BY ORDER OF THE COMMANDER, PACIFIC AIR FORCES

PACAF INSTRUCTION 33-150, VOLUME 5

15 MAY 1998

Communications and Information

DEPLOYABLE COMMUNICATIONS STANDARDS-PACAF INITIAL COMMUNICATIONS PACKAGE (PICP)

COMPLIANCE WITH THIS PUBLICATION IS MANDATORY

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Pages: 19
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This instruction implements policy found in Air Force Policy Directive 33-1, *Command, Control, Communications, and Computer (C4) Systems*. This volume of the deployable communications standards provides guidance for activation, deployment, employment, and recovery of the initial communications package at PACAF wings. The attachments detail the standard equipment connections. Equipment included is listed in **Figure 1.** This volume applies to all active PACAF wings and communications units. This volume does not apply to ANG and USAFR units and members.

1. General. This section lists general tasks required during all stages of PICP activation. Actions/checklists may be modified to meet specific units/mission requirements. This instruction should be used in conjunction with PACAFI 33-150, Volume 2, *UTC Activation*.

2. Predeployment Phase. The following actions should be completed prior to unit deployment:

2.1. Communications Commander and/or PICP Team Commander:

2.1.1. Review intelligence (INTEL) material, the air tasking order (ATO), applicable operations order (OpOrd), and operations plan (OPlan) for PICP tasking.

2.1.2. Identify personnel and equipment limitations (LIMFAC).

2.1.3. Conduct briefings on the following subjects:

2.1.3.1. Mission requirements.

2.1.3.2. Chain of command.

2.1.3.3. Uniform requirements.

2.1.3.4. Deployed facility availability (i.e., dining facility, shower tent, mini-exchange, maintenance shelters, work centers).

2.1.3.5. Personal survivability requirements (i.e., money, weapons, water).

2.1.3.6. Safety. Stress the importance of following all applicable safety precautions during UTC build-up phase.

2.1.4. Coordinate mobility processing requirements with the wing combat readiness and resource section, i.e., pre-deployment inspections.

2.1.5. Appoint COMSEC responsible officer (CRO) for deployment. (Ref PACAF 33-150, Vol 6)

2.1.6. Update or modify COMPES/LOGDET listing, if applicable.

2.1.7. Ensure availability of mobility readiness spares packages (MRSP), meals ready-to-eat (MRE), potable water, batteries, and any support items needed from supply (i.e., blister bags, shelter support boxes, and mission support boxes).

2.1.8. Establish a deployed equipment account and equipment custodian.

2.1.9. Verify frequency assignment and authorization to support deployment.

2.1.10. Collect OJT records of all deploying personnel.

2.2. Facility Managers:

2.2.1. Verify COMSEC requirements.

2.2.2. Obtain and disseminate combinations, keys, and restricted area badges for the deployed location and facilities to team members.

2.2.3. Brief show time for unit and base mobility processing to team members.

2.2.4. Develop or update Annex K/Comm tasking for deployment.

2.3. Team Members:

2.3.1. Check and certify COMSEC equipment. Ensure no batteries are transported in the equipment. Inventory and page check COMSEC documents. Place COMSEC materials, current plus 90 days, in canvas bags and seal them.

2.3.2. Inspect all tasked equipment to include current calibration dates and preventive maintenance inspection (PMI) completion. Obtain PMI run for equipment due PMIs during deployment.

2.3.3. Have exemption letters, facility access lists, courier letters, and emergency action plans (EAPs) of sufficient quantity available. Affix exemption letters to COMSEC control items, keying material, transportable shelters, sealed bags, and storage boxes prior to deployment and redeployment as applicable.

2.3.4. Palletize UTC and support equipment according to local load lists. Collect Electronic Records folders for all deploying equipment.

3. Deployment Phase. Deploying personnel process according to Host base mobility procedures.

4. Employment Phase. Immediately upon arrival and throughout the duration of the deployment:

4.1. Deployed Commanders:

4.1.1. Establish site security.

4.1.2. Brief personnel on:

4.1.2.1. Equipment and facility layout.

4.1.2.2. Weapons and ammunition handling.

4.1.2.3. THREATCON procedures.

4.1.2.4. Safety. Stress the importance of wearing hard hats, work gloves, safety-toed shoes, and goggles while erecting antennas and facilities.

4.1.2.5. Authorized evacuation points.

4.1.3. Release personnel to start site build-up.

4.1.4. Within 8 hours, brief staff and facility managers on:

4.1.4.1. Generator switching procedures and power restoration requirements.

4.1.4.2. Duty schedules.

4.1.4.3. Reporting maintenance actions/status.

4.1.4.4. Supply procedures.

4.1.4.5. System Control (SYSCON)/Communications Focal Point (CFP) and alternate SYSCON/CFP location.

4.1.4.6. Transportation (on and off base).

4.1.5. Begin submitting SITREPs.

4.2. Facility Managers:

4.2.1. If facilities or equipment have problems, open "set-up" Job Control Number (JCN) at SYSCON/CFP.

4.2.2. Release night shift personnel as soon as possible to allow time for sleep.

4.2.3. Notify the SYSCON/CFP when a facility is operationally ready. Close "set up" JCNs as applicable.

4.2.4. Ensure personnel review EAPs, where applicable, within 24 hours of arrival on site.

4.2.5. Turn in MRSP to the SYSCON/CFP or deployed supply facility.

4.2.6. Brief team members on information received from deployed commander’s briefing as soon as possible.

4.3. Team Members:

4.3.1. Break down pallets.

4.3.2. Rope off and post controlled area signs around facilities with controlled access. Establish ‘Radiation Hazard’ area(s) for RF transmitter system(s).

4.3.3. Ground site IAW PACAFI 33-103.

4.3.4. Erect and identify a classified waste destruction facility.

4.3.5. Raise cable hocks off the ground and wrap in water-resistant material.

4.3.6. Make sure cable runs are neat and orderly with at least 18 inches of separation between power and communications cables.

