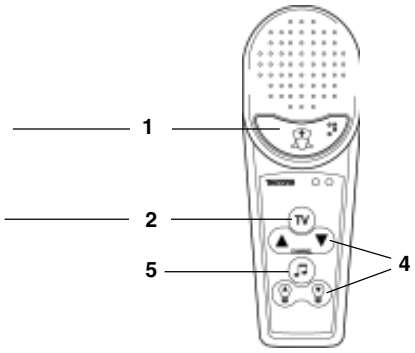


1. **Plug:** Connects call cord to patient station when plugged into call cord jack.
2. **Push Button:** Places call when pressed, if cord is connected to patient station.



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.

Fig. 17



SF301P SF301PIR

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

4.3 IR310B STAFF AND IR315B DUTY STATIONS

Refer to Fig. 18 and Fig. 19 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 flashes when a call is placed. The call light also 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 flashes 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.

OPERATION

A. TO PLACE A CALL

1. Press the call button until the call-placed light flashes.

B. TO REPLY

1. Reply in a normal voice when spoken to.

C. TO CANCEL A CALL

1. 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.

IR310B STAFF STATION

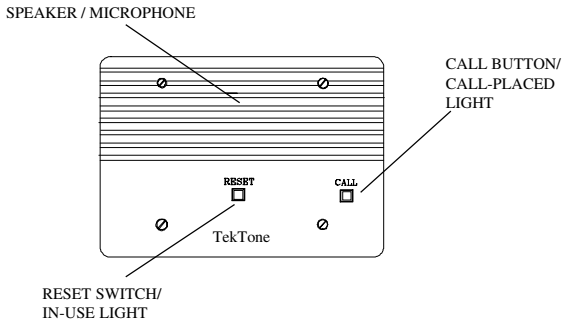


Fig. 18

IR315B DUTY STATION
(code stations cannot be wired to duty stations)

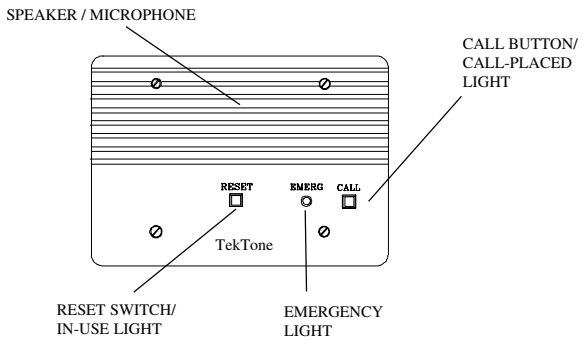


Fig. 19

4.4 IR316 PSYCHIATRIC STATION

Refer to Fig. 20 for locations, names, and functions of controls and indicators. Refer to WIRING DIAGRAMS NL401, NL405 and NL415 for wiring outputs provided for dome light indication. A brief description of the operating controls for the IR316 follows.

Reset Switch / 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 flashes to indicate call placement.

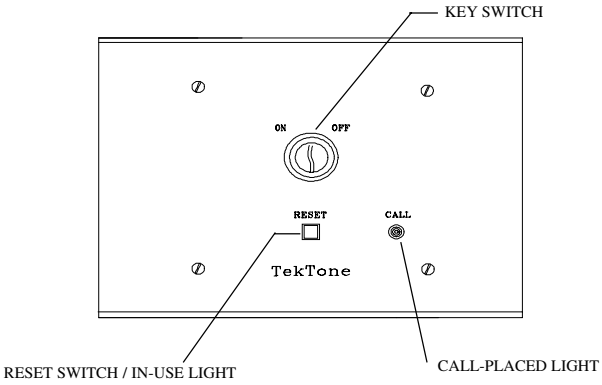


Fig. 20

OPERATION

A. TO PLACE A CALL

1. Place the key in the key switch and turn to the on position, the call light will illuminate.

B. TO CANCEL A CALL

1. Turn the key to the off position and press the reset switch.

4.5 SF341B CODE CALL STATION

Refer to Fig. 21 for locations, names, and functions of controls and indicators. Refer to NL401, NL405 and NL415 for wiring outputs provided for dome light indication. A brief description of the operating controls for the SF341B follows.

Pull-Down/Reset Lever: The Pull-Down/reset lever is used to place and reset code priority calls.

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

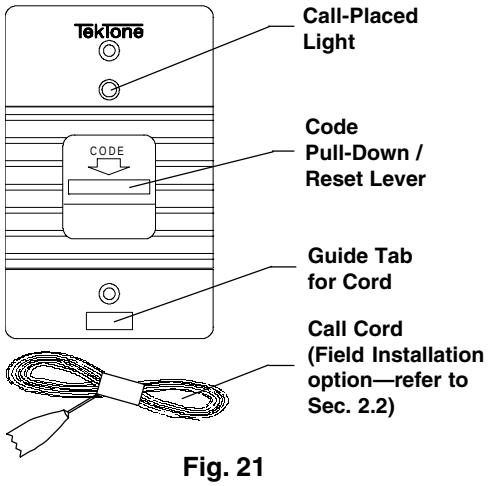


Fig. 21

OPERATION

A. TO PLACE A CALL

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

B. TO CANCEL A CALL

1. Push the blue lever to the "UP" position. Calls may be reset only at point of origin.

4.6 SF336/SF338 STAFF EMERGENCY PSYCHIATRIC STATIONS

Refer to Fig. 22 for locations, names, and functions of controls and indicators. Refer to WIRING DIAGRAMS NL401, NL405 and NL415 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 light 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.)

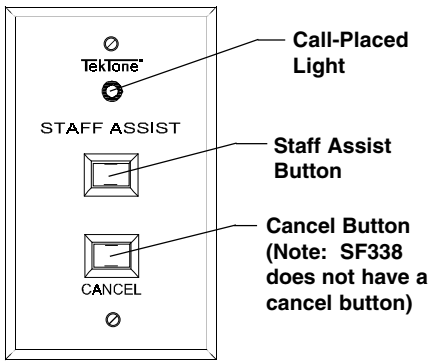


Fig. 22

A. TO PLACE A CALL

1. Turn key to "ON" position on associated IR316.
2. Push centrally located staff assist button on SF336/ SF338. A red call-placed indicator on the SF336/ SF338 flashes to assure a call has been placed.

B. TO CANCEL A CALL

1. Turn key to "OFF" position on associated IR316.
2. Push cancel button, on the SF336.
   OR
3. Turn key on the IR316 to the "OFF" position if call originated from an SF338.

4.7 SF350B NURSE/AIDE PRESENCE STATION

Refer to Fig. 23 for locations, names, and functions of controls and indicators. Refer to WIRING DIAGRAMS NL401, NL405 and NL415 for wiring outputs provided for dome light indication. A brief description of the operating controls for the SF350B follows.

Nurse Registration Button: The nurse registration button (green) is used to transmit a nurse-present signal to the master station and resets any routine, personal attention or priority call made from the room where the nurse is registered. The same button is used to cancel the nurse-present indication.

Aide Registration Button: The aide registration button (yellow) is used to transmit an aide-present signal to the master station and resets any routine, personal attention or priority call made from the room where the aide is registered. The same button is used to cancel the aide-present indication.

Nurse Registration Light: The green LED flashes to indicate a nurse service request has been placed from the master station, remains on steady to indicate nurse presence has been registered, and is canceled when the nurse registers out.

Aide Registration Light: The yellow LED flashes to indicate an aide service request has been placed from the master station, remains on steady to indicate aide presence has been registered, and is canceled when the aide registers out.

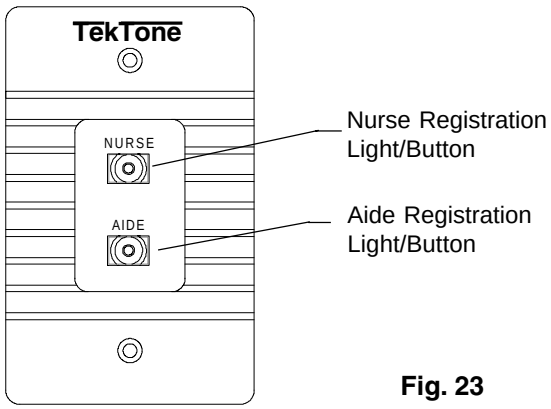


Fig. 23

A. TO REGISTER NURSE PRESENCE

1. Push the green button designated "NURSE".

B. TO CANCEL NURSE PRESENCE

1. Push the green button designated "NURSE".

C. TO REGISTER AIDE PRESENCE

1. Push the yellow button designated "AIDE".

D. TO CANCEL AIDE PRESENCE

1. Push the yellow button designated "AIDE".

4.8 SF337C PULL /PULL CORD WATERPROOF SHOWER EMERGENCY CALL STATION

Refer to Fig. 24 for locations, names, and functions of controls and indicators. Refer to WIRING DIAGRAMS NL401, NL405 and NL415 for wiring outputs provided for dome light indication. A brief description of the operating controls for the SF337C follows.

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

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

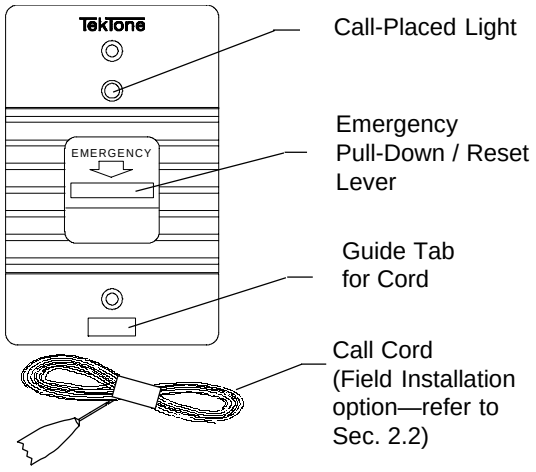


Fig. 24

A. TO PLACE A CALL

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

B. TO CANCEL A CALL

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

4.9 SF340B PULL /PULL CORD EMERGENCY CALL STATION

Refer to Fig. 25 for locations, names, and functions of controls and indicators. Refer to WIRING DIAGRAMS NL401, NL405 and NL415 for wiring outputs provided for dome light indication. A brief description of the operating controls for the SF340B follows.

Emergency Pull-Down / Reset 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.

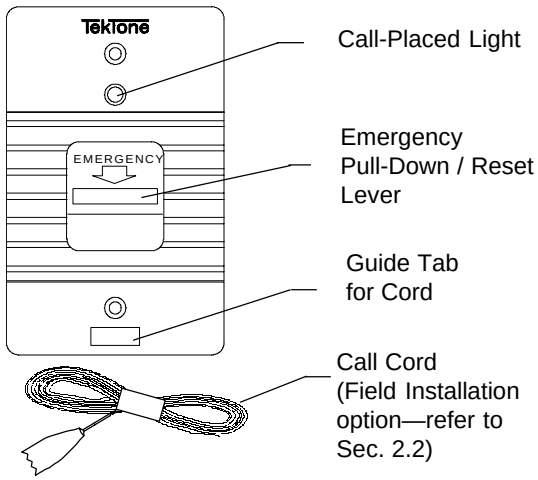


Fig. 25

OPERATION

A. TO PLACE A CALL

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

B. TO CANCEL A CALL

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

4.10 LI380/LI384A/LI386 DOME/ZONE LIGHTS

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

Lamps: The red, green, yellow and white lamps 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 lamp signal(s) as described below. When used as a zone light, with an IR315B Duty Station or LI386, all calls originated from the zones to which the duty station is assigned will be indicated by lamp signal(s) as described below.

LAMP INDICATION

High Priority:	CODE CALL - Alternately flashing red/white FIRE - Red flashing (supplementary only) EMERGENCY - White flashing STAT SERVICE REQUEST- Alternating flashing green/yellow
Medium Priority:	MONITOR - Red flashing BATH - White flashing BED OUT - White flashing CORD OUT - White flashing PRIORITY - White flashing NURSE SERVICE REQUEST - Green flashing AIDE SERVICE REQUEST - Yellow flashing
Low Priority:	STAFF - White steady DUTY - White steady PERS. ATTN. - White steady ROUTINE - White steady NURSE PRESENT - Green steady AIDE PRESENT - Yellow steady
System Status:	COMM. FAULT - No dome light indication CODE FAULT - No dome light indication LAMP FAULT - Red, yellow, or green lamp out - white lamp flashing on LI384A; white lamp out - no indication on LI384A
High Priority:	FAST REPEATING FLASH
Medium Priority:	SLOW REPEATING FLASH
Low Priority:	STEADY LAMP

5.0 SYSTEM MAINTENANCE INSTRUCTIONS

The following section provides information regarding NC300 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 IR301B/IR302B 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 IR311B/IR312B 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 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 counter-clockwise, then pull straight away from metal socket.

3. Remove bulb covers (if any) and place on new bulb.

4. To replace bulbs, hold by glass part and push in and rotate clockwise into socket.

5. Replace cover.

6. To test lamps, place calls at all stations necessary to test all lamp combinations.

(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

Part No.	Description	Used For
LI028	lamp 28V	LI380/LI384A/LI386 Dome/Zone Light
SF301	call cord	IR301B/IR302B Stations
SF302	call cord - dual	IR301B/IR302B Stations
SF301/10	call cord - 10'	IR301B/IR302B Stations
SF302/10	call cord - dual 10'	IR301B/IR302B Stations
SF301P	pillow speaker	IR311B/IR312B Stations
SF301PIR	pillow speaker with radio	IR311B/IR312B Stations with PM311C/PM312C
SF311	call cord	IR311B/IR312B Stations
SF311/10	call cord — 10'	IR311B/IR312B Stations
SF312	call cord-dual	IR311B/IR312B Stations
SF370 Series	pillow speaker	IR157N, NC150N/ NC200N, IR257/IR258, IR311/IR312 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 (DIP switch #8).

IR301B/IR302B/IR311B/IR312B/IR318 Patient Stations: Insert the appropriate call cord in each call cord receptacle. If the call-placed light is flashing, press the reset button to cancel it. Station priority should be set for "ROUTINE" or "PERSONAL ATTENTION".

IR310B Staff/IR315B Duty Stations: If the call-placed light is flashing, press the reset button to cancel it.

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

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

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

SF350B Presence Station: Green and yellow lights should not be illuminated. Press green and/or yellow button(s) to cancel.

