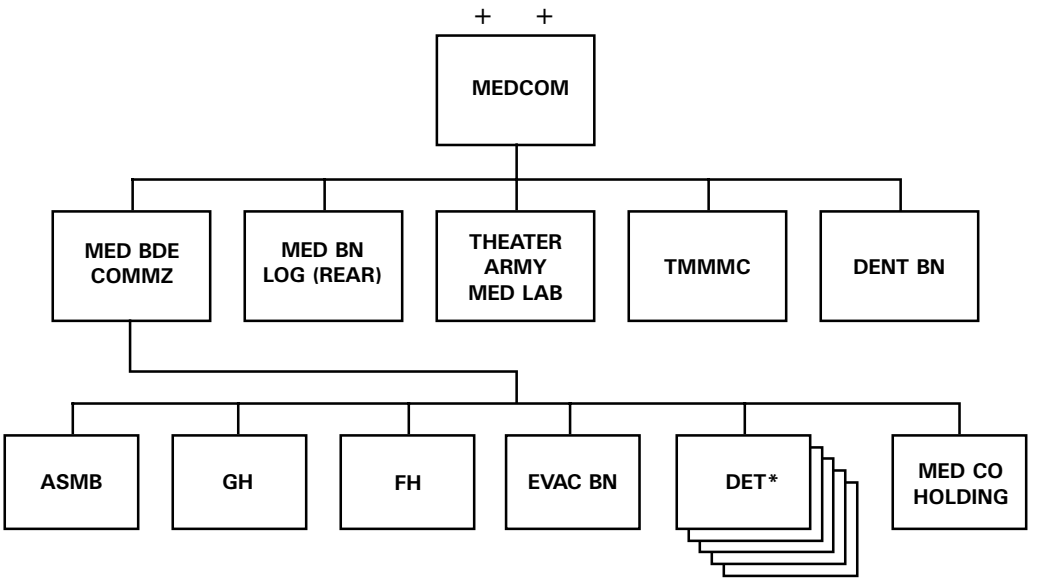
CHAPTER 4

COMMAND, CONTROL, AND COMMUNICATIONS OF THE FIELD AND THE GENERAL HOSPITALS

4-1. Command and Control

The major echelon above corps (EAC) C2 units are the MEDCOM and the medical brigades. The MEDCOM's mission is to command, control, and supervise assigned and attached units in the TA COMMZ. The MEDCOM is assigned on the basis of one per TA. The types and number of CHS units assigned to the MEDCOM depend on various factors such as size, composition, and location of supported forces; types of operations conducted; anticipated work load; and theater evacuation policy. An example of an EAC medical force structure in a mature theater is shown in Figure 4-1. The medical brigade commands, controls, and provides administrative and technical supervision for assigned and attached medical units in its AO. The medical brigade is assigned to the MEDCOM in the COMMZ or the corps support command (COSCOM) in the corps. The medical brigade is assigned to the COMMZ on the basis of one per three to seven battalion-sized units. The MEDCOM controls the majority of its EAC assigned units through subordinate COMMZ medical brigades.



* MAY INCLUDE ASSIGNED OR ATTACHED VETERINARY, SURGICAL, DENTAL, PREVENTIVE MEDICINE, AND PROFESSIONAL SERVICES DETACHMENTS.

Figure 4-1. Example of a medical command organization.

4-2. Communications

Management and control of CHS operations is dependent on the hospital headquarters' ability to communicate with its staff, the MEDCOM, the medical brigade, elements of the medical evacuation battalion, and other CSS units. Hospital communications assets include amplitude-modulated (AM) and FM radios and mobile subscriber equipment (MSE). The MSE is applicable to echelon corps level and below. See Appendix E, Communications, Automation, and Position/Navigation (POS/NAV) Systems.

a. Communications Planning. A HN commercial communications system may be available. The area common user network interfaces with existing combined communications systems and any existing local telephone and telegraph systems. This is accomplished as outlined in applicable STANAGs and HN support agreements. It should be noted that military, civilian agency, and civilian law enforcement communications systems may not be compatible. Extensive communications planning is required for joint military-civilian stability and support operations (SASO). The hospital operations section must plan for communications requirements and usage for each phase of military operation—predeployment, deployment, sustainment operations, and redeployment.

b. Communications Support. Communications support for organizations within a TO is based upon a unit's level of operations. Signal support for a COMMZ unit is provided by the theater signal brigade through the theater Deputy Chief of Staff for Operations and the Deputy Chief of Staff for Information Management. Units assigned to a corps will request signal support through the corps Assistant Chief of Staff, G3 (Operations and Plans) and will be supported by the corps signal brigade.

c. Staff Responsibilities. Each staff element of the hospital is responsible for adhering to signal support policies, procedures, and standards in their daily operations. The hospital operations sections' section chief coordinates telecommunications support and interface requirements with higher headquarters and with the supporting signal unit.

d. Area Common-User System.

(1) The area common-user system (ACUS) is the primary means of communications. The interface between triservice tactical communications (TRI-TAC) at EAC (Figure 4-2, sample ACUS access at EAC via switching nodes) and MSE at corps and division areas (Figure 4-3, sample of typical division small extension node deployment) provides an integrated communications network. Each MSE corps network includes at least two gateway connections to the EAC TRI-TAC network and adjacent corps. The TRI-TAC switch is programmed in the same way for the MSE gateway access into the corps network. This network provides voice and digital data transmission capabilities for C2, operations/intelligence, administration, and logistics functions. It should be noted that both the FH and the GH will normally be located in the COMMZ. The FH may be employed in the corps area when the situation dictates.

(2) The ACUS provides a secure mobile, survivable communications system capable of passing voice, data, and facsimile (FAX) at EAC and below. Additionally, it provides a direct interface to other Services, NATO, combat net radio (CNR), and commercial communications systems.