4.3.7. Cross all communications cables at a 90-degree angle to power cables and coil excess cable beside tents.

4.3.8. Do a system check.

4.3.9. Complete COMSEC inventories immediately upon receipt of COMSEC. (Ref PACAFI 33-150, Vol 6)

4.3.10. Repack and store all excess equipment in a secure area in facility.

4.3.11. Camouflage facilities, as required.

4.3.12. Initiate master station logs (MSL) and tactical performance assessment program (TPAP) forms once facilities are "ops ready."

4.3.13. Post technician availability roster (duty schedule) in facility. Forward a copy to SYSCON/CFP.

4.3.14. Post bomb threat procedures in facility.

4.3.15. Operate per the mission parameters.

4.3.16. Maintain a clean and safe site with daily housekeeping and policing of shelters and site.

4.3.17. Destroy classified waste and superseded COMSEC keymat daily or as required. (Ref PACAFI 33-150, Vol 6)

4.3.18. Establish hazardous noise zone for generator areas and fuel contamination spill cantonment area.

5. Redeployment Phase. Take these actions to prepare for redeployment to either another location or home station:

5.1. Deployed Commander:

5.1.1. Meet with management staff to discuss fade-out and tear down plan.

5.1.2. Stress that circuit and facility deactivation is managed by SYSCON/CFP and that circuits are deactivated in reverse priority. (See Volume 13)

5.2. Facility Managers:

5.2.1. Give safety briefing prior to commencing tear down. Ensure team members are wearing applicable safety equipment.

5.2.2. Open "tear down" JCN at SYSCON/CFP when necessary.

5.2.3. Post guards with current EAPs at any facility containing classified material.

5.2.4. Turn in MSLs and TPAPs to SYSCON/CFP.

5.2.5. Once facilities are torn down, close any "tear down" JCN at SYSCON/CFP, as appropriate.

5.2.6. Annotate historical records at SYSCON/CFP.

5.3. Team Members:

5.3.1. Zeroize COMSEC equipment and remove fill batteries.

5.3.2. After coordinating with the deployed CRO, burn superseded keying material that has been removed from its canister.

5.3.3. Protect, label, and/or degauss classified magnetic media.

5.3.4. Sanitize, padlock, and guard facilities containing classified materials.

5.3.5. Inventory COMSEC material and return it to the deployed CRO.

5.3.6. Properly destroy classified waste.

5.3.7. Defuel generator drums, as required.

5.3.8. Remove grounding rods and wires from the site.

5.3.9. Tear down facilities, equipment, and antennas.

5.3.10. Pack equipment and associated pallets for redeployment.

5.3.11. Palletize UTC and support equipment prior to departure time as applicable to airlift redeployments.

5.3.12. Police area and dispose of trash.

6. Recovery Phase. These actions are completed immediately after returning to home station:

6.1. Deployed Commanders. Prepare after-action and lessons learned report.

6.2. Facility Managers:

6.2.1. Locate pallet with your equipment and relocate to an area to break down the pallet.

6.2.2. Return COMSEC materials to the COMSEC account on the day of return.

6.2.3. Record parts ordered while deployed at the Wing Combat Readiness and Resource Section, if applicable.

6.2.4. Post JCNs that remain open from the deployment at the Wing Combat Readiness and Resource Section.

6.2.5. Coordinate with Wing Combat Readiness and Resource Section for post deployment requirements, i.e., post deployment inspection.

6.2.6. Complete trip report, if required.

6.2.7. Reconcile deployed historical records with originals.

6.3. Team Members:

6.3.1. Break down pallets.

6.3.2. Where required, turn in pallets and cargo nets to the Wing Combat Readiness and Resource Section or return pallets and nets to base mobility warehouse.

6.3.3. Inspect equipment.

6.3.4. Inventory and replenish support kits prior to storage.

6.3.5. Return equipment to the proper storage area.

6.3.6. Return support equipment to supply, as required.

6.3.7. Return records and forms to appropriate areas

7. General. This section provides general information on specific PICP (**6KTAG**) equipment. Specific UTC checklist data is found in Volume 2 of this series.

7.1. SB-3614, Automatic Telephone Switchboard (Analog) and Secure Telephone Unit III (STU-III); SB-3865, Automatic Telephone Switchboard (Digital; AN/URC-119, HF Transceiver (PACER BOUNCE); AN/TSC-129, Hammer Rick; PICP/Interim Comm Package (ICE)/ Deployed LAN:

7.1.1. Typical PICP, ICE/Deployed LAN, see **Attachment 1**. This PACAF unique UTC provides VHF/UHF, data and record communications for deployed forces. The data system is being upgraded to higher data rates through propitious use of commercial equipment/systems, and will provide a greatly expanded capability.

7.1.2. SB-3614 circuit diagram, see **Attachment 4**. Tactical Secure Telephone Equipment (STEs) will replace STU-III, DSVTs, and DNVTs, consolidating telephone functions and eliminating excess weight from the UTC. The SB-3614A is a tactical, ruggedized, 30-terminal automatic switchboard. It provides rapid cordless service to a variety of interfaces. The basic switchboard may be operated as a 30-terminal single switchboard or may be connected with additional switchboard to form a 60 or 90 line system. The operator monitors, answers, initiates, extends, preempts, and releases calls through actuation of a four-by-four push button key-sender and other functional push buttons. Any connection can be broken down manually, through operator intervention and action, or automatically, by a subscriber going on hook. The operator can provide call assistance and one-time call privileges as specified below without affecting the normal privileges or restrictions of the calling party. Call completion assistance directory and routing information trouble reporting call completion to or from outside network requiring manual interface or with which the subscriber does not have direct dial access busy and no answer verification conference call set one-time precedence/preemption privileges test tone connection to any line or trunk. Up to 18 of the terminals may be connected as 4-wire trunks or E&M dial pulse or DTMF lines or trunks. The switchboard provides full automatic operation with DTMF touch tone subsets and 2- and 4-wire automatic trunks. It also provides limited automatic operation with rotary dial pulse subsets. In the case of common battery signaling or ring-down lines and trunks without DTMF capability, the switchboard provides call extension service through the operator. Detailed descriptions may be found in T.O. 31W2-2TT-121.