6.1 IR301B/IR302B/IR310B/IR311B/IR312B/IR318 PATIENT/STAFF STATION TEST PROCEDURE

A. Initiate a call on each patient or staff station as described in the System Operating Section (4.0 - page 23). 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 flashing.
   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:

IR301B/IR302B/ IR311B/IR312B/IR318:	Routine or Personal Attention
IR310B:	Staff

   Check for following at duty station in the same zone:
   1. Call-placed light flashing.
   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 flashing.
   2. Reset/In-Use light steadily illuminated (except 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 light fixture, 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 moni- tor.
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. Priority Station
9. Personal Attention Station
10. 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 flashing 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 NC303 MASTER STATION/NC310B VIDEO MONITOR TEST PROCEDURE

A. Initiate a call from each master station to a patient station as described in the System Operating Section (4.0 - page 23).

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 - page 23).

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 patient station:
1. Dome light (green lamp) flashing.

Check for following at associated presence station:
1. Light (green) flashing.

Check for following at duty station in the same zone:
1. 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.

Check for following at patient station:
1. Dome light (green lamp) flashing.

Check for following at associated presence station:
1. Light (green) flashing.

Check for following at duty station in the same zone:
1. Dome light (green lamp) flashing.

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. Yellow lamp will flash on associated dome light and presence station.
3. 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 the System Operating Section (4.0 - page 23).

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 flashing.
2. Tone signal every 8 seconds.
3. Dome lights (white and green lamps) on steady.

Check for following at nurse presence station to which a nurses' presence has been canceled.

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. Room/bed ID number appears in call window.

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 flashing.
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.

6.3 SF336/SF338 STAFF EMERGENCY/ IR316 PSYCHIATRIC STATION/IR019C SPEAKER-MICROPHONE TEST PROCEDURE

A. Initiate a call on each patient or staff station as described in the System Operating Section (4.0 - page 23). 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 flashing.
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 flashing.
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 the Systems Operating Section (4.0 - page 23).

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

1. All signals canceled.

6.4 SF337C/SF340B BATH EMERGENCY STATION TEST PROCEDURE

A. Initiate a call on each emergency station (one at a time) as described in the System Operating Section (4.0 - page 23).

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 "BATH".

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 the System Operating Section (4.0 - page 23).

Check for following at emergency, patient, duty and master stations:
1. All signals canceled.

6.5 SF341B CODE STATION TEST PROCEDURE

A. Initiate a call on each station (one at a time) as described in the System Operating Section (4.0 - page 23).

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 the System Operating Section (4.0 - page 23).

Check for following at code call, patient, duty and master stations:
1. All signals canceled.

6.6 SF350B NURSE/AIDE PRESENCE STATION TEST PROCEDURE

A. Register nurse and aide presence on each presence station as described in the System Operating Section (4.0 - page 23).
Check for following at presence station:
1. Nurse light (green) steadily illuminated.
2. Aide light (yellow) steadily illuminated.

Check for following at associated patient station:
1. Dome light (green lamp) steadily illuminated.
2. Dome light (yellow lamp) steadily illuminated.

Check for following at master station:
1. Room number of associated patient station appears steady in "NURSE" area of call screen.
2. Room number of associated patient station appears steady in "AIDE" area of call screen.

Check for following at duty station in the same zone:
1. Dome light (green lamp) steadily illuminated.
2. Dome light (yellow lamp) steadily illuminated.

B. Cancel nurse and aide registration as described in the System Operating Section (4.0 - page 23).

Check for following at presence, patient, duty and master stations:
1. All signals canceled.

6.7 PRIORITY CALLS TEST PROCEDURE

After the master console and patient stations have been programmed as outlined in the System Configuration/Programming Section (3.0 - page 13) 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 the 4.0 SYSTEM OPERATING INSTRUCTIONS Section.

Check to confirm that the calls are displayed in highest priority first, then the next in the order shown on page 19.

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","BATH", "FIRE", or "CODE CALL" to insure that the system interrupts and directs the communications to the emergency.

TekTone®
SOUND & SIGNAL
...clearly the best.

NC300 Microprocessor Nurse Call System

Port Programming Sheets

Port 1 Programming Sheet

SPUA	Default RM/BED	ASSIG. ROOM	BED		ZONE-NO.	PRIOR R/P/PA		PAG (ON/OFF)	PRV (ON/OFF)	CODE (ON/OFF)	LABEL
1100	8100-1										
1101	8101-1										
1102	8102-1										
1103	8103-1										
1104	8104-1										
1105	8105-1										
1106	8106-1										
1107	8107-1										
1108	8108-1										
1109	8109-1										
1110	8110-1										
1111	8111-1										
1112	8112-1										
1113	8113-1										
1114	8114-1										
1115	8115-1										
1116	8116-1										
1117	8117-1										
1118	8118-1										
1119	8119-1										
1120	8120-1										
1121	8121-1										
1122	8122-1										
1123	8123-1										
1124	8124-1										
1125	8125-1										
1126	8126-1										
1127	8127-1										
1128	8128-1										
1129	8129-1										
1130	8130-1										
1131	8131-1										

Example of how information appears on “View Station” menu

1101	8101-1		1	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 or PA: Personal Attention
PAG = Paging set on or off
PRV = Privacy set on or off
CODE = On or off

Port 1 Programming Sheet

SPUA	Default RM/BED	ASSIG. ROOM	BED		ZONE-NO.	PRIOR R/P/PA		PAG (ON/OFF)	PRV (ON/OFF)	CODE (ON/OFF)	LABEL
1132	8132-1										
1133	8133-1										
1134	8134-1										
1135	8135-1										
1136	8136-1										
1137	8137-1										
1138	8138-1										
1139	8139-1										
1140	8140-1										
1141	8141-1										
1142	8142-1										
1143	8143-1										
1144	8144-1										
1145	8145-1										
1146	8146-1										
1147	8147-1										
1148	8148-1										
1149	8149-1										
1150	8150-1										
1151	8151-1										
1152	8152-1										
1153	8153-1										
1154	8154-1										
1155	8155-1										
1156	8156-1										
1157	8157-1										
1158	8158-1										
1159	8159-1										
1160	8160-1										
1161	8161-1										
1162	8162-1										
1163	8163-1										

Example of how information appears on “View Station” menu

1132	8132-1		1	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 or PA: Personal Attention
PAG = Paging set on or off
PRV = Privacy set on or off
CODE = On or off

Port 2 Programming Sheet

SPUA	Default RM/BED	ASSIG. ROOM	BED		ZONE-NO.	PRIOR R/P/PA		PAG (ON/OFF)	PRV (ON/OFF)	CODE (ON/OFF)	LABEL
1200	8200-1										
1201	8201-1										
1202	8202-1										
1203	8203-1										
1204	8204-1										
1205	8205-1										
1206	8206-1										
1207	8207-1										
1208	8208-1										
1209	8209-1										
1210	8210-1										
1211	8211-1										
1212	8212-1										
1213	8213-1										
1214	8214-1										
1215	8215-1										
1216	8216-1										
1217	8217-1										
1218	8218-1										
1219	8219-1										
1220	8220-1										
1221	8221-1										
1222	8222-1										
1223	8223-1										
1224	8224-1										
1225	8225-1										
1226	8226-1										
1227	8227-1										
1228	8228-1										
1229	8229-1										
1230	8230-1										
1231	8231-1										

Example of how information appears on “View Station” menu

1201	8201-1		1	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 or PA: Personal Attention
PAG = Paging set on or off
PRV = Privacy set on or off
CODE = On or off

Port 2 Programming Sheet

SPUA	Default RM/BED	ASSIG. ROOM	BED		ZONE-NO.	PRIOR R/P/PA		PAG (ON/OFF)	PRV (ON/OFF)	CODE (ON/OFF)	LABEL
1232	8232-1										
1233	8233-1										
1234	8234-1										
1235	8235-1										
1236	8236-1										
1237	8237-1										
1238	8238-1										
1239	8239-1										
1240	8240-1										
1241	8241-1										
1242	8242-1										
1243	8243-1										
1244	8244-1										
1245	8245-1										
1246	8246-1										
1247	8247-1										
1248	8248-1										
1249	8249-1										
1250	8250-1										
1251	8251-1										
1252	8252-1										
1253	8253-1										
1254	8254-1										
1255	8255-1										
1256	8256-1										
1257	8257-1										
1258	8258-1										
1259	8259-1										
1260	8260-1										
1261	8261-1										
1262	8262-1										
1263	8263-1										

Example of how information appears on "View Station" menu

1232	8232-1		1	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 or PA: Personal Attention
PAG = Paging set on or off
PRV = Privacy set on or off
CODE = On or off

Port 3 Programming Sheet

SPUA	Default RM/BED	ASSIG. ROOM	BED		ZONE-NO.	PRIOR R/P/PA		PAG (ON/OFF)	PRV (ON/OFF)	CODE (ON/OFF)	LABEL
1300	8300-1										
1301	8301-1										
1302	8302-1										
1303	8303-1										
1304	8304-1										
1305	8305-1										
1306	8306-1										
1307	8307-1										
1308	8308-1										
1309	8309-1										
1310	8310-1										
1311	8311-1										
1312	8312-1										
1313	8313-1										
1314	8314-1										
1315	8315-1										
1316	8316-1										
1317	8317-1										
1318	8318-1										
1319	8319-1										
1320	8320-1										
1321	8321-1										
1322	8322-1										
1323	8323-1										
1324	8324-1										
1325	8325-1										
1326	8326-1										
1327	8327-1										
1328	8328-1										
1329	8329-1										
1330	8330-1										
1331	8331-1										

Example of how information appears on “View Station” menu

1301	8301-1		1	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 or PA: Personal Attention
PAG = Paging set on or off
PRV = Privacy set on or off
CODE = On or off

Port 3 Programming Sheet

SPUA	Default RM/BED	ASSIG. ROOM	BED		ZONE-NO.	PRIOR R/P/PA		PAG (ON/OFF)	PRV (ON/OFF)	CODE (ON/OFF)	LABEL
1332	8332-1										
1333	8333-1										
1334	8334-1										
1335	8335-1										
1336	8336-1										
1337	8337-1										
1338	8338-1										
1339	8339-1										
1340	8340-1										
1341	8341-1										
1342	8342-1										
1343	8343-1										
1344	8344-1										
1345	8345-1										
1346	8346-1										
1347	8347-1										
1348	8348-1										
1349	8349-1										
1350	8350-1										
1351	8351-1										
1352	8352-1										
1353	8353-1										
1354	8354-1										
1355	8355-1										
1356	8356-1										
1357	8357-1										
1358	8358-1										
1359	8359-1										
1360	8360-1										
1361	8361-1										
1362	8362-1										
1363	8363-1										

Example of how information appears on "View Station" menu

1332	8332-1		1	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 or PA: Personal Attention
PAG = Paging set on or off
PRV = Privacy set on or off
CODE = On or off

Port 4 Programming Sheet

SPUA	Default RM/BED	ASSIG. ROOM	BED		ZONE-NO.	PRIOR R/P/PA		PAG (ON/OFF)	PRV (ON/OFF)	CODE (ON/OFF)	LABEL
1400	8400-1										
1401	8401-1										
1402	8402-1										
1403	8403-1										
1404	8404-1										
1405	8405-1										
1406	8406-1										
1407	8407-1										
1408	8408-1										
1409	8409-1										
1410	8410-1										
1411	8411-1										
1412	8412-1										
1413	8413-1										
1414	8414-1										
1415	8415-1										
1416	8416-1										
1417	8417-1										
1418	8418-1										
1419	8419-1										
1420	8420-1										
1421	8421-1										
1422	8422-1										
1423	8423-1										
1424	8424-1										
1425	8425-1										
1426	8426-1										
1427	8427-1										
1428	8428-1										
1429	8429-1										
1430	8430-1										
1431	8431-1										

Example of how information appears on “View Station” menu

1401	8401-1		1	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 or PA: Personal Attention
PAG = Paging set on or off
PRV = Privacy set on or off
CODE = On or off

Port 4 Programming Sheet

SPUA	Default RM/BED	ASSIG. ROOM	BED		ZONE-NO.	PRIOR R/P/PA		PAG (ON/OFF)	PRV (ON/OFF)	CODE (ON/OFF)	LABEL
1432	8432-1										
1433	8433-1										
1434	8434-1										
1435	8435-1										
1436	8436-1										
1437	8437-1										
1438	8438-1										
1439	8439-1										
1440	8440-1										
1441	8441-1										
1442	8442-1										
1443	8443-1										
1444	8444-1										
1445	8445-1										
1446	8446-1										
1447	8447-1										
1448	8448-1										
1449	8449-1										
1450	8450-1										
1451	8451-1										
1452	8452-1										
1453	8453-1										
1454	8454-1										
1455	8455-1										
1456	8456-1										
1457	8457-1										
1458	8458-1										
1459	8459-1										
1460	8460-1										
1461	8461-1										
1462	8462-1										
1463	8463-1										