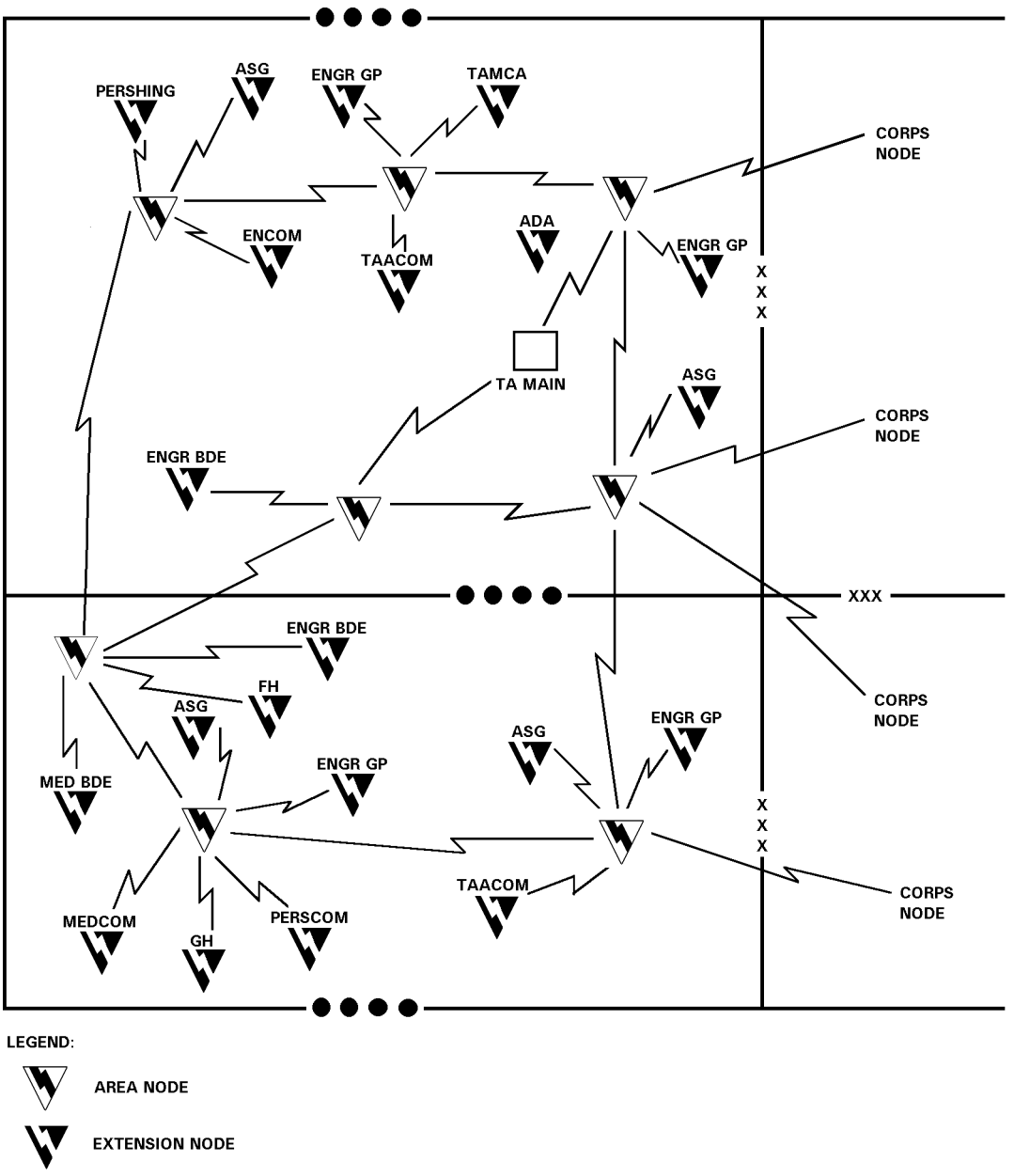


Figure 4-2. Sample area common-user system access at echelons above corps via switching nodes.

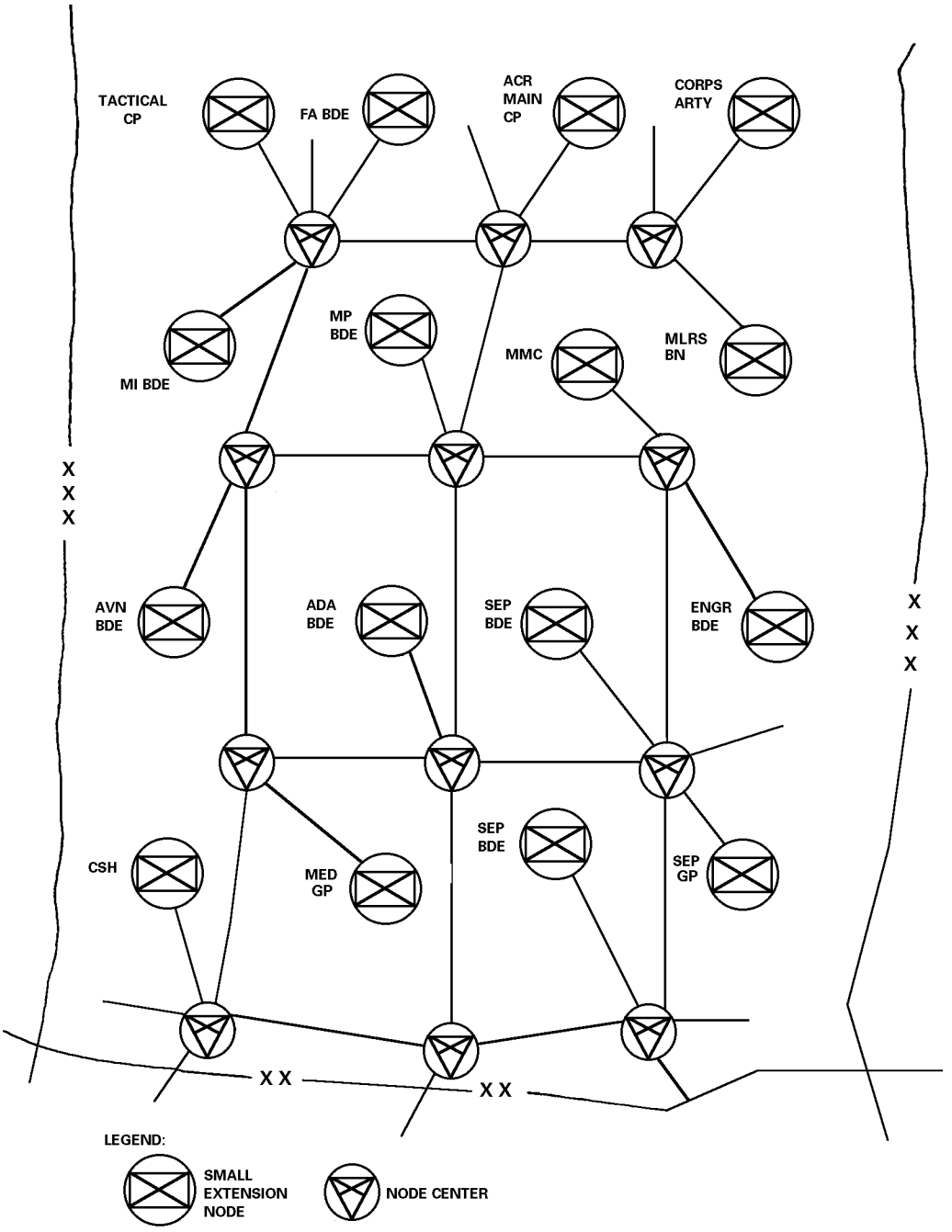


Figure 4-3. Typical division small extension node deployment.

(3) The ACUS is composed of multiple communications nodes with network features which automatically bypass and reroute communications around damaged or jammed nodes. It integrates the functions of transmission, switching, control, and terminal equipment (voice and data) into one system and provides the user with a switched telecommunications system extended by mobile subscriber radiotelephones. Nodes are deployed from the EAC rear boundary forward to the maneuver brigade rear area based on geographical and subscriber density factors. Node centers (NCs) make up the system's assemblage. Extension switches permit wire-line terminal subscribers (telephone, FAX, and data) to enter into the total area communications system.

(4) Radio access units (RAUs) let the users of mobile subscriber radiotelephone terminals (MSRTs) communicate with other mobile and wire telephone users throughout the corps area. The system control centers (SCCs) provide the processing capability to assist in overall network management. At echelons corps and below, the MSE system lets subscribers communicate with each other using fixed directory numbers regardless of a subscriber's battlefield location. (The small extension node and large extension node operate at echelons corps and below to support the TA-954 and TA-1042 which are authorized for the GH and are not part of the MSE.) The MSE system is comprised of the following five functional areas:

- Area coverage.
- Subscriber terminals.
- Wire subscriber access.
- Mobile subscriber access.
- System control.

The FH will participate in the first four of the above functional areas; the GH will participate in the first three. Figure 4-4 (typical mobile subscriber connectivity) shows how the system integrates the functions of transmission, switching, control, and terminal equipment.

(*a*) *Area coverage*. Area coverage means that MSE provides common-user support to a geographic area, as opposed to dedicated support to a specific unit or customer. Node centers are under the control of the supporting signal officer. This functional area is applicable to the FH/GH.

(*b*) *Subscriber terminal (fixed)*. The MSE telephone, mobile radiotelephone, FAXs, and data terminal, as part of the ACUS, are user-owned and operated. The hospital's operations section is responsible for running wire to the designated junction boxes. These boxes tie the hospital MSE telephones into the extension switches which access the system. The subscriber terminals used by the hospital are digital, four-wire voice, as well as data ports for interfacing the AN/UXC-7 FAX, the TACCS, and the medical transportable computer unit (MEDTCU), as depicted in Figure 4-5 (sample of fixed subscriber terminals). This functional area is applicable to the FH/GH.