7.1.3. AN/URC-119 circuit diagram, see **Attachment 5**. The URC-119(V)2 is a compact HF Radio Set designed for high performance, reliable, HF voice and data communications. System self-test and automatic diagnostic BITE make it simple to identify and locate problems. Modular construction makes for fast repair and alignments. The central component of the system is the RT-1446/URC, a microprocessor controlled transceiver, rated at 100 watts PEP and Average output power. The solid-state power amplifier assures continuous full-output power during key-down operation. All operating and metering functions of the transceiver are fully controllable at remote

locations by the C-11329/URC Remote Control Unit. Additionally the unit has built-in phone patch capability and can be equipped with an internally mounted AFSK option. The unit is fully compatible with all standard voice encryption devices, including ANDVT (Advanced Narrow-Band Digital-Voice Terminal), CV-3591. Detailed descriptions may be found in applicable T.O.'s

7.1.4. AN/TSC-129 circuit diagram, see **Attachment 6**. The AN/TSC-129, Hammer Rapid Initial Communications Kit (RICK) system provides user with a quick reaction, transportable, command and control communications capability, via UHF SATCOM. The Hammer RICK system is comprised of the following elements:

7.1.4.1. LST-5B/C/D/EMUT/PSC-5, lightweight satellite transceiver.

7.1.4.2. DM-SE77, UHF satellite communications antenna.

7.1.4.3. LSAD-100, AC-DC power supply.

7.1.4.4. AN/UXC-7, Lightweight Digital Facsimile, or equivalent.

7.1.4.5. Model 1307 TEMPEST GRIDCASE, laptop computer, or equivalent PC capability.

7.1.5. SB-3865, Automatic Telephone Switchboard. The SB-3865 is a tactical man-transportable communications switching facility. It is intended for use as a stand-alone, access, or tandem switch in unit level communication networks. The switch termination circuits provide for service with analog and/or digital voice or data terminals. Switching service includes loop-to-loop, loop-to-trunk, trunk-to-loop, and trunk-to-trunk connections. A single unit is capable of 30 channels, two or three switches may be stacked (connected together) to double or triple the channel capacity. Detailed descriptions may be found in T.O. 31W1-2TTC-22.

7.1.6. Land Mobile Radios (LMRS). The LMR package consists of; 50 hand-held 5 watt radios, capable of narrowband/wideband, trunk/non-trunk, analog or digital operation; two base stations with similar capabilities; antennas, chargers, and programming equipment. These radios are not secure, but can be upgraded with DES encryption. This package does NOT contain a repeater(s). The purpose of this package is to provide the initial on-the-ground, minimum essential communications required for a provisional wing to set-up. LMR requirements beyond this initial level of capability must be expanded at the wing level, by the deployed wing and its elements.

NOTE:

LMR frequency requirements are unique to each area or theater of operations. It is the responsibility of each deploying unit to have the correct type radios (narrowband/wideband) properly programmed to authorized frequencies for the AOR. Please consult the appropriate Base Support Plan (BSP) prior to deploying. Contact the local frequency manager to ensure that the correct frequencies are available.

7.2. Message Distribution Terminal. During the pre-deployment phase, ensure spare hard-drives and additional back-up batteries are available for deployment. Ensure correct PLAs are available. See **Attachment 2** for typical circuit diagram.

7.3. TRC-176, VHF/UHF-AM Radio Set. During the pre-deployment phase, pack radios so they can be quickly removed and set up. See **Attachment 3** for circuit diagram to use during the employment phase.

7.4. TSC-94A, Satellite Communications Terminal (6KJL1). The AN/TSC-94A (V) is a satellite communications terminal that provides point-to-point, multi-point communications for combat Air Forces. This self contained terminal operates with communications satellites operated by the Defense Communications Agency (DOA). Working through these satellites, either short range, or long range communications can be established under a diverse range of environmental conditions without the need for repeaters or extensive site preparation. The AN/TSC-94A(V) mission within GTACS is normally as a spoke (non-nodal) in a hub-spoke communications net with an AN/TSC-100A(V). It's capable of transmitting and receiving up to 12 local subscribers. Secure multi channel communications is provided with the use of a KG-81 Trunk Encryption Device (TED). The AN/TSC-94A is housed in a modified S-250 Shelter. The shelter is mounted on a specialized pallet by cables along the sides and bolted on from the bottom. The pallet is supported by a M-720 Mobilizer for transportation. Inside the shelter there are six equipment racks, three of which are secured to each sidewall, with aisle space in the center. The three racks on the roadside of the terminal contain the Radio Sub System (RSS) equipment. The curbside racks have the Communication Sub System (CSS) equipment. An Environmental Control Unit (ECU) is mounted on the Front wall and shelter access is through the door on the rear wall. The AN/TSC-94A comes in two versions, (V) 1 and (V) 2. The main difference between the versions is the input power capabilities. The (V) 2 is capable of operating on either 400 Hz or 50/60 Hz, the (V) 1 is 50/60 Hz only. The TSC-94A is capable of interfacing with 4-wire voice circuits only, -94 terminals were 2 or 4 wire. The (V) 1 terminal accepts up to 24 channels of voice, digital data, or teletype (Frequency Shift Keying, FSK). The (V) 2 has decreased channel capacity due to the equipment required for 400 Hz frequency conversion. Its maximum channel capability is 12 channels. Detailed descriptions may be found in T.O. 31R2-2TSC-94-11.

7.4.1. When configuring for air mobility, have the magnetic hazard certificate six copies of the completed load list, and all DD Forms 1387-2 available.