Example of how information appears on “View Station” menu

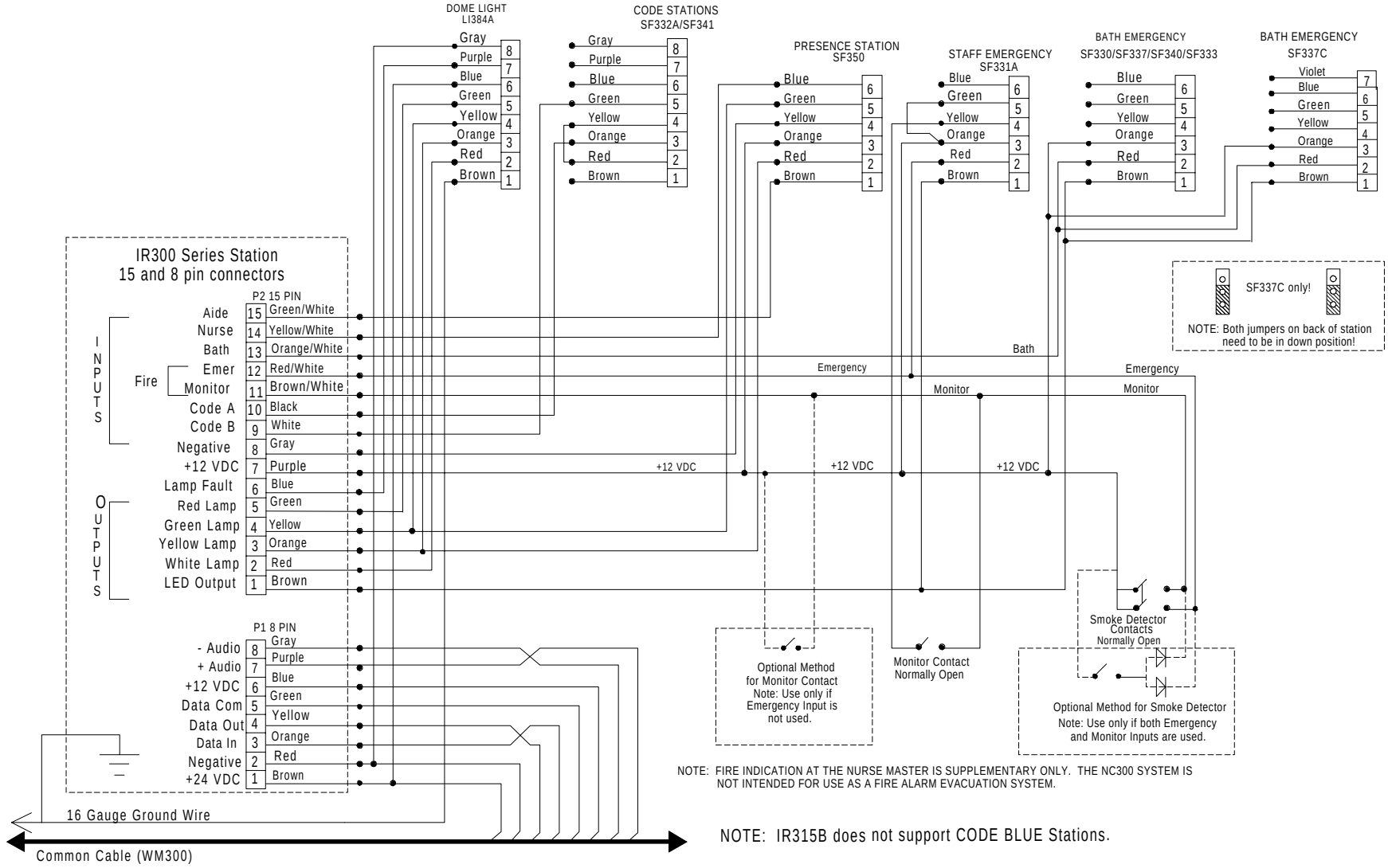
1432	8432-1		1	2	3	R	P	ON	OFF	OFF	

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.

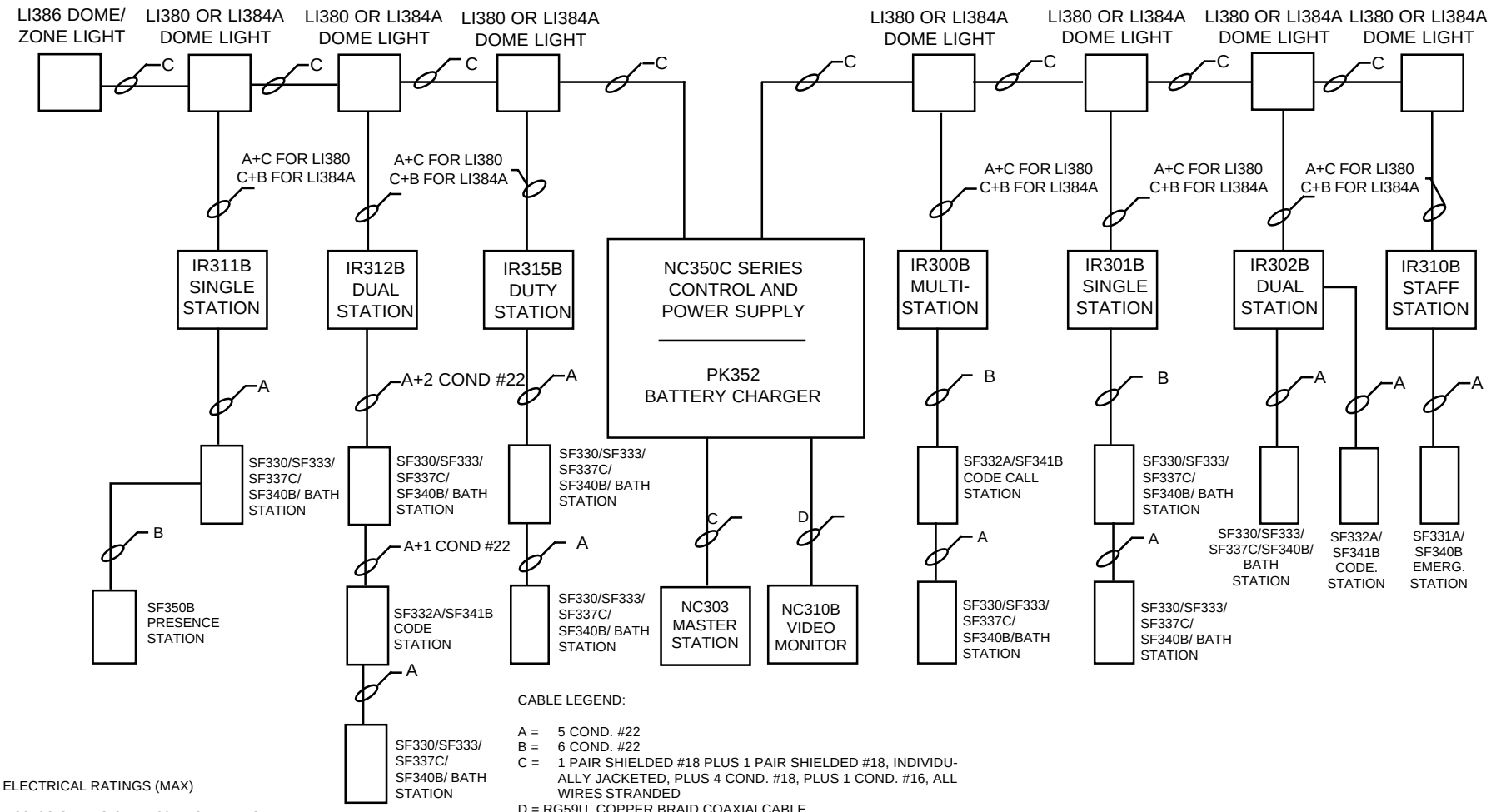
PRIOR = Type of station; R: Routine or P: Priority or PA: Personal Attention
PAG = Paging set on or off
PRV = Privacy set on or off
CODE = On or off

Tek-MICRO®
NC300 Microprocessor Nurse Call System

Wiring Diagrams



TekTone SOUND & SIGNAL	TITLE: NC300 WIRING DIAGRAM APP: IR300B Series Connections, (see NL402 for wire specifications), to peripheral devices - supervised dome light.	MATL: MJF REV: 11	DATE: 12/23/98 PAGE: NL401



CABLE LEGEND:

A = 5 COND. #22
B = 6 COND. #22
C = 1 PAIR SHIELDED #18 PLUS 1 PAIR SHIELDED #18, INDIVIDUALLY JACKETED, PLUS 4 COND. #18, PLUS 1 COND. #16, ALL WIRES STRANDED
D = RG59U COPPER BRAID COAXIALCABLE

OR

WM300 CABLE: Nine conductor cable assembly protected by a Gray PVC .045" thick jacket. Nominal O.D. - .590". 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 12.5 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.
* 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.

ELECTRICAL RATINGS (MAX)

NC350C SERIES CPE: 120 VAC, 4 AMPS

NC310B MONITOR: 120 VAC, .5 AMPS

NC303 MASTER: 12 VDC, 300 mA

IR300B, IR301B, IR302B, IR310B, IR311B, IR312B, IR315B PATIENT, DUTY, STAFF STATIONS: 24 VDC, 250 mA

SF330, SF331, SF332A, SF333, SF337C, SF340B, SF341B, SF350B BATH, CODE, EMERGENCY, PRESENCE STATIONS: 12 VDC, 30 mA

LI380/L384A DOME LIGHTS: 24 VDC, 200 mA

LI386 DOME/ZONE LIGHT: 24 VDC, 250 mA

SF301PIR PILLOW SPEAKER: 12 VDC, 50 mA

PK352 BATTERY CHARGER: 24 VAC, 1.25 AMP

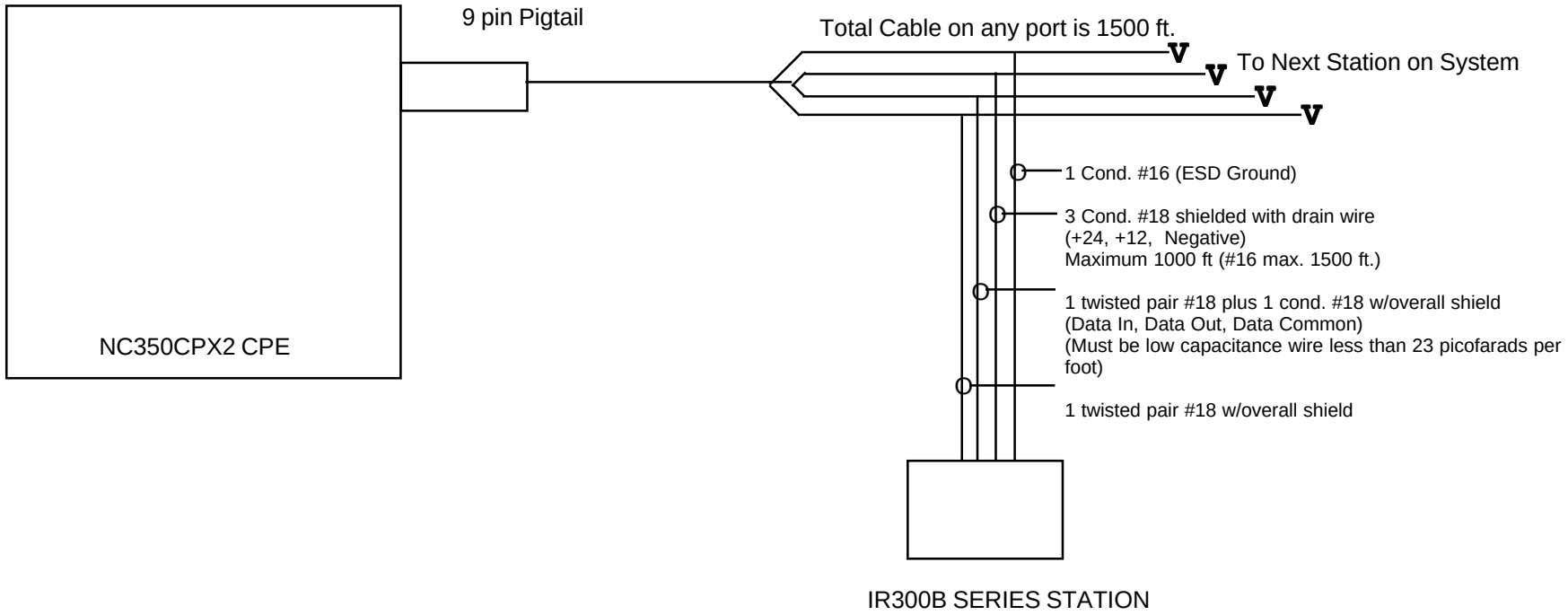
NOTES:

1. DO NOT EXCEED 16 DOME LIGHTS PER RUN.
2. DO NOT EXCEED 16 STATIONS PER RUN WHEN USED WITH 4 LAMP DOME LIGHTS. UP TO 32 STATIONS MAY BE USED PER CABLE RUN IF SINGLE OR DOUBLE DOME LIGHTS ARE USED.
3. EACH MASTER MUST BE HOME RUN TO NC350C CENTRAL PROCESSING EQUIPMENT (CPE).
4. FOR RUNS OF 500 TO 1000 FT., USE #18 GAUGE WIRE.
5. FOR RUNS OF 1000 TO 1500 FT., USE #16 GAUGE WIRE. RUN SHOULD NOT EXCEED 1500 FT.
6. DO NOT RUN CONDUIT OR WIRE TO BOTTOM KNOCKOUTS ON IR SERIES STATION BOX. NO ACCESS IS AVAILABLE.

TekTone SOUND & SIGNAL	TITLE: BLOCK WIRING DIAGRAM APP: NC300 NURSE CALL SYSTEM	MATL: DE REV: 10	DATE: 03/18/99 PAGE: NL402

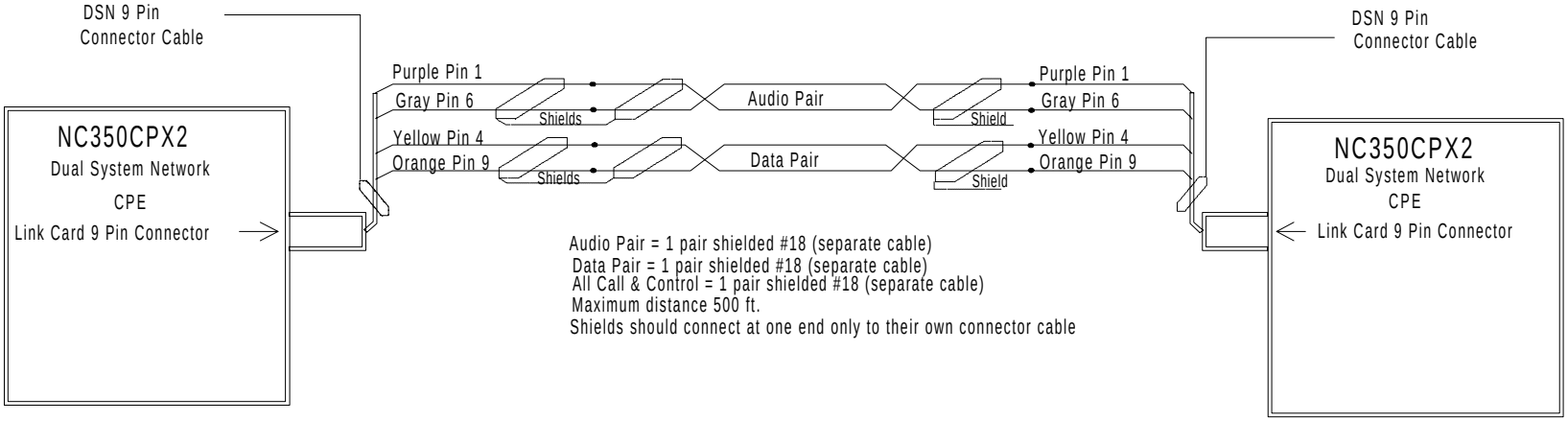
NC350CP Cable Requirements Using Individual Cables

Maximum number of stations on any one cable run: 32
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.