(*c*) *Wire subscriber access*. Wire subscriber access points provide the entry points (interface) between fixed subscriber terminal equipment owned and operated by users and the TRI-TAC and

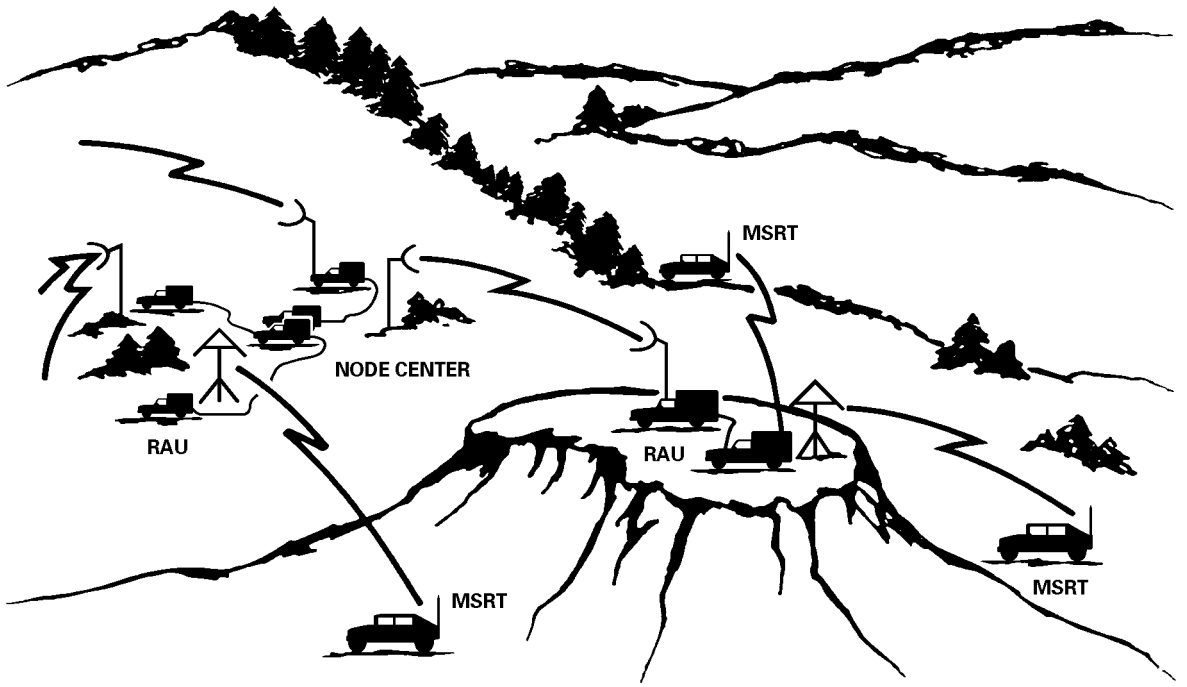


Figure 4-4. Typical mobile subscriber connectivity.

MSE area system operated by the supporting signal unit. The hospitals' switchboards may tie into the area system. The two types of interface equipment are—

- The signal distribution panel (junction box) J-1077. Each panel provides up to 13 subscriber access points.

- Remote multiplexer combiners which provide access for 8 subscriber access points.

See FM 11-55 for definitive information pertaining to an MSE area communications system. Figures 4-6 through 4-12 depict examples of the hospitals' wire net diagram. The hospital commanders will designate the hospital's wire net system based on the mission. This functional area is applicable to the FH/GH.

(*d*) *Mobile subscriber access*. The MSE terminal is the AN/VRC-97 MSRT. The MSRT is authorized for the FH. It consists of a very high-frequency radio and a digital secure voice terminal. The MSRT can be installed in one of nine US Army vehicles or used in a stand-alone configuration. It interfaces with the MSE system through an RAU. The primary use of the MSRT is to provide mobile subscriber access to the MSE area network. The MSRTs also operate in command posts to allow access to staff and functional personnel. The operational planning range is 15 kilometers from any RAU. Figure 4-13 depicts a typical MSRT interface into the area system.

e. *Combat Net Radio System*. The CNR equipment is authorized for both the FH and the GH. The CNR equipment includes both the improved high-frequency radio (IHFR) system and the single-channel ground and airborne radio system (SINCGARS). These radios provide the primary means for voice transmission of C2 information. They provide a secondary means for transmission of administrative/ logistics data. Data transmission will be required when data transfer requirements cannot be met by using the TRI-TAC and MSE systems. The improved high-frequency AM radio series provide mid-to-far-range communications capability. They interface with other AM high-frequency radios and have push-button frequency selection. The SINCGARS series' FM radios are designed for simple and quick operation using a 16-element keypad for push-button tuning. They are capable of short-range operation for voice or digital data communications and interfacing with the AN/VRC-12 series of FM radios. They also can operate in a jam-resistant, frequency-hopping mode.

f. *Hospital Radio Nets*. The FH/GH and their staffs depend on both AM and FM radios and area communications systems to operate. The hospitals' FM radio nets are shown in Figures 4-14 and 4-15 (also see Appendix E). The hospitals monitor the following FM nets:

- Field hospital commander—MEDCOM, medical brigade/group command net.
- Field hospital and GH S2/S3—MEDCOM, medical brigade/group command net.
- Supported CSS FM nets.
- Field hospital and GH triage/preoperative/ EMT—used to control operation of the medical evacuation and heliport operations.
- Commander, HUS—hospital command net.

g. *Hospital Operations Net—AM-IHFR*. The FH/GH operations net (Figure 4-16, hospital net—AM-IHFR) uses an AN/GRC-193A radio. This net is used to facilitate patient management, air and ground evacuation, and medical regulation of patients. This net links the hospitals with the MEDCOM and/or medical brigade which is the net control station (NCS) for the CHS operations net.

h. *Signal Security*. As part of the overall security program, all hospital elements must practice signal security (SIGSEC). The hospital operations section is responsible for SIGSEC and COMSEC. Some considerations include—

- Using terrain features, such as hills, vegetation, and buildings, to mask transmissions.
- Maintaining radio and radio-listening silence; using the radio only when absolutely necessary.
- Distributing codes on a need-to-know basis.
- Using only authorized call signs and brevity codes.

- Using authentication and encryption codes specified in the current signal operation instructions (SOI).
- Keeping transmissions short (less than 20 seconds if possible).
- Reporting all COMSEC discrepancies to appropriate authorities.