7.4.2. During pre-deployment, review the satellite access letter. Check for proper load balancing, the TSC-94A may be overweight. Movement of the equipment may also require the use of equipment coffins or helicopter lift cables (used only after proper training and certification).

7.4.3. During employment:

7.4.3.1. Rope off appropriate radiation hazards areas prior to equipment siting.

7.4.3.2. Establish two-way communication with satellite controller during authorized initial access time identified in the satellite access authorization message.

8. PICP Standard Multiplex Plan for ARCH Access, see **Attachment 7**.

8.1. AFFOR Reachback Communications Hub (ARCH) configuration, see **Attachment 8**.

Figure 1. PACAF Initial Communications Package (PICP) Equipment List.

PICP (6KTAG)

AN/TRC-176, UHF/VHF Radio

AN/URC-119, HF SSB Radio

AN/TSC-129, UHF TACSAT Radio

SB-3614, Analog Switchboards

SB-3865, Digital Switchboards

FCC-100 (v)7, Multiplexers

Mobile MDT Units (messaging)

Interim Communications Package (ICE)

Initial Deployed LAN

STU-III, Secure Telephone

STEs, Secure Telephone Equipment (pending delivery)

KY-99/99A, ANDVT

DSVTs, DNVTs

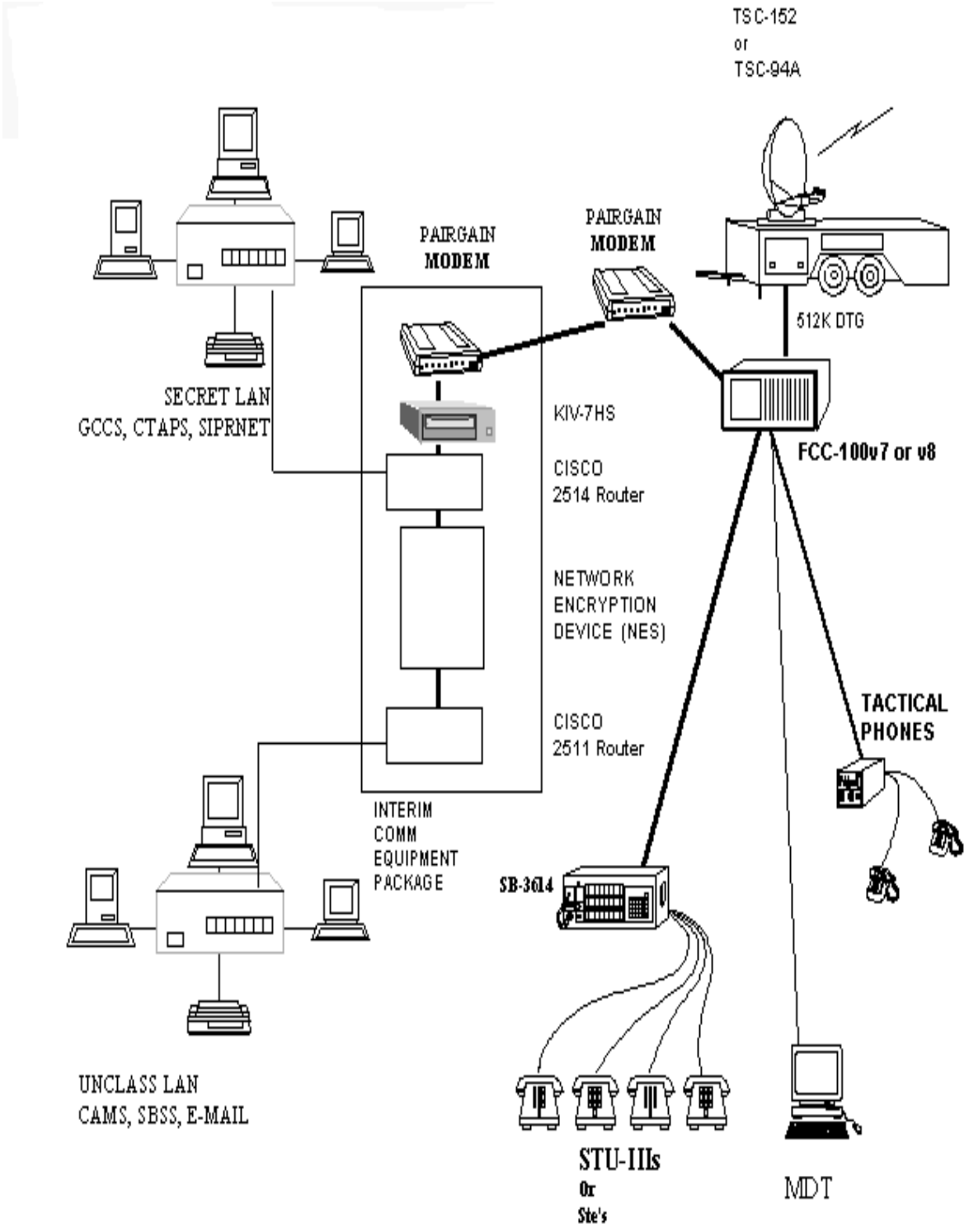
Land Mobile Radios, 50 H-Ts, 2 Base stations

TSC-94A, SHF SATCOM (**tasked via 6KJL1**)