TekTone SOUND & SIGNAL	TITLE: NC350CP WIRING DIAGRAM USING INDIVIDUAL CABLES APP: NC300 NURSE CALL SYSTEM	MATL: MEL REV: 3	DATE: 12/23/98 PAGE: NL403

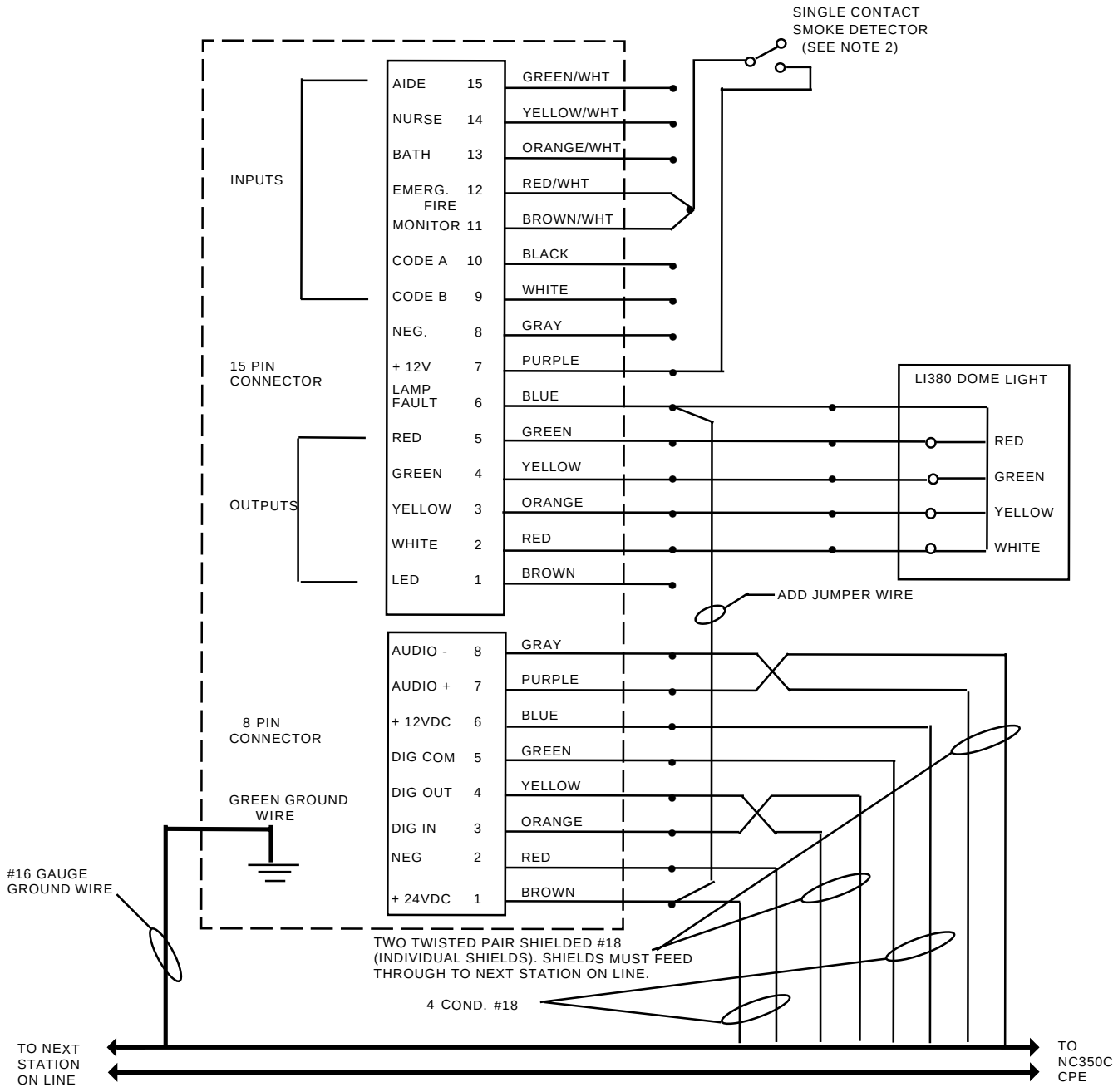
Minimum Cable Requirements for DSN (NC350CP)



Audio Pair = 1 pair shielded #18 (separate cable)
Data Pair = 1 pair shielded #18 (separate cable)
All Call & Control = 1 pair shielded #18 (separate cable)
Maximum distance 500 ft.
Shields should connect at one end only to their own connector cable

TekTone SOUND & SIGNAL	TITLE: Dual System Network Wiring Specifications APP: NC300 NURSE CALL SYSTEM	MATL: DE REV: 6	DATE: 03/18/99 PAGE: NL404

IR300B/IR301B/IR302B/IR310B/IR311B/IR312B/IR315B DUTY STATION HOOK-UP FOR LI380 DOME LIGHT AND/OR SINGLE CONTACT SMOKE DETECTOR.

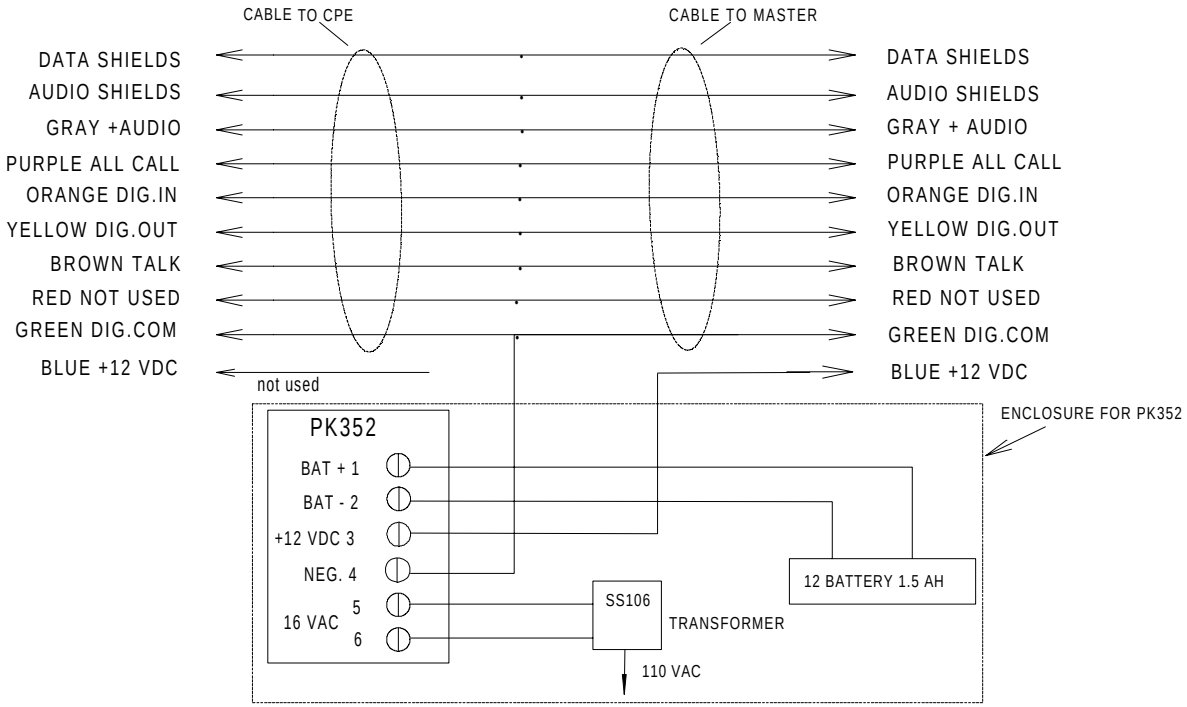


NOTES:
1. INPUTS CODE A & CODE B ARE NOT AVAILABLE FOR IR315B STATIONS.
2. FIRE INDICATION AT THE NURSE MASTER STATION IS SUPPLEMENTARY ONLY. THE NC300 SYSTEM IS NOT INTENDED FOR USE AS A FIRE ALARM EVACUATION SYSTEM. INPUTS EMERG. AND MONITOR ARE NOT AVAILABLE WHEN A SINGLE CONTACT SMOKE DETECTOR IS IN USE.

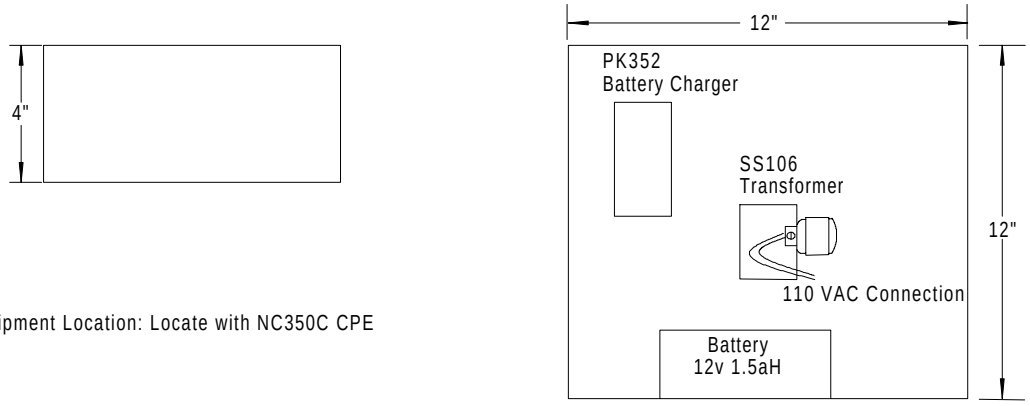
TekTone Sound & Signal	TITLE: LI380 DOME/ZONE LIGHT WIRING SINGLE CONTACT SMOKE DETECTOR WIRING APP: NC300 NURSE CALL SYSTEM	MATL: MEL REV: 8	DATE: 12/23/98 PAGE: NL405

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

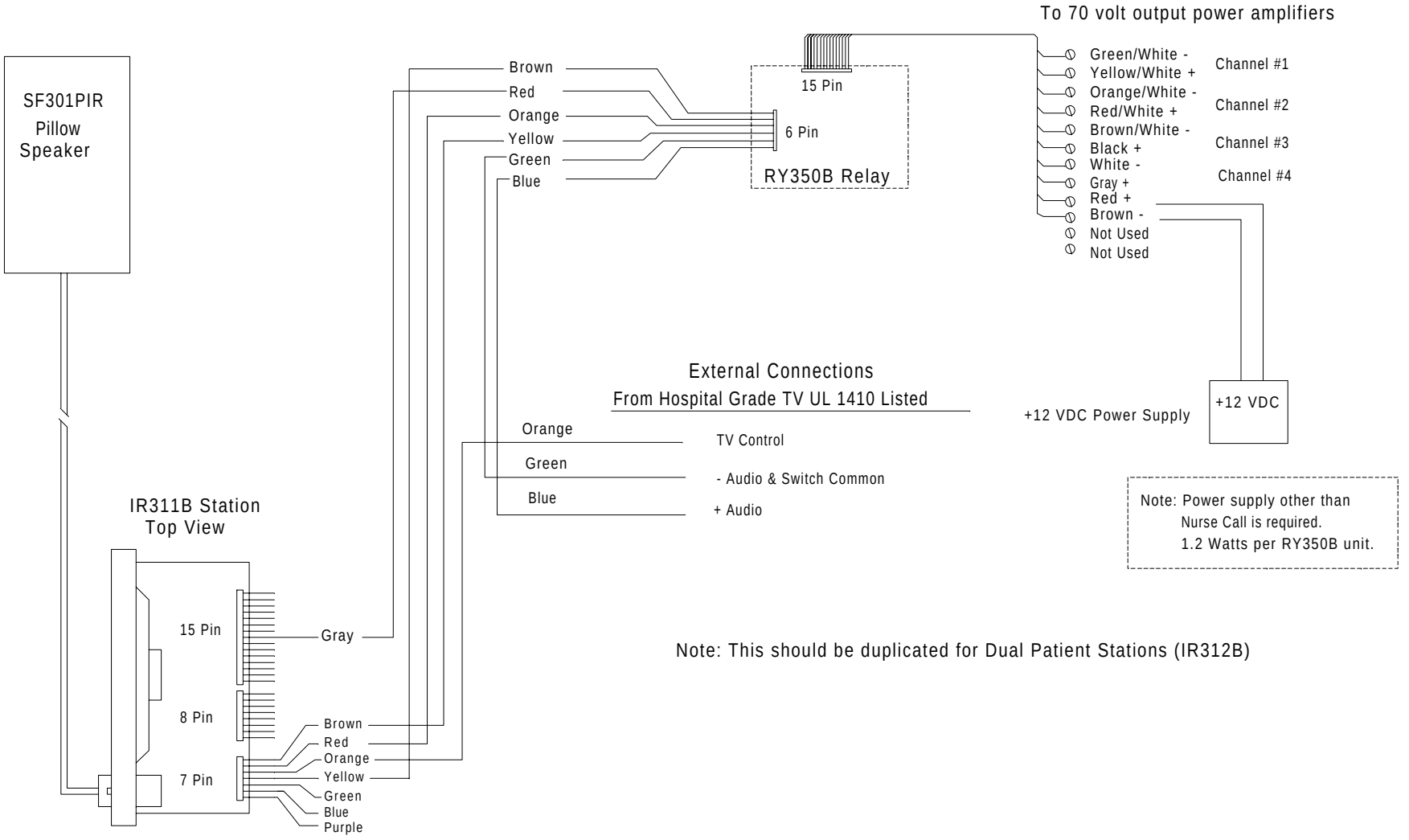


PK352 HOUSING



Equipment Location: Locate with NC350C CPE

TekTone SOUND & SIGNAL	TITLE: WIRING DIAGRAM PK352 BATTERY CHARGER APP: NC300 NURSE CALL SYSTEM	MATL: DE REV: 7	DATE: 03/17/99 PAGE: NL406



