

STP 11-31F13-SM-TG
HEADQUARTERS
DEPARTMENT OF THE ARMY

**Soldier's Manual
and Trainer's Guide**

MOS

31F

**NETWORK SWITCHING SYSTEMS
OPERATOR-MAINTAINER**

SKILL LEVELS 1, 2, AND 3

DISTRIBUTION RESTRICTION: Approved for public release; distribution is unlimited.

SOLDIER'S MANUAL AND TRAINER'S GUIDE

MOS 31F

NETWORK SWITCHING SYSTEMS OPERATOR-MAINTAINER

Skill Levels 1, 2, and 3

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PREFACE

This publication is for skill levels (SLs) 1, 2, and 3 soldiers holding military occupational specialty (MOS) 31F and for trainers and first-line supervisors. It contains standardized training objectives, in the form of task summaries, to train and evaluate soldiers on critical tasks that support unit missions during wartime. Trainers and first-line supervisor should ensure soldiers holding MOS 31F, SLs 1, 2, and 3 have access to this publication. It should be made available in the soldier's work area, unit learning center, and unit libraries.

This manual applies to both Active and Reserve Component soldiers.

The proponent for this publication is the Signal School. Send comments and recommendations on DA Form 2028 directly to Commander, US Army Signal Center and Fort Gordon, ATTN: ATZH-DTM, Fort Gordon, Georgia 30905-5074.

Unless this manual states otherwise, masculine pronouns do not refer exclusively to men.

CHAPTER 1

Introduction

1-1. GENERAL

a. This manual identifies the individual MOS training requirements for soldiers in MOS 31F. Commanders, trainers, and soldiers should use it to plan, conduct, and evaluate individual training in units. This manual is the primary MOS reference to the self-development and training of every 31F soldier.

b. Use this manual with the soldier's manual of common tasks (STP 21-1-SMCT and STP 21-24-SMCT), Army Training and Evaluation Program (ARTEP), and FM 25-101, *Battle-Focused Training*, to establish effective training plans and programs which integrate soldier, leader, and collective tasks.

1-2. TASK SUMMARIES

a. Task summaries outline the wartime performance requirements of each critical task in the soldier's manual (SM). They provide the soldier proficiency on training. As a minimum, task summaries include information you must know and the skills that you must perform to standards for each task. The format for the task summaries included in this SM is as follows:

(1) **Task Title.** The task title identifies the action to be performed.

(2) **Task Number.** A 10-digit number that identifies each task or skill. Include this task number, along with the task title, in any correspondence relating to the task. To determine which tasks are testable at each skill level, refer to Chapter 2, Part 2, Critical Tasks. The first two numbers of the last four of each task DO NOT indicate the skill levels testable for that particular task.

(3) **Conditions.** The task conditions identify all the equipment, tools, references, job aids, and supporting personnel who the soldier needs to perform the task in wartime. This section identifies any environmental conditions that can alter task performance, such as visibility, temperature, and wind. This section also identifies any specific cues or events (for example, a chemical attack or identification of a threat vehicle) which trigger task performance.

(4) **Standards.** The task standards describe how well and to what level you must perform a task under wartime conditions. Standards are typically described in terms of accuracy, completeness, and speed.

(5) **Integrated Evaluation Guide.** This section may contain the training information outline (performance steps), evaluation preparation, and evaluation guide (performance measures). The performance steps include detailed training information. The evaluation preparation subsection indicates necessary modification to task performance in order to train and evaluate a task that cannot be trained to the wartime standard under wartime conditions. It may also include special training and evaluation preparation instructions to accommodate these modifications and any instructions that should be given to the soldier before evaluation. The performance measures identify the specific actions that the soldier must do to successfully complete the task. These actions are listed in a GO/NO GO format for easy evaluation. Each task contains a feedback statement (Evaluation Guidance) that indicates the requirements (the number of performance measures passed) for receiving a GO on the evaluations.

(6) **References.** This section identifies references that provide more detailed and thorough explanations of task performance requirements than those listed in the task summary description.

b. Additionally, some task summaries include safety statements and notes. Safety statements (danger, warning, and caution) alert user to the possibility of immediate death, personal injury, or damage to equipment. Notes provide a small, extra supportive explanation or hint relative to the performance measures.

1-3. SOLDIER'S RESPONSIBILITIES

Each soldier is responsible for performing individual tasks that the first-line supervisor identifies based on the unit's mission essential task list (METL). The soldier must perform the task to the standards listed in the SM. If a soldier has a question about how to do a task, or which tasks in the manual he must perform, it is the soldier's responsibility to ask the first-line supervisor for clarification. The first-line supervisor knows how to perform each task, or he can direct the soldier to the appropriate training materials.

1-4. NCO SELF-DEVELOPMENT AND THE SOLDIER'S MANUAL

a. Self-development is one of the key components of the leader development program. It is a planned progressive and sequential program followed by leaders to enhance and sustain their military competencies. It consists of individual study, research, professional reading, practice, and self-assessment. Under the self-development concept, the NCO, as an Army professional, has the responsibility to remain current in all phases of the MOS. The SM is the primary source of the NCO to use in maintaining MOS proficiency.

b. Another important resource for NCO self-development is the Army Correspondence Course Program (ACCP). Soldiers should refer to DA Pamphlet 351-20, *Army Correspondence Course Program Catalog*, for information on enrolling in this program and a list of courses, or write to: Army Institute for Professional Development, US Army Training Support Center, ATTN: ATIC-IPS, Newport News, Virginia 23628-0001.

c. Unit learning centers are valuable resources for planning self-development programs. They can help access enlisted career maps, training support products, and extension training materials, such as field manuals (FMs), technical manuals (TMs), and training extension course (TEC) lessons. It is the soldier's responsibility to use these materials to maintain performance.

1-5. TRAINING SUPPORT

This manual includes the following appendixes and information that provide additional training support information.

(1) Appendix A, Hands-On Evaluation (DA Form 5164-R). This appendix contains the instructions for using DA Form 5164-R and a sample completed form for NCOs to use during evaluation of soldier's manual tasks.

(2) Glossary. The glossary is a single comprehensive list of acronyms, abbreviations, definitions and letter symbols.

(3) References. This section contains two lists of references, required and related, which support training of all tasks in this SM. Required references are listed in the conditions statement and are required for the soldier to do the task. Related references are materials that provide more detailed information and a more thorough explanation of task performance.

CHAPTER 2

Trainer's Guide

2-1. GENERAL

a. The TG identifies the essential components of a unit training plan for individual training. Units have different training needs and requirements based on differences in environment, location, equipment, dispersion (actual manning of graphic shops), and similar factors. Therefore, the TG is a guide used for conducting unit training and not as a rigid standard.

b. The TG provides information necessary for planning training requirements for this MOS.

(1) Identifies subject areas in which to train soldiers.

(2) Identifies the critical tasks for each subject area.

(3) Specifies where soldiers are trained.

(4) Recommends how often each task should be trained to sustain proficiency.

(5) Recommends a strategy for training soldiers to perform higher level tasks.

2-2. BATTLE FOCUSED TRAINING

As described in FM 25-100, *Training the Force*, and FM 25-101, *Battle Focused Training*, the commander must first define the METL as the basis for unit training. Unit leaders use the METL to identify the collective, leader, and soldier tasks that support accomplishment of the METL. Unit leaders then assess the status of training and lay out the training objective and the plan for accomplishing needed training. After preparing the long- and short-range plans, leaders then execute and evaluate training. Finally, the unit's training preparedness is reassessed and the training management cycle begins again. This process ensures the unit has identified what is important for the wartime mission, the training focus is applied to the necessary training, and training meets established objectives and standards.

2-3. RELATIONSHIP OF SOLDIER TRAINING PUBLICATIONS (STPs) TO BATTLE FOCUSED TRAINING

a. The two key components of enlisted STPs are the TG and SM. The TG and SM give leaders important information to help in the battle focused training process. The TG relates soldier and leader tasks in the MOS and SL to duty positions and equipment. It provides information on where the task is trained, how often training should occur to sustain proficiency, and who in the unit should be trained. As leaders go through the assessment and planning stages, they should use the TG as an important tool in identifying what needs to be trained.

b. The execution and evaluation of soldier and leader training should rely on the Armywide training objective and standards in the SM task summaries. The task summaries guarantee that the soldiers in any unit or location have the same task performance definition, and that trainers evaluate the soldiers to the same standard.

c. The following diagram shows the relationship between battle-focused training and the use of the TG and SM. The left-hand side of the diagram (taken from FM 25-101) shows the soldier training process, while the right side of the diagram shows how the STP supports each step of this process.



2-4. TRAINER’S RESPONSIBILITIES

Training tasks to standard and relating this training to collective mission-essential tasks is the NCO trainer’s responsibility. Trainers use the steps below to plan and evaluate training.

- (1) Identify soldier and leader training requirements. The NCO determines which tasks soldiers need to train on using the commander’s training strategy. The unit’s METL and ARTEP and MOS Training Plan (MTP) in the TG are sources for helping the training define the individual training needed.

(2) Plan the training. Integrate training for specific tasks or train along with other training or during "slack periods." The unit's ARTEP can help identify soldier and leader tasks for training and evaluation at the same time as collective task training and evaluation.

(3) Gather the training references and materials. The SM task summary lists all references that can assist the trainer in preparing the task training.

(4) Determine risk assessment and identify safety concerns. Analyze the risk involved in training a specific task under the current conditions at the scheduled time. Take into account all cautions, warnings, and dangers associated with each task.

(5) Train each soldier. Show the soldier how to do the task to standard by explaining each step. Give each soldier one chance to do the task step-by-step.

(6) Emphasize training in mission-oriented protection posture (MOPP) 4 clothing. Soldiers may have difficulty performing even the very simple tasks in a nuclear or chemical environment. The combat effectiveness of the soldier and the unit can degrade quickly when trying to perform in MOPP 4. Practice is the best way to improve performance. The trainer is responsible for training and evaluating soldiers in MOPP 4 so they can perform critical wartime tasks to standards under nuclear or chemical conditions.

(7) Check each soldier. Evaluate how well each soldier performs the tasks in this manual. Conduct these evaluations during individual training sessions or while evaluating soldier proficiency during unit collective tasks training. This manual provides an evaluation guide for each task to enhance the trainer's ability to conduct year-round, hands-on evaluation of tasks critical to the unit's mission. Use the information in the MTP as a guide to determine how often to train the soldier in each task to guarantee sustain proficiency.

(8) Record the results. Use the leader book referred to in FM 25-101, Appendix B, to record task performance and gives the leader total flexibility on the method of recording training. The trainer MAY use DA Forms 5164-R and 5165-R as part of the leader book. The forms are OPTIONAL and locally reproducible. STP 21-24-SMCT contains a copy of the forms and instructions for their use.

(9) Retrain and evaluate. Work with each soldier until he can perform the task to specific SM standards.

2-5. EVALUATION GUIDE

An evaluation guide exists for each SM task summary. Trainers constantly use the evaluation guide to determine if soldiers can perform their critical tasks to SM standards. Each evaluation guide contains one or more performance measures that identify what the trainer needs to observe to score a soldier's performance. Each step has GO or NO GO located under the Results column in each evaluation guide. Some tasks involve a process which the trainer must observe as the soldier performs the task. For other tasks, the trainer must evaluate an "end product" result. The following are some general points about using the evaluation guide to evaluate soldiers.

(1) Review the guide and become familiar with the scoring information.

(2) Ensure the necessary safety equipment and clothing needed for proper job performance is on hand at the training site.

(3) Prepare the test site according to the task summary Conditions section. Some tasks contain special evaluation preparation instructions. These instructions tell the trainer what modifications must be made to the job conditions to evaluate the task. Reestablish the test site to the original requirements after evaluating each soldier. This guarantees that conditions are the same for each soldier.

(4) Advise each soldier of the information in the Brief Soldier section of the task summary before evaluating.

(5) Score each soldier according to the performance measures and Evaluation Guidance section in the task summary.

(6) Record the date and task performance (GO or NO-GO) in the leader book.

2-6. TRAINING TIPS FOR THE TRAINER

a. Prepare yourself.

(1) Get training guidance from your chain of command on when to train, which soldiers to train, availability of resources, and a training site.

(2) Get the training objective (task conditions and standards) from the task summary in this manual.

(3) Ensure you can do the task. Review the task summary and the references in the References section. Practice doing the task or, if necessary, have someone train you on the task.

(4) Choose a training method. Some tasks provide recommended training methods.

(5) Prepare a training outline consisting of informal notes on what you want to cover during your training session.

(6) Practice your training presentation.

b. Prepare the resources.

(1) Obtain the required resources identified in the Conditions statement of each task.

(2) Gather equipment and ensure it is operational.

(3) Coordinate the use of training aids and devices.

(4) Prepare the training site according to the Conditions statement and Evaluation Preparation section of the task summary, as appropriate.

c. Prepare the soldiers.

(1) Tell the soldier what task to do and what standards to meet. Refer to the Standards statement and Evaluation Preparation section for each task, as appropriate.

(2) Caution soldiers about safety, environment, and security.

(3) Provide any necessary training on basic skills that soldiers must have before they can be trained on the task.

(4) Pretest each soldier on the task to determine who needs training in what areas. Use DA Form 5164-R and the Evaluation Guidance section in each task summary to make this determination.

d. Train the soldiers who failed the pretest.

(1) Demonstrate how to do the task or the specific performance measures to those soldiers who could not perform to SM standards. Have soldiers study the appropriate materials.

- (2) Have soldiers practice the task until they can perform it to SM standards.
 - (3) Evaluate each soldier using the Evaluation Guide.
 - (4) Provide feedback to those soldiers who fail to perform it to SM standards and have them continue to practice until they can perform to SM standards.
- e. Record results in the leader book.

2-7. MOS TRAINING PLAN (MTP)

One of the key components of the TG is the MTP. The MTP has two parts to assist the commander in preparing a unit-training plan, which satisfies integration, cross-train, train-up, and sustainment training requirements for soldiers in this MOS.

(1) Part One of the MTP shows the relationship of a MOS SL between duty position and critical tasks. The critical tasks are grouped by task commonality into subject areas.

(a) Section I list subject area numbers and titles used throughout the MTP. The subject areas define the training requirements for each duty position within a MOS and relate duty positions to subject areas and cross-training and train-up/merger requirements.

- **Duty Position column.** This column lists the duty positions of the MOS, by skill level, which have different training requirements.
- **Subject Area column.** This column lists, by numerical key (see Section I), the subject areas a soldier must be proficient in to perform in that duty position.
- **Cross Train column.** This column lists the recommended duty position for which soldiers should be cross trained.
- **Train-up/Merger column.** This column lists the corresponding duty position for the next higher skill level or MOSC the soldier will merge into on promotion.

(b) Section II identifies the total training requirement for each duty position within an MOS and provides a recommendation for cross training and train-up/merger training.

(2) Part Two lists, by general subject areas, the critical tasks to be trained in an MOS and the type of training required (resident, integration, or sustainment).

- **Subject Area column.** This column lists the subject area number and title in the same order as Section I, Part One of the MTP.
- **Task Number column.** This column lists the task numbers for all tasks included in the subject area.
- **Title column.** This column lists the task title for each task in the subject area.

- **Training Location column.** This column identifies the training location where the task is first trained to soldier training publications standards. If the task is first trained to standard in the unit, the word "Unit" will be in this column. If the task is first trained to standard in the training base, it will identify, by brevity code (ANCOC, BNCOC, etc.), the resident course where the task was taught. Figure 2-1 contains a list of training locations and their corresponding brevity codes.

AIT	Advanced Individual Training
UNIT	Trained in the Unit
BNCOC	Basic NCO Course

Figure 2-1. Training Locations

- **Sustainment Training Frequency column.** This column indicates the recommended frequency at which the tasks should be trained to ensure soldiers maintain task proficiency. Figure 2-2 identifies the frequency codes used in this column.

SA	- Semiannually
QT	- Quarterly
MO	- Monthly

Figure 2-2. Sustainment Training Frequency Codes

- **Sustainment Training Skill Level column.** This column lists the skill levels of the MOS for which soldiers must receive sustainment training to ensure they maintain proficiency to soldier's manual standards.