BERNARD K SKOCH, Colonel, USAF
Director, Communications and Information

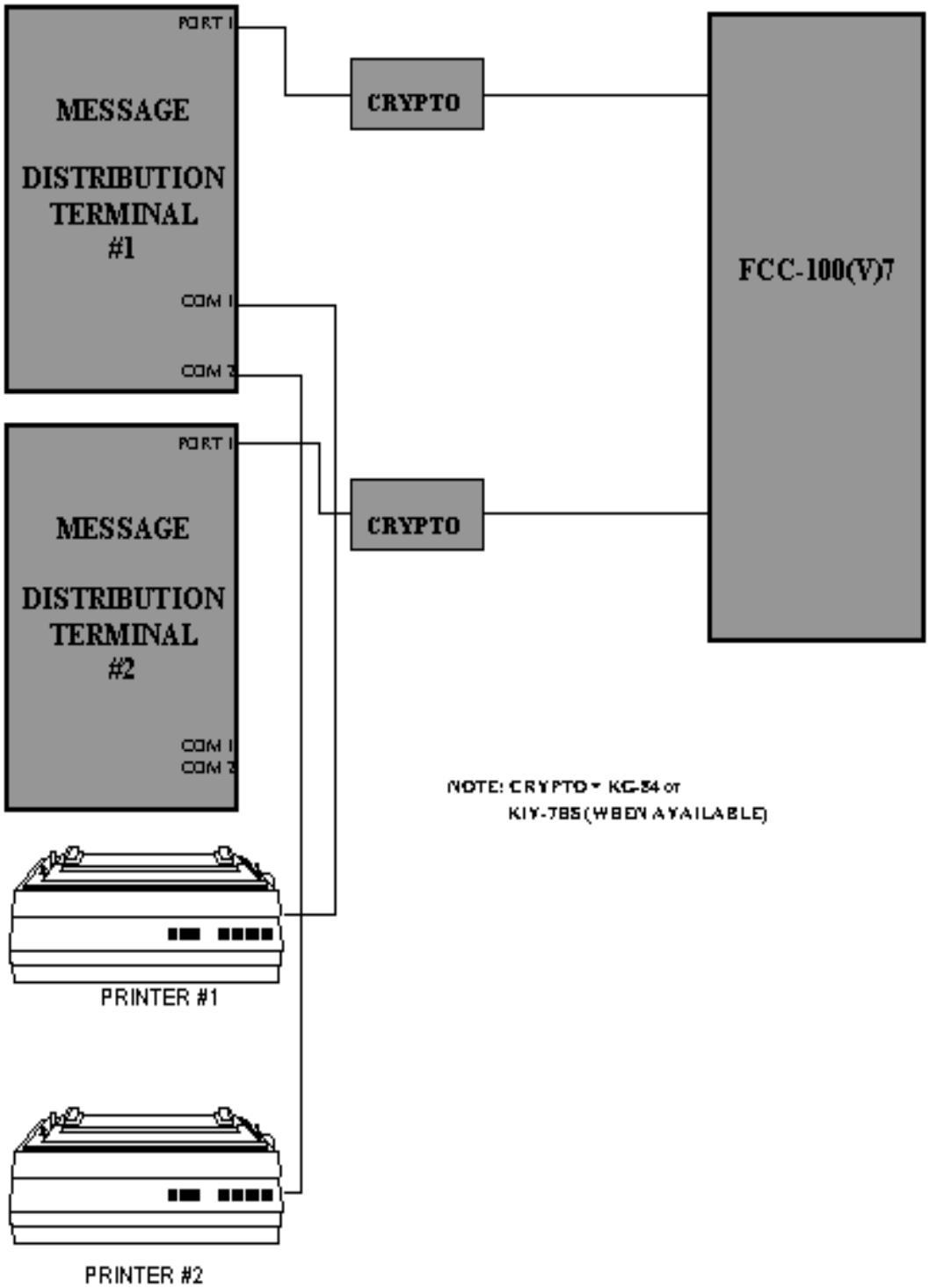
Attachment 1

TYPICAL PICP SITE CONFIGURATION



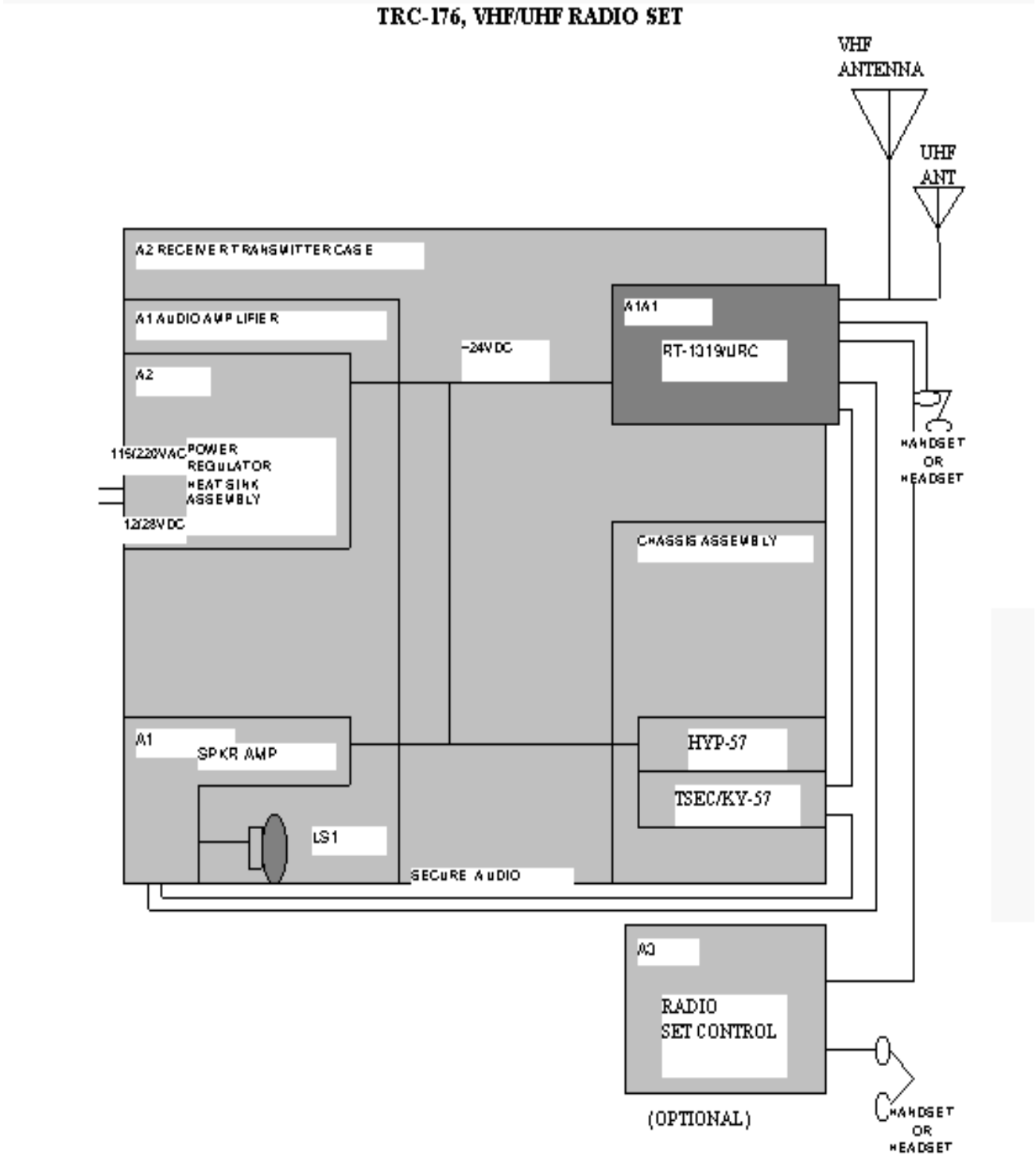