TekTone SOUND & SIGNAL	TITLE: RY350B WIRING DIAGRAM	MATL: MEL	DATE: 11/03/94
	APP: NC300 NURSE CALL SYSTEM	REV: 3	PAGE: NL407

7 PIN CONNECTOR
IR300B 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/IR312B 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

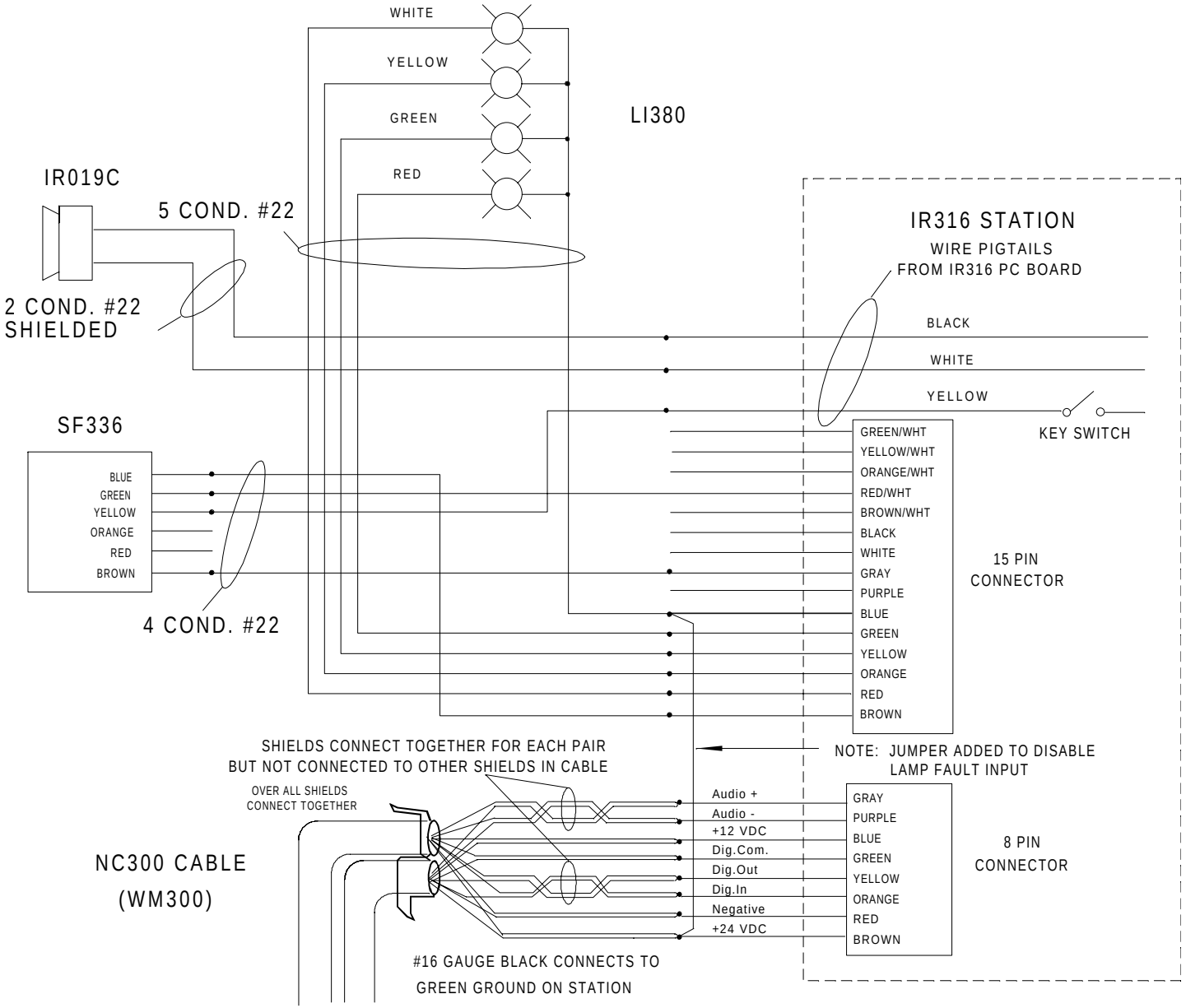
6 PIN CONNECTOR
IR300A STATION

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

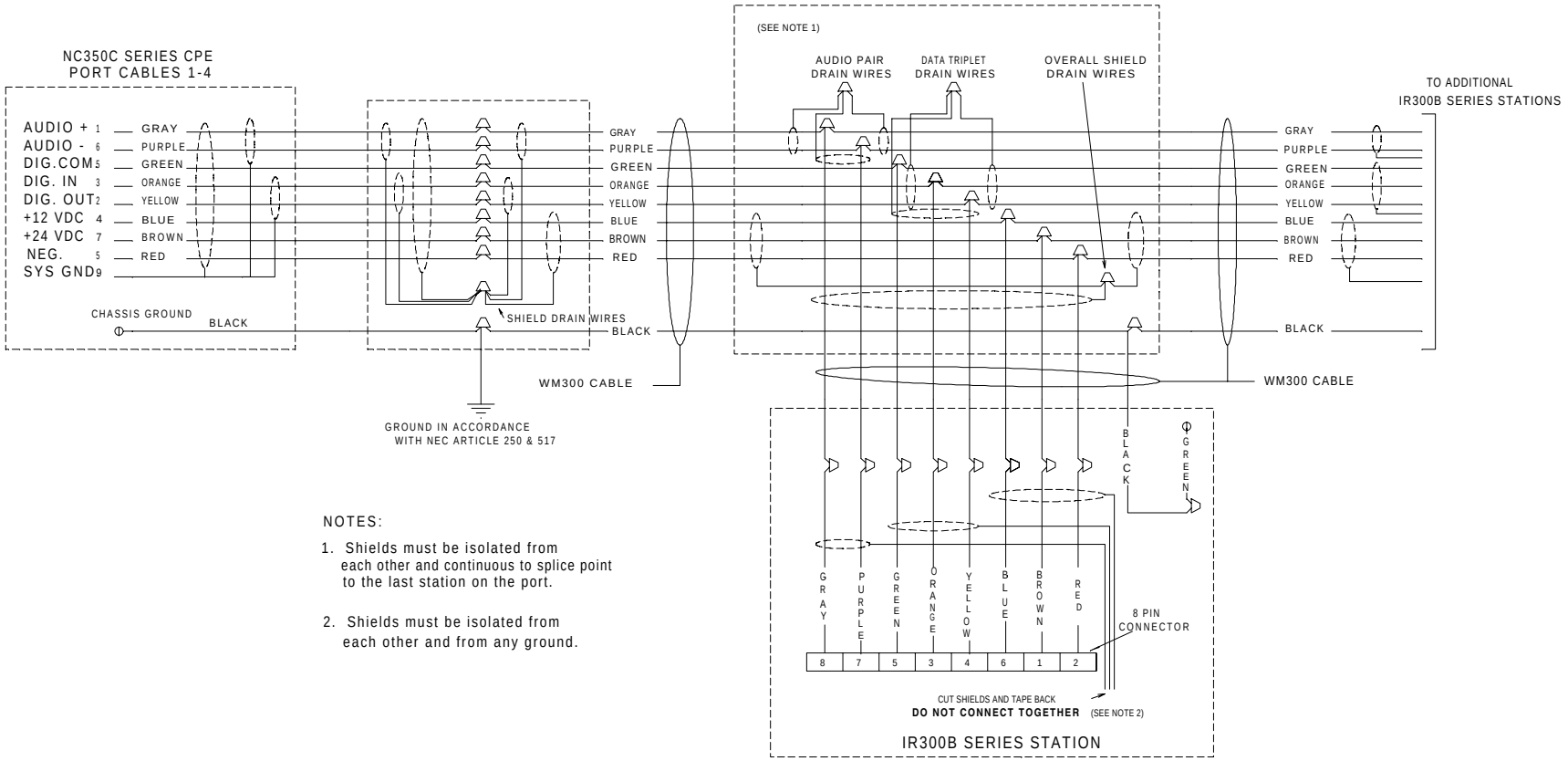
6 PIN CONNECTOR
IR311A/IR312A STATION

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

TekTone SOUND & SIGNAL	TITLE: 6 & 7 PIN CONNECTOR OUTPUTS FOR IR300A/B, IR311A/B AND IR312A/B APP: NC300 NURSE CALL SYSTEM	MATL: MEL REV: 4	DATE: 11/03/94 PAGE: NL408



TekTone SOUND & SIGNAL	TITLE: WIRING DIAGRAM IR316 STATION	MATL: MEL	DATE: 11/04/94
	APP: NC300 NURSE CALL SYSTEM	REV: 3	PAGE: NL409

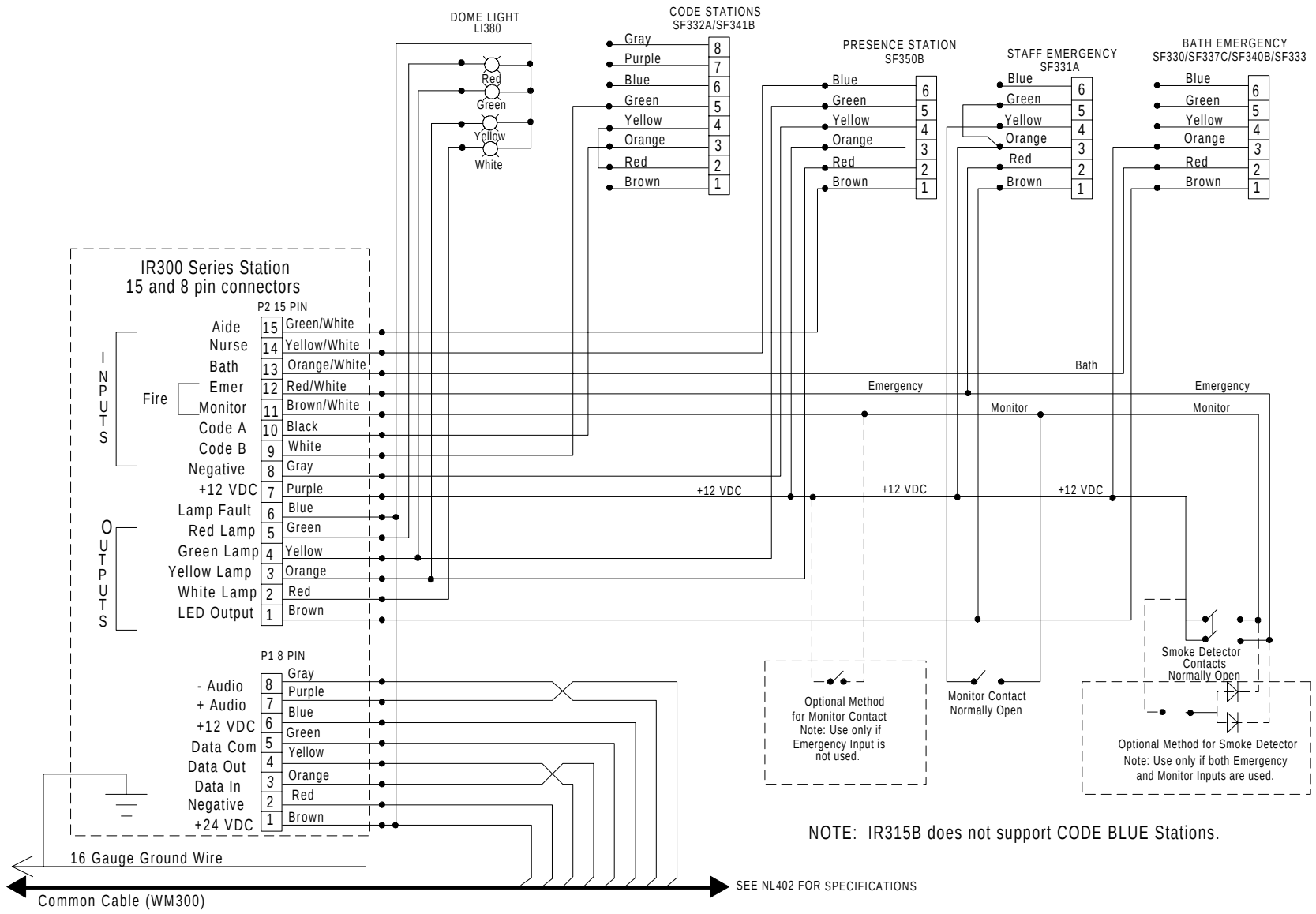


NOTES:

1. Shields must be isolated from each other and continuous to splice point to the last station on the port.

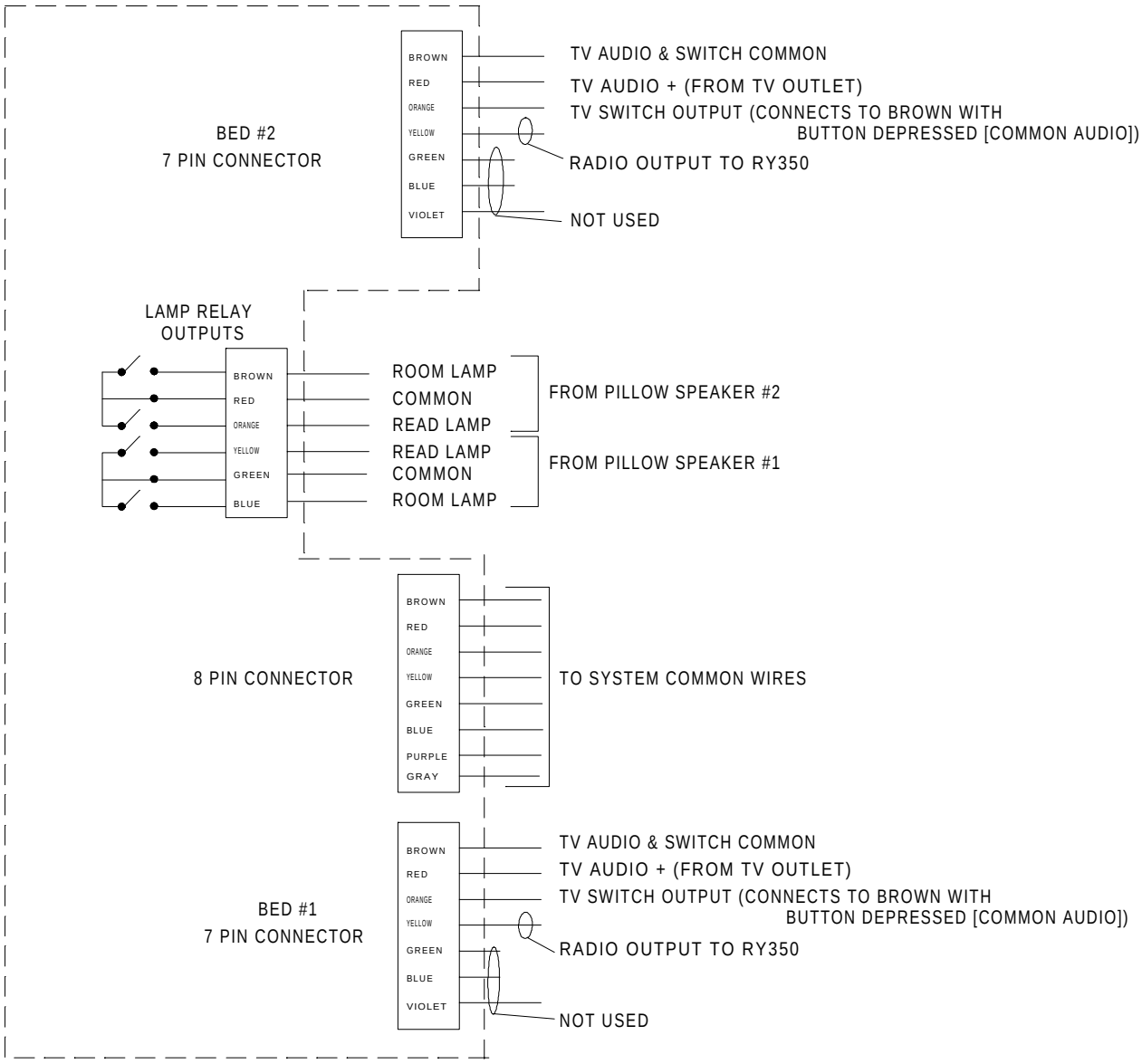
2. Shields must be isolated from each other and from any ground.