MOS TRAINING PLAN MOS 31F PART ONE: SUBJECT AREAS AND DUTY POSITIONS		
SECTION 1. SUBJECT AREA CODES		
Skill Levels 1/2	Skill Level 3	Skill Levels 1/2/3
1. Small Electronic Switching Systems 2. Large Electronic Switching Systems 3. TRI-TAC Electronic Switching Systems 4. Contingency Communications Systems 5. Auxiliary Equipment 6. Signal Security	7. MSE Switching System Supervision 8. TRI-TAC Switching System Supervision 9. Switching Systems Management 10. System Control Center, Telephone Routing AN/TYQ-46(V) 11. Packet Switching	12. Functional Course AN/TTC-56(V) 13. Functional Course AN/TYQ-76A(V)1/2

MOS TRAINING PLAN MOS 31F PART ONE				
SECTION II. DUTY POSITION TRAINING REQUIREMENTS				
SL	DUTY POSITION	SUBJECT AREAS	CROSS-TRAIN	TRAIN-UP MERGER
SL1/2	Switch System Operator-Maintainer	3, 5, 6	NA	Senior Switch Operator-Maintainer
	Node Switch Operator-Maintainer	2, 5, 6	Extension Switch Operator-Maintainer OR Management Shelter Operator-Maintainer	Extension Switch Supervisor
	Extension Switch Operator-Maintainer	1, 5, 6	Node Switch Operator-Maintainer OR Management Shelter Operator-Maintainer	Extension Switch Supervisor
	Management Shelter Operator-Maintainer	2,6	Extension Switch Operator-Maintainer OR Node Switch Operator-Maintainer	Extension Switch Supervisor
	FES Switch Operator-Maintainer	4, 5, 6	NA	FES Switch Operator-Maintainer
	Senior Switch Operator-Maintainer	3, 5, 6, 9	NA	Switch System Supervisor
	Extension Switch Supervisor	1, 5-7, 9	NA	Node Switch Supervisor OR System Control Center (SCC) Operator-Maintainer
	FES Switch Operator-Maintainer	4, 5, 8, 9	NA	FES Switch Supervisor
SL3	Switch System Supervisor	3, 5, 6, 9, 11	Plans/Operations NCO OR Section Chief	31W4 Telecommunications Operations Chief
	FES Switch Supervisor	4-6, 8, 9, 11	Plans/Operations NCO OR Section Chief	31W4 Telecommunications Operations Chief
	Node Switch Supervisor	2, 5, 6, 9, 11	Plans/Operations NCO OR Section Chief	31W4 Telecommunications Operations Chief
	SCC Operator-Maintainer	2, 10	NA	System Control Center (SCC) Operator-Maintainer
	Plans/Operations NCO	10, 11	SCC Operator-Maintainer OR Node Switch Supervisor	31W4 Telecommunications Operations Chief
	Senior Chief	1-9	Switch System Supervisor OR FES Switch Supervisor OR Node Switch Supervisor	31W4 Telecommunications Operations Chief

**MOS TRAINING PLAN
31F13**

CRITICAL TASKS

Subject Area	Task Number	Title	Training Location	Sust Tng Freq	Sust Tng SL
Skill Levels 1/2					
1. SMALL ELECTRONIC SWITCHING SYSTEMS	113-625-1025	Install Small Extension Node System AN/TTC-48(V)	AIT	SA	1-3
	113-625-2087	Perform System Initialization for Small Extension Node System AN/TTC-48(V)	AIT	SA	1-3
	113-625-2088	Provide Call Service at Small Extension Node System AN/TTC-48(V)	AIT	MO	1-3
	113-625-2090	Perform System Shutdown for Small Extension Node System AN/TTC-48(V)	AIT	MO	1-3
	113-625-2091	Perform Preventive Maintenance Checks and Services for Small Extension Node System AN/TTC-48(V) or Communications Switching Set AN/TTC-51	AIT	MO	1-3
	113-625-4039	Maintain Small Extension Node System AN/TTC-48(V) or Communications Switching Set AN/TTC-51 to Direct Support Level	AIT	MO	1-3
2. LARGE ELECTRONIC SWITCHING SYSTEMS	113-625-1039	Install Large Switching System AN/TTC-46(V) or AN/TTC-47(V)	AIT	SA	1-3
	113-625-2092	Perform System Initialization for Large Switching System AN/TTC-46(V) or AN/TTC-47(V)	AIT	SA	1-3
	113-625-2093	Establish Internodal/Extension Link with Large Switching System AN/TTC-47(V) or Communications Central System AN/TTC-50	AIT	QT	1-3
	113-625-2095	Provide Call Service at Large Switching System AN/TTC-46(V), AN/TTC-47(V), or Communications Central System AN/TTC-50	AIT	MO	1-3
	113-625-2096	Perform System Shutdown for Large Switching System AN/TTC-46(V) or AN/TTC-47(V)	AIT	MO	1-3

CRITICAL TASKS

Subject Area	Task Number	Title	Training Location	Sust Tng Freq	Sust Tng SL
	113-625-3092	Perform Preventive Maintenance Checks and Services for Large Switching System AN/TTC-46(V) or AN/TTC-47(V)	AIT	MO	1-3
	113-625-4021	Maintain Large Switching System AN/TTC-46(V) or AN/TTC-47(V) to Direct Support Level	AIT	MO	1-3
	113-625-4035	Restore System/Link Outage in an MSE Switching Network	AIT	MO	1-3
	113-625-4036	Maintain System Control Center AN/TYQ-46(V) to Direct Support Level	AIT	MO	1-3
3. TRI-TAC ELECTRONIC SWITCHING SYSTEMS	113-603-1040	Install Transportable Automatic Switching System AN/TTC-39A or AN/TTC-39D	AIT	SA	1-3
	113-603-2200	Perform System Initialization for Transportable Automatic Switching System AN/TTC-39A	AIT	SA	1-3
	113-603-2201	Establish an Internodal/Extension Link with Transportable Automatic Switching System AN/TTC-39A	AIT	MO	1-3
	113-603-2202	Provide Call Service at Transportable Automatic Switching System AN/TTC-39A	AIT	MO	1-3
	113-603-2203	Perform System Shutdown for Transportable Automatic Switching System AN/TTC-39A	AIT	MO	1-3
	113-603-2204	Perform System Initialization for Transportable Automatic Switching System AN/TTC-39D	AIT	MO	1-3
	113-603-2205	Establish an Internodal/Extension Link with Transportable Automatic Switching System AN/TTC-39D	AIT	MO	1-3
	113-603-2206	Provide Call Service at Transportable Automatic Switching System AN/TTC-39D	AIT	MO	1-3
	113-603-2207	Perform System Shutdown for Transportable Automatic Switching System AN/TTC-39D	AIT	MO	1-3
	113-603-3229	Perform Preventive Maintenance Checks and Services for Transportable Automatic Switching System AN/TTC-39A	AIT	MO	1-3
	113-603-3230	Perform Preventive Maintenance Checks and Services for Transportable Automatic Switching System AN/TTC-39D	AIT	MO	1-3

CRITICAL TASKS

Subject Area	Task Number	Title	Training Location	Sust Tng Freq	Sust Tng SL
	113-603-4209	Maintain Transportable Automatic Switching System AN/TTC-39A to Direct Support Level	UNIT	MO	1-3
	113-603-4210	Maintain Transportable Automatic Switching System AN/TTC-39D to Direct Support Level	AIT	MO	1-3
	113-603-4225	Restore System/Link Outage in a TRI-TAC Switching Network	AIT	MO	1-3
4. CONTINGENCY COMMUNICATIONS SYSTEMS	113-589-1012	Install Secure Mobile Anti-Jam Reliable Tactical Terminal AN/TSC-154 (SMART-T) AN/TSC-154	AIT	SA	1-3
	113-589-2023	Perform System Initialization for Secure Mobile Anti-Jam Reliable Tactical Terminal (SMART-T) AN/TSC-154	AIT	MO	1-3
	113-589-2024	Perform Over-the-Air Rekey (OTAR) on Secure Mobile Anti-Jam Reliable Tactical Terminal (SMART-T) AN/TSC-154	AIT	MO	1-3
	113-589-2025	Provide Secure Mobile Anti-Jam Reliable Tactical Terminal AN/TSC-154 LDR/MDR Net Communications	AIT	MO	1-3
	113-589-2026	Perform Shutdown Procedures for Secure Mobile Anti-Jam Reliable Tactical Terminal (SMART-T) AN/TSC-154	AIT	MO	1-3
	113-589-2027	Perform Preventive Maintenance Checks and Services for Secure Mobile Anti-Jam Reliable Tactical Terminal (SMART-T) AN/TSC-154	AIT	MO	1-3
	113-589-4001	Maintain Secure Mobile Anti-Jam Reliable Tactical Terminal (SMART-T) AN/TSC-154 to Direct Support Level	AIT	MO	1-3
	113-613-1001	Establish Site Layout for Electronic Switching System	UNIT	MO	2-3
	113-625-1040	Install Communications Switching Set AN/TTC-51	UNIT	SA	1-3
	113-625-1041	Install Communications Central System AN/TTC-50	UNIT	SA	1-3
	113-625-1048	Install Data Processing Terminal CA-46/G for Communications Central System AN/TTC-50	UNIT	QT	1-3

CRITICAL TASKS

Subject Area	Task Number	Title	Training Location	Sust Tng Freq	Sust Tng SL
	113-625-2097	Perform System Shutdown for Communications Switching Set AN/TTC-51	UNIT	MO	1-3
	113-625-2098	Perform System Initialization for Communications Central System AN/TTC-50	UNIT	MO	1-3
	113-625-2099	Perform System Shutdown for Communications Central System AN/TTC-50	UNIT	MO	1-3
	113-625-3093	Perform Preventive Maintenance Checks and Services for Communications Central System AN/TTC-50	UNIT	MO	1-3
	113-625-4023	Maintain Communications Central System AN/TTC-50 to Direct Support Level	UNIT	MO	1-3
	113-625-7075	Inspect the Installation of Communications Switching Set AN/TTC-51	UNIT	MO	2-3
5. AUXILIARY EQUIPMENT	113-603-1043	Install Remote Call Service Position AN/TTC-39A or AN/TTC-39D	AIT	SA	1-3
	113-603-4211	Maintain Remote Call Service Position AN/TTC-39A or AN/TTC-39D to Direct Support Level	AIT	QT	1-3
	113-605-4010	Maintain Converter Telephone Signal Equipment CV-3478 or CV-4002 to Organizational Level	AIT	QT	1-3
	113-625-1009	Install Super High Frequency (SHF) Radio System AN/GRC-224	UNIT	MO	1-3
	113-625-1042	Install Converter Telephone Signal Equipment CV-3478 or CV-4002	AIT	MO	1-3
	113-625-1049	Install Secure Digital Net Radio Interface TSEC/KY-90	UNIT	QT	1-3
	113-625-2110	Operate the Super High Frequency (SHF) Radio System AN/GRC-224	UNIT	MO	1-3
	113-625-4024	Maintain Super High Frequency (SHF) Radio System AN/GRC-224 to Organizational Level	UNIT	QT	1-3
	113-625-4037	Maintain Secure Digital Net Radio Interface TSEC/KY-90 to Organizational Level	UNIT	QT	1-3
	113-625-4038	Maintain Converter, Signal Data CV-4215/G to Organizational Level	UNIT	QT	1-3

CRITICAL TASKS

Subject Area	Task Number	Title	Training Location	Sust Tng Freq	Sust Tng SL
6. SIGNAL SECURITY	113-573-3002	Implement Electronic Counter-Countermeasures for Radio Systems	AIT	QT	1-3
	113-573-5003	Install Network Encryption System (NES)	UNIT	SA	1-3
	113-573-5004	Perform System Shutdown on the Network Encryption System (NES)	UNIT	MO	1-3
	113-623-7199	Maintain the Network Encryption System (NES) to Organizational Level	UNIT	QT	1-3
Skill Level 3					
7. MSE SWITCHING SYSTEM SUPERVISION	113-589-7119	Inspect the Installation of the Secure Mobile Anti-Jam Reliable Tactical Terminal (SMART-T) AN/TSC-154	BNCOC	QT	2-3
	113-603-7040	Verify Database Worksheets for the Large Switching System AN/TTC-46(V) or AN/TTC-47(V)	BNCOC	SA	3
	113-625-7073	Inspect the Installation of Small Extension Node System AN/TTC-48(V)	UNIT	MO	3
	113-625-7074	Inspect the Installation of Large Extension Node System AN/TTC-46(V) or Node Switching System AN/TTC-47(V)	BNCOC	MO	3
	113-625-7076	Inspect the Installation of Communications Central System AN/TTC-50	UNIT	MO	3
8. TRI-TAC SWITCHING SYSTEM SUPERVISION	113-603-7038	Inspect the Installation of Transportable Automatic Switching System AN/TTC-39A or AN/TTC-39	BNCOC	MO	3
	113-603-7039	Verify Database Worksheets for Transportable Automatic Switching System AN/TTC-39A or AN/TTC-39D	BNCOC	MO	3
	113-603-7041	Inspect the Installation of the Automatic Central Office Telephone AN/TTC-56(V)	BNCOC	MO	3
9. SWITCHING SYSTEMS MANAGEMENT	113-573-2033	Inspect Key Management Worksheets (COMSEC)	BNCOC	MO	3
	113-581-8004	Configure the Router for the Tactical High-Speed Data Network	BNCOC	MO	3

CRITICAL TASKS

Subject Area	Task Number	Title	Training Location	Sust Tng Freq	Sust Tng SL
	113-608-6001	Present an Informal Signal Situation Briefing	UNIT	SA	2-3
	113-611-1013	Perform Site Reconnaissance	UNIT	QT	2-3
	113-611-5016	Direct the Establishment of a Signal Site Defense	UNIT	QT	2-3
	113-623-6013	Conduct Inventory of a Prescribed Load List (PLL) for an Electronic Switching System	BNCOB	QT	3
	113-623-7119	Direct Preventive Maintenance Checks and Services (PMCS)	UNIT	QT	2-3
10. SYSTEM CONTROL CENTER, TELEPHONE ROUTING AN/TYQ-46(V)	113-625-1051	Install System Control Center, Telephone Routing AN/TYQ-46(V)	UNIT	QT	3
	113-625-2100	Perform System Initialization for System Control Center, Telephone Routing AN/TYQ-46(V)	UNIT	QT	3
	113-625-2104	Perform System Shutdown for System Control Center, Telephone Routing AN/TYQ-46(V)	UNIT	QT	3
	113-625-2109	Operate System Control Center, Telephone Routing AN/TYQ-46(V)	UNIT	SA	3
	113-625-3094	Perform Preventive Maintenance Checks and Services on System Control Center, Telephone Routing AN/TYQ-46(V)	UNIT	QT	3
11. PACKET SWITCHING	113-625-1052	Install Computer System, Digital AN/TYC-22	UNIT	QT	3
Skill Levels 1/2/3					
12. FUNCTIONAL COURSE AN/TTC-56(V)	113-603-1050	Install the Automatic Central Office Telephone AN/TTC-56(V)	AIT	SA	1-3
	113-603-1051	Perform System Initialization for Automatic Central Office Telephone AN/TTC-56(V)	AIT	MO	1-3
	113-603-2208	Establish an Internodal/Extension Link Using the Automatic Central Office Telephone AN/TTC-56(V)	AIT	MO	1-3

CRITICAL TASKS

Subject Area	Task Number	Title	Training Location	Sust Tng Freq	Sust Tng SL
	113-603-2209	Provide Call Service at Automatic Central Office Telephone AN/TTC-56(V)	AIT	QT	1-3
	113-603-2210	Perform System Shutdown for Automatic Central Office Telephone AN/TTC-56(V)	AIT	QT	1-3
	113-603-3231	Perform Preventive Maintenance Checks and Services for the Automatic Central Office Telephone AN/TTC-56(V)	AIT	MO	1-3
	113-603-4226	Maintain the Automatic Central Office Telephone AN/TTC-56(V) to Direct Support Level	AIT	QT	1-3
13. FUNCTIONAL COURSE AN/TYQ-76A(V)1/2	113-581-1002	Install the Integrated System Control (ISYSCON) AN/TYQ-76A(V)1/2	AIT	SA	1-3
	113-581-1003	Perform System Initialization for the Integrated System Control (ISYSCON) AN/TYQ-76A(V)1/2	AIT	SA	1-3
	113-581-1004	Perform System Shutdown for the Integrated System Control (ISYSCON) AN/TYQ-76A(V)1/2	AIT	SA	1-3
	113-581-3001	Maintain the Integrated System Control (ISYSCON) AN/TYQ-76A(V)1/2	AIT	SA	1-3
	113-581-3002	Perform Preventive Maintenance Checks and Services on the Integrated System Control (ISYSCON) AN/TYQ-76A(V)1/2	AIT	MO	1-3
	113-581-8005	Perform System Administration Functions on the Integrated System Control (ISYSCON) AN/TYQ-76A(V)1/2	AIT	MO	1-3

Evaluation Guidance: Score a GO if the soldier passes all steps. Score a NO-GO if the soldier fails any step. If the soldier fails any step, show what was done wrong and how to do it correctly. The soldier then must perform the task to standard to receive a GO.

References

Required

TM 11-5805-764-13-1

TM 5-6115-632-14&P

Related

TM 11-5805-772-12

TM 9-2320-280-10

**Perform System Initialization for Small Extension Node System AN/TTC-48(V)
113-625-2087**

Conditions: Given an installed SENS AN/TTC-48(V), an operational MSE communications network, TM 11-5805-764-13-1, TM 11-5805-772-12, TM 11 5820-401-10-1, (O)TM 11-5810-256-10-1, TM 11-5820-890-10-1, and TM 11-5820-1024-13.

Standards: The SENS processed both local and trunk traffic.

Performance Measures	<u>GO</u>	<u>NO GO</u>
NOTE: Refer to TM 11-5805-764-13-1 except as noted.) The tactical situation determines if cold-start or warm-start initialization procedures are used.		
1. Performed equalization charge procedures.	—	—
NOTE: If the AN/TTC-48(V) is equipped with loop group multiplexer (LGM) TD-1426(P)/T and group modem (GM) MD-1231(P)/T, complete performance measures 2 and 3. If equipped with communications modem (CM) MD-1270(P)/T, complete performance measure 4.		
2. Performed start-up procedures for the LGM and GM.	—	—
3. Performed start-up procedures and initialized the orderwire control unit (OCU).	—	—
4. Performed start-up procedures and initialized the CM.	—	—
5. Performed start-up procedures for the signal data converter (SDC).	—	—
NOTE: Tell the soldier the system control center (SCC) directed packet switch (PS) start-up.		
6. Performed PS start-up procedures.	—	—
7. Loaded net cryptonet variable (CNV) and rekey variable (RKV) keys into the KY-57. (Refer to (O)TM 11-5810-256-10-1.)	—	—
8. Operated super high frequency (SHF) radio. (Refer to TM 11-5808-764-13-1, SOI, and TM 11-5820-1024-13.)	—	—
a. Performed start-up procedures.		
b. Performed antenna alignment.		
c. Set READ/WRITE mode.		
d. Operated the SHF radio set.		
9. Loaded trunk encryption key (TEK) into the trunk encryption device (TED) using the KYK-13/TSEC.	—	—
10. Patched digital transmission group (DTG) normal through.	—	—
11. Performed switchboard SB-4303 start-up procedures. (Refer to TM 11-5805-772-12.)	—	—
a. Performed cold-start procedures.		
b. Performed warm-start procedures.		
c. Performed database update procedures.		
12. Determined call sign and frequency for the net radio interface (NRI) unit.	—	—
13. Performed KY-90 start-up procedures.	—	—
a. Performed initialization procedures.		
b. Loaded initial affiliation key (M) and the per call key encryption key (U).		
c. Loaded radio net keys into the KY-90.		
d. Affiliated the KY-90.		