Attachment 2

MOBILE MDT TERMINALS



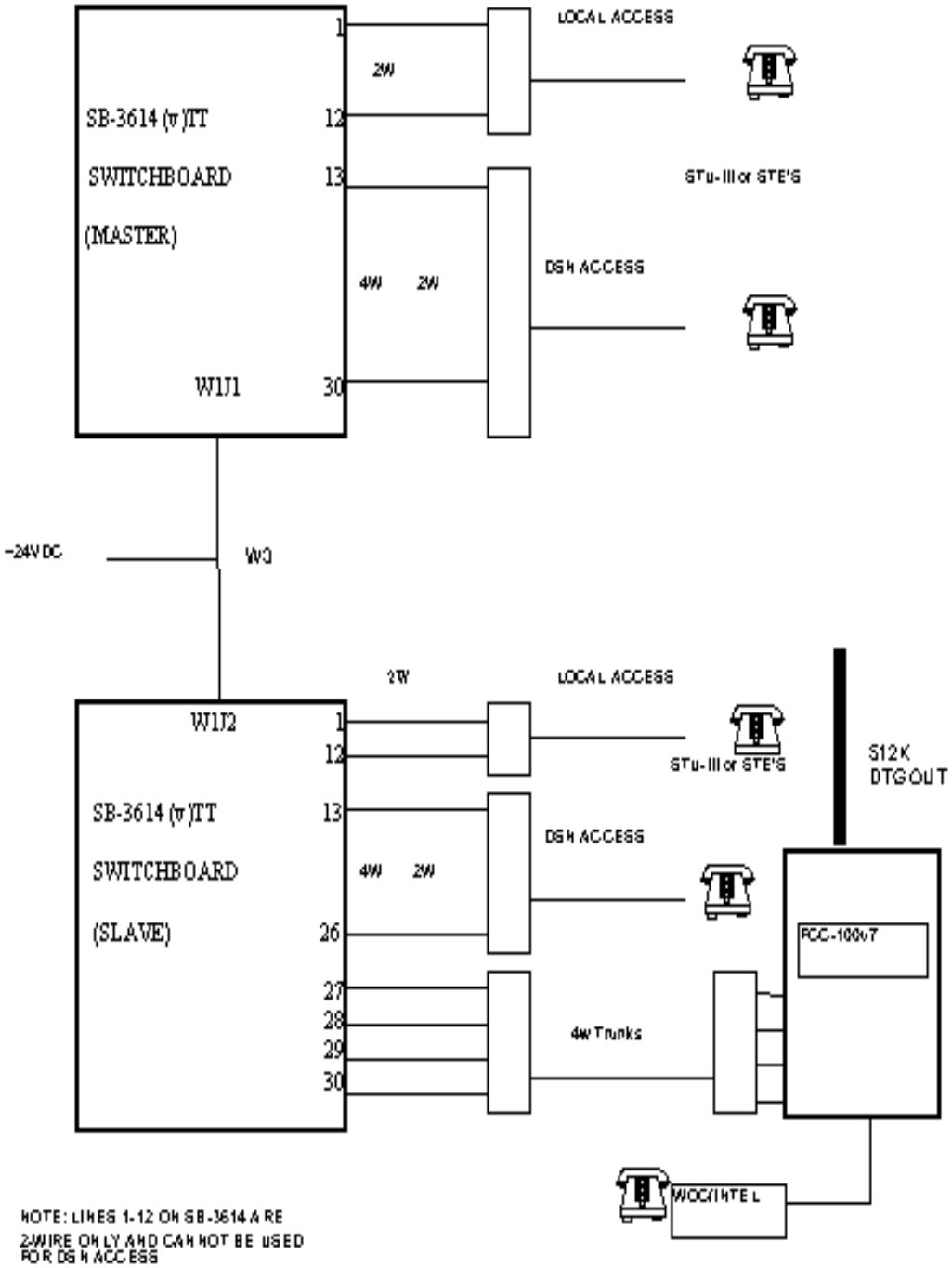
Attachment 3

TRC-176, VHF/UHF RADIO SET



Attachment 4

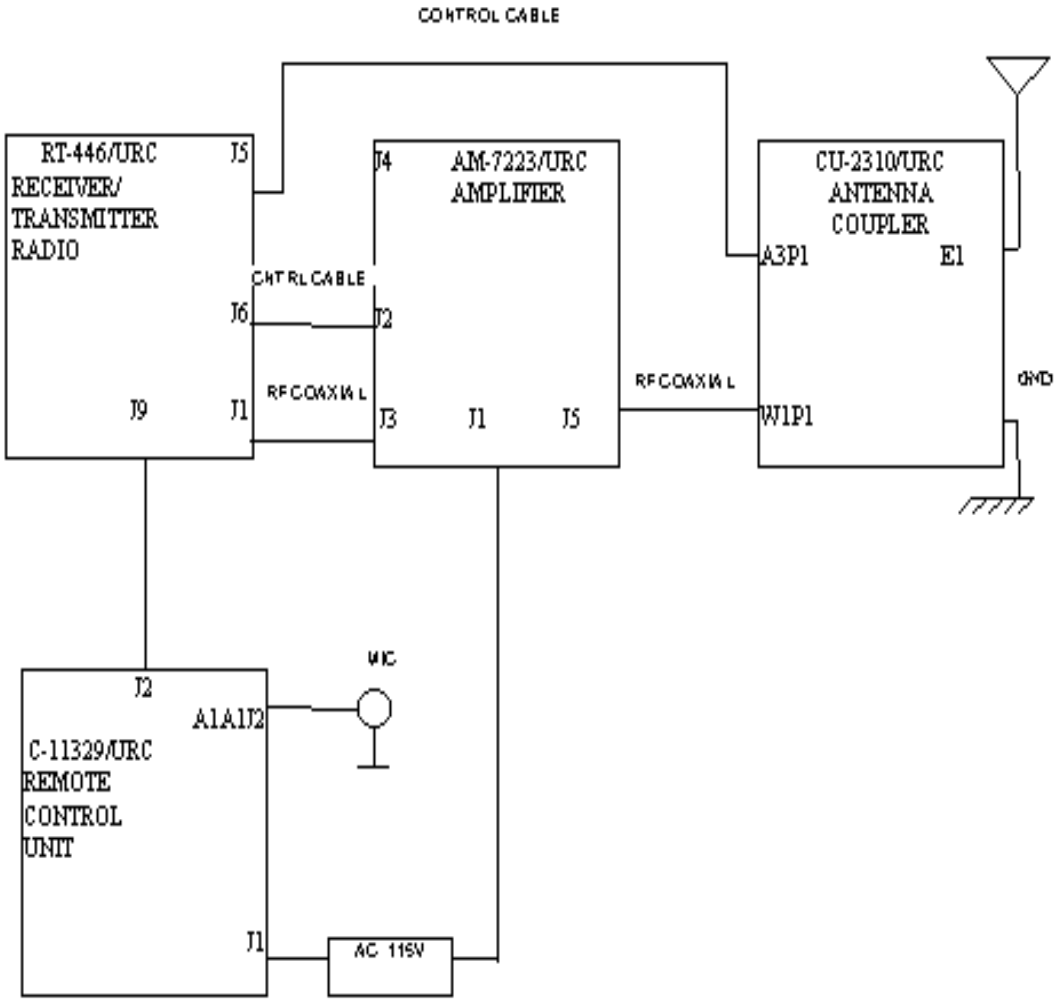