TekTone SOUND & SIGNAL	TITLE:Connector Circuit Interconnections for Addressable Stations APP: NC300 NURSE CALL SYSTEM	MATL: MEL REV: 5	DATE: 12/23/98 PAGE: NL410



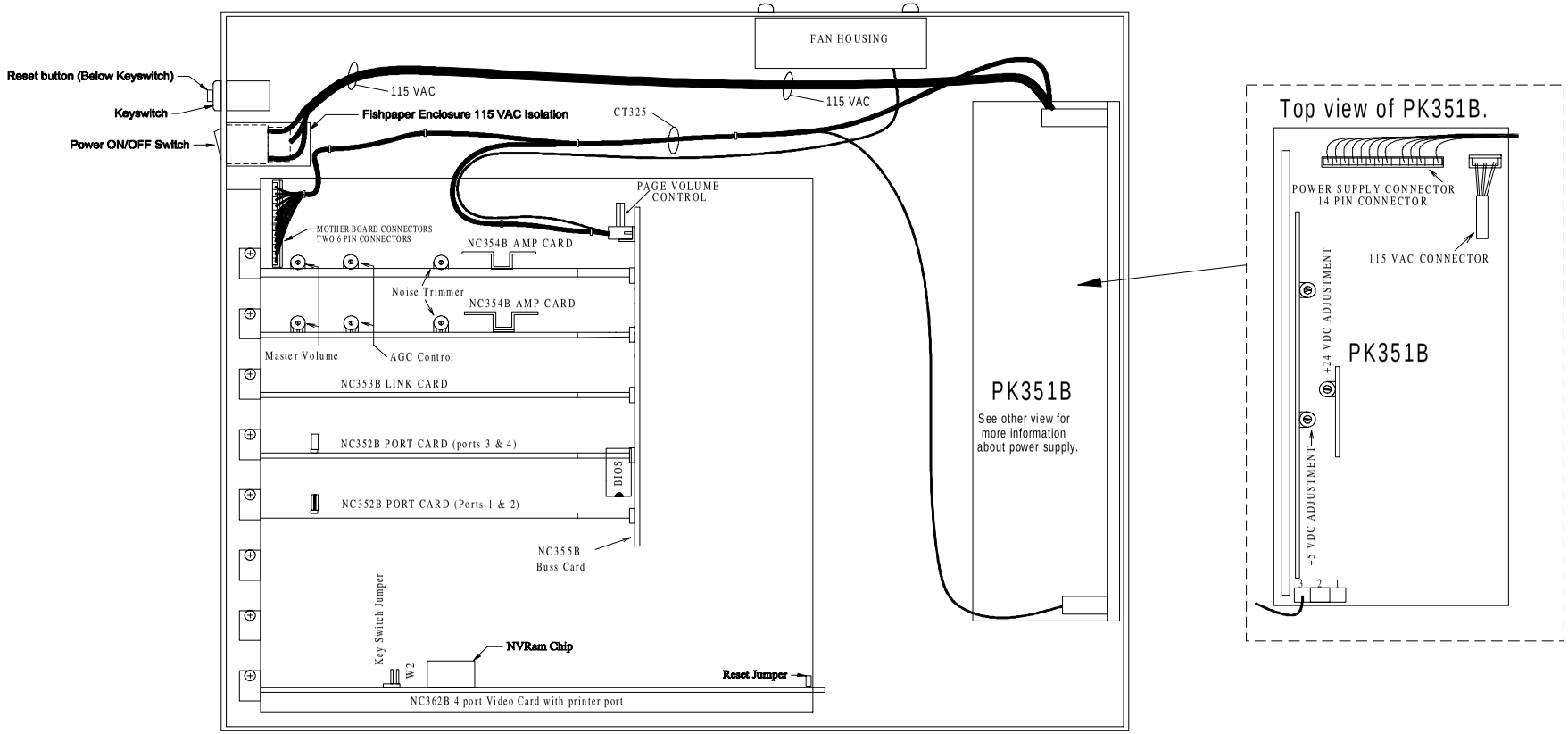
TekTone Sound & Signal	TITLE: NC300 WIRING DAIGRAM APP: IR300B SERIES CONNECTIONS TO PERIPHERAL DEVICES	MATL: MJF REV: 10	DATE: 12/23/98 PAGE: NL411

PM321B/PM322B
LAMP
MODULE

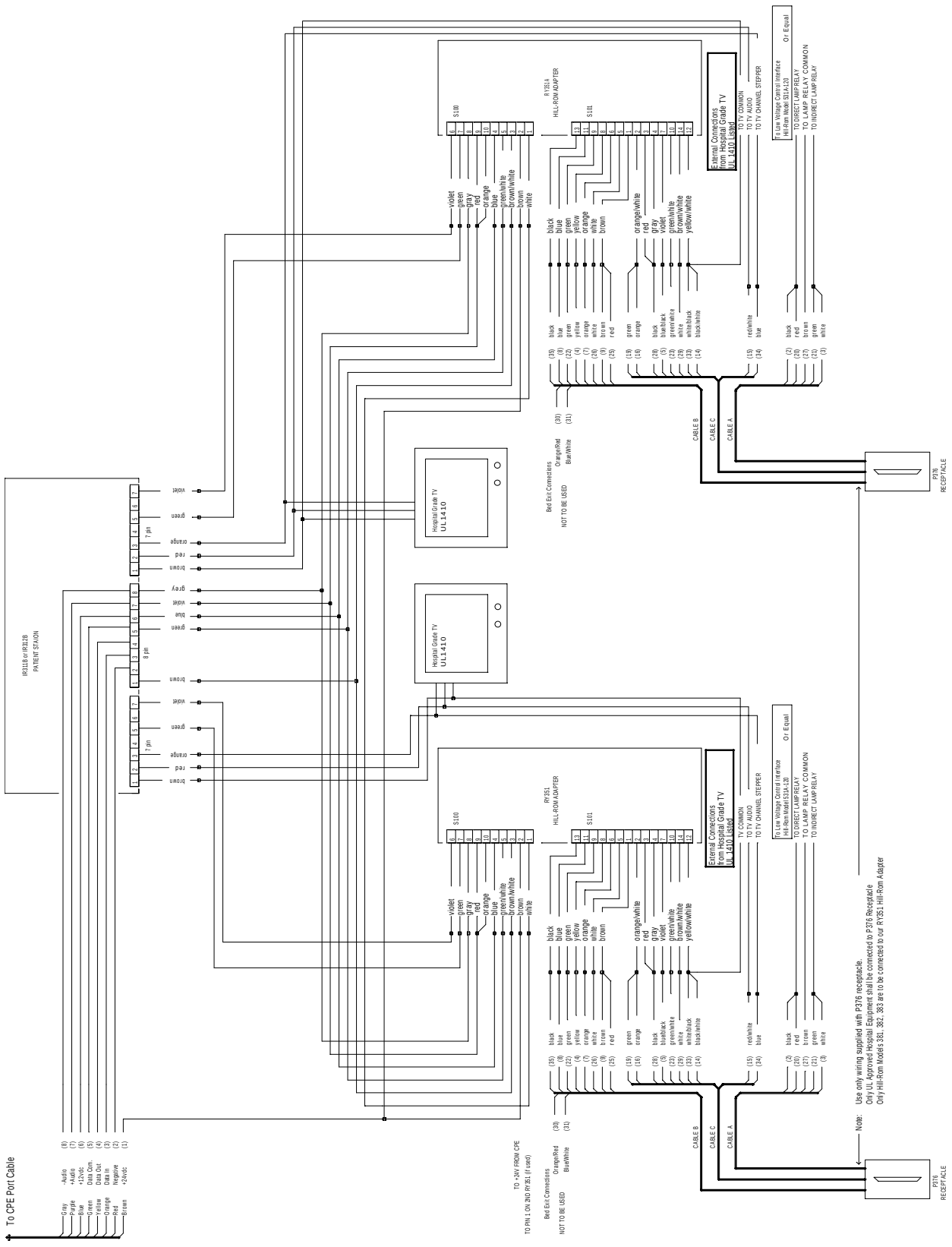


NOTE: PM321B lamp
does not include
top 7-pin module.

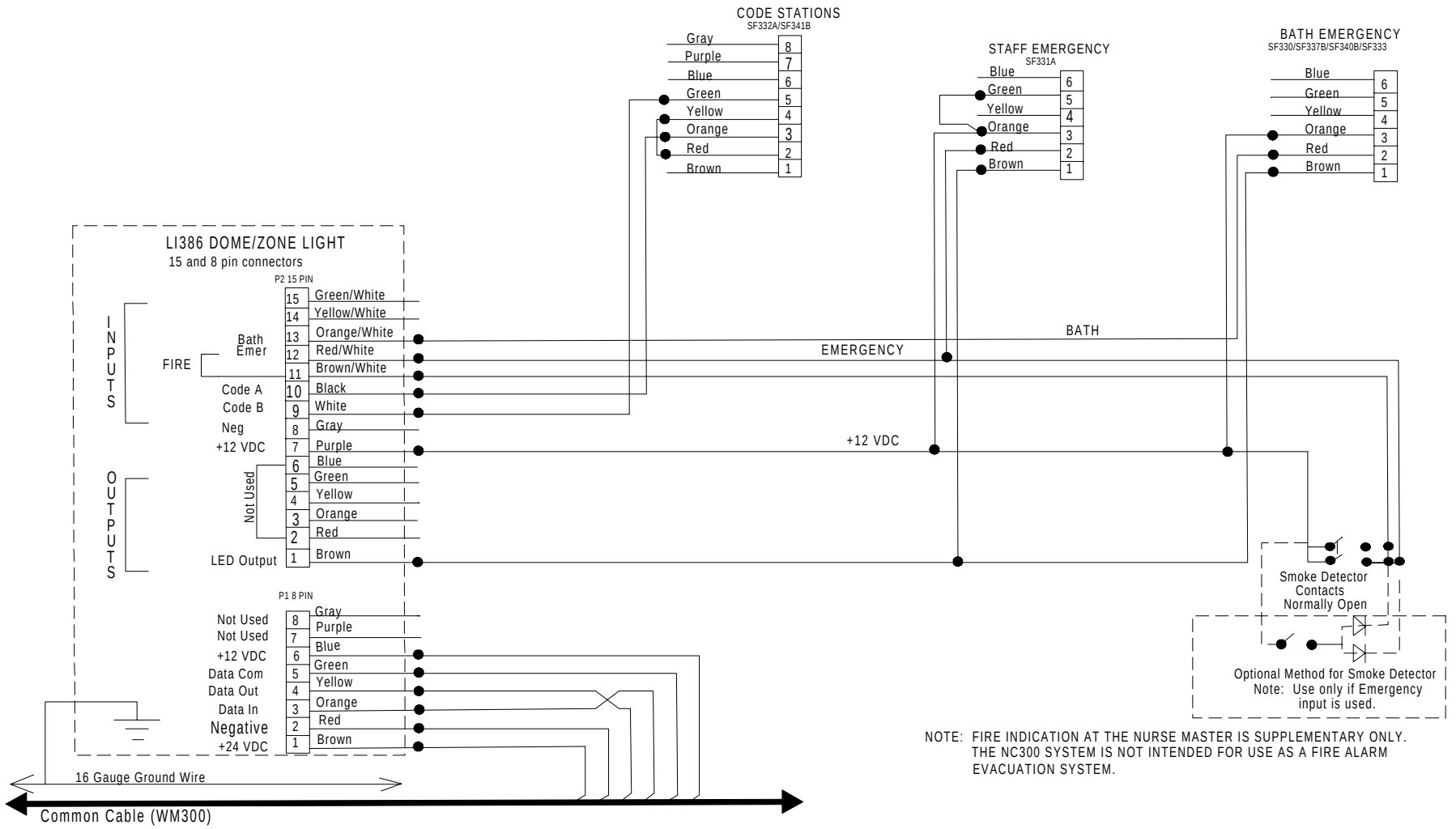
TekTone SOUND & SIGNAL	TITLE: WIRING DIAGRAM PM321B/PM322B LAMP MODULE APP: NC300 NURSE CALL SYSTEM	MATL: MEL REV: 3	DATE: 11/04/94 PAGE: NL412