Performance Measures

GO NO GO

- | | | |
|------------------------------------------------------------------------------------------------|---|---|
| 14. Performed a manual cooperative key transfer. | — | — |
| 15. Affiliated the digital nonsecure voice terminal (DNVT). | — | — |
| 16. Operated CM or OCU. | — | — |
| a. Initiated a call. | | |
| b. Received a call. | | |
| 17. Performed an over-the-air rekey (OTAR). | — | — |
| 18. Operated the secure digital net radio interface (SDNRI). | — | — |
| a. Operated the KY-90. | | |
| b. Operated the AN/VRC-46 or AN/VRC-90. (Refer to TM 11-5820-401-10-1 or TM 11-5820-890-10-1.) | | |
| c. Connected radio subscriber to phone subscriber. | | |
| d. Connected phone subscriber to radio subscriber. | | |

Evaluation Guidance: Score a GO if the soldier passes all steps. Score a NO-GO if the soldier fails any step. If the soldier fails any step, show what was done wrong and how to do it correctly. The soldier then must perform the task to standard to receive a GO.

References

Required

- (O)TM 11-5810-256-10-1
- TM 11-5805-764-13-1
- TM 11-5805-772-12
- TM 11-5820-1024-13
- TM 11-5820-401-10-1
- TM 11-5820-890-10-1

Related

- TM 11-5805-726-12-2
- TM 11-5805-769-24P

**Provide Call Service at Small Extension Node System AN/TTC-48(V)
113-625-2088**

Conditions: Given an operational SENS AN/TTC-48(V) with subscribers, TM 11-5805-761-13&P, TM 11-5805-764-13-1, and TM 11-5805-772-12.

Standards: Answered an incoming call, provided the required response, and terminated the call.

Performance Measures

NOTE: Refer to TM 11-5805-764-13-1 and TM 11-5805-772-12 except as noted.)

	<u>GO</u>	<u>NO GO</u>
1. Affiliated the DNVT. (Refer to TM 11-5805-761-13&P.)	—	—
2. Initiated a call.	—	—
3. Released a call.	—	—
4. Answered an incoming call.	—	—
5. Extended a call with precedence upgrade.	—	—
6. Extended a call.	—	—
7. Placed a call on hold.	—	—
8. Extended test tone to subscriber.	—	—
9. Performed call intercept.	—	—
10. Performed call forwarding.	—	—
11. Established a secure NRI call.	—	—
12. Performed conference initiation (programmed and progressive).	—	—

Evaluation Guidance: Score a GO if the soldier passes all steps. Score a NO-GO if the soldier fails any step. If the soldier fails any step, show what was done wrong and how to do it correctly. The soldier then must perform the task to standard to receive a GO.

References

Required	Related
TM 11-5805-761-13&P	
TM 11-5805-764-13-1	
TM 11-5805-772-12	

**Perform System Shutdown for Small Extension Node System AN/TTC-48(V)
113-625-2090**

Conditions: Given an operational SENS AN/TTC-48(V), team packet with redeployment orders, and TM 11-5805-764-13-1.

Standards: Made the AN/TTC-48(V) ready for movement/relocation.

Performance Measures	<u>GO</u>	<u>NO GO</u>
1. Performed operational shutdown procedures.	—	—
2. Performed storage procedures.	—	—
3. Performed power cabling removal/storage procedures.	—	—
4. Performed subscriber field cable removal/storage procedures.	—	—
5. Performed grounded strap and rod removal procedures.	—	—
6. Secured the shelter door and all external covers.	—	—

Evaluation Guidance: Score a GO if the soldier passes all steps. Score a NO-GO if the soldier fails any step. If the soldier fails any step, show what was done wrong and how to do it correctly. The soldier then must perform the task to standard to receive a GO.

References

Required

TM 11-5805-764-13-1

Related

**Perform Preventive Maintenance Checks and Services for Small Extension Node System AN/TTC-48(V) or Communications Switching Set AN/TTC-51
113-625-2091**

Conditions: Given an installed SENS AN/TTC-48(V) or CSS AN/TTC-51 operating in a systems network, TM 11-5805-764-13-1, TM 11-5895-1527-13&P, TM 11-5805-764-23P, TM 11-5805-772-12, TM 11-5805-772-24P, TM 11-5820-1024-13, (O)TM 11-5810-292-13&P, (O)TM 11-5810-349-10, and DA Form 2404.

Standards: Corrected or documented and reported all deficiencies/shortcomings to the next maintenance level.

Performance Measures	<u>GO</u>	<u>NO GO</u>
NOTE: Refer to the technical manual for the equipment you have. Follow the PMCS tables in the technical manual according to the required maintenance interval: before, during, after, or weekly.		
1. Determined the PMCS interval.	—	—
NOTE: During the operation of the assemblage, perform only the checks and services that DO NOT interfere with the mission requirements.		
2. Performed routine procedures and made appropriate on-the-spot corrections.	—	—
NOTE: Observe all WARNINGS and CAUTIONS in the technical manuals and on the equipment plates and decals.		
3. Recorded all uncorrected deficiencies on DA Form 2404.	—	—
4. Reported all uncorrected deficiencies to the next maintenance level..	—	—

Evaluation Guidance: Score a GO if the soldier passes all steps. Score a NO-GO if the soldier fails any step. If the soldier fails any step, show what was done wrong and how to do it correctly. The soldier then must perform the task to standard to receive a GO.

References

Required

- (O)TM 11-5810-292-13&P
- (O)TM 11-5810-349-10
- TM 11-5805-764-13-1
- TM 11-5805-764-23P
- TM 11-5805-772-12
- TM 11-5805-772-24P
- TM 11-5820-1024-13
- TM 11-5895-1527-13&P

Related

- DA PAM 738-750

Maintain Small Extension Node System AN/TTC-48(V) or Communications Switching Set AN/TTC-51 to Direct Support Level
113-625-4039

Conditions: Given a faulty SENS AN/TTC-48(V) or CSS AN/TTC-51 operating in a systems network, multimeter AN/PSM-45A or equivalent, ESA test set TS-4294/G, PCC extractor/insertor, TK-105/G, TK-90/G, TM 11-5805-764-13-1, TM 11-5895-1527-13&P, and DA Form 2404.

Standards: Returned the equipment to normal operation or reported an unrepairable fault to the next maintenance level.

Performance Measures	<u>GO</u>	<u>NO GO</u>
NOTE: Refer to the technical manual for the equipment you have.		
1. Identified fault symptoms.	—	—
2. Isolated fault to the lowest repairable unit (LRU).	—	—
3. Repaired/replaced faulty component or reported unrepairable faults to the next maintenance level.	—	—
4. Tested and verified repairs.	—	—
5. Returned equipment to normal operating condition.	—	—
6. Completed all required forms.	—	—

Evaluation Guidance: Score a GO if the soldier passes all steps. Score a NO-GO if the soldier fails any step. If the soldier fails any step, show what was done wrong and how to do it correctly. The soldier then must perform the task to standard to receive a GO.

References

Required

TM 11-5805-764-13-1
 TM 11-5895-1527-13&P

Related

(O)TM 11-5810-292-13&P
 (O)TM 11-5810-349-10
 DA PAM 738-750
 TM 11-5805-761-13&P
 TM 11-5805-764-23P
 TM 11-5805-772-12
 TM 11-5805-772-24P

Subject Area 2: LARGE ELECTRONIC SWITCHING SYSTEMS

**Install Large Switching System AN/TTC-46(V) or AN/TTC-47(V)
113-625-1039**

Conditions: Given a vehicle-mounted LENS AN/TTC-46(V) or NCS AN/TTC-47(V) with power unit PU-753/M, shovel, axe, 8-pound sledgehammer, grounded rod driver/puller, TM 11-5805-707-12 (LENS only), TM 11-5805-797-12-1 (NCS), or TM 11-5805-798-12-1 (LENS).

Standards: Positioned the LENS or NCS, applied power, and made LENS or NCS ready for initialization.

Performance Measures

NOTE: Refer to TM 11-5805-797-12-1 or TM 11-5805-798-12-1 except as noted.

	<u>GO</u>	<u>NO GO</u>
1. Positioned equipment on site.	—	—
2. Opened protective covers.	—	—
DANGER: HIGH VOLTAGE is used in this equipment. DEATH on contact may result if safety precautions are not observed. Be careful when working near equipment interior or AC power distribution. Observe technical manuals' warning notes and warning decals on the equipment.		
3. Grounded shelter and power unit.	—	—
NOTE: Power entry panels (PEPs) and signal entry panels (SEPs) must be grounded separately.		
4. Connected AC/DC power cable and intershelter cables.	—	—
5. Connected external signal cables and subscriber access devices.	—	—
a. J-1077 junction box.		
b. TD-1234(P)/TTC multiplexer-combiner (LENS only). (Refer to TM 11-5805-707-12.)		
6. Performed DC power-up procedures using vehicle power source.	—	—
7. Performed power unit start-up.	—	—
a. Performed pre-start checks.		
b. Performed start-up procedures.		
c. Adjusted voltage for loaded requirements.		
d. Applied power to the shelter.		
8. Performed switchover to AC power at the shelter.	—	—

Evaluation Guidance: Score a GO if the soldier passes all steps. Score a NO-GO if the soldier fails any step. If the soldier fails any step, show what was done wrong and how to do it correctly. The soldier then must perform the task to standard to receive a GO.

References

Required

- TM 11-5805-707-12
- TM 11-5805-797-12-1
- TM 11-5805-798-12-1

Related

- TM 9-2320-280-10

**Perform System Initialization for Large Switching System AN/TTC-46(V) or AN/TTC-47(V)
113-625-2092**

Conditions: Given an installed LENS AN/TTC-46(V) or NCS AN/TTC-47(V), an operational MSE communications network; TM 11-5805-797-12-1, TM 11-5805-797-12-2, and TM 11-5805-797-12-3 (NCS) or TM 11-5805-798-12-1, TM 11-5805-798-12-2, and TM 11-5805-798-12-3 (LENS); (O)TM 11-5810-349-10, and TM 11-5820-1024-13.

Standards: Displayed PREAFFILIATION OF SUBLIST NNN COMPLETED (NNN = preaffiliation list number) at the workstation and/or printed at the teletypewriter (TTY) and initialized the COMSEC subsystem.

Performance Measures	<u>GO</u>	<u>NO GO</u>
NOTE: Refer to TM 11-5805-797-12-1 or TM 11-5805-798-12-1 except as noted.		
1. Performed preliminary checks on operation and switching shelters.	—	—
2. Performed equalizing charge procedures on operation and switching shelters.	—	—
NOTE: Tell the soldier the SCC directed PS start-up.		
3. Started up PS/gateway (NCS only); started up PS and SDC (LENS only).	—	—
4. Performed switching/routing processor start-up.	—	—
5. Initialized COMSEC equipment automatic key distribution center (AKDC), TED KY-57, and SDNRI KY-90, if installed (LENS only).	—	—
6. Operated SHF radio set AN/GRC-224, if installed. (Refer to TM 11-5820-1024-13.)	—	—
7. Performed CSP initialization.	—	—
8. Performed TTY functions using the workstation.	—	—
9. Performed workstation utilities functions using the workstation.	—	—
10. Operated the DNVT.	—	—
11. Operated the SDNRI KY-90, if installed (LENS only). (Refer to (O)TM 11-5810-349-10.)	—	—

Evaluation Guidance: Score a GO if the soldier passes all steps. Score a NO-GO if the soldier fails any step. If the soldier fails any step, show what was done wrong and how to do it correctly. The soldier then must perform the task to standard to receive a GO.

References

Required	Related
(O)TM 11-5810-349-10	TM 11-5800-216-10-4
TM 11-5805-797-12-1	TM 11-5805-726-12-2
TM 11-5805-797-12-2	TM 5-6115-632-14&P
TM 11-5805-797-12-3	TM 9-2320-280-10
TM 11-5805-798-12-1	
TM 11-5805-798-12-2	
TM 11-5805-798-12-3	
TM 11-5820-1024-13	

**Establish Internodal/Extension Link with Large Switching System AN/TTC-47(V) or
Communications Central System AN/TTC-50**

113-625-2093

Conditions: Given an operational NCS AN/TTC-47 or COMM-CEN AN/TTC-50 with a CX-11230 cable to a distant end switching system, TB 11-5800-224-10-1, TB 11-5800-224-10-2, Unit OPOD, and switching cut sheets.

Standards: Displayed the duplications transferred for bypass reception IAW the Unit OPOD and switching cut sheets.

Performance Steps

1. Establish a tactical high-speed data network through a SEN link.
 - a. Select Link Management/Add Link/Link Type/SEN/click "Execute."
 - b. Select SEN link/click "Applied" to acquire data.
 - c. Ensure the data is IAW the switching cut sheets.
 - d. Click "Execute" to launch the MACRO command (automated steps).
 - e. Receive "Completed" status.
 - f. Select Node Management/Digital Transmission Group/display DTG #/click "Execute"/print channels.
 - g. Select Node Management/Terminal Service/Display.
 - h. Delete the trunks (BS-LA) which will be used for the video teleconference (VTC) and data channels.
 - i. Select Subscriber Services/Channel Reassignment/Assign/"Execute".
 - j. Select VTC channel-Select "Add," From DTG #/Start Channel/End Channel/To DTG #/Start Channel/End Channel/click "Execute"/click "Reset."
 - k. Select Data channel-Select "Add," From DTG #/Start Channel/End Channel/To DTG #/Start Channel/End Channel/click "Execute."
 - l. Ensure the ETGMOW CCA port is set for the correct data rate for voice, VTC, and data.
 - m. Ensure the distant end SENS HS-MUX II CCA port is set for the correct data rate for voice, VTC, and data.
 - n. Ensure the HS-FEC CCA is enabled on both ends of the link.

Table 3-1

LINK STATUS	FEC	FAULT LED	BER LED	SYNC LED	TESTED LED	FEC LED
BER < 10 ⁻⁶	On	Green	Green	Green	Off	Yellow
BER > 10 ⁻⁶	On	Red	Red	Red	Off	Yellow

NOTE: Reference Table 3-1 above.

- o. Load TED assigned to the DTG with "TE" key.
 - p. Observe "Full Op" LED and "Resync" LED on TED is illuminated.
 - q. Ensure the patched cords or plugs are in normal through on the DTG on both ends of the link.
 - r. Establish DVOW communications through the communications modem with the SEN.
 - s. Observe "Full Op" LED and "Resync" LED on TED is illuminated.
 - t. Perform AOD 61 to connect operator DNVT BS-LA to a BS-LA voice path on the TGC you just installed.
 - u. Complete a voice call down the TGC using the operator DNVT.
2. Establish a tactical high-speed data network through an internodal link.
 - a. Select Link Management/Add Link/Link Type/Flood Search/click "Execute."
 - b. Select NCS link/click "Applied" to acquire the data.

Performance Steps

- c. Ensure the data is IAW the switching cut sheets.
- d. Click "Execute" to launch the MACRO command (automated steps).
- e. Receive "Completed" status.
- f. Select Node Management/Trunk Group Cluster/Display/Print Channels.
- g. Receive "Completed" status and click "Reset."
- h. Select Subscriber Services/Channel Reassignment/Assign/"Execute."
- i. Select VTC channel-Select "Add," From DTG #/Start Channel/End Channel/To DTG #/Start Channel/End Channel/click "Execute"/click "Reset."
- j. Select Data channel-Select "Add," From DTG #/Start Channel/End Channel/To DTG #/Start Channel/End Channel/click "Execute."
- k. Ensure the ETGMOW CCA port is set for the correct data rate for voice, VTC, and data.
- l. Ensure the appropriate port of the HS-MUX II CCA at both ends of the link are set to 00110010.
- m. Ensure the HS-FEC CCA is enabled on both ends of the link.

Table 3-2

LINK STATUS	FEC	FAULT LED	BER LED	SYNC LED	TESTED LED	FEC LED
BER < 10-6	On	Green	Green	Green	Off	Yellow
BER > 10-6	On	Red	Red	Red	Off	Yellow

NOTE: Reference Table 3-2 above.

- n. Load TED with "TI" key.
 - o. Observe "Full Op" LED and "Resync" LED on TED is illuminated.
 - p. Ensure patched cords are set for normal through at both ends of the link.
 - q. Establish DVOW communications through the communications modem with the distant end switch.
 - r. Select Link Management/Flood Search Initialization/click Add.
 - s. Select appropriate TGC.
 - t. Select appropriate XSMN path.
 - u. Select the appropriate satellite Y or N.
 - v. Select the appropriate glare: Slave switch select "Y" or Master switch select "N."
 - w. Select the Link State-Initialize.
 - x. Select PS "Y."
 - y. Click "Execute."
 - z. Receive a "Completed" status.
 - aa. Receive status for DTG STATUS 13 and TGC STATUS 5.
 - ab. Perform AOD 61 to connect operator DNV T BS-LA to a BS-LA voice path on the TGC.
 - ac. Complete a voice call down the TGC using the operator DNV T.
3. Provide T1 and E1 connectivity through the line termination unit (LTU) CV-4108A(V).
- a. Select Link Management/Add Link/Link Type/Deterministic Inter-switch/click "Execute."
 - b. Select a DTG IAW switching cut sheets for T1 and E1 link/click "Applied" to acquire the data.
 - c. Ensure 32 channels for T1 and group rate = 512 KB (E1 36 channels and group rate = 576 KB).
 - d. Perform ADT "Modify" to ensure one TSB is assigned on the first channel.
 - e. Perform ATS "Add" to ensure 24 TT-29 channels are added to the circuit. (E1 - 30 TT-29 channels.)
 - f. Click "Execute" to launch the MACRO command (automated steps).
 - g. Receive "Completed" status.
 - h. Assign gateway classmarks area code (AGC) IAW switching cut sheets.
 - i. Perform AOD 61 to connect operator DNV T BS-LA to a BS-LA voice path on the TGC you just installed.
 - j. Affiliate the operator DNV T and complete a voice call down the TGC.

Performance Steps

4. Perform bulk transfer.
 - a. Ensure Master and Slave switches select Switch Operations/COMSEC/Bulk Transfer.
 - b. Ensure Master switch selects Activate/List #/COMSEC ID IAW switching cut sheet/click "Execute."
 - c. Ensure Slave switch selects Receive Authorization/COMSEC ID IAW switching cut sheet/click "Execute."
 - d. Ensure Master switch selects Switch Operations/COMSEC/Display Outgoing Bulk Transfer (DOT).
 - e. Ensure Slave switch selects Switch Operations/COMSEC/Display Incoming Bulk Transfer (DIT).
 - f. Ensure Receive "Completed" on both ends of the link.