SITE TELEPHONE SYSTEM (ANALOG)



Attachment 5

URC-119, HF RADIO SYSTEM (TYPICAL)

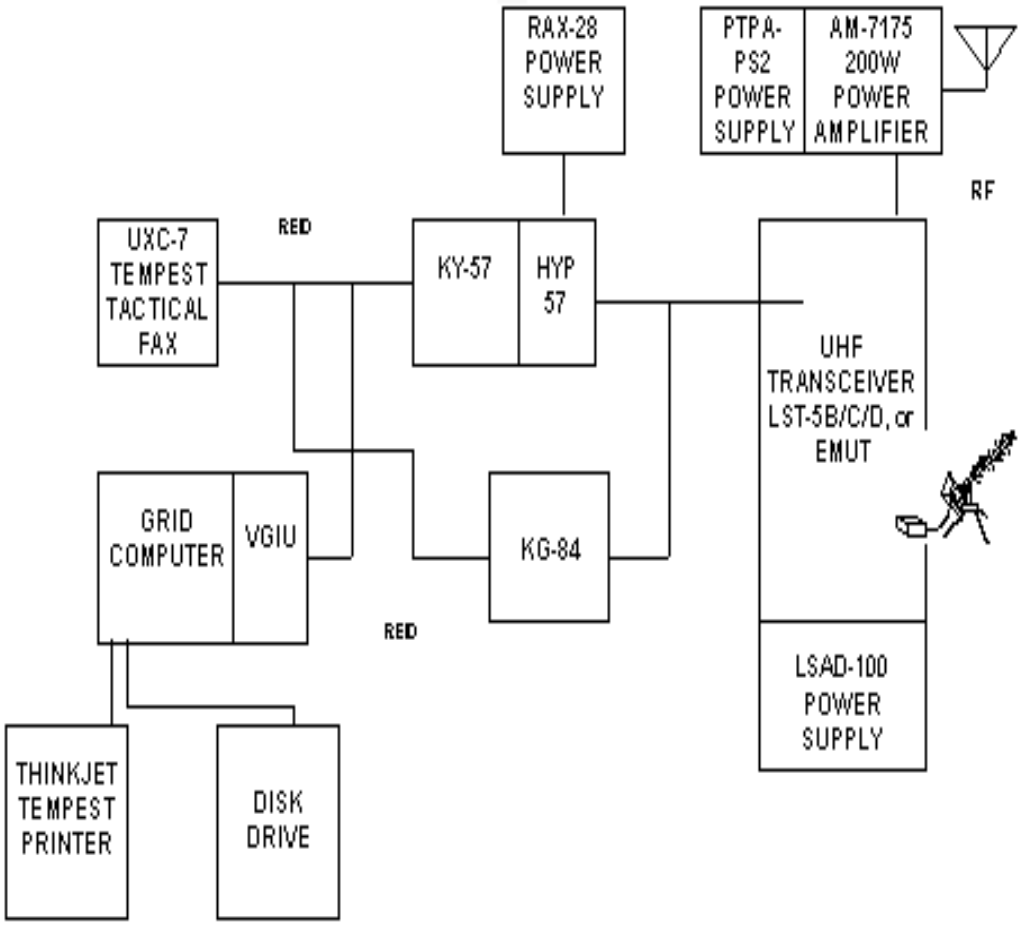
Attachment 5
URC-119, HF RADIO SYSTEM (TYPICAL)