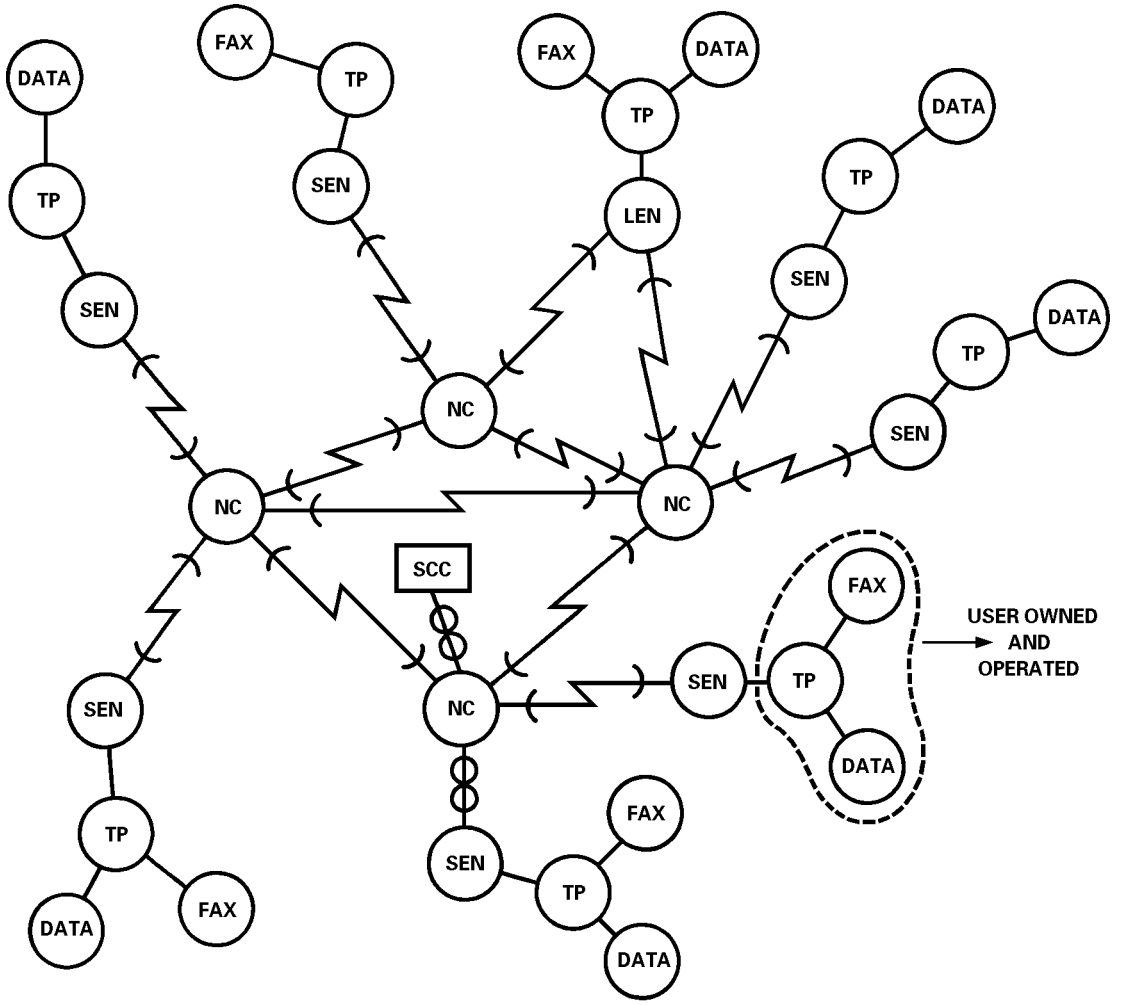


Figure 4-5. Example of fixed subscriber terminals.

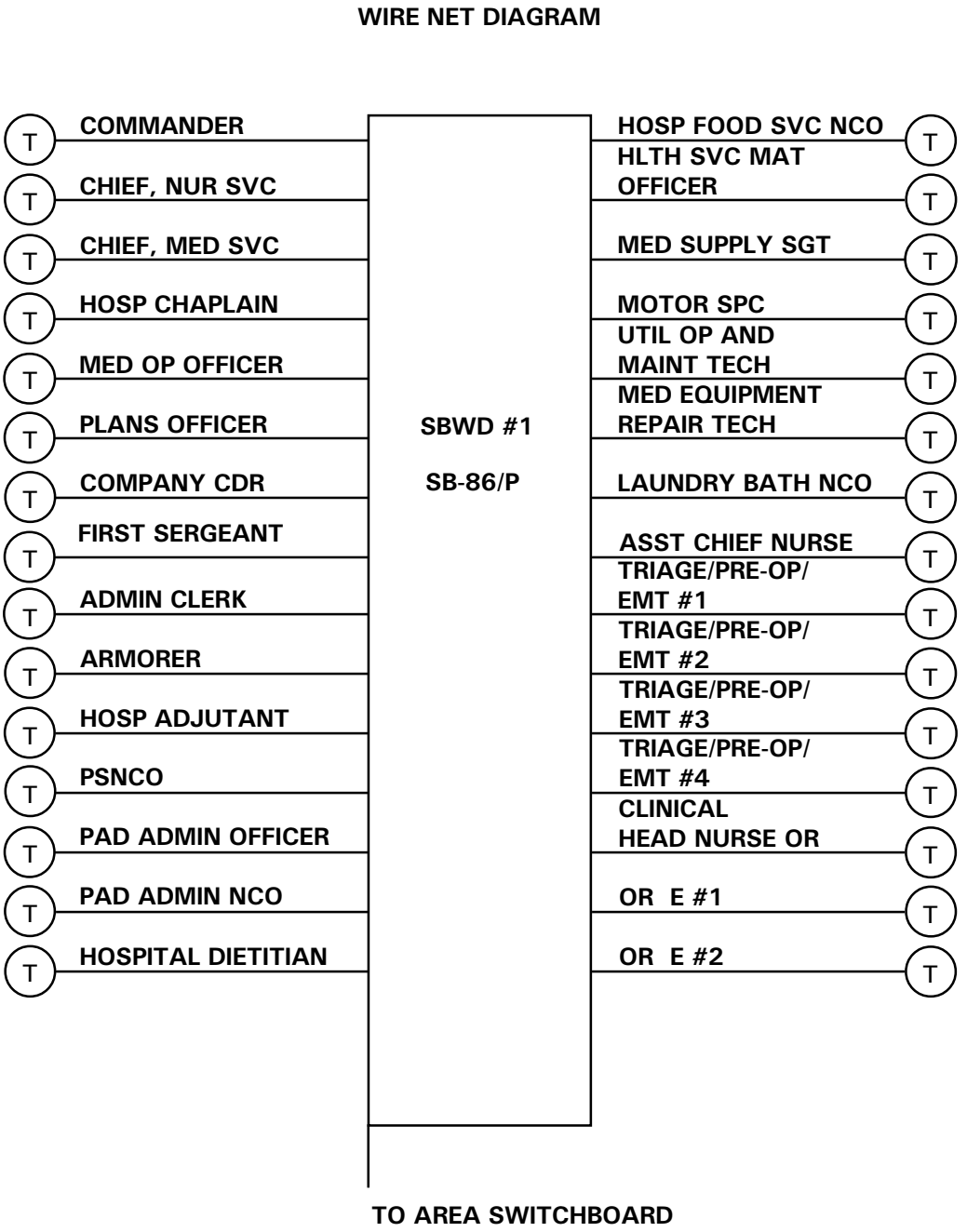


Figure 4-6. Wire net diagram, FH, HUB, switchboard 1.