5. Perform bypass and duplications.

NOTE: Network traffic will affect the transfer rate of duplications. The receiving switch may take the option to perform an invalid command on their workstation to ensure their workstation is not sending any data down the link. This action is recommended.

- a. Select Link Management/Display Link - to Verified "Y-2" status on the DTG.
- b. Perform an AOD 18 on the TGC to Verified "GOOD" status on the TGC.
- c. Ensure the TGM/DTG status 13 and TSB status 5.
- d. Select Switch Operations/Duplication and Bypass/Bypass and Duplication Groups/Assign.
- e. Assign duplications IAW Unit SOP (for example, even numbers to SWID#; odd numbers to SWID#).
- f. Select Switch Operations/Duplication and Bypass/Bypass and Duplication Groups/Display.

Performance Measures

NOTE: Refer to TB 11-5800-224-10-1, TB 11-5800-224-10-2, Unit OPORD, and switching cut sheets.

	<u>GO</u>	<u>NO GO</u>
1. Established a tactical high-speed data network through an SEN link.	—	—
2. Established a tactical high-speed data network through an internodal link.	—	—
3. Provided T1 or E1 connectivity through the LTU CV-4108A(V).	—	—
4. Performed bulk transfer.	—	—
5. Displayed the list of duplications assigned for bypass reception.	—	—

Evaluation Guidance: Score a GO if the soldier passes all steps. Score a NO-GO if the soldier fails any step. If the soldier fails any step, show what was done wrong and how to do it correctly. The soldier then must perform the task to standard to receive a GO.

References

Required

- TB 11-5800-224-10-1
- TB 11-5800-224-10-2

Related

- FM 24-22
- FM 24-27
- TM 11-5805-786-12-1
- TM 11-5805-786-12-2
- TM 11-5805-786-12-3
- TM 11-5805-786-12-4
- TM 11-5805-798-12-1
- TM 11-5805-798-12-2
- TM 11-5805-798-12-3

Provide Call Service at Large Switching System AN/TTC-46(V), AN/TTC-47(V), or Communications Central System AN/TTC-50

113-625-2095

Conditions: Given an operational LENS AN/TTC-46(V), NCS AN/TTC-47(V), or COMMCEN AN/TTC-50 with CSP positioned in the EXTENDED mode, subscribers, TM 11-5805-797-12-1 (NCS), TM 11-5805-798-12-1 (LENS), or TM 11-5805-786-12-1 (COMMCEN).

Standards: Answered an incoming call, provided the required response, and terminated the call.

Performance Measures

GO NO GO

NOTE: Refer to the technical manual for the equipment you have.

1. Answered a directory answer call.	_____	_____
2. Initiated a call.	_____	_____
3. Released a call.	_____	_____
4. Extended a call with precedence upgrade.	_____	_____
5. Extended a call.	_____	_____
6. Placed a call on hold.	_____	_____
7. Extended test tone to the subscriber.	_____	_____
8. Performed call intercept.	_____	_____
9. Performed call forwarding.	_____	_____
10. Established a secure NRI call.	_____	_____
11. Performed conference initiation (programmed and progressive).	_____	_____

Evaluation Guidance: Score a GO if the soldier passes all steps. Score a NO-GO if the soldier fails any step. If the soldier fails any step, show what was done wrong and how to do it correctly. The soldier then must perform the task to standard to receive a GO.

References

Required

TM 11-5805-786-12-1
 TM 11-5805-797-12-1
 TM 11-5805-798-12-1

Related

TM 11-5800-216-10-4
 TM 11-5805-726-12-2

**Perform System Shutdown for Large Switching System AN/TTC-46(V) or AN/TTC-47(V)
113-625-2096**

Conditions: Given an operational NCS AN/TTC-47(V) or LENS AN/TTC-46(V), team packet with redeployment orders, and TM 11-5805-797-12-1 (NCS) or TM 11-5805-798-12-1 (LENS).

Standards: Made the AN/TTC-46(V) or AN/TTC-47(V) ready for movement/relocation.

Performance Measures

NOTE: Refer to the technical manual for the equipment you have.

	<u>GO</u>	<u>NO GO</u>
1. Switched from primary AC power to auxiliary DC power.	—	—
2. Performed normal shelter shutdown.	—	—
NOTE: Shutdown command must be used to bring workstation to a state where it can be safely powered down.		
3. Performed normal AC power/generator shutdown.	—	—
4. Disconnected AC/DC power cable.	—	—
5. Disconnected and recovered signal and antenna cables.	—	—
6. Disconnected and recovered all grounded rods, straps, and leads.	—	—
7. Packed and or prepared associated and peripheral equipment for redeployment.	—	—
8. Performed site recovery.	—	—

Evaluation Guidance: Score a GO if the soldier passes all steps. Score a NO-GO if the soldier fails any step. If the soldier fails any step, show what was done wrong and how to do it correctly. The soldier then must perform the task to standard to receive a GO.

References

Required

- TM 11-5805-797-12-1
- TM 11-5805-798-12-1

Related

- TM 5-6115-632-14&P
- TM 9-2320-280-10

**Perform Preventive Maintenance Checks and Services for Large Switching System AN/TTC-46(V)
or AN/TTC-47(V)
113-625-3092**

Conditions: Given an installed LENS AN/TTC-46(V) or NCS AN/TTC-47(V) operating in a system network, TM 11-5805-797-12-1 (NCS) or TM 11-5805-798-12-1 (LENS), and DA Form 2404.

Standards: Corrected or documented and reported deficiencies/shortcomings to the next maintenance level.

Performance Measures

GO NO GO

NOTE: Refer to the technical manual for the equipment you have. Follow the PMCS tables in the technical manual according to the required maintenance interval: before, during, after, or weekly.

1. Determined the PMCS interval.

NOTE: During the operation of the assemblage, perform only the checks and services that DO NOT interfere with the mission requirements.

2. Performed routine check procedures and made the appropriate on-the-spot corrections.

NOTE: Observe all WARNINGS and CAUTIONS in the technical manuals and on the equipment plates and decals.

3. Recorded all uncorrected deficiencies on DA Form 2404.

4. Reported all uncorrected deficiencies to the next maintenance level.

Evaluation Guidance: Score a GO if the soldier passes all steps. Score a NO-GO if the soldier fails any step. If the soldier fails any step, show what was done wrong and how to do it correctly. The soldier then must perform the task to standard to receive a GO.

References

Required

TM 11-5805-797-12-1
TM 11-5805-798-12-1

Related

DA PAM 738-750
TM 11-5805-761-12&P

**Maintain Large Switching System AN/TTC-46(V) or AN/TTC-47(V) to Direct Support Level
113-625-4021**

Conditions: Given a faulty installed LENS AN/TTC-46(V) or NCS AN/TTC 47(V); multimeter AN/PSM-45A or equivalent, ESA test set TS-4294/G, tool kit TK-105/G, battery tool kit TK-90/G, dual power supply; TM 11-5805-797-12-1, TM 11-5805-797-12-2, and TM 11-5805-797-12-3 (NCS) or TM 11- 5805-798-12-1, TM 11-5805-798-12-2, and TM 11-5805-798-12-3 (LENS); and DA Form 2404.

Standards: Identified all faults, isolated faults to the lowest repairable unit (LRU), and repaired the faults using the troubleshooting flowcharts; and returned the shelter to normal operation.

Performance Measures	<u>GO</u>	<u>NO GO</u>
NOTE: Refer to the technical manual for the equipment you have.		
1. Identified and categorized all faults.	—	—
2. Performed essential user bypass (EUB) procedures if required.	—	—
3. Performed fault isolation.	—	—
4. Repaired or replaced faulty component to the LRU.	—	—
5. Tested and verified repairs.	—	—
6. Returned equipment to normal operation.	—	—
7. Completed all required forms.	—	—

Evaluation Guidance: Score a GO if the soldier passes all steps. Score a NO-GO if the soldier fails any step. If the soldier fails any step, show what was done wrong and how to do it correctly. The soldier then must perform the task to standard to receive a GO.

References

Required

- TM 11-5805-797-12-1
- TM 11-5805-797-12-2
- TM 11-5805-797-12-3
- TM 11-5805-798-12-1
- TM 11-5805-798-12-2
- TM 11-5805-798-12-3

Related

DA PAM 738-750

**Restore System/Link Outage in an MSE Switching Network
113-625-4035**

Conditions: Given an established link with a fault between NCS AN/TTC-47(V) and a distant terminal, TM 11-5800-216-10-4, and TM 11-5805-798-12-1.

Standards: Restored the link outage through fault isolation procedures.

Performance Measures

NOTE: Refer to TM 11-5800-216-10-4 and TM 11-5805-798-12-1. Performed system/link outage troubleshooting on the master NCS.

	<u>GO</u>	<u>NO GO</u>
1. Checked all subscribers' reported faults to ensure the failure was not due to non-link faults.	—	—
2. Directed system troubleshooting and isolated fault to an assemblage or component.	—	—
3. Directed assemblage fault isolation.	—	—
NOTE: The results of performance measure 3 determine which assemblage requires fault isolation procedures. If fault is not in the master NCS, have the other assemblage supervisor report to the master NCS when fault is repaired and have soldier go to performance measure 6. If fault is in the master NCS, have soldier go to performance measure 5.		
4. Directed master NCS repair procedures.	—	—
5. Verified system/link status.	—	—
6. Reported system/link status to the SCC.	—	—

Evaluation Guidance: Score a GO if the soldier passes all steps. Score a NO-GO if the soldier fails any step. If the soldier fails any step, show what was done wrong and how to do it correctly. The soldier then must perform the task to standard to receive a GO.

References

Required

TM 11-5800-216-10-4
TM 11-5805-798-12-1

Related

TM 11-5805-764-13-1

**Maintain System Control Center AN/TYQ-46(V) to Direct Support Level
113-625-4036**

Conditions: Given a faulty installed SCC AN/TYQ-46(V) operating in a network, multimeter AN/PSM-45A or equivalent, ESA test set TS-4294/G, dual power supply, PCC extractor, TM 11-5895-1498-12-1, TM 11-5895-1498-12-2, TM 11-5895-1498-12-3, TM 11-5895-1498-30, and DA Form 2404.

Standards: Identified, isolated, and repaired or replaced all faults to the LRU and returned the SCC to normal operation or reported an unrepairable fault to the next maintenance level.

Performance Measures	<u>GO</u>	<u>NO GO</u>
NOTE: Refer to TM 11-5895-1498-12-1.		
1. Identified and categorized all fault symptoms.	—	—
2. Isolated fault to the LRU.	—	—
3. Repaired or replaced faulty component(s) to the LRU.	—	—
4. Verified repaired or replaced faulty component(s).	—	—
5. Returned the AN/TYQ-46(V) to normal operation.	—	—
6. Reported all uncorrected deficiencies to immediate supervisor for further action.	—	—
7. Completed all required forms.	—	—

Evaluation Guidance: Score a GO if the soldier passes all steps. Score a NO-GO if the soldier fails any step. If the soldier fails any step, show what was done wrong and how to do it correctly. The soldier then must perform the task to standard to receive a GO.

References

Required

- TM 11-5895-1498-12-1
- TM 11-5895-1498-12-2
- TM 11-5895-1498-12-3
- TM 11-5895-1498-30

Related

- DA PAM 738-750
- TM 11-5895-1465-13&P
- TM 11-5895-1498-23P
- TM 11-7021-216-13&P
- TM 11-7025-281-12&P
- TM 5-6115-630-14&P
- TM 5-6115-632-14&P
- TM 9-2320-280-34
- TM 9-4120-378-14
- TM 9-6140-200-14

Subject Area 3: TRI-TAC ELECTRONIC SWITCHING SYSTEMS

**Install Transportable Automatic Switching System AN/TTC-39A or AN/TTC-39D
113-603-1040**

Conditions: Given an AN/TTC-39A, AN/TTC-39D, or AN/TTC-39D PS with power unit PU-406, MPDU AN/MJQ-10; tool kit JTK-17LMLD; GSE supplementary tool kit; shovel; axe; 8-pound sledgehammer; TM 5-6115-626-14&P; TM 5-6115-627-14&P; TM 11-5805-747-12-1, TM 11-5805-747-12-2, and TM 11-5805-747-12-3 (AN/TTC-39A only); or TM 11-5805-796-12-1 and TM 11-5805-796-12-3 (AN/TTC-39D and 39D PS only).

Standards: Positioned the AN/TTC-39A, AN/TTC-39D, or AN/TTC-39D PS, applied power, and made the system ready for initialization.

Performance Measures

GO NO GO

NOTE: Refer to the technical manuals for the equipment you have. The supervisor will tell the soldier where to position the switch and power unit.

- | | | |
|--------------------------------------------------------------------------------------------------|---|---|
| 1. Positioned switching system, power unit, and MPDU on site for power and signal cable hookup. | — | — |
| 2. Leveled the truck and trailer. | — | — |
| 3. Grounded shelter, power unit, and MPDU. (Refer to TM 5-6115-626-14&P and TM 5-6115-627-14&P.) | — | — |

DANGER: HIGH VOLTAGE is used in this equipment. DEATH on contact may result if safety precautions are not observed. Be careful when working near equipment interior or AC power distribution. Observe technical manuals' warning notes and warning decals on the equipment.

- | | | |
|--------------------------------------------------------------------------------------------------|---|---|
| 4. Performed power cabling procedures and connected external power source. | — | — |
| 5. Connected external signal cables. | — | — |
| 6. Performed power unit and MPDU start-up. (Refer to TM 5-6115-626-14&P and TM 5-6115-627-14&P.) | — | — |
| 7. Performed switching system power-up procedures. | — | — |

Evaluation Guidance: Score a GO if the soldier passes all steps. Score a NO-GO if the soldier fails any step. If the soldier fails any step, show what was done wrong and how to do it correctly. The soldier then must perform the task to standard to receive a GO.

References

Required

- TM 11-5805-747-12-1
- TM 11-5805-747-12-2
- TM 11-5805-747-12-3
- TM 11-5805-796-12-1
- TM 11-5805-796-12-3
- TM 5-6115-626-14&P
- TM 5-6115-627-14&P

Related

- (O)TM 11-5810-256-12
- (O)TM 11-5810-329-10
- (O)TM 11-5810-363-10
- FM 11-490-9
- TM 11-6110-249-14

**Perform System Initialization for Transportable Automatic Switching System AN/TTC-39A
113-603-2200**

Conditions: Given an installed AN/TTC-39A, TM 5-6115-465-12, TM 11-5805-747-12-1, TM 11-5805-747-12-2, (O)TM 11-5810-330-13, (O)TM 11-5810-331-13, (O)TM 11-5810-327-10, (O)TM 11-5810-329-10, and (O)TM 11-5810-361-23.

Standards: Completed the AN/TTC-39A initialization, displayed diagnostic status 640000, programmed processor 1 to active, programmed processor 2 to standby, completed COMSEC initialization, and made equipment ready to process calls.

Performance Measures	<u>GO</u>	<u>NO GO</u>
NOTE: Refer to TM 11-5805-747-12-1 except as noted.		
1. Performed preliminary servicing and adjustment of equipment (card strapping). a. CSP nest. b. CEG nest. c. CEN (CAP/CEM). d. TDSGM nest. e. SDSG nest.	—	—
2. Performed processor start-up and switch initialization procedures.	—	—
3. Performed COMSEC subsystem initialization procedures on equipment. a. TSEC/KG-83. (Refer to (O)TM 11-5810-331-13.) b. TSEC/KG-82. (Refer to (O)TM 11-5810-330-13.) c. HGX-83. (Refer to (O)TM 11-5810-327-10.) d. KG-94. (Refer to (O)TM 11-5810-361-23.) e. KY-68. (Refer to (O)TM 11-5810-329-10.)	—	—
4. Performed database command procedures. a. Entered data (assigned commands). b. Changed data entry (modified commands). c. Deleted data entry (deleted commands).	—	—

Evaluation Guidance: Score a GO if the soldier passes all steps. Score a NO-GO if the soldier fails any step. If the soldier fails any step, show what was done wrong and how to do it correctly. The soldier then must perform the task to standard to receive a GO.

References

Required

(O)TM 11-5810-327-10
(O)TM 11-5810-329-10
(O)TM 11-5810-330-13
(O)TM 11-5810-331-13
(O)TM 11-5810-361-23
TM 11-5805-747-12-1
TM 11-5805-747-12-2
TM 5-6115-465-12

Related

(O)TM 11-5810-363-10
TM 11-5805-726-12-2

Establish an Internodal/Extension Link with Transportable Automatic Switching System AN/TTC-39A

113-603-2201

Conditions: Given an operational AN/TTC-39A with link or cable to distant switching system, TM 11-5805-747-12-1, TM 11-5805-747-12-2, TM 11-5805-747-12-3, and TM 11-5805-747-12-4.

Standards: Established a call between the operator's DSVT and the distant switching system.

Performance Measures	<u>GO</u>	<u>NO GO</u>
1. Performed assign command procedures.	—	—
2. Performed link initialization (assigned transmission groups).	—	—
3. Established OW using AVOW and DVOW procedures.	—	—
4. Established a call to the distant switching system.	—	—

Evaluation Guidance: Score a GO if the soldier passes all steps. Score a NO-GO if the soldier fails any step. If the soldier fails any step, show what was done wrong and how to do it correctly. The soldier then must perform the task to standard to receive a GO.

References

Required

- TM 11-5805-747-12-1
- TM 11-5805-747-12-2
- TM 11-5805-747-12-3
- TM 11-5805-747-12-4

Related

- FM 24-22
- FM 24-27
- CJCSM 6231.02A

**Provide Call Service at Transportable Automatic Switching System AN/TTC-39A
113-603-2202**

Conditions: Given an operational AN/TTC-39A with the CSP in STAFFED mode, TM 11-5805-747-12-1, TM 11- 5805-747-12-2, and TM 11-5805-747-12-3.

Standards: The CSP processed calls.