Attachment 6

TSC-129, UHF TACSAT SYSTEM (HAMMER RICK) (TYPICAL)

Attachment 6
TSC-129, UHF TACSAT SYSTEM (HAMMER RICK) (TYPICAL)



Attachment 7

PACAF INITIAL COMMUNICATIONS PACKAGE (PICP)

Standard Multiplex Plan for ARCH Access

Table A7.1. ARCH LRM Standard Configuration

CH	CIRCUIT	RATE (KBps)	CARD TYPE
1	Orderwire	16/32	DGTL/CDI
2	Long Local (34 or 36)	32	CVSD
3	Long Local (34 or 36)	32	CVSD
4	Long Local (34 or 36)	32	CVSD
5	Long Local (34 or 36)	32	CVSD
6	Long Local (34 or 36)	32	CVSD
7	Autodin/TASDAC	2.4/32	DGTL/CDI
8	Autodin/TASDAC	2.4/32	DGTL/CDI
9	Autodin/TASDAC	2.4/32	DGTL/CDI
10	Spare		
11	Spare		
12	Spare		

SYS						
SYS MODE	TIMING REF	KG	RESYNC OPTION	REM CHANGE RATE	COMP LOOP-BACK	EMERG BYPASS
LRM	Comp RCV-INT	KG-81	500ms delay	N/A	disable	disable

MUX						
Type LINE	INTERFACE	TIMING OPTION	STUFF/ DELETE	POLARITIES	Data RATE	LOOP BACK
DGTL	188-114 NRZ BAL	recover clock	inhibit	D+ C+	56 kbps	disable

COMPOSITE MUX			
INTERFACE	POLARITIES	COMP RATE MODE	COMP RATE
188-114 NRZ BAL	D+ C+	specified rate	256 kbps

DEMUX					
Type LINE	INTERFACE	TIMING OPTION	STUFF/ DELETE	POLARITIES	Data RATE

DGTL	188-114 NRZ BAL	recover clock	inhibit	D+ C+	56 kbps
COMPOSITE DEMUX					
INTERFACE	POLARITIES	COMP RATE MUX	COMP RATE		
NRZ	D+ C+	specified rate	256 kbps		

Table A7.2. FCC-100(v)7 Standard Configuration

FCC-100 Channel#	**Type#**	**Typical Circuit#**	**Data Rate (KBps)#**
1	T-CDI	Orderwire	16/32
2	T-CDI	Orderwire/TASDAC	16/32
3	CVSD	Type 34 or 36	32
4	CVSD	Type 34 or 36	32
5	CVSD	Type 34 or 36	32
6	CVSD	Type 34 or 36	32
7	CVSD	Type 34 or 36	32
8	CVSD	Type 34 or 36	32
9	CDI	AUTODIN/TASDAC	2.4/32
10	CDI	AUTODIN/TASDAC	2.4/32
11	FXO	Long Local	64
12	FXO	Long Local	64
13	FXO	Long Local	64
14	FXO	Long Local	64
15	SYNC	NIPRNET/SIPRNET	64-1024
16	SYNC	NIPRNET/SIPRNET	64-1024

NOTES:

Low-Rate multiplex standard to all PICP packages limited to 16 channels/1152kbps aggregate signal to a TSC-94A (or TSC-100A). For TSC-152, the maximum aggregate will increase to the T-1/E1 levels.

PICP units will have sufficient CISCO routers to support both NIPRNET and SIPRNET as tasked.

Standard switch settings and strapping options for all associated equipment or circuits listed above can be found in PACAF 33-150, Vol 3, and PACAF Complan 61 (when published).

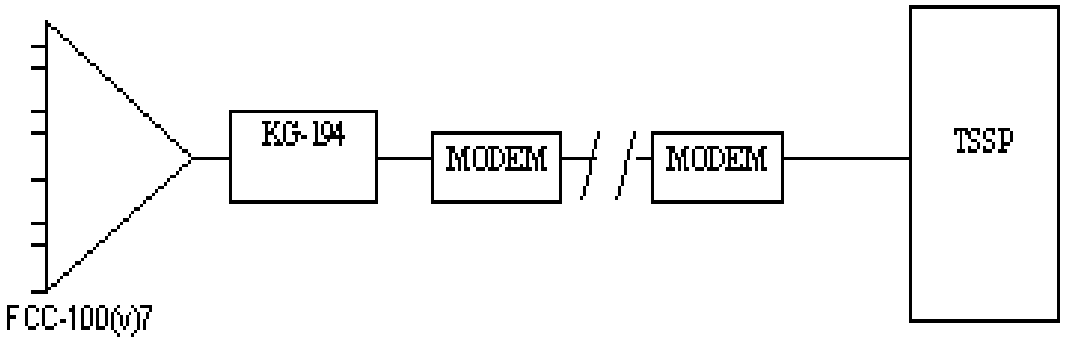


Table A7.3. ARCH FCC-100 Software Configuration

Card Type#	**Data Type**	**Data Rate**	**AUX**	**RXREF#**	**TXREF#**	**TXCKSRC#**	**BUF#**
NRZ-ASYM	Equirate	256-1024kps	None	RXCK	TXCKI	TRK	63
#	#	#	#	#		#	
RXCLK#	**TXCLK#**	**POS#**	**ERR#**	**REMHW#**	**CLLP#**	**FRAME#**	
Normal	Normal	Mark	DIS	DIS	OFF	1	

Attachment 8

CURRENT ARCH CONFIGURATION