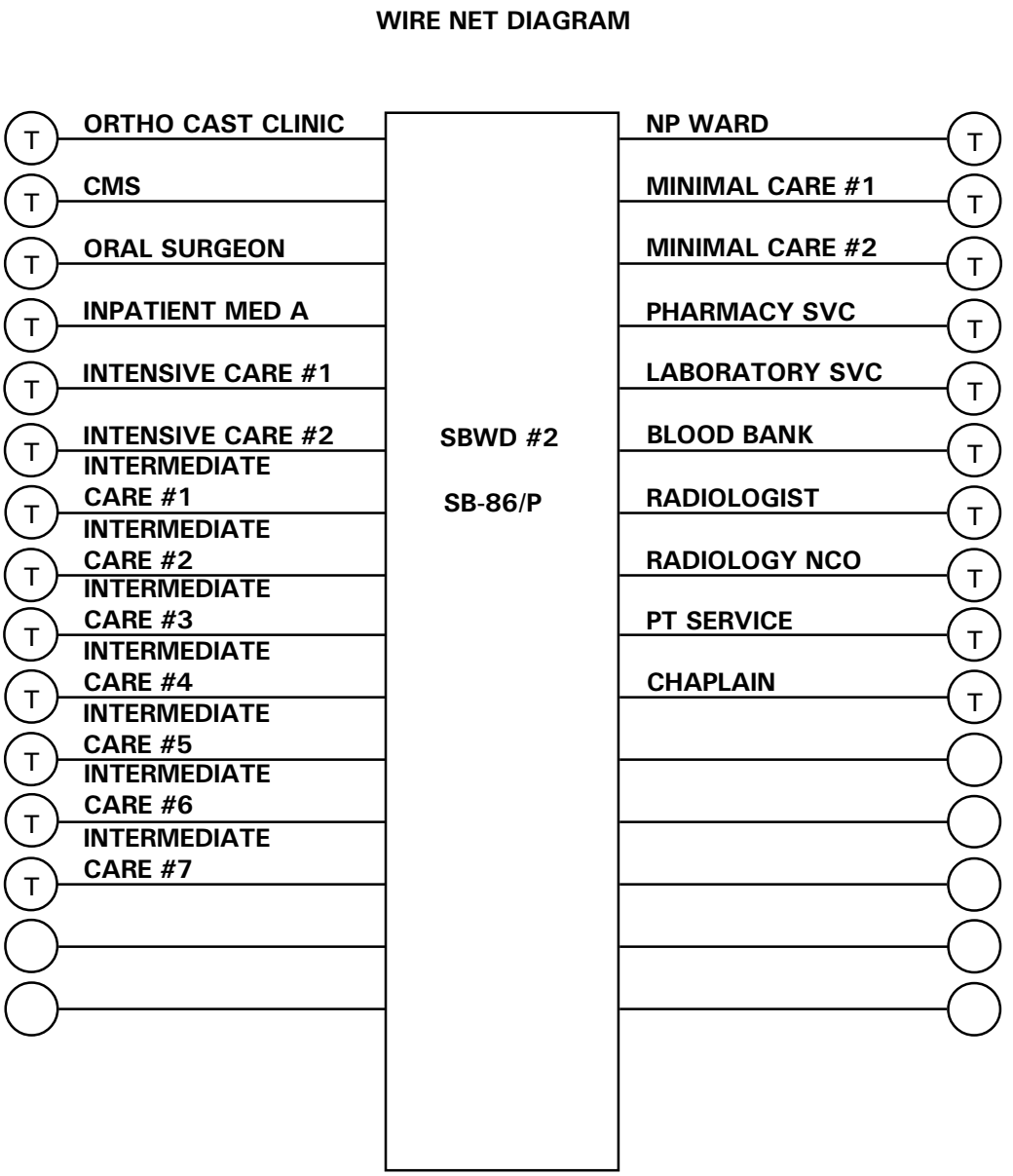
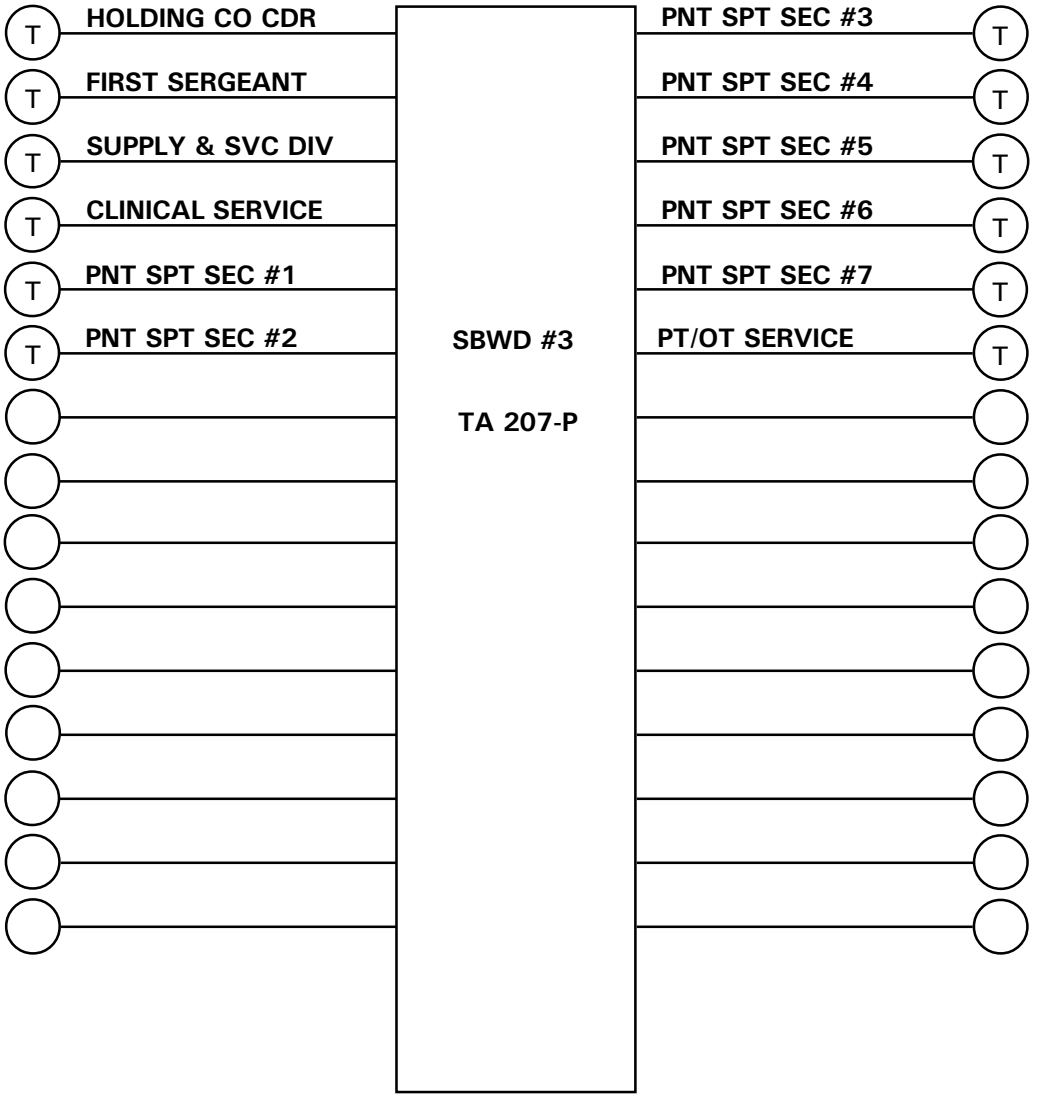


Figure 4-7. Wire net diagram, FH, HUB, switchboard 2.

WIRE NET DIAGRAM



NOTE: ONE OF THE SB-86/Ps IS AUGMENTED WITH A TA 207-P (SIGNAL ASSEMBLY SWITCHBOARD) TO PROVIDE 30 ADDITIONAL SWITCHBOARD LINES.

Figure 4-8. Wire net diagram, FH, HUH, switchboard 3.

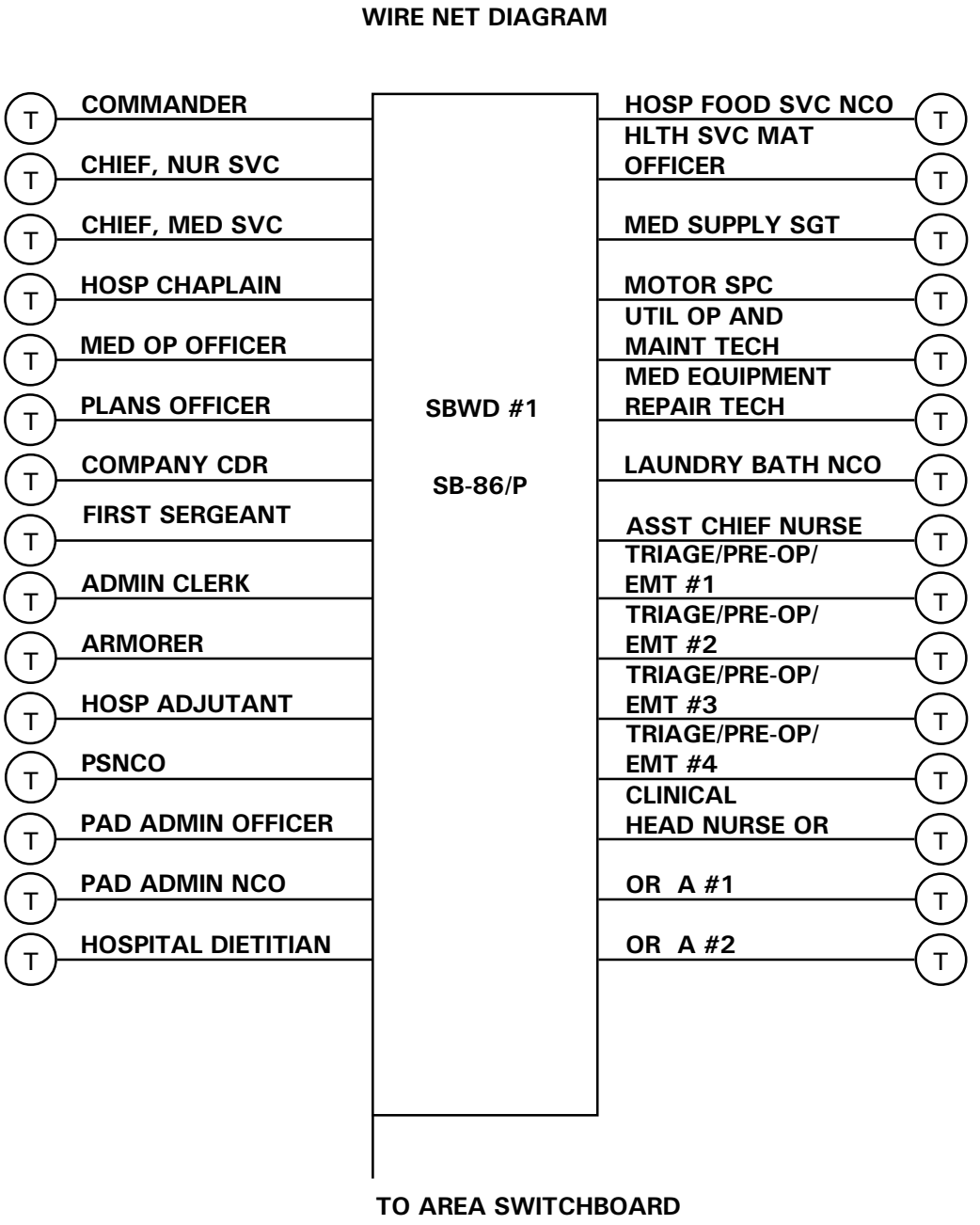


Figure 4-9. Wire net diagram, GH, HUB, switchboard 1.