Performance Measures	<u>GO</u>	<u>NO GO</u>
1. Assigned CSP addresses.	—	—
2. Performed card strapping of CVSD and DLPMA cards for 56V DC.	—	—
3. Placed an outgoing call.	—	—
4. Extended an incoming call from queue.	—	—
5. Placed an incoming call on hold.	—	—
6. Established preprogrammed conference and progressive conference calls.	—	—
7. Transferred a CSP directory number to another location.	—	—
8. Ended directory number transfer.	—	—
9. Extended an incoming call to commercial network.	—	—
10. Extended an incoming call with precedence upgrade.	—	—

Evaluation Guidance: Score a GO if the soldier passes all steps. Score a NO-GO if the soldier fails any step. If the soldier fails any step, show what was done wrong and how to do it correctly. The soldier then must perform the task to standard to receive a GO.

References

Required

- TM 11-5805-747-12-1
- TM 11-5805-747-12-2
- TM 11-5805-747-12-3

Related

- FM 24-27

**Perform System Shutdown for Transportable Automatic Switching System AN/TTC-39A
113-603-2203**

Conditions: Given an operational AN/TTC-39A, movement orders, TM 5-6115-465-12, TM 11-5805-747-12-1, TM 11-5411-211-14, and TM 11-6110-249-14.

Standards: Correctly shut down and packed the AN/TTC-39A for movement to a new location.

Performance Measures	<u>GO</u>	<u>NO GO</u>
NOTE: Refer to TM 11-5805-747-12-1 except as noted.		
1. Performed proper shutdown procedures for the AN/TTC-39A.	—	—
2. Performed proper power-down procedures for the S-639G/S-640G. (Refer to TM 11-5411-211-14.)	—	—
3. Performed proper power-down procedures for the MPDU. (Refer to TM 11-6110-249-14.)	—	—
4. Performed proper power-down procedures for the AN/MJQ-10. (Refer to TM 5-6115-465-12.)	—	—
5. Performed proper storage procedures for the AN/TTC-39A.	—	—
6. Performed power cabling removal/storage procedures.	—	—
7. Performed subscriber field cable removal/storage procedures.	—	—
8. Performed grounded strap and rod removal/storage procedures.	—	—
9. Secured the shelter door and all external covers.	—	—

Evaluation Guidance: Score a GO if the soldier passes all steps. Score a NO-GO if the soldier fails any step. If the soldier fails any step, show what was done wrong and how to do it correctly. The soldier then must perform the task to standard to receive a GO.

References

Required

- TM 11-5411-211-14
- TM 11-5805-747-12-1
- TM 11-6110-249-14
- TM 5-6115-465-12

Related

- FM 11-490-9
- TM 11-5805-747-34-1

**Perform System Initialization for Transportable Automatic Switching System AN/TTC-39D
113-603-2204**

Conditions: Given an installed AN/TTC-39D or AN/TTC-39D PS, TM 11-5805-796-12-1, TM 11-5805-796-12-3, (O)TM 11-5810-326-13, (O)TM 11-5810-327-10, (O)TM 11-5810-329-10, (O)TM 11-5810-330-13, (O)TM 11-5810-331-13, (O)TM 11-5810-361-23, and (O)TM 11-5810-363-10.

Standards: The AN/TTC-39D or AN/TTC-39D PS displayed a 650000 diagnostic status on processor 1 and was programmed to active state; programmed processor 2 to standby state; completed COMSEC initialization; and made equipment ready to process calls.

Performance Measures	<u>GO</u>	<u>NO GO</u>
NOTE: Refer to TM 11-5805-796-12-1 and TM 11-5805-796-12-3 except as noted.		
1. Performed preliminary servicing and adjustment of equipment, such as card strapping.	—	—
2. Performed processor(s) start-up and switch initialization (AN/TTC-39D only).	—	—
3. Performed COMSEC subsystem initialization procedures on the following equipment. (Refer to (O)TM 11-5810-363-10.)	—	—
a. TSEC/KG-83. (Refer to (O)TM 11-5810-331-13.)		
b. TSEC/KG-82. (Refer to (O)TM 11-5810-330-13.)		
c. HGX-82. (Refer to (O)TM 11-5810-326-13.)		
d. HGX-83. (Refer to (O)TM 11-5810-327-10.)		
e. KG-94. (Refer to (O)TM 11-5810-361-23.)		
f. KY-68. (Refer to (O)TM 11-5810-329-10.)		
NOTE: Performance measures 4 through 11 are for the AN/TTC-39D PS only.		
4. Performed workstation initialization procedures.	—	—
5. Performed C/3XA-PS and T/20 initialization procedures.	—	—
6. Performed processor start-up procedures using a load disk.	—	—
7. Performed processor start-up procedures using a floppy disk.	—	—
8. Performed database command procedures.	—	—
a. Assigned commands (entered data).		
b. Modified commands (changed data entry).		
c. Deleted commands (deleted data entry).		
9. Performed TTY function.	—	—
10. Performed workstation utilities function.	—	—
11. Performed MTA/TNS function.	—	—
12. Performed link initialization (assigned transmission groups).	—	—
13. Performed TTY operating procedures.	—	—

Evaluation Guidance: Score a GO if the soldier passes all steps. Score a NO-GO if the soldier fails any step. If the soldier fails any step, show what was done wrong and how to do it correctly. The soldier then must perform the task to standard to receive a GO.

References

Required

(O)TM 11-5810-326-13
(O)TM 11-5810-327-10
(O)TM 11-5810-329-10
(O)TM 11-5810-330-13
(O)TM 11-5810-331-13
(O)TM 11-5810-361-23
(O)TM 11-5810-363-10
TM 11-5805-796-12-1
TM 11-5805-796-12-3

Related

Establish an Internodal/Extension Link with Transportable Automatic Switching System AN/TTC-39D

113-603-2205

Conditions: Given an operational AN/TTC-39D or AN/TTC-39D PS with a CX-11230 cable to a distant end switching system, TB 11-5800-224-10-1, TB 11-5800-224-10-2, Unit OPORD, and switching cut sheets.

Standards: Displayed the duplications transferred for bypass reception IAW the Unit OPORD and switching cut sheets.

Performance Steps

1. Establish a tactical high-speed data network through a SEN link.
 - a. Select Link Management/Add Link/Link Type/SEN/click "Execute."
 - b. Select SEN link/click "Applied" to acquire data.
 - c. Ensure the data is IAW the switching cut sheets.
 - d. Click "Execute" to launch the MACRO command (automated steps).
 - e. Receive "Completed" status.
 - f. Select Node Management/Digital Transmission Group/Display DTG #/click "Execute"/Print Channels.
 - g. Select Node Management/Terminal Service/Display.
 - h. Delete the trunks (BS-LA) that will be used for the VTC and data channels.
 - i. Select Subscriber Services/Channel Reassignment/Assign/"Execute."
 - j. Select VTC channel-Select "Add," From DTG #/Start Channel/End Channel/To DTG #/Start Channel/End Channel/click "Execute"/click "Reset."
 - k. Select Data channel-Select "Add," From DTG #/Start Channel/End Channel/To DTG #/Start Channel/End Channel/click "Execute."
 - l. Ensure the ETGMOW CCA port is set for the correct data rate for voice, VTC, and data.
 - m. Ensure the distant end SENS HS-MUX II CCA port is set for the correct data rate for voice, VTC, and data.
 - n. Ensure the HS-FEC CCA is enabled on both ends of the link.

Table 3-3

LINK STATUS	FEC	FAULT LED	BER LED	SYNC LED	TESTED LED	FEC LED
BER < 10-6	On	Green	Green	Green	Off	Yellow
BER > 10-6	On	Red	Red	Red	Off	Yellow

NOTE: Reference Table 3-3 above.

- o. Load TED assigned to the DTG with "TE" key.
 - p. Observe "Full Op" LED and "Resync" LED on TED is illuminated.
 - q. Ensure the patched cords or plugs are in normal through on the DTG on both ends of the link.
 - r. Establish DVOW communications through the communications modem with the SEN.
 - s. Observe "Full Op" LED and "Resync" LED on TED is illuminated.
 - t. Perform AOD 61 to connected operator DNVT BS-LA to a BS-LA voice path on the TGC you just installed.
 - u. Complete a voice call down on the TGC using the operator DNVT.
2. Establish a tactical high-speed data network through an internodal link.
 - a. Select Link Management/Add Link/Link Type/Flood Search/click "Execute."
 - b. Select NCS link/click "Applied" to acquire the data.
 - c. Ensure the data is IAW the switching cut sheets.

Performance Steps

- d. Click "Execute" to launch the MACRO command (automated steps).
- e. Receive "Completed" status.
- f. Select Node Management/Trunk Group Cluster/Display/Print Channels.
- g. Receive "Completed" status and click "Reset."
- h. Select Subscriber Services/Channel Reassignment/Assign/"Execute."
- i. Select VTC channel-Select "Add," From DTG #/Start Channel/End Channel/To DTG #/Start Channel/End Channel/click "Execute"/click "Reset."
- j. Select Data channel-Select "Add," From DTG #/Start Channel/End Channel/To DTG #/Start Channel/End Channel/click "Execute."
- k. Ensure the ETGMOW CCA Port is set for the correct data rate for voice, VTC, and data.
- l. Ensure the appropriate port of the HS-MUX II CCA at both ends of the link are set to 00110010.
- m. Ensure the HS-FEC CCA is enabled on both ends of the link.

Table 3-4

LINK STATUS	FEC	FAULT LED	BER LED	SYNC LED	TESTED LED	FEC LED
BER < 10-6	On	Green	Green	Green	Off	Yellow
BER > 10-6	On	Red	Red	Red	Off	Yellow

NOTE: Reference Table 3-4 above.

- n. Load TED with "TI" key.
 - o. Observe "Full Op" LED and "Resync" LED on TED is illuminated.
 - p. Ensure patched cords are set for normal through at both ends of the link.
 - q. Establish DVOW communications through the communications modem with the distant end switch.
 - r. Select Link Management/Flood Search Initialization/click Add.
 - s. Select appropriate TGC.
 - t. Select appropriate XMSN path.
 - u. Select the appropriate Satellite Y or N.
 - v. Select the appropriate glare: Slave switch select "Y" or Master switch select "N."
 - w. Select the Link State- Initialize.
 - x. Select PS "Y."
 - y. Click "Execute."
 - z. Receive a "Completed" status.
 - aa. Receive status for DTG STATUS 13 and TGC STATUS 5.
 - ab. Perform AOD 61 to connect operator DNVT BS-LA to a BS-LA voice path on the TGC you just installed.
 - ac. Complete a voice call down on the TGC using the operator DNVT.
3. Provide T1 or E1 connectivity through the LTU CV-4108A(V).
- a. Select Link Management/Add Link/Link Type/Deterministic Inter-switch/click "Execute."
 - b. Select a DTG IAW switching cut sheets for T1 or E1 link/click "Applied" to acquire the data.
 - c. Ensure 32 channels for T1 and group rate = 512 KB. (E1 36 channels and group rate = 576 KB.)
 - d. Perform ADT "Modify" to ensure one TSB is assigned on the first channel.
 - e. Perform ATS "Add" to ensure 24 TT-29 channels are added to the circuit. (E1 - 30 TT-29 channels.)
 - f. Click "Execute" to launch the MACRO command (automated steps).
 - g. Receive "Completed" status.
 - h. Assign gateway classmarks area code (AGC) IAW switching cut sheets.
 - i. Perform AOD 61 to connect operator DNVT BS-LA to a BS-LA voice path on the TGC you just installed.

Performance Steps

- j. Affiliate the operator DNVT and complete a voice call down on the TGC.
- 4. Perform bulk transfer.
 - a. Ensure Master and Slave switches select Switch Operations/COMSEC/Bulk Transfer.
 - b. Ensure Master switch selects Activate/List #/COMSEC ID IAW switching cut sheet/click "Execute."
 - c. Ensure Slave switch selects Receive Authorization/COMSEC ID IAW switching cut sheet/click "Execute."
 - d. Ensure Master switch selects Switch Operations/COMSEC/Display Outgoing Bulk Transfer (DOT).
 - e. Ensure Slave switch selects Switch Operations/COMSEC/Display Incoming Bulk Transfer (DIT).
 - f. Ensure Receive "Completed" on both ends of the link.
- 5. Perform bypass and duplications.

NOTE: Network traffic will affect the transfer rate of duplications. The receiving switch may take the option to perform an invalid command on their workstation to ensure their workstation is not sending any data down the link. This action is recommended.

- a. Select Link Management/Display Link to verify "Y-2" status on the DTG.
- b. Perform AOD 18 on the TGC to verify "GOOD" status on the TGC.
- c. Ensure the TGM/DTG status 13 and TSB status 5.
- d. Select Switch Operations/Duplication and Bypass/Bypass and Duplication Groups/Assign.
- e. Assign Duplications IAW Unit SOP (for example, even numbers to SWID#; odd numbers to SWID#).
- f. Select Switch Operations/Duplication and Bypass/Bypass and Duplication Groups/Display.

Performance Measures

NOTE: Refer to TB 11-5800-224-10-1, TB 11-5800-224-10-2, Unit OPORD, and switching cut sheets. The switch will be on-line with a local database (no links programmed), NOT a standard database.

	<u>GO</u>	<u>NO GO</u>
1. Established a tactical high-speed data network through an SEN link.	—	—
2. Established a tactical high-speed data network through an internodal link.	—	—
3. Provided T1 or E1 connectivity through the LTU CV-4108A(V).	—	—
4. Performed bulk transfer.	—	—
5. Displayed the list of duplications assigned for bypass reception.	—	—

Evaluation Guidance: Score a GO if the soldier passes all steps. Score a NO-GO if the soldier fails any step. If the soldier fails any step, show what was done wrong and how to do it correctly. The soldier then must perform the task to standard to receive a GO.

References

Required

- TB 11-5800-224-10-1
- TB 11-5800-224-10-2

Related

- FM 24-22
- FM 24-27
- CJCSM 6231.02A
- TM 11-5805-796-12-1
- TM 11-5805-796-12-3
- TM 11-5805-796-12-4

**Provide Call Service at Transportable Automatic Switching System AN/TTC-39D
113-603-2206**

Conditions: Given an operational AN/TTC-39D or AN/TTC-39D PS with the CSP in the STAFFED mode operating in a network, TM 11-5805-796-12-1, and TM 11- 5805-796-12-3.

Standards: The CSP processed calls.

Performance Measures

NOTE: Refer to TM 11-5805-796-12-1.

	<u>GO</u>	<u>NO GO</u>
1. Performed card strapping of the CVSD and DLPMA card for 56V DC.	—	—
2. Assigned CSP addresses.	—	—
3. Placed outgoing call.	—	—
4. Extended the incoming call from queue.	—	—
5. Placed the incoming call on hold.	—	—
6. Established preprogrammed conference and progressive conference calls.	—	—
7. Transferred a CSP directory number to another location.	—	—
8. Ended directory number transfer.	—	—
9. Extended an incoming call to commercial network.	—	—
10. Extended an incoming call with precedence upgrade.	—	—

Evaluation Guidance: Score a GO if the soldier passes all steps. Score a NO-GO if the soldier fails any step. If the soldier fails any step, show what was done wrong and how to do it correctly. The soldier then must perform the task to standard to receive a GO.

References

Required

- TM 11-5805-796-12-1
- TM 11-5805-796-12-3

Related

- FM 24-27

**Perform System Shutdown for Transportable Automatic Switching System AN/TTC-39D
113-603-2207**

Conditions: Given an operational AN/TTC-39D PS or AN/TTC-39D, movement orders, TM 5-6115-465-12, TM 11-5805-796-12-1, and TM 11-6110-249-14.

Standards: Correctly shut downed, packed, and made the AN/TTC-39D or AN/TTC-39D PS ready for movement to new location.

Performance Measures	<u>GO</u>	<u>NO GO</u>
NOTE: Refer to TM 11-5805-796-12-1 except as noted. It is important to shut down the AN/TTC-39D PS workstation processor before system shutdown.		
1. Performed assemblage shutdown procedures.	—	—
2. Performed MPDU power-down procedures. (Refer to TM 11-6110-249-14.)	—	—
3. Performed AN/MJQ-10 power-down procedures. (Refer to TM 5-6115-465-12.)	—	—
4. Performed assemblage storage procedures.	—	—
5. Performed power cabling removal/storage procedures.	—	—
6. Performed subscriber field cable removal/storage procedures.	—	—
7. Performed grounded strap and rod removal/storage procedures.	—	—
8. Secured shelter door and all external covers.	—	—

Evaluation Guidance: Score a GO if the soldier passes all steps. Score a NO-GO if the soldier fails any step. If the soldier fails any step, show what was done wrong and how to do it correctly. The soldier then must perform the task to standard to receive a GO.

References

Required

- TM 11-5805-796-12-1
- TM 11-6110-249-14
- TM 5-6115-465-12

Related

- FM 11-490-9
- TM 11-5805-778-34-1

Perform Preventive Maintenance Checks and Services for Transportable Automatic Switching System AN/TTC-39A
113-603-3229

Conditions: Given an AN/TTC-39A, tool kit JTK-17LMLD, GSE supplementary tool kit-OL, multimeter AN/PSM-45A or equivalent, digital multimeter AN/USM-451, battery tool kit TK-90/G, TM 11-5805-747-12-3, and DA Form 2404.

Standards: Corrected or documented and reported all deficiencies/shortcomings to the next maintenance level.

Performance Measures	<u>GO</u>	<u>NO GO</u>
NOTE: Refer to TM 11-5805-747-12-3. Follow the PMCS tables in the technical manual according to the required maintenance interval: before, during, after, or weekly.		
1. Determined the PMCS interval.	—	—
NOTE: During the operation of the assemblage, perform only the checks and services that DO NOT interfere with the mission requirements.		
2. Performed routine procedures and made the appropriate on-the-spot corrections.	—	—
NOTE: Observe all WARNINGS and CAUTIONS in the technical manual and on the equipment plates and decals.		
3. Recorded all uncorrected deficiencies on DA Form 2404.	—	—
4. Reported all uncorrected deficiencies to the next maintenance level.	—	—

Evaluation Guidance: Score a GO if the soldier passes all steps. Score a NO-GO if the soldier fails any step. If the soldier fails any step, show what was done wrong and how to do it correctly. The soldier then must perform the task to standard to receive a GO.