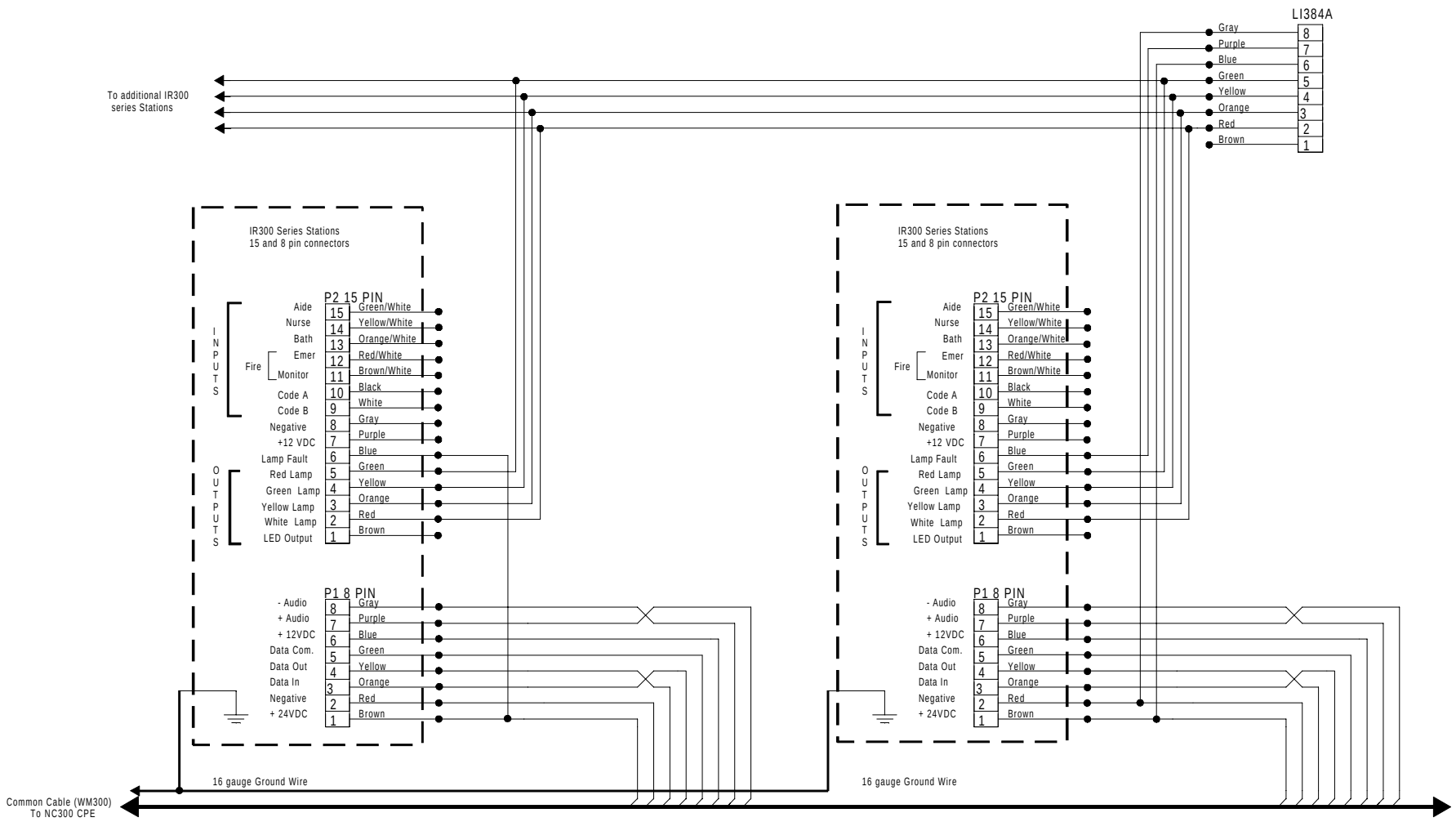
TekTone SOUND & SIGNAL	TITLE: INSIDE LAYOUT NC350C CPE APP: NC300 NURSE CALL SYSTEM	MATL: MJF REV: 8	DATE: 12/23/98 PAGE: NL413



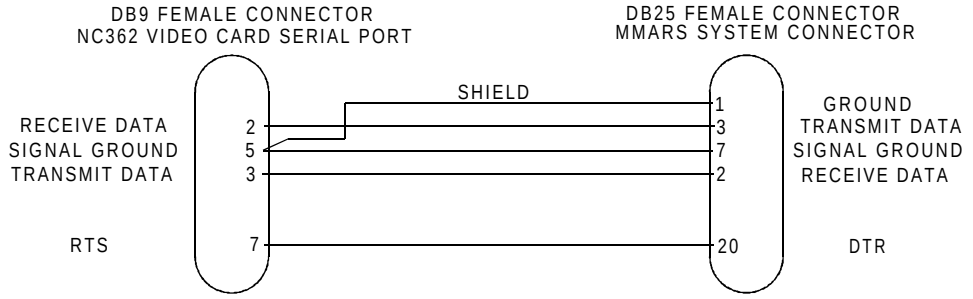
TekTone SOUND & SIGNAL	TITLE: RY351 WIRING DIAGRAM APP: NC300 NURSE CALL SYSTEM	MATL: KLM REV: 4	DATE: 06/16/95 PAGE: NL414

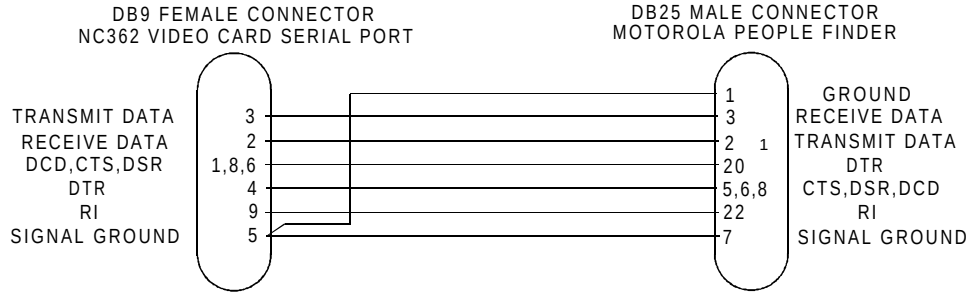


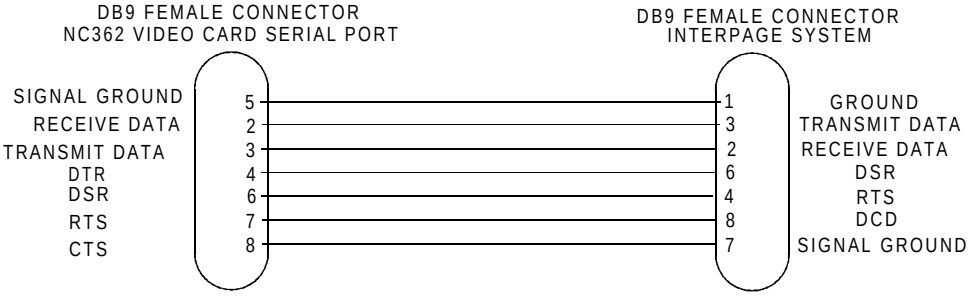
TekTone SOUND & SIGNAL	TITLE: NC300 WIRING DIAGRAM LI386 DOME/ZONE LIGHT APP: (SEE NL402 FOR WIRE SPECS.)	MATL: DE REV: 12	DATE: 03/17/99 PAGE: NL415

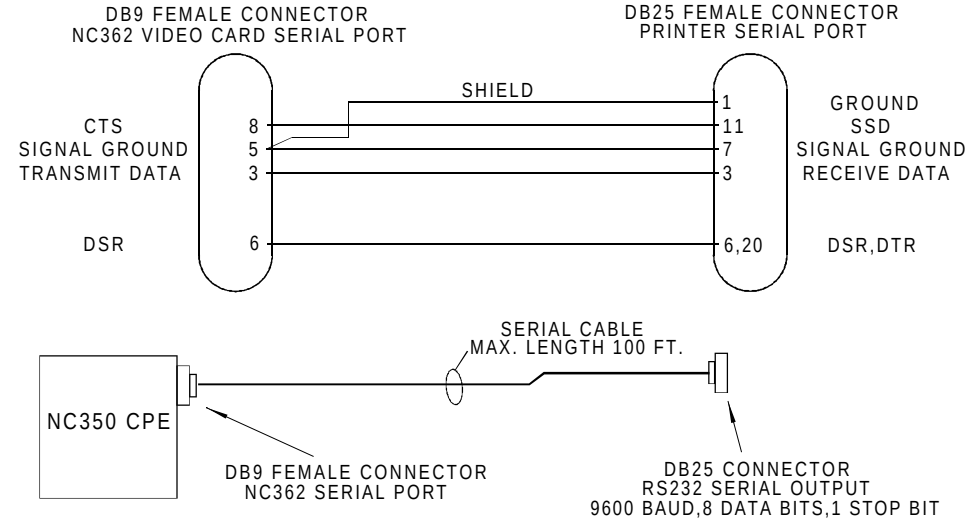


TekTone SOUND & SIGNAL	TITLE: NC300 WIRING DIAGRAM LI384A MULTIPLE STATIONS APP: NC300 NURSE CALL SYSTEM	MATL: KLM REV: 2	DATE: 04/20/95 PAGE: NL416









TekTone SOUND & SIGNAL	TITLE: NC362 Video & Serial Card Wiring Diagram APP: NC300 NURSE CALL SYSTEM	MATL: CB REV: 2	DATE: 11/20/97 PAGE: NL417

TekTone®
SOUND & SIGNAL

NC300 Microprocessor Nurse Call System

Supplement to Manual IL421

Tek-MICRO® NC300 Microprocessor Nurse Call System
Supplement to Installation Instruction and Service Manual IL421

Version 1.95 - NC350C/64; NC350C/64P
Version 3.05 - NC350C128P
Version 4.05 - NC350CPX2

TABLE OF CONTENTS

1.0 Software Enhancements

Main Menu **Figure 1**

```
                Main Menu
    1.  Help Menu
    2.  Master Assignments Menu
    3.  User Function Menu
    4.  System Function Menu
    5.  Set Room Privacy, Page
    6.  Room Monitoring
    7.  Radio Paging Menu
    8.  Dual System Status
    9.  Dual System Zone Capture

        * = exit  :  select menu item
```

(Note: Items "8" and "9" are available on 4.06 and 3.06. They are not available on 1.96.)

Select "System Function Menu" by pressing "4" on keypad. Access to this menu is password protected if a password is in effect.

System Function Menu **Figure 2**

```
              System Functions
    1.  Set Time/Date
    2.  12/24 Hour Clock
    3.  Set Overtime
    4.  Reconfiguration
    5.  Hook Switch

        * = prev. menu :  select menu item
```

Select "Reconfiguration Menu" by pressing "4" on the keypad. Access to this menu is password protected if a password is in effect. As you will notice options "6" and "7" are new selections that have been added to this menu that includes adding and deleting stations.

Reconfiguration Menu **Figure 3**

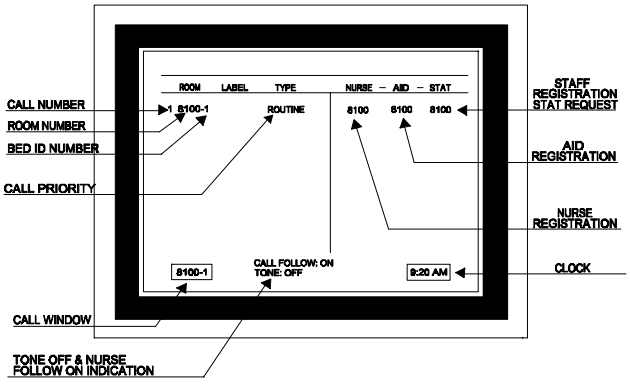
```
              Reconfiguration
    1.  Program Menu
    2.  Reinit. System
    3.  Define Password
    4.  Set/Reset Code Call
    5.  Add/Del Station
    6.  Choose a Label
    7.  Change  a Label

        * = prev. menu :  select menu item
```

2.0 ROOM LABEL OVERVIEW

A five (5) character field has been added for each room number that is alphanumeric in data type with a leading and trailing blank for separation. This field is located between the room/bed number and type of call. Figure 4 below is a representation of the NC310B VIDEO MONITOR and shows the addition of the Room Label and the abbreviation of the call type.

Figure 4



The "Room Label" field is programmed in the same manner as the "Room Number" and can be any field description that the user programs, or the field can be selected from standards provided (up to 5 characters). It is password protected as will be the room programming process.

2.1 Choose A Standard Label

This function allows the user to insert a label for any room programmed in the system. The menu shown in Figure 5 is used to choose a label corresponding to the selected room number. The necessary key strokes are as follows:

1. Press "MENU".
2. Select "4" from "Main Menu".
3. Select "4" from "System Function Menu".
4. Select "6" from "Reconfiguration Menu".
5. Enter the Room and Bed number.
6. Select the number of the label to be used for the selected room number and press the "#" key.
7. Press the "#" key to save.