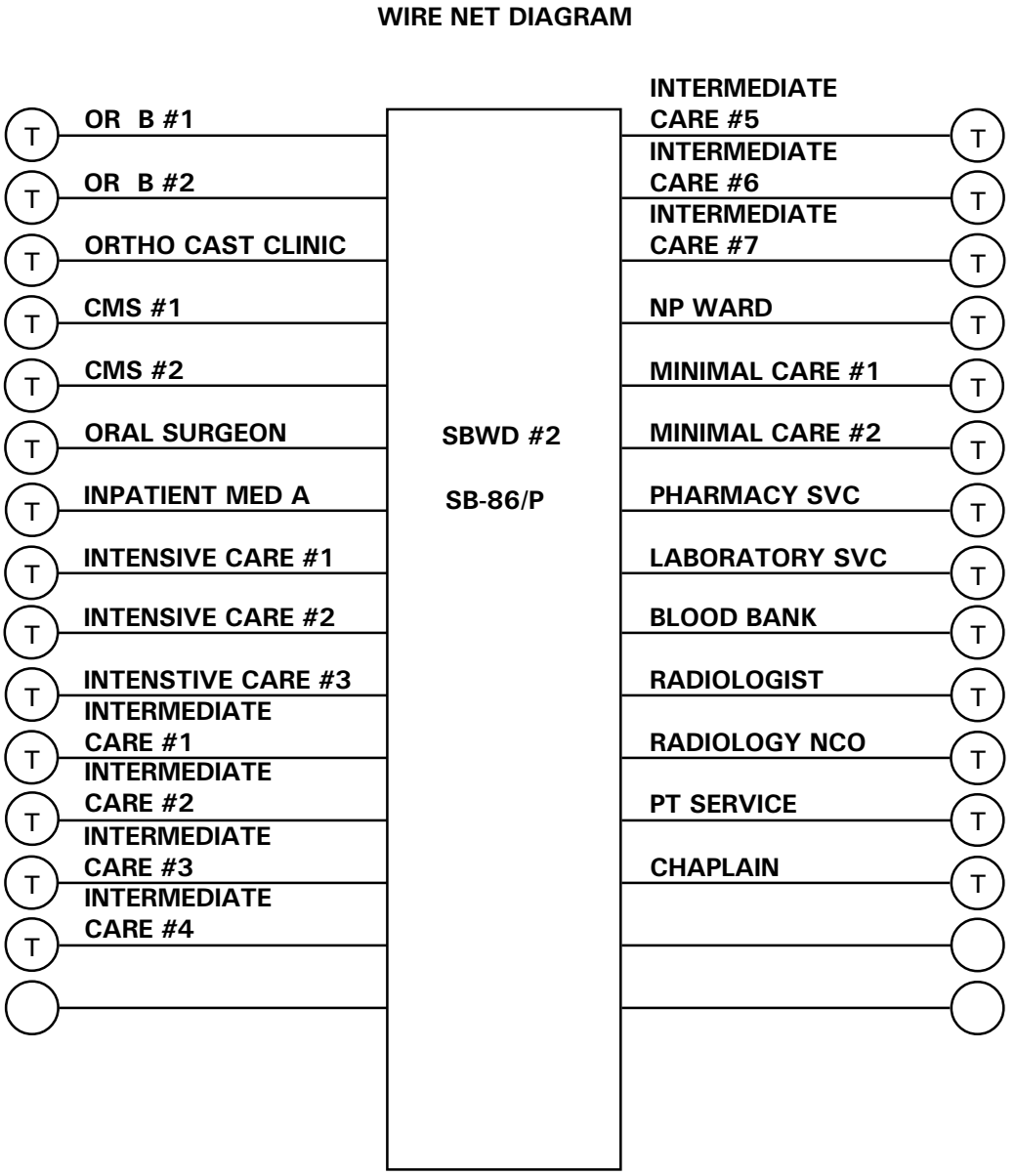


Figure 4-10. Wire net diagram, GH, HUB, switchboard 2.