References

Required

TM 11-5805-747-12-3

Related

(C)NAM-24A/TSEC
 DA PAM 738-750
 TM 11-5805-747-12-4
 TM 11-5815-602-10-1
 TM 9-4120-367-14

Perform Preventive Maintenance Checks and Services for Transportable Automatic Switching System AN/TTC-39D
113-603-3230

Conditions: Given an operational AN/TTC-39D or AN/TTC-39D PS, tool kit JTK-17LMLD, GSE supplementary tool kit-OL, multimeter AN/PSM-45A, battery tool kit TK-90/G, TM 11-5805-796-12-3, and DA Form 2404.

Standards: Corrected or documented and reported all deficiencies/shortcomings to the next maintenance level.

Performance Measures	<u>GO</u>	<u>NO GO</u>
NOTE: Follow the PMCS tables in the technical manual according to the required maintenance interval: before, during, after, or weekly.		
1. Determined the PMCS interval.	—	—
NOTE: During the operation of the assemblage, perform only the checks and services that DO NOT interfere with the mission requirements.		
2. Performed routine check procedures and made the appropriate on-the-spot corrections.	—	—
NOTE: Observe all WARNINGS and CAUTIONS in the technical manuals and on the equipment plates and decals.		
3. Recorded all uncorrected deficiencies on DA Form 2404.	—	—
4. Reported all uncorrected deficiencies to the next maintenance level.	—	—

Evaluation Guidance: Score a GO if the soldier passes all steps. Score a NO-GO if the soldier fails any step. If the soldier fails any step, show what was done wrong and how to do it correctly. The soldier then must perform the task to standard to receive a GO.

References

Required

TM 11-5805-796-12-3

Related

(C)NAM-24A/TSEC
 DA PAM 738-750
 TM 11-5805-796-12-4
 TM 11-5815-602-10-1
 TM 9-4120-367-14

**Maintain Transportable Automatic Switching System AN/TTC-39A to Direct Support Level
113-603-4209**

Conditions: Given an installed faulty automatic telephone central office AN/TTC-39A, tool kit JTK-17LMLD, GSE supplementary tool kit-OL, multimeter AN/PSM-45A, ESA test set TS-3684/T, tool kit TK-101, tool kit TK-105, PCC extractor, digital generator SG-1139/G, oscilloscope OS-261C or equivalent, transmission test set AN/USM-181 or equivalent, electronic counter digital AN/USM-459 or equivalent, diagnostic tapes, TM 11-5805-747-12-3, TM 11-5805-747-12-4, TM 11-5805-747-12-5-1, TM 11-5805-747-12-5-2, TM 11-5805-747-12-6, TM 11-5805-747-12-7, and DA Form 2404.

Standards: Returned the equipment to normal operation or reported an unrepairable fault to the next maintenance level.

Performance Measures

GO NO GO

NOTE: Performance measure 1 determines which technical manual is used for the remaining performance measures.

1. Identified and categorized fault.	—	—
2. Performed EUB if required.	—	—
3. Isolated fault to the LRU.	—	—
4. Repaired or replaced faulty component or reported unrepairable faults to the next maintenance level.	—	—
5. Tested and or verified repairs.	—	—
6. Returned equipment to normal operation.	—	—
7. Reported the unrepairable unit to the next maintenance level.	—	—

Evaluation Guidance: Score a GO if the soldier passes all steps. Score a NO-GO if the soldier fails any step. If the soldier fails any step, show what was done wrong and how to do it correctly. The soldier then must perform the task to standard to receive a GO.

References

Required

TM 11-5805-747-12-3
 TM 11-5805-747-12-4
 TM 11-5805-747-12-5-1
 TM 11-5805-747-12-5-2
 TM 11-5805-747-12-6
 TM 11-5805-747-12-7

Related

DA PAM 738-750

**Maintain Transportable Automatic Switching System AN/TTC-39D to Direct Support Level
113-603-4210**

Conditions: Given an installed automatic telephone central office AN/TTC-39D, tool kit JTK-17LMLD, GSE supplementary tool kit-OL, multimeter AN/PSM-45A, ESA test set TS-3684/T, tool kit TK-101, tool kit TK-105, PCC extractor, electronic digital generator SG-1139/G, oscilloscope AN/USM-488 or equivalent, transmission test set AN/USM-181 or equivalent, electronic digital counter AN/USM-459 or equivalent, TM 11-5805-796-12-3, TM 11-5805-796-12-4, TM 11-5805-796-12-5-1, TM 11-5805-796-12-5-2, TM 11-5805-796-12-6, and DA Form 2404.

Standards: Returned the equipment to normal operation or reported an unrepairable fault to the next maintenance level.

Performance Measures

GO NO GO

NOTE: Performance measure 1 determines which technical manual is used for the remaining performance measures. Refer to TM 11-5805-796-12-5-2 and TM 11-5805-796-12-3.

- | | | |
|-----------------------------------------------------------------------------------------------------|-------|-------|
| 1. Identified and categorized fault. | _____ | _____ |
| 2. Performed EUB if required. | _____ | _____ |
| 3. Isolated fault to the LRU. | _____ | _____ |
| 4. Repaired or replaced faulty component or reported unrepairable faults to next maintenance level. | _____ | _____ |
| 5. Tested and verified repairs. | _____ | _____ |
| 6. Returned equipment to normal operation. | _____ | _____ |
| 7. Completed all required forms. | _____ | _____ |

Evaluation Guidance: Score a GO if the soldier passes all steps. Score a NO-GO if the soldier fails any step. If the soldier fails any step, show what was done wrong and how to do it correctly. The soldier then must perform the task to standard to receive a GO.

References

Required

- TM 11-5805-796-12-3
- TM 11-5805-796-12-4
- TM 11-5805-796-12-5-1
- TM 11-5805-796-12-5-2
- TM 11-5805-796-12-6

Related

- DA PAM 738-750

**Restore System/Link Outage in a TRI-TAC Switching Network
113-603-4225**

Conditions: Given an established link with an unknown fault between the AN/TTC-39A, AN/TTC-39D, or AN/TTC-39D PS and the distant terminal; TM 11-5805-747-12-2, TM 11-5805-747-12-3, TM 11-5805-747-12-5-1, and TM 11-5805-747-12-5-2; or TM 11-5805-796-12-3, TM 11- 5805-796-12-5-1, and TM 11-5805-796-12-5-2.

Standards: Restored a link outage through fault isolation procedures and enabled the system to pass traffic.

Performance Measures

GO NO GO

NOTE: Refer to the technical manual for equipment in use; the fault determines which technical manual volume to use.

- | | | |
|-----------------------------------------------------------------------------------------------------------------------------|-------|-------|
| 1. Interpreted system diagrams, link maps, and planners' documents to define assemblage interconnections for various links. | _____ | _____ |
| 2. Directed system/link troubleshooting and isolated fault to an assemblage or component. | _____ | _____ |

NOTE: Performance measure 2 results determine which assemblage requires fault isolation procedures. If the fault is not in the master switch, have the other assemblage supervisor report to the master switch when fault is repaired and have the soldier go to performance measure 5. If the fault is in the master switch, have the soldier go to performance measure 4.

- | | | |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|-------|
| 3. Directed assemblage fault isolation. | _____ | _____ |
| 4. Directed master switch repair procedures. <ul style="list-style-type: none"> a. Analyzed all fault messages and non-message fault indications for priority ranking. b. Directed isolation procedures for appropriate fault(s). c. Directed repair of faulty component(s). d. Confirmed test(s) to verify repair(s). | _____ | _____ |
| 5. Verified system/link status. | _____ | _____ |
| 6. Reported system/link status to network switch. | _____ | _____ |

Evaluation Guidance: Score a GO if the soldier passes all steps. Score a NO-GO if the soldier fails any step. If the soldier fails any step, show what was done wrong and how to do it correctly. The soldier then must perform the task to standard to receive a GO.

References

Required

- TM 11-5805-747-12-2
- TM 11-5805-747-12-3
- TM 11-5805-747-12-5-1
- TM 11-5805-747-12-5-2
- TM 11-5805-796-12-3
- TM 11-5805-796-12-5-1
- TM 11-5805-796-12-5-2

Related

- (C)NAM-24A/TSEC
- TM 11-5800-216-10-4
- TM 11-5805-798-12-1

Subject Area 4: CONTINGENCY COMMUNICATIONS SYSTEMS

**Install Secure Mobile Anti-Jam Reliable Tactical Terminal AN/TSC-154 (SMART-T) AN/TSC-154
113-589-1012**

Conditions: Given a vehicle-mounted SMART-T AN/TSC-154 with power source, a soldier to ground guide, 8-pound sledgehammer, grounding kit, ground rod, WF-16, TM 11-5895-1612-12, and TM 11-6115-481-13.

Standards: Vehicle-mounted the SMART-T and applied AC power.

Performance Measures

NOTE: Refer to TM 11-5895-1612-12.

	<u>GO</u>	<u>NO GO</u>
1. Dismounted the SMART-T shelter from the HMMWV.	—	—
2. Connected interface devices to user interface unit.	—	—
3. Performed power procedures with generator or alternate power source.	—	—

Evaluation Guidance: Score a GO if the soldier passes all steps. Score a NO-GO if the soldier fails any step. If the soldier fails any step, show what was done wrong and how to do it correctly. The soldier then must perform the task to standard to receive a GO.

References

Required

TM 11-5895-1612-12

TM 11-6115-481-13

Related

**Perform System Initialization for Secure Mobile Anti-Jam Reliable Tactical Terminal (SMART-T)
AN/TSC-154
113-589-2023**

Conditions: Given an installed SMART-T AN/TSC-154, an operational MDR or LDR network, AN/CYZ-10 with operational database, TM 11-5895-1612-12, and TM 11-6115-481-13.

Standards: Logged the SMART-T onto the satellite and received the LDR or MDR "Acquisition Completed" message.

Performance Measures

NOTE: Refer to TM 11-5895-1612-12.

	<u>GO</u>	<u>NO GO</u>
1. Performed loading of database.	—	—
2. Performed loading of GPS cryptographic key.	—	—
3. Performed manual TRANSEC key load.	—	—
4. Performed antenna deployment.	—	—
5. Established LDR or MDR satellite acquisition IAW communications plan.	—	—

Evaluation Guidance: Score a GO if the soldier passes all steps. Score a NO-GO if the soldier fails any step. If the soldier fails any step, show what was done wrong and how to do it correctly. The soldier then must perform the task to standard to receive a GO.

References

Required

TM 11-5895-1612-12
TM 11-6115-481-13

Related

**Perform Over-the-Air Rekey (OTAR) on Secure Mobile Anti-Jam Reliable Tactical Terminal
(SMART-T) AN/TSC-154
113-589-2024**

Conditions: Given an operational SMART-T (logged onto the satellites) and TM 11-5895-1612-12.

Standards: The SMART-T OTAR indicated a delivery status of pending or completed.

Performance Measures

NOTE: Refer to TM 11-5895-1612-12.

	<u>GO</u>	<u>NO GO</u>
1. Performed SMART-T "Send Binding Request."	—	—
2. Performed OTAR TRANSEC key request based on future key requirements.	—	—

Evaluation Guidance: Score a GO if the soldier passes all steps. Score a NO-GO if the soldier fails any step. If the soldier fails any step, show what was done wrong and how to do it correctly. The soldier then must perform the task to standard to receive a GO.

References

Required

TM 11-5895-1612-12

Related

TM 11-6115-481-13

Provide Secure Mobile Anti-Jam Reliable Tactical Terminal AN/TSC-154 LDR/MDR Net Communications
113-589-2025

Conditions: Given an operational AN/TSC-154 with LDR or MDR net subscribers and TM 11-5895-1612-12.

Standards: Joined a net and established communications with the distant terminal.

Performance Measures

NOTE: Refer to TM 11-5895-1612-12.

	<u>GO</u>	<u>NO GO</u>
1. Performed steps to join a LDR or MDR net.	—	—
2. Initiated LDR or MDR PTP call.	—	—
3. Tore down the LDR or MDR call.	—	—
4. Exited the LDR or MDR net.	—	—
5. Sent an orderwire message via the MDR.	—	—

Evaluation Guidance: Score a GO if the soldier passes all steps. Score a NO-GO if the soldier fails any step. If the soldier fails any step, show what was done wrong and how to do it correctly. The soldier then must perform the task to standard to receive a GO.

References

Required

TM 11-5895-1612-12

Related

TM 11-6115-481-13

**Perform Shutdown Procedures for Secure Mobile Anti-Jam Reliable Tactical Terminal (SMART-T)
AN/TSC-154
113-589-2026**

Conditions: Given an operational SMART-T AN/TSC-154, Unit OPORD, TM 11-5895-1612-12, and TM 11-6115-481-13.

Standards: Made the AN/TSC-154 ready for movement IAW the Unit OPORD.

Performance Measures

NOTE: Refer to TM 11-5895-1612-12.

	<u>GO</u>	<u>NO GO</u>
1. Placed terminal in standby mode.	_____	_____
2. Zeroized keys.	_____	_____
3. Performed emergency or normal terminal shutdown procedures.	_____	_____

Evaluation Guidance: Score a GO if the soldier passes all steps. Score a NO-GO if the soldier fails any step. If the soldier fails any step, show what was done wrong and how to do it correctly. The soldier then must perform the task to standard to receive a GO.

References

Required

- TM 11-5895-1612-12
- TM 11-6115-481-13
- UNIT OPORD

Related

**Perform Preventive Maintenance Checks and Services for Secure Mobile Anti-Jam Reliable
Tactical Terminal (SMART-T) AN/TSC-154
113-589-2027**

Conditions: Given an AN/TSC-154, DA Form 2404, TM 11-5895-1612-12, TM 11-5895-1612-30, and TM 11-6115-481-13.

Standards: Corrected or documented and reported all deficiencies or shortcomings to the next maintenance level.

Performance Measures

GO NO GO

NOTE: Refer to TM 11-5895-1612-12.

- | | | |
|-------------------------------------------------|---|---|
| 1. Performed PMCS IAW the technical manual. | — | — |
| 2. Identified all deficiencies on DA Form 2404. | — | — |

Evaluation Guidance: Score a GO if the soldier passes all steps. Score a NO-GO if the soldier fails any step. If the soldier fails any step, show what was done wrong and how to do it correctly. The soldier then must perform the task to standard to receive a GO.

References

Required

- TM 11-5895-1612-12
- TM 11-5895-1612-30
- TM 11-6115-481-13

Related

- DA PAM 738-750

**Maintain Secure Mobile Anti-Jam Reliable Tactical Terminal (SMART-T) AN/TSC-154 to Direct Support Level
113-589-4001**

Conditions: Given a faulty, installed SMART-T, multimeter AN/PSM-45, soldering iron, wire strippers, tool kit SMART-T, TM 11-5895-1612-12, TM 11-6115-481-13, and TM 11-5895-1612-30.

Standards: Returned the equipment to normal operation or reported an unrepairable fault to the next maintenance level.

Performance Measures

NOTE: Refer to TM 11-5895-1612-12.

	<u>GO</u>	<u>NO GO</u>
1. Identified the BIT fault via the LRU isolation log.	_____	_____
2. Determined whether the fault was BIT related or not.	_____	_____
3. Isolated fault to the LRU.	_____	_____

Evaluation Guidance: Score a GO if the soldier passes all steps. Score a NO-GO if the soldier fails any step. If the soldier fails any step, show what was done wrong and how to do it correctly. The soldier then must perform the task to standard to receive a GO.

References

Required

- TM 11-5895-1612-12
- TM 11-5895-1612-30
- TM 11-6115-481-13

Related

**Establish Site Layout for Electronic Switching System
113-613-1001**

Conditions: Given a team packet/OPORD with an eight-digit grid coordinate location for an electronic switching system, TM 11-5805-764-13-1 (SENS), TM 11-5805-797-12-1 (LENS), TM 11-5805-798-12-1 (NCS), TM 11-5805-747-12-1 (AN/TTC-39A), TM 11-5805-796-12-1 (AN/TTC-39D), TM 11-5805-786-12-1 (AN/TTC-50), or TM 11-5895-1527-13&P (AN/TTC-51).

Standards: Selected a site within 100 meters of the predetermined eight-digit grid coordinate.

Performance Measures	<u>GO</u>	<u>NO GO</u>
NOTE: Refer to the technical manual for the equipment you have.		
1. Plotted the proposed site on a map.	—	—
a. Plotted in and out routes on a map.		
b. Plotted all required LOS radio shots.		
2. Performed site reconnaissance.	—	—
NOTE: Site reconnaissance should be done before the switching team is moved to the site; however, the tactical situation may not allow this.		
3. Selected a site within 100 meters of the eight-digit grid coordinate given in the team packet/OPORD that provides the following:	—	—
NOTE: Considerations are listed in order of importance.		
a. Site security.		
b. Site accessibility.		
c. Air and ground concealment.		
d. Antenna location.		
e. Assemblage location.		
4. Drew a site plan showing the following:	—	—
a. All positioned assemblages.		
b. Antenna location.		
c. Site defenses.		
d. Site entrance.		
e. Emergency exit.		

Evaluation Guidance: Score a GO if the soldier passes all steps. Score a NO-GO if the soldier fails any step. If the soldier fails any step, show what was done wrong and how to do it correctly. The soldier then must perform the task to standard to receive a GO.

References

Required

- TM 11-5805-747-12-1
- TM 11-5805-764-13-1
- TM 11-5805-786-12-1
- TM 11-5805-796-12-1
- TM 11-5805-797-12-1
- TM 11-5805-798-12-1
- TM 11-5895-1527-13&P

Related

**Install Communications Switching Set AN/TTC-51
113-625-1040**

Conditions: Given a CSS AN/TTC-51, 8-pound sledgehammer, ground rod extraction tool, electronic tool kit TK-105/G, connector pliers, TM 11-5805-772-12, TM 11-5895-1527-13&P, and TM 11-5895-1528-13&P.

Standards: Made the AN/TTC-51 ready to process subscribers' calls.