Choose A Label Menu **Figure 5**

```
                          CHOOSE LABEL
1. NORTH   6. TUB      11. LUNCH    16. ICU
2. SOUTH   7. SHWR     12. KITCH    17. THRPY
3. EAST    8. REHAB    13. LINEN    18. OR
4. WEST    9. PSYCH    14. STAIR    19. ER
5. PUBLC   10.LOUNG    15. DOOR     20. LAB

                ROOM: _______ - ___  LABEL: _____

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

2.2 Change A Standard Label

Changes to the 5 character field are menu driven with the letters of the alphabet A through Z, along with the numbers 0 through 9, and special characters. Selecting option "7" from the "Reconfiguration Menu" shown in Figure 3, displays the following two menus for programming:

Change A Standard Label Menu **Figure 6**

```
                    CHANGE LABEL
1. NORTH   6. TUB      11. LUNCH     16. ICU
2. SOUTH   7. SHWR     12. KITCH     17. THRPY
3. EAST    8. REHAB    13. LINEN     18. OR
4. WEST    9. PSYCH    14. STAIR     19. ER
5. PUBLC   10.LOUNG    15. DOOR      20. LAB

                    LABEL: _____

* = menu : # = enter : enter label no.
```

The above menu is used to customize the standard room labels. When changing a label on this menu, the old label will be erased. Any room numbers using the old label will be updated. The new label will be displayed in the menu, giving the ability to reuse the label. Should the user wish to label a room with a label not on the standard list, they must use the menus presented in Section 2.3 below that allow the user to program a unique label for that room. The key sequence needed to access Figure 6 and Figure 7 menu is as follows:

1. Press "MENU".
2. Select "4" from "Main Menu".
3. Select "4" from "System Function Menu".
4. Select "7" from "Reconfiguration Menu".
5. Select the number of the label to change (refer to the menu shown in Figure 6).
6. Press "ALPHA" and type new label (5 character limit).
7. Press "#" key to save.

Create Standard Label Menu **Figure 7**

```
                    CHANGE LABEL
1. NORTH   6. TUB      11. LUNCH     16. ICU
2. SOUTH   7. SHWR     12. KITCH     17. THRPY
3. EAST    8. REHAB    13. LINEN     18. OR
4. WEST    9. PSYCH    14. STAIR     19. ER
5. PUBLC   10.LOUNG    15. DOOR      20. LAB

                    LABEL: 20

* = menu : # = save : edit label
```

2.3 Assigning Room Numbers and Labels

To program the label of a specific room number the procedure is as follows:

Enter the "Reconfiguration Menu" as shown in Figure 3, page S1. Select option "1 - Program Menu", select option "1 - Program Station".

Station Zone Assignments Menu **Figure 8**

```
              STATION ZONE ASSIGNMENTS

ZONE      1   2   3   4   5   6   7   8

Room: _____ - ___
Label:

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

Enter the desired room number and bed ID using the keypad. After doing so, Figure 9 is displayed3 as follows:

Figure 9

```
              STATION ZONE ASSIGNMENTS

ZONE      1   2   3   4   5   6   7   8
          X   .   .   .   .   .   .   .

Room: 8100     bed 1:1     bed 2:2
Label:

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

Press "#" and the bed number, and the following menu appears:

Figure 10

```
              STATION ZONE ASSIGNMENTS

ZONE      1   2   3   4   5   6   7   8
          X   .   .   .   .   .   .   .

Room: 8100     bed 1:1     bed 2:2
Label:

# = enter : * = none : 0 = default 1 = custom
```

If the user selects "* = none", the following menu appears and the room is programmed with no label. Press "#" to save.

Figure 11

```
              STATION ZONE ASSIGNMENTS

ZONE      1   2   3   4   5   6   7   8
          X   .   .   .   .   .   .   .

Room: 8100     bed 1:1     bed 2:2
Label: NORTH

# = enter : 1 - 9 assign zones : # = save
```

If choice "0" is selected in the menu shown in Figure 10, the menu shown in Figure 12 will appear and the user can type the number of the label desired and "#" to save.

Figure 12

```
                    CHANGE LABEL
1. NORTH   6. TUB      11. LUNCH     16. ICU
2. SOUTH   7. SHWR     12. KITCH     17. THRPY
3. EAST    8. REHAB    13. LINEN     18. OR
4. WEST    9. PSYCH    14. STAIR     19. ER
5. PUBLC   10.LOUNG    15. DOOR      20. LAB

                                LABEL: _____

* = menu : [1 - 20] # = select label
```

If choice "1" is selected in the menu shown in Figure 10, the user can input a custom and unique label for this room. Press the "ALPHA" key and type new label (5 character limit). Press "#" key to save.

3.0 Help Screen

By pressing the "Menu" and selecting "1" Help Menu, the user can access the help menu (Figure 13) which allows access to nine different help menus as shown in Figure 14 through Figure 22. For the help menu access, press options "1" through "9" which will bring up the related menus. Pressing "*" returns the user either to the main help menu or exits the help menu. Accessing the "Help Menu" will not effect the operation of the system.

Help Menu **Figure 13**

Help Menu
1. Answer a Call
2. Place a Call
3. Request Nurse/Asst./Stat Service
4. Use Call Follow
5. Page a Zone
6. Program Room Priority
7. Program Station Privacy/Page
8. Change Master or Station Zones
9. Call Another Master Station

* = exit : select 1 - 9

Answer A Call Menu **Figure 14**

Help Menu
1. Answer a Call

A. Press "TALK" button or lift handset.
B. Press "TALK" button to speak and release to listen, or use handset.
C. Press "RESET" or replace handset.

* = menu : reset = exit

Place A Call Menu **Figure 15**

Help Menu
2. Place a Call

A. Type Room Number on Keypad, then press "#".
B. Press "TALK" button to speak and release to listen, or lift and speak into handset.
C. Press "RESET" or replace handset.

* = menu : reset = exit

Request Service Menu **Figure 16**

Help Menu
3. Request Nurse/Asst./Stat Service

A. Type Room Number on Keypad, then "#".
B. Press "NURSE", "ASST.", or "STAT" button.
C. Press "TALK", then reset.

CANCEL NURSE/ASST./STAT SERVICE
D. Type Room Number on Keypad, then "#".
E. Press "NURSE", or "ASST." button.
F. Cancel "STAT" by room station reset.

* = menu : reset = exit

Nurse Follower Menu **Figure 17**

Help Menu
4. Call Follow

A. Press "CALL FOLLOW" button, register in room, call will be sent to room, or -
B. Enter Room Number and press "#".
C. Press "CALL FOLLOW", calls sent to room.
D. To cancel "CALL FOLLOW", press "CALL FOLLOW" button.

* = menu : reset = exit

Page A Zone Menu **Figure 18**

Help Menu
5. Page a Zone

A. Press "PAGE" button.
B. Enter Zone Number ("01 - 08") Local, (11-18) across DSN (09) for all zones, or "TALK" for all assigned zones.
C. Press "TALK" to speak, or lift and speak into handset.
D. Press "RESET" or replace handset when complete.

* = menu : reset = exit

Program Room Priority Menu **Figure 19**

Help Menu
6. Program Room Priority

A. Press "SET PRIORITY" button.
B. Enter Room and Bed Number.
C. Press "1" to step through selections.
D. Press "#" to save and edit next room, "*" to return to previous menu, or "RESET" to exit the menu.

* = menu : reset = exit

Program Patient Privacy/Page Menu **Figure 20**

Help Menu
7. Program Patient Privacy/Page.

A. From "Main Menu" enter option "4".
B. From "Settings Menu" enter option "1" or "2".
C. Enter Room and Bed Number.
D. Press "1" to step through selections.
E. Press "#" to save and edit next room, "*" to return to previous menu, or "RESET" to exit the menu.

* = menu : reset = exit

Change Master or Zone Station Menu **Figure 21**

Help Menu
8. Change Master or Station Zones.

A. Press "ASSIGN ZONES" button, the selected Zones are marked with an "X".
B. Press numbers for Zones desired, or "9" for all Zones, "#" to save and exit.

Change Station Zones.
C. Press "MENU" button, then press "3", then press "4", then press "1" then "1" again.
D. Enter Room and Bed Number, Label, and Zone. Press "#" to save and edit next room.

* = menu : reset = exit

Call Another Master Menu **Figure 22**

Help Menu
9. Call Another Master.

A. Enter Master Number (01 - 08) on keypad.
B. Press "TALK" button or lift handset.
C. Press "TALK" button to speak and release to listen, or use handset.
D. Press "RESET" or replace handset.

* = menu : reset = exit

4.0 NC300 Trouble Shooting Guide

4.1 "CODE FAULT" - Check:

a) Wiring from code SF341B Station to patient station.

b) Check station "CODE" ON/OFF programming. If patient has "CODE" on and there is no "CODE" station connected, fault will appear on NC310B Monitor.

4.2 "COMM FAULT" - Check:

a) Wiring to station has that fault.

b) 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.)

4.3 a) Data/Polling Noise on all stations on one or more ports when in listen from NC303 - Check:
Shield drain wire terminations of field wiring to CPE. Please see wiring diagrams for correct drain wire connections.

b) Excessive Data/Polling noise on one or more stations when in listen 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.

c) Data Polling Noise at Duty Station - IR315B - Check:
System cable length. If system cable length exceeds 500' per port, connect a 100 uf 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.

4.4 Duty Station IR315B not responding to calls - Check:

a) IR315B zone programming. An IR315B will only annunciate calls from stations it is zoned for. An IR315B will default to only the zone corresponding to the port it is connected to.

4.5 "LAMP FAULT" - Check:

a) Bulbs at LI384A Supervised Dome Light.

b) Brown wire on 8 pin connector jumped to blue wire on 15 pin connector.

4.6 "MASTER FAULT" - Check:

a) 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.

b) DIP switch setting of masters. See Figure SUP.1 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.)

1) Turn NC350C CPE off.
2) Insert key and turn counter clockwise. Key switch is located on the front panel of NC350C CPE.
3) Turn CPE on.
4) If master operates correctly all current data must be erased. To erase all data:
   I. Press "MENU" key on NC303.
   II. Press 3.
   III. Press 4.
   IV. Press 2.
   V. Turn key switch to original position.
   VI. Press 1.

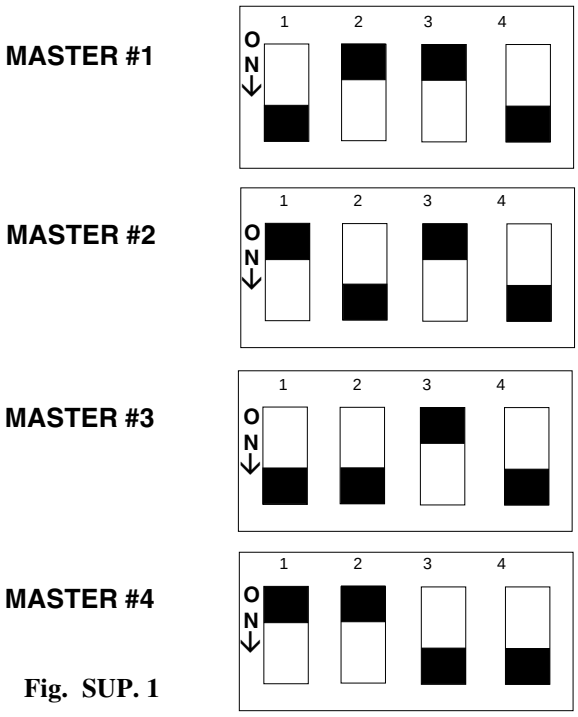


Fig. SUP. 1

4.7 No video display on NC310B monitor - Check:

a) 117 VAC connection at NC310B Monitor.

b) 117 VAC connection at NC350C CPE.

c) ON/OFF switch at NC310B Monitor.

d) ON/OFF switch at NC350C CPE.

e) Check NC350C CPE "RUN" red LED. It should be flashing.

f) Brightness and contrast controls at NC310B Monitor.

g) Field wiring for video. Using test cable supplied connect NC310B Monitor directly to CPE.
(Note: Each system is supplied with outputs to four NC310 Monitors. If all of the above fails, and there are outputs available, connect monitor to one of those.)

APPENDIX A
EVENT PRINTING
(SAMPLE)

NO	DATE	TIME	STATION	LABEL	EVENT		ZONE	STN.
0000	12/18	10:50:52	03	Menu Session Begin			12345678	
0001	12/18	10:50:52	03	Room 8101 Station Deleted			12345678	
0002	12/18	10:50:52	03	Menu Session End			12345678	
0003	12/18	10:51:52	03	Menu Session Begin			12345678	
0004	12/18	10:51:31	03	Room 8101 Station Added			12345678	
0005	12/18	10:51:31	03	Menu Session End			12345678	
0006	12/18	10:52:51	8402-1	NORTH	ROUTINE	Call	. . .4. . . .	
0007	12/18	10:53:51	8402-1	NORTH	ROUTINE	Reset	. . .4. . . .	
0008	12/18	10:54:41	8403-2	NORTH	STAFF	Call	. . .4. . . .	
0009	12/18	10:55:51	8403-2	NORTH	STAFF	Reset	. . .4. . . .	
0010	12/18	10:56:11	8404-1	SOUTH	DUTY	Call	. . .4. . . .	
0011	12/18	10:57:51	8404-1	SOUTH	DUTY	Reset	. . .4. . . .	
0012	12/18	10:58:11	8405-1	EAST	PRIORITY	Call	. . .4. . . .	
0013	12/18	10:59:51	8405-1	EAST	PRIORITY	Reset	. . .4. . . .	
0014	12/18	11:00:51	8406-2	KITCH	PER.ATN	Call	. . .4. . . .	
0015	12/18	11:01:51	8406-2	KITCH	PER.ATN	Reset	. . .4. . . .	
0016	12/18	11:09:41	8203-1	WEST	MONITOR	Call	.2.	
0017	12/18	11:12:51	8203-1	WEST	MONITOR	Reset	.2.	
0018	12/18	11:22:11	8204-2	SOUTH	EMER.	Call	.2.	
0019	12/18	11:23:51	8204-2	SOUTH	EMER.	Reset	.2.	
0020	12/18	11:23:59	8205-1	EAST	BATH	Call	.2.	
0021	12/18	11:25:23	8205-1	EAST	BATH	Reset	.2.	
0022	12/18	11:26:23	8102-1	PSYCH	FIRE	Call	1.	
0023	12/18	11:27:51	8102-1	PSYCH	FIRE	Reset	1.	
0024	12/18	11:32:23	8103-1	ICU	CODE	Call	1.	
0025	12/18	11:56:56	8103-1	ICU	CODE	Call	1.	
0026	12/18	11:58:58	03	ICU	Nurse Requested		12345678	8104
0027	12/18	12:12:12	03	ICU	Nurse Reset		12345678	8104
0028	12/18	12:23:11	03	THRPY	Asst. Requested		12345678	8105
0029	12/18	12:34:51	03	THRPY	Asst. Reset		12345678	8105
0030	12/18	12:35:31	8106-1	KITCH	PER.ATN	Call	1.	
0031	12/18	12:40:51	8106-1	KITCH	PER.ATN	Reset	1.	
0032	12/18	10:54:41	8303-1	WEST	MONITOR	Call	. .3.	
0033	12/18	10:55:51	8303-1	WEST	MONITOR	Reset	. .3.	
0034	12/18	10:56:11	8304-1	SOUTH	EMER.	Call	. .3.	
0035	12/18	10:57:51	8304-1	SOUTH	EMER.	Reset	. .3.	
0036	12/18	10:58:11	8305-1	EAST	BATH	Call	. .3.	
0037	12/18	10:59:51	8305-1	EAST	BATH	Reset	. .3.	