WIRE NET DIAGRAM

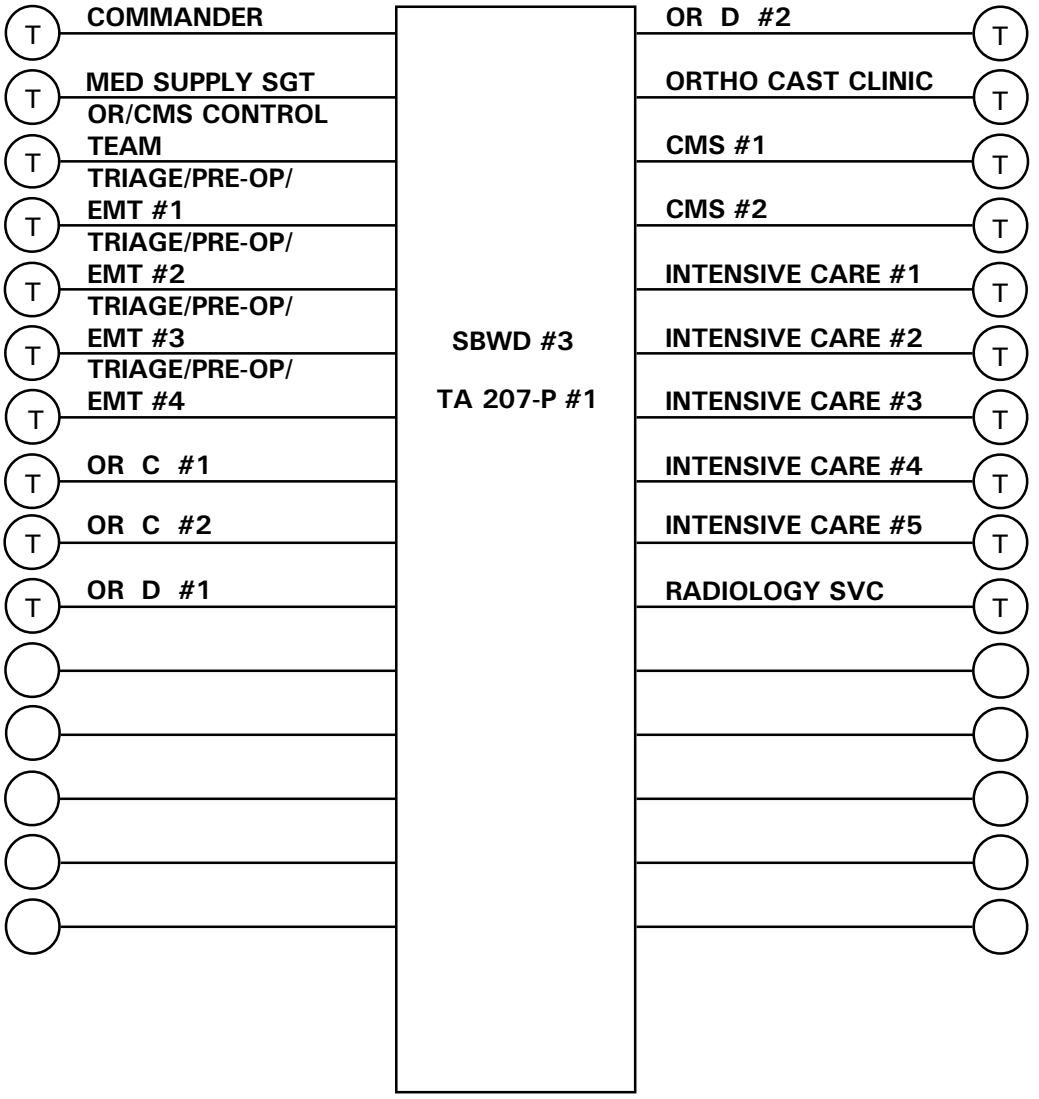


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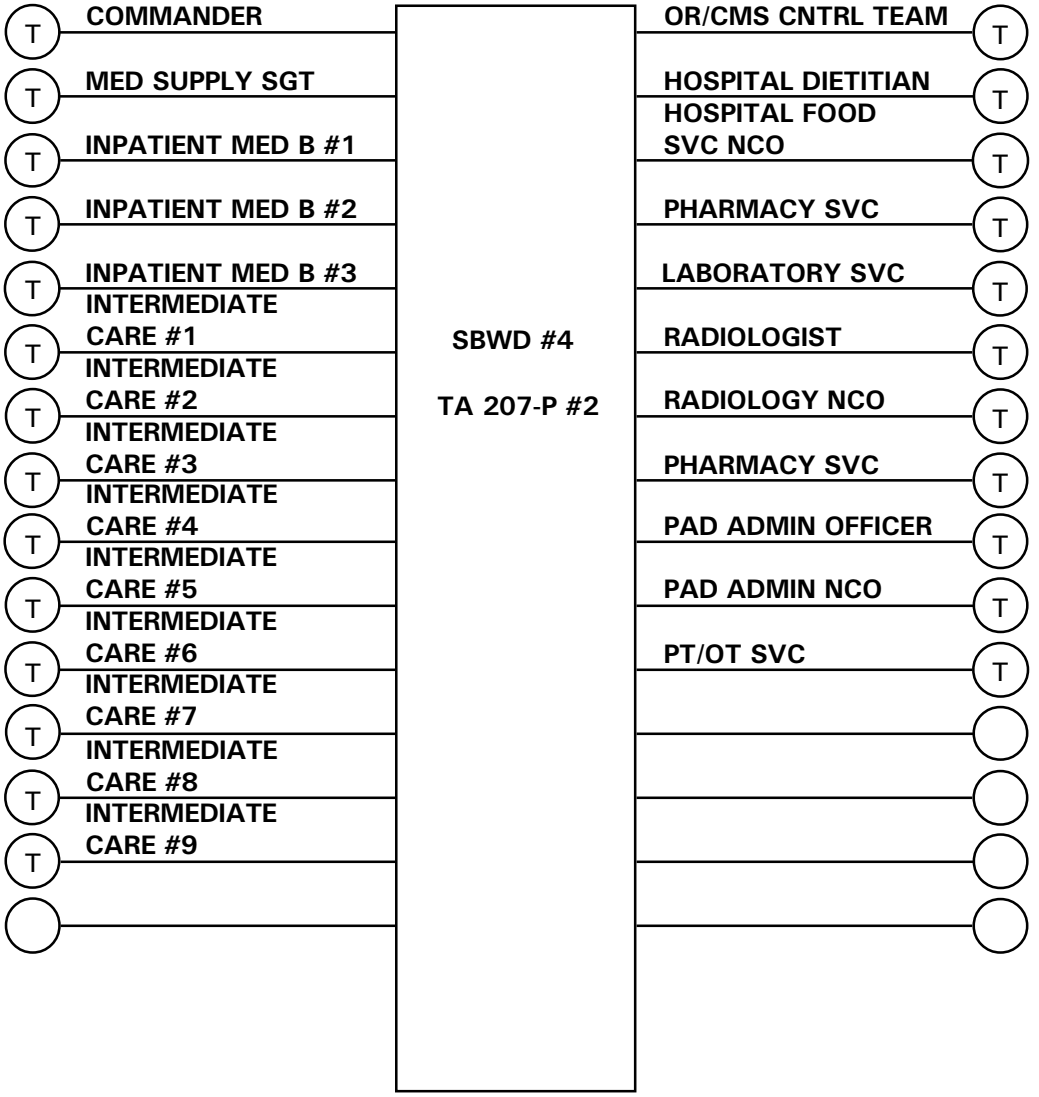
Figure 4-11. Wire net diagram, GH, HUS, switchboard 3.

WIRE NET DIAGRAM



NOTE: ONE OF THE SB-86/Ps IS AUGMENTED WITH A TA 207-P (SIGNAL ASSEMBLY SWITCHBOARD) TO PROVIDE 30 ADDITIONAL SWITCHBOARD LINES.

Figure 4-12. Wire net diagram, GH, HUM, switchboard 4.

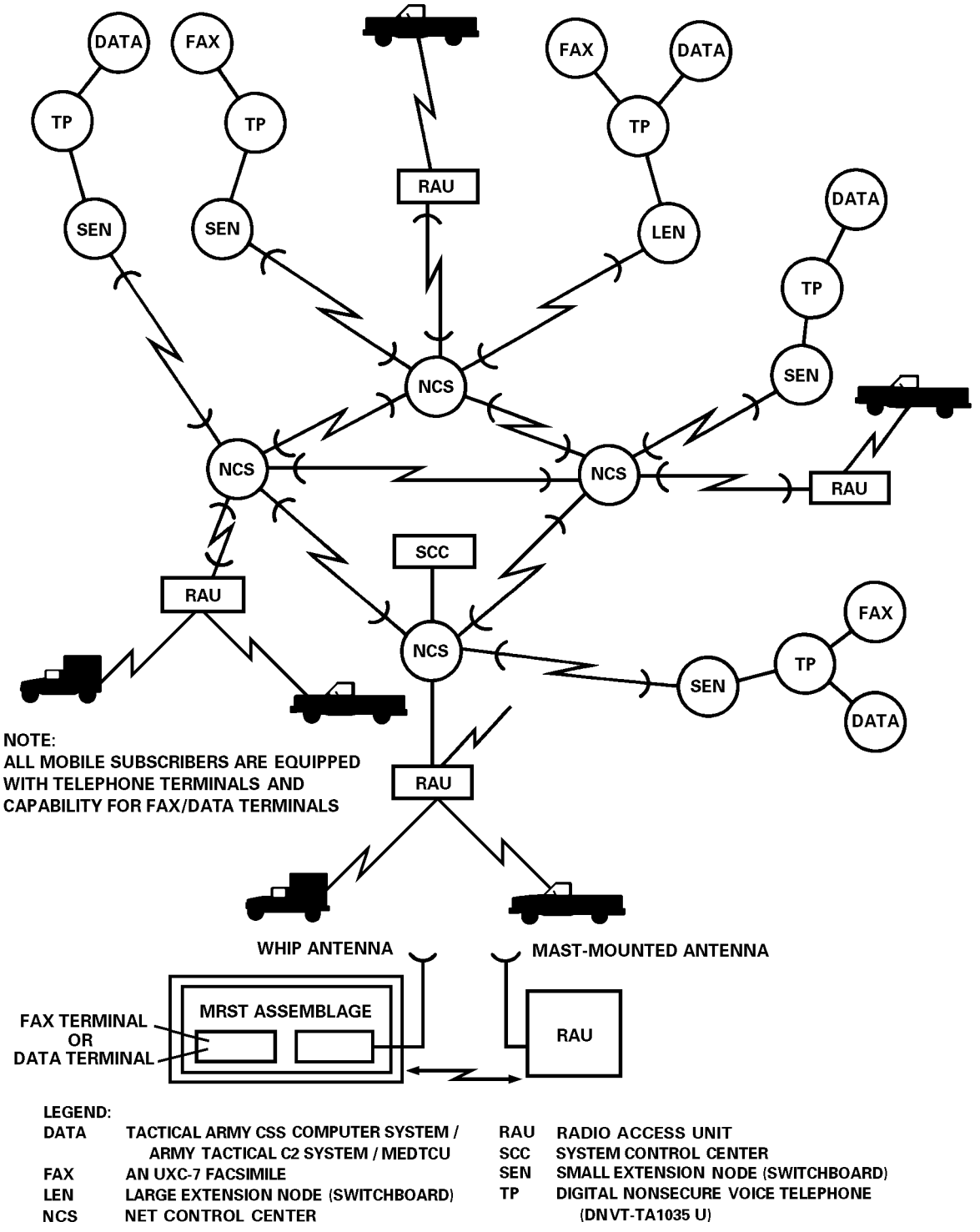


Figure 4-13. Mobile subscriber interface.