Performance Measures	<u>GO</u>	<u>NO GO</u>
NOTE: Refer to TM 11-5895-1527-13&P except as noted.		
1. Unpacked and positioned equipment.	—	—
2. Installed ground rod and ground straps.	—	—
3. Installed switchboard and DNVT.	—	—
4. Installed remote commercial office interface assembly.	—	—
DANGER: HIGH VOLTAGE is used in this equipment. DEATH on contact may result if safety precautions are not observed. Be careful when working near equipment interior or AC power distribution. Observe technical manuals' warning notes and warning decals on the equipment.		
5. Installed universal power supply (UPS).	—	—
6. Installed the SDC if provided. (Refer to TM 11-5895-1528-13&P.)	—	—
7. Installed external cables.	—	—
8. Performed preliminary checks.	—	—
9. Performed power initialization procedures.	—	—
10. Loaded keys into COMSEC equipment.	—	—
11. Initialized the SB-4303 switchboard. (Refer to TM 11-5805-772-12.)	—	—
NOTE: The tactical situation determines if cold-start or warm-start initialization procedures are used.		
12. Affiliated operator's DNVT.	—	—
13. Affiliated the SDC (if installed). (Refer to TM 11-5895-1528-13&P.)	—	—

Evaluation Guidance: Score a GO if the soldier passes all steps. Score a NO-GO if the soldier fails any step. If the soldier fails any step, show what was done wrong and how to do it correctly. The soldier then must perform the task to standard to receive a GO.

References

Required	Related
TM 11-5805-772-12	
TM 11-5895-1527-13&P	
TM 11-5895-1528-13&P	

**Install Communications Central System AN/TTC-50
113-625-1041**

Conditions: Given a vehicle-mounted COMMCEN AN/TTC 50, power unit PU-753/M, two assistants (required for performance measure 9), axe, ground rod driver/puller, 8-pound sledgehammer, TM 5-6115-632-14&P, TM 11-5805-786-12-1, and TM 11-5985-384-12&P.

Standards: Positioned the AN/TTC-50, applied power, and made system ready for initialization.

Performance Measures	<u>GO</u>	<u>NO GO</u>
NOTE: The COMMCEN AN/TTC-50 is deployed as either a CCPS or CCES. Tell the soldier which configuration is used. Refer to TM 11-5805-786-12-1 except as noted.		
1. Positioned power unit and vehicle.	—	—
2. Opened protective covers and set the TDSG cooling system.	—	—
NOTE: Tell the soldier whether the TDSG cooling system will be operating above or below 32°F.		
3. Unpacked the equipment.	—	—
a. Installed hoist.		
b. Operated hoist.		
c. Stored hoist.		
4. Installed ground rods and ground straps.	—	—
DANGER: HIGH VOLTAGE is used in this equipment. DEATH on contact may result if safety precautions are not observed. Be careful when working near equipment interior or AC power distribution. Observe technical manuals' warning notes and warning decals on the equipment.		
5. Connected the DC auxiliary power cable W2 to the shelter.	—	—
6. Applied vehicle power to the shelter.	—	—
7. Performed initial DC power up.	—	—
8. Performed COMMCEN cable interconnections.	—	—
NOTE: The configuration in use determines what interconnections are made.		
a. LTU CV-4180(V)2/T.		
b. NAI CV-4002.		
c. LAN.		
d. DPT CA-46/G.		
e. NMF AN/TSQ-154A.		
f. Junction box J-1077.		
g. SDC CV-4215/G.		
DANGER: Area used for antenna installation must be free of overhead electrical wires. INSTANT DEATH can result if antenna comes in contact with HIGH VOLTAGE lines.		
9. Installed the RAU antenna; two assistants are required. (Refer to TM 11-5985-384-12&P.)	—	—
10. Performed power unit start-up. (Refer to TM 5-6115-632-14&P.)	—	—
a. Performed pre-start checks.		
b. Performed start-up procedures.		
c. Adjusted voltage for load requirements.		
d. Applied power to the shelter.		
11. Performed switchover to AC power.	—	—

Evaluation Guidance: Score a GO if the soldier passes all steps. Score a NO-GO if the soldier fails any step. If the soldier fails any step, show what was done wrong and how to do it correctly. The soldier then must perform the task to standard to receive a GO.

References**Required**

TM 11-5805-786-12-1
TM 11-5985-384-12&P
TM 5-6115-632-14&P

Related

**Install Data Processing Terminal CA-46/G for Communications Central System AN/TTC-50
113-625-1048**

Conditions: Given an operational COMMCEN AN/TTC-50, DPT CA-46/G, cable 09-2741781-1, ground rod with ground cable, 8-pound sledgehammer, tool kit TK-105/G, TM 11-7025-301-13&P, TM 11-5805-786-12-1, and TM 11-5805-786-12-2.

Standards: Displayed SCREEN 1 for the operation shelter functions or displayed MAIN 00 for the SCC management functions on the DPT's EL display.

Performance Measures

NOTE: Refer to TM 11-7025-301-13&P, TM 11-5805-786-12-1, and TM 11-5805-786-12-2.

	<u>GO</u>	<u>NO GO</u>
1. Determined site for DPT location. NOTE: Site selected must be within 30 feet of the COMMCEN shelter.	—	—
2. Positioned the DPT on table or suitable flat surface.	—	—
3. Connected cables to the DPT. NOTE: The soldier must ensure the DNMF circuit breaker is OFF before connecting cable 09-2741781-1.	—	—
4. Installed ground rod and ground strap. NOTE: Tell the soldier which function is used.	—	—
5. Configured the DPT for the dismounted operation shelter functions or the SCC management functions.	—	—

Evaluation Guidance: Score a GO if the soldier passes all steps. Score a NO-GO if the soldier fails any step. If the soldier fails any step, show what was done wrong and how to do it correctly. The soldier then must perform the task to standard to receive a GO.

References

Required

- TM 11-5805-786-12-1
- TM 11-5805-786-12-2
- TM 11-7025-301-13&P

Related

**Perform System Shutdown for Communications Switching Set AN/TTC-51
113-625-2097**

Conditions: Given an operational CSS AN/TTC-51, team packet with movement orders, ground rod extraction tool, 8-pound sledgehammer, electronic tool kit TK-105/G, connector pliers, TM 11-5895-1527-13&P, TM 11-5895-1528-13&P, and TM 11-5805-772-12.

Standards: Made the CSS AN/TTC-51 ready for movement.

Performance Measures

NOTE: Refer to TM 11-5895-1527-13&P and TM 11-5805-772-12 except as noted.

	<u>GO</u>	<u>NO GO</u>
1. Performed power shutdown.	_____	_____
2. Removed and stored all external cables.	_____	_____
3. Removed the switchboard and DNVT.	_____	_____
4. Removed the remote commercial office interface assembly.	_____	_____
5. Removed the signal data converter if installed. (Refer to TM 11-5895-1528-13&P.)	_____	_____
6. Removed grounded straps and rods.	_____	_____
7. Stored the equipment.	_____	_____

Evaluation Guidance: Score a GO if the soldier passes all steps. Score a NO-GO if the soldier fails any step. If the soldier fails any step, show what was done wrong and how to do it correctly. The soldier then must perform the task to standard to receive a GO.

References

Required

- TM 11-5805-772-12
- TM 11-5895-1527-13&P
- TM 11-5895-1528-13&P

Related

**Perform System Initialization for Communications Central System AN/TTC-50
113-625-2098**

Conditions: Given an installed COMMCEN AN/TTC-50, Unit OPORD, TM 11-5805-786-12-1, TM 11-5805-786-12-2, and TM 11-5820-1027-13&P.

Standards: Displayed PREAFFILIATION OF SUBLIST NNN COMPLETED at the workstation, loaded all COMSEC keys, and ensured the LOADED FREQ PLAN indicator was on.

Performance Measures	<u>GO</u>	<u>NO GO</u>
NOTE: Refer to TM 11-5805-786-12-1 except as noted.		
1. Performed preliminary checks.	—	—
2. Performed battery tested and equalizing charge procedures.	—	—
3. Performed operations shelter workstation checkout and initialization.	—	—
4. Performed switching/routing processor start-up.	—	—
5. Initialized COMSEC equipment AKDC, TED, KY-57, and SDC if installed.	—	—
6. Performed GLU affiliation.	—	—
7. Performed the frequency-loading plan.	—	—
a. Downloaded the frequency plan from the SCC.		
b. Manually loaded the frequency plan.		
8. Initialized the RT-1539. (Refer to TM 11-5820-1027-13&P.)	—	—
9. Performed CAP operations.	—	—
a. Equipment check.		
b. Line check.		
c. DVOW operations.		
NOTE: Refer to TM 11-5805-786-12-2 for performance measures 10 through 12.		
10. Performed database command procedures using the workstation's SWITCH MAN/MACHINE function.	—	—
a. Entered data (assigned commands.)		
b. Changed data entry (modified commands).		
c. Deleted data entry (deleted command).		
11. Performed TTY functions using the workstation.	—	—
12. Performed workstation utilities function.	—	—

Evaluation Guidance: Score a GO if the soldier passes all steps. Score a NO-GO if the soldier fails any step. If the soldier fails any step, show what was done wrong and how to do it correctly. The soldier then must perform the task to standard to receive a GO.

References

Required

- TM 11-5805-786-12-1
- TM 11-5805-786-12-2
- TM 11-5820-1027-13&P

Related

- TM 11-5800-216-10-1
- TM 11-5800-216-10-2

**Perform System Shutdown for Communications Central System AN/TTC-50
113-625-2099**

Conditions: Given an operational COMMCEN AN/TTC-50, two assistants for performance measure 6, axe, ground rod driver/puller, 8-pound sledgehammer, TM 5-6115-632-14&P, TM 11-5805-786-12-1, and TM 11-5985-384-12&P.

Standards: Removed and packed all external devices.

Performance Measures	<u>GO</u>	<u>NO GO</u>
NOTE: Refer to TM 11-5805-786-12-1 except as noted.		
1. Performed database backup.	—	—
2. Performed workstation shutdown.	—	—
3. Shut off power to all equipment. <ul style="list-style-type: none"> a. Set all power switches to OFF. b. Set all DC circuit breakers to OFF. c. Set all AC circuit breakers to OFF. d. Set battery bank circuit breakers to OFF. e. Set FREQ PLAN switch on the RT-1539 radio to STOR. 	—	—
4. Performed generator shutdown. (Refer to TM 5-6115-632-14&P.)	—	—
5. Removed all cables and ground straps.	—	—
DANGER: Area above antenna must be free of overhead electrical wires. INSTANT DEATH can result if the antenna comes in contact with HIGH VOLTAGE lines.		
6. Removed the RAU antenna; two assistants are required. (Refer to TM 11-5985-384-12&P.)	—	—
NOTE: If COMMCEN is required to operate in the MSRT mode during movement, complete performance measure 7. If not, go to performance measure 8.		
7. Prepared the AN/TTC-50 for MSRT mode. <ul style="list-style-type: none"> a. Ensured the fourth RT-1539 radio was set to MSRT. b. Set the RF multicoupler to MSRT. c. Set patched panel to MSRT. d. Loaded COMSEC keys in the DSVT. 	—	—
8. Closed all panel covers.	—	—
9. Packed the shelter, power unit, support truck, and trailer..	—	—

Evaluation Guidance: Score a GO if the soldier passes all steps. Score a NO-GO if the soldier fails any step. If the soldier fails any step, show what was done wrong and how to do it correctly. The soldier then must perform the task to standard to receive a GO.

References

Required	Related
TM 11-5805-786-12-1	
TM 11-5985-384-12&P	
TM 5-6115-632-14&P	

**Perform Preventive Maintenance Checks and Services for Communications Central System
AN/TTC-50
113-625-3093**

Conditions: Given an installed COMMCEN AN/TTC-50, TM 11-5805-786-12-2, and DA Form 2404.

Standards: Corrected or documented and reported all deficiencies/shortcomings to the next maintenance level.

Performance Measures	<u>GO</u>	<u>NO GO</u>
NOTE: Refer to TM 11-5805-786-12-2. Follow the PMCS tables in the technical manual according to the required maintenance interval: before, during, after, or weekly.		
1. Determined the PMCS interval.	—	—
NOTE: During the operation of the assemblage, perform only the checks and services that DO NOT interfere with the mission requirements.		
2. Performed routine procedures and made the appropriate on-the-spot corrections.	—	—
NOTE: Observe all WARNINGS and CAUTIONS in the technical manuals and on the equipment plates and decals.		
3. Recorded all uncorrected deficiencies on DA Form 2404.	—	—
4. Reported all uncorrected deficiencies to the next maintenance level.	—	—

Evaluation Guidance: Score a GO if the soldier passes all steps. Score a NO-GO if the soldier fails any step. If the soldier fails any step, show what was done wrong and how to do it correctly. The soldier then must perform the task to standard to receive a GO.

References

Required

TM 11-5805-786-12-2

Related

TM 11-5800-216-10-1
 TM 11-5800-216-10-2
 TM 11-5805-786-12-1
 TM 11-5820-1027-13&P

**Maintain Communications Central System AN/TTC-50 to Direct Support Level
113-625-4023**

Conditions: Given an installed COMMCEN AN/TTC-50, multimeter AN/PSM-45A or equivalent, ESA test set TS-4294/G, electronic tool kit TK-105/G, PCC extractor, dual power supply, TM 11-5805-786-12-3, TM 11-5805-786-12-4, and DA Form 2404.

Standards: Returned the equipment to normal operation or reported any unrepairable fault to the next maintenance level.

Performance Measures	<u>GO</u>	<u>NO GO</u>
NOTE: Refer to TM 11-5805-786-12-3.		
1. Identified and categorized the fault symptoms.	—	—
a. LOS assemblage.		
b. UHF faults.		
c. CSS.		
2. Isolated the fault.	—	—
3. Repaired and/or replaced the faulty component to the LRU or reported unrepairable fault to the next maintenance level.	—	—
4. Verified the repaired or replaced component.	—	—
5. Returned the equipment to normal operation.	—	—
6. Reported all uncorrected deficiencies to the next maintenance level.	—	—

Evaluation Guidance: Score a GO if the soldier passes all steps. Score a NO-GO if the soldier fails any step. If the soldier fails any step, show what was done wrong and how to do it correctly. The soldier then must perform the task to standard to receive a GO.

References

Required

TM 11-5805-786-12-3
TM 11-5805-786-12-4

Related

DA PAM 738-750
TM 11-5820-1023-13-1
TM 11-5820-1114-13
TM 11-5895-1527-13&P

**Inspect the Installation of Communications Switching Set AN/TTC-51
113-625-7075**

Conditions: Given an installed AN/TTC-51 with an AC power source, TM 11-5895-1527-13&P, TM 11-5895-1528-13&P, and TM 11-5805-772-12.

Standards: The supervisor ensured all installation procedures were correctly performed and power was applied.

Performance Measures	<u>GO</u>	<u>NO GO</u>
NOTE: Refer to TM 11-5895-1527-13&P, TM 11-5895-1528-13&P, and TM 11-5805-772-12.		
1. Inspected the position of the equipment.	—	—
2. Inspected the grounding of the equipment.	—	—
3. Inspected the AC power source.	—	—
4. Inspected the UPS.	—	—
5. Inspected the power cabling procedures and external power connections.	—	—
DANGER: HIGH VOLTAGE is used in this equipment. DEATH on contact may result if safety precautions are not observed. Be careful when working near equipment interior or AC power distribution. Observe technical manuals' warning notes and warning decals on the equipment.		
6. Ensured preliminary servicing and adjustment of equipment were completed.	—	—
7. Inspected the equipment.	—	—
a. Switchboard.		
b. DNVT.		
c. Set up the remote commercial office interface assembly.		
d. SDC, if installed.		
8. Ensured AC power was applied.	—	—

Evaluation Guidance: Score a GO if the soldier passes all steps. Score a NO-GO if the soldier fails any step. If the soldier fails any step, show what was done wrong and how to do it correctly. The soldier then must perform the task to standard to receive a GO.

References

Required	Related
TM 11-5805-772-12	
TM 11-5895-1527-13&P	
TM 11-5895-1528-13&P	

Subject Area 5: AUXILIARY EQUIPMENT

**Install Remote Call Service Position AN/TTC-39A or AN/TTC-39D
113-603-1043**

Conditions: Given an operational AN/TTC-39A or AN/TTC-39D with an uninstalled RCSP C-1033/TTC-39(V), junction box J-1077, connector cable SM-D-817235, and TM 11-5805-714-12.

Standards: The RCSP passed the operational check.

Performance Measures

NOTE: Refer to TM 11-5805-714-12.

	<u>GO</u>	<u>NO GO</u>
1. Determined system configuration and equipment.	—	—
2. Connected analog and digital cables to the RCSP.	—	—
3. Connected cables to the J-1077.	—	—
4. Connected the RCSP power cable to the power source.	—	—
5. Performed the RCSP operational check.	—	—

Evaluation Guidance: Score a GO if the soldier passes all steps. Score a NO-GO if the soldier fails any step. If the soldier fails any step, show what was done wrong and how to do it correctly. The soldier then must perform the task to standard to receive a GO.

References

Required

TM 11-5805-714-12

Related

TM 11-5805-747-12-1

TM 11-5805-747-12-2

TM 11-5805-747-12-3

TM 11-5805-796-12-1

TM 11-5805-796-12-3

**Maintain Remote Call Service Position AN/TTC-39A or AN/TTC-39D to Direct Support Level
113-603-4211**

Conditions: Given an operational AN/TTC-39A(V) or AN/TTC-39D with a faulty RCSP, multimeter AN/PSM-45A or equivalent, PCC extractor, CSP, wire wrap tool kit, tool kit JTK-17LMLD, GSE supplementary tool kit-OL, GSE supplementary tool kit-IL, and TM 11-5805-714-12.

Standards: Returned the RCSP to normal operation or reported an unrepairable fault to the next maintenance level.

Performance Measures

NOTE: Refer to TM 11-5805-714-12.

	<u>GO</u>	<u>NO GO</u>
1. Performed fault isolation.	—	—
2. Removed and/or replaced the audible alarm.	—	—
3. Removed and/or replaced the keyboard assembly.	—	—
4. Removed and/or replaced the power supply.	—	—
5. Removed and/or replaced the CCA.	—	—
6. Tested and verified the repair(s).	—	—
7. Reported all uncorrected deficiencies to the next maintenance level.	—	—

Evaluation Guidance: Score a GO if the soldier passes all steps. Score a NO-GO if the soldier fails any step. If the soldier fails any step, show what was done wrong and how to do it correctly. The soldier then must perform the task to standard to receive a GO.