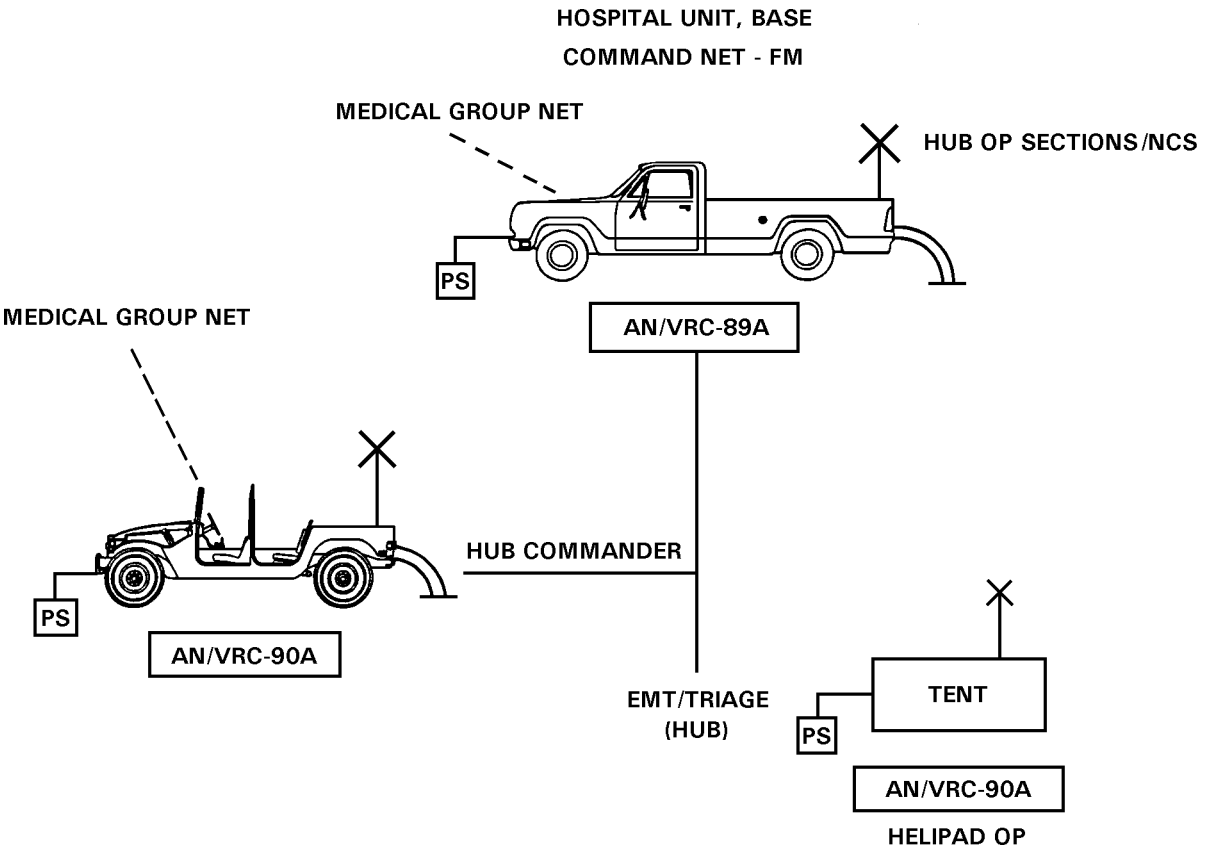


Figure 4-14. Field hospital net—FM.

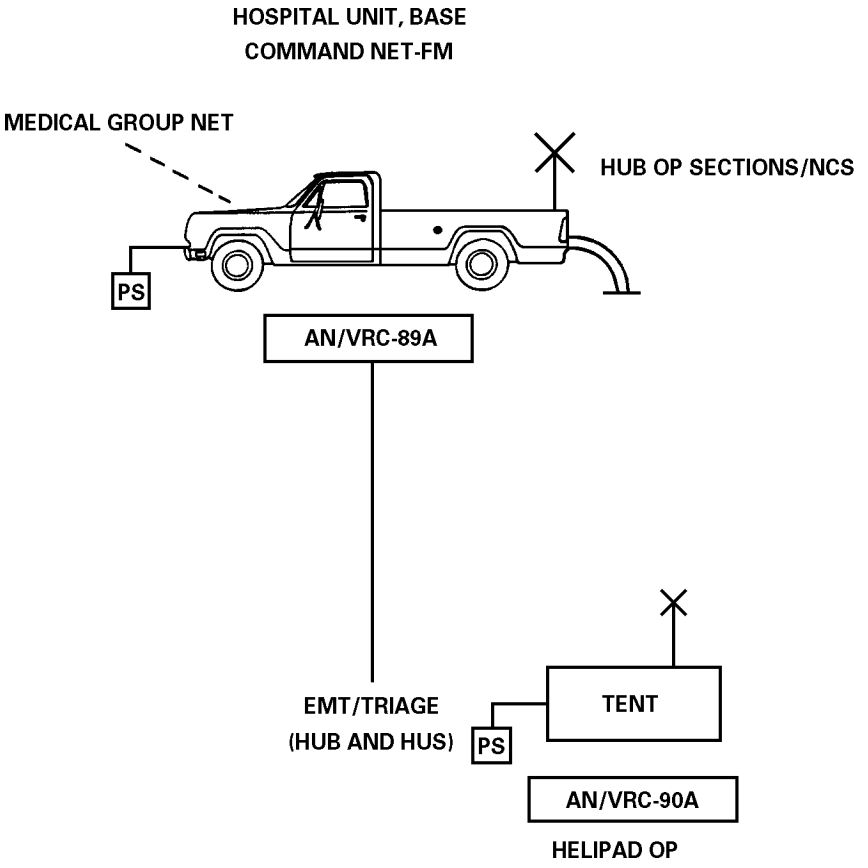


Figure 4-15. General hospital net—FM.

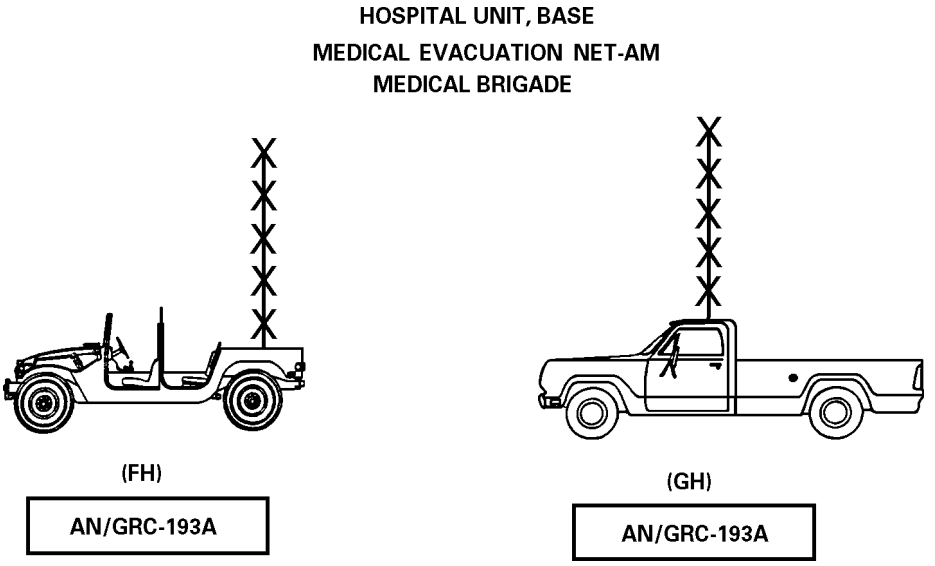


Figure 4-16. Field and general hospitals net—AM–IHFR.