References

Required

TM 11-5805-714-12

Related

- TM 11-5805-747-12-3
- TM 11-5805-747-12-5-1
- TM 11-5805-747-12-5-2
- TM 11-5805-747-12-8
- TM 11-5805-796-12-3
- TM 11-5805-796-12-5-1
- TM 11-5805-796-12-5-2
- TM 11-5805-796-12-7

**Maintain Converter Telephone Signal Equipment CV-3478 or CV-4002 to Organizational Level
113-605-4010**

Conditions: Given a faulty installed CV-3478 or CV-4002, multimeter AN/PSM-45A, PCC extractor, voltmeter AN/USM-224 or equivalent, electronic tool kit TK-105/G, TM 11-5805-715-12 (CV-3478) or TM 11-5805-763-13 (CV-4002), and DA Form 2404.

Standards: Returned the equipment to normal operation or reported an unrepairable fault to the next maintenance level.

Performance Measures	<u>GO</u>	<u>NO GO</u>
1. Identified all faults.	—	—
2. Categorized all faults.	—	—
3. Isolated the fault to the LRU.	—	—
4. Repaired/replaced the faulty component(s) to the LRU.	—	—
5. Tested, repaired, and/or replaced the faulty components.	—	—
6. Returned the assemblage back to normal operation.	—	—
7. Reported all uncorrected deficiencies to the next maintenance level.	—	—

Evaluation Guidance: Score a GO if the soldier passes all steps. Score a NO-GO if the soldier fails any step. If the soldier fails any step, show what was done wrong and how to do it correctly. The soldier then must perform the task to standard to receive a GO.

References

Required

TM 11-5805-715-12
TM 11-5805-763-13

Related

DA PAM 738-750

**Install Super High Frequency (SHF) Radio System AN/GRC-224
113-625-1009**

Conditions: Given radio set AN/GRC-224 and 9-meter antenna mast AB-1342/GRC-224, 8-pound sledgehammer, antenna alignment meter, 9-meter stay assembly kit, magnetic compass, two people to lift at top end of mast, one person to pull on torsion arm winder assemblies, and TM 11-5820-1024-13.

Standards: The radio set AN/GRC-224 passed the RF module/antenna subassembly setup tests.

Performance Measures GO NO GO

NOTE: Refer to TM 11-5820-1024-13.

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|-------------------------------------------------------------------------------------------------------------------------------------------------------------|---|---|
| 1. Determined the transmission azimuth and placed the baseplate so that the two attached chains faced away from the direction in which the mast was raised. | — | — |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------|---|---|

WARNING: Do not erect mast if any parts are missing or damaged. Serious injury to personnel or equipment damage can result.

DANGER: Area used for antenna installation must be free of overhead electrical wires. INSTANT DEATH can result if the antenna comes in contact with HIGH VOLTAGE lines.

- | | | |
|-------------------------------------------------------------------------------|---|---|
| 2. Set guy stakes and stay anchor. | — | — |
| 3. Installed the mast subassembly. | — | — |
| 4. Installed the RF module on the mast subassembly. | — | — |
| 5. Installed winch, rotator, and tiller on the mast subassembly. | — | — |
| 6. Installed alignment meter cable and antenna signal cable on the RF module. | — | — |
| 7. Raised the mast. | — | — |
| 8. Performed the RF module/antenna subassembly setup test. | — | — |

Evaluation Guidance: Score a GO if the soldier passes all steps. Score a NO-GO if the soldier fails any step. If the soldier fails any step, show what was done wrong and how to do it correctly. The soldier then must perform the task to standard to receive a GO.

References

Required
TM 11-5820-1024-13

Related
TM 11-5820-1024-23P

Install Converter Telephone Signal Equipment CV-3478 or CV-4002
113-625-1042

Conditions: Given an installed AN/TTC-39 and CV-3478 or AN/TTC-47C and CV-4002, LOS multichannel radio terminal AN/TRC-190(V)2, grounded rods and straps, 8-pound sledgehammer, shovel, and TM 11-5805-715-12 (CV-3478) or TM 11-5805-763-13 (CV-4002).

Standards: Installed and prepared the CV-3478 or CV-4002 converter for operation.

Performance Measures

GO NO GO

NOTE: Refer to the technical manual for the equipment you have.

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|---------------------------------------------|-------|-------|
| 1. Removed the transit covers. | _____ | _____ |
| 2. Connected the signal cables. | _____ | _____ |
| 3. Connected the ground rod to the CV-4002. | _____ | _____ |
| 4. Connected the power cable. | _____ | _____ |
| 5. Installed the sun shield. | _____ | _____ |
| 6. Applied AC power. | _____ | _____ |

Evaluation Guidance: Score a GO if the soldier passes all steps. Score a NO-GO if the soldier fails any step. If the soldier fails any step, show what was done wrong and how to do it correctly. The soldier then must perform the task to standard to receive a GO.

References

Required

- TM 11-5805-715-12
- TM 11-5805-763-13

Related

**Install Secure Digital Net Radio Interface TSEC/KY-90
113-625-1049**

Conditions: Given TSEC/KY-90, CNR AN/VRC-46 or AN/VRC-90, electronic tool kit TK-105/G, (O)TM 11-5810-349-10, and TM 11-5805-764-13-1 (AN/TTC-48(V)) or TM 11-5805-797-12-1 (AN/TTC-46(V)).

Standards: Mounted and grounded the device and connected external cables.

Performance Measures

GO NO GO

NOTE: Refer to the technical manual for the equipment you have.

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|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------|-------------------------------------------------------------------------------|
| <p>1. Determined the required initial setting for the chassis top setup controls.
NOTE: If the SDNRI replaces a previously mounted SDNRI, ensure the controls on top of the chassis are set identical. The COMSEC custodian will supply new control settings for a new SDNRI installation..</p> <p>2. Ensured the CNR/NRI circuit breaker was OFF.</p> <p>3. Secured the SDNRI in the equipment rack with the screws provided for installation.</p> <p>4. Connected the shelter system grounded wire to the SDNRI grounded stud.</p> <p>5. Connected the signal cables.</p> <p>6. Connected the power cable.</p> | <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> | <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> |
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Evaluation Guidance: Score a GO if the soldier passes all steps. Score a NO-GO if the soldier fails any step. If the soldier fails any step, show what was done wrong and how to do it correctly. The soldier then must perform the task to standard to receive a GO.

References

Required	Related
(O)TM 11-5810-349-10	
TM 11-5805-764-13-1	
TM 11-5805-797-12-1	

**Operate the Super High Frequency (SHF) Radio System AN/GRC-224
113-625-2110**

Conditions: Given an installed SHF AN/GRC-224 radio system and TM 11-5820-1024-13.

Standards: Made a successful voice call on the SHF link.

Performance Measures	<u>GO</u>	<u>NO GO</u>
NOTE: Refer to TM 11-5820-1024-13.		
1. Placed the patch cord on the patch panel for the SHF radio in the vertical position.	—	—
2. Enabled all baseband loops.	—	—
3. Ensured all LEDs were lit.	—	—
4. Enabled all RF loops.	—	—
5. Ensured all LEDs were lit.	—	—
6. Disabled all loops (baseband and RF loops).	—	—
7. Programmed preselected frequencies into the SHF radio set control module.	—	—
8. Turned transmitter ON (ensured distant end was transmitting by observing your receive signal).	—	—
9. Observed the control module LED for approximately -50 to -65 dB. (Terrain and weather will dictate settings.)	—	—
NOTE: If the bit error rate (BER) LED is lit, adjust the antenna using rotates/tilter while observing the alignment meter.		
10. Obtained the optimal dB reading IAW TM 11-5820-1024-13.	—	—
11. Established voice communications via the communications modem.	—	—
12. Placed a successful loop to truck voice call on the SHF link (AOD 61).	—	—

Evaluation Guidance: Score a GO if the soldier passes all steps. Score a NO-GO if the soldier fails any step. If the soldier fails any step, show what was done wrong and how to do it correctly. The soldier then must perform the task to standard to receive a GO.

References

Required
TM 11-5820-1024-13

Related

**Maintain Super High Frequency (SHF) Radio System AN/GRC-224 to Organizational Level
113-625-4024**

Conditions: Given a faulty installed AN/GRC-224; one of the following: NC, LEN, or SEN; TM 11-5820-1024-13, and DA Form 2404.

Standards: Returned the AN/GRC-224 to normal operation or reported an unrepairable fault to the next maintenance level.

Performance Measures	<u>GO</u>	<u>NO GO</u>
1. Performed bit error test on the control module.	—	—
2. Identified and isolated the fault alarms.	—	—
3. Isolated the faults to the LRU.	—	—
4. Tested the unit for correct operation.	—	—
5. Reported uncorrected deficiencies to the next maintenance level.	—	—

Evaluation Guidance: Score a GO if the soldier passes all steps. Score a NO-GO if the soldier fails any step. If the soldier fails any step, show what was done wrong and how to do it correctly. The soldier then must perform the task to standard to receive a GO.

References

Required

TM 11-5820-1024-13

Related

DA PAM 738-750

TM 11-5805-764-13-1

TM 11-5805-797-12-1

TM 11-5805-798-12-1

**Maintain Secure Digital Net Radio Interface TSEC/KY-90 to Organizational Level
113-625-4037**

Conditions: Given a faulty installed TSEC/KY-90, multimeter AN/PSM-45A or equivalent, (O)TM 11-5810-349-10, and DA Form 2404.

Standards: Returned the equipment to normal operation or reported an unrepairable fault to the next maintenance level.

Performance Measures

NOTE: Refer to (O)TM 11-5810-349-10. The TSEC/KY-90 may be installed in the LENS or SENS.

	<u>GO</u>	<u>NO GO</u>
1. Identified and categorized all the faults.	—	—
2. Performed fault isolation.	—	—
3. Repaired and/or replaced the faulty component(s) to the LRU.	—	—
4. Tested and/or verified the repair(s).	—	—
5. Returned the equipment to normal operation.	—	—
6. Reported unrepairable fault(s) to the next maintenance level.	—	—

Evaluation Guidance: Score a GO if the soldier passes all steps. Score a NO-GO if the soldier fails any step. If the soldier fails any step, show what was done wrong and how to do it correctly. The soldier then must perform the task to standard to receive a GO.

References

Required

(O)TM 11-5810-349-10

Related

DA PAM 738-750

**Maintain Converter, Signal Data CV-4215/G to Organizational Level
113-625-4038**

Conditions: Given a CV-4215/G, multimeter AN/PSM-45A or equivalent; (O)TM 11-5810-349-23, TM 11-6130-416-24P, TM 11-5895-1528-13&P, and TM 11-5820-890-10-1 (AN/VRC-90) or TM 11-5820-401-10-1 and TM 11-5820-401-10-2 (AN/VRC-46); and DA Form 2404.

Standards: Returned the SDC to normal operation and completed the maintenance form; or reported the unrepairable fault to the next maintenance level.

Performance Measures GO NO GO

NOTE: Refer to TM 11-5895-1528-13&P except as noted.

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|-------------------------------------------------------------------------------------------------|---|---|
| 1. Verified all cables were connected. | — | — |
| 2. Checked the UPS for proper output voltage. (Refer to TM 11-6130-416-24P.) | — | — |
| 3. Identified and categorized all faults on the KY-90 and CNR. (Refer to (O)TM 11-5810-349-23.) | — | — |

NOTE: There are two CNRs associated with the SDC. Refer to TM 11-5820-890-10-1 (AN/VRC-90) or TM 11-5820-401-10-1 and TM 11-5820-401-10-2 (AN/VRC-46).

- | | | |
|-------------------------------------------------------------------|---|---|
| 4. Performed fault isolation. | — | — |
| 5. Repaired and/or replaced the faulty component(s) to the LRU. | — | — |
| 6. Tested and/or verified the repairs. | — | — |
| 7. Returned the equipment to normal operation. | — | — |
| 8. Reported the unrepairable fault to the next maintenance level. | — | — |

Evaluation Guidance: Score a GO if the soldier passes all steps. Score a NO-GO if the soldier fails any step. If the soldier fails any step, show what was done wrong and how to do it correctly. The soldier then must perform the task to standard to receive a GO.

References

Required

- (O)TM 11-5810-349-23
- TM 11-5820-401-10-1
- TM 11-5820-401-10-2
- TM 11-5820-890-10-1
- TM 11-5895-1528-13&P
- TM 11-6130-416-24P

Related

- DA PAM 738-750

Subject Area 6: SIGNAL SECURITY

**Implement Electronic Counter-Countermeasures for Radio Systems
113-573-3002**

Conditions: During operation of a radio system, contact is lost with the distant terminal. Given the applicable operator's radio manual and FM 24-33.

Standards: Determined that electronic warfare was directed at your station and employed electronic counter-countermeasures (ECCM) for continued operation.

Performance Measures

NOTE: Refer to FM 24-33. Indicators that there is interference with the system are: (1) subscribers report trunks are noisy, (2) subscribers and switchboard operators report no contact with a particular unit(s), or (3) distant terminal cannot be contacted on orderwire.

	<u>GO</u>	<u>NO GO</u>
1. Checked for accidental or unintentional interference.	_____	_____
a. Checked equipment grounds to ensure interference was not caused by electricity buildup.		
b. Checked for interference from power unit or adjacent systems.		
2. Checked for intentional interferences.	_____	_____
NOTE: Disconnected the antenna. If interference is not present, signals are probably being jammed.		
3. Initiated procedure to combat ECM.	_____	_____
a. Identified type of noise, if possible.		
b. Increased power, if possible.		
c. Checked antenna orientation.		
d. Varied antenna height or relocated antenna.		
e. Requested new frequencies.		
NOTE: Do not change frequencies up or down just to get away from interference. This may create additional problems for other users. Antijamming measures are designed to allow radio operators to work effectively through intentional interference. Regardless of the nature of the interfering signal, radio operators will not reveal, in the clear, the possibility of success of enemy jamming.		
4. Identified jamming signals, if possible.	_____	_____
5. Prepared/submitted operator's meaconing, intrusion, jamming, and intrusion (MIJI) report.	_____	_____

Evaluation Guidance: Score the soldier a GO if all steps are passed. Score the soldier a NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly. The soldier then must perform the task to standard to receive a GO.

References

Required
FM 24-33

Related
AR 5-12

**Install Network Encryption System (NES)
113-573-5003**

Conditions: Given a NES security platform, a loaded configuration disk, KSD-64A COMSEC key, two 10baseT cables with RG-58 connectors, three T-connectors, three 50-ohm terminators, two 10base2 transceivers, ground cable, 110V AC power cord, two AUI cables, and the Security (SCTY) Platform Users Manual.

Standards: Turned the LED green on the NES and performed a successful ping test from the laptop to the NES and from the parent switch to the NES.

Performance Measures

GO NO GO

NOTE: Refer to the SCTY Platform Users Manual.

- | | | |
|----------------------------------------------------------------------------------------------------------------------------|---|---|
| 1. Unpacked and inventoried all items required for installation. | — | — |
| 2. Selected the location for the NES to be installed. | — | — |
| 3. Secured the grounded cable to the grounded stud on the rear of the NES and the grounded source. | — | — |
| 4. Connected the AUI cable from the J3 (black side) to the 10base2 transceiver. | — | — |
| 5. Connected the 10baseT cable with the RG-58 connectors from the transceiver (black side) to the tactical packet network. | — | — |
| 6. Connected the AUI cable from the J1 (red side) to the 10base2 transceiver. | — | — |
| 7. Connected the 10baseT cable (RG-58 connector) from the transceiver (red side) to the host. | — | — |

NOTE: Before powering up the NES, verified the connections for the ground straps and signal cables.

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|----------------------------------------------------------------------------------------------------------------------------------------------------------------|---|---|
| 8. Connected the 110V AC power cord to the power inlet on the rear panel of the NES and connected the other end of the power cord to the 110V AC power source. | — | — |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------|---|---|

WARNING: The operator will only zeroize the NES when issued a new KSD-64A. The operator will NOT zeroize the NES if using the same KSD-64A previously used. If the message "NO TAMPER KEY" appears during boot-up procedures, the NES is zeroized. In this case, contact the security manager or the NES administrator to verify the current KSD-64A.

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| 9. Set the NES power switch to ON. | — | — |
| 10. Inserted the configuration disk. | — | — |
| 11. Inserted the KSD-64A key into the COMSEC slot on the NES and turned it to the right. | — | — |

NOTE: Waited approximately 6 minutes for the LED to turn green.

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| 12. Performed a successful ping test from the host to the NES. | — | — |
| 13. Performed a ping test (packets received) from the parent switch to the NES. | — | — |

Evaluation Guidance: Score the soldier a GO if all steps are passed. Score the soldier a NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly. The soldier then must perform the task to standard to receive a GO.

References

Required

SCTY PLATFORM USER MANUAL

Related

**Perform System Shutdown on the Network Encryption System (NES)
113-573-5004**

Conditions: Given an operational NES, transport container, Security (SCTY) Platform Users Manual, NES Operations (OPNS) Security (SCTY) Doctrine, and movement orders.

Standards: Powered down and packed the NES in its transport container.

Performance Measures

GO NO GO

NOTE: Refer to the SCTY Platform Users Manual and NES OPNS SCTY Doctrine.

WARNING: The operator will only zeroize the NES when issued a new KSD-64A. The operator will NOT zeroize the NES if using the same KSD-64A previously used. If the message "NO TAMPER KEY" appears during boot-up procedures, the NES is zeroized. In this case, contact the security manager or the NES administrator to verify the proper KSD-64A.

NOTE: Before powering down the NES, ensure the battery is good by observing the "Battery OK" message on the LCD. If "The Battery Low" message appears, replace the battery before continuing.

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| 1. Removed the KSD-64A key by turning it to the left and pulling it out. | _____ | _____ |
| 2. Removed the configuration floppy disk by pressing the disk Released. | _____ | _____ |
| 3. Set the power switch to OFF. | _____ | _____ |
| 4. Stored the KSD-64A and configuration disk IAW the NES OPNS SCTY Doctrine. | _____ | _____ |
| 5. Disconnected the power cord, RG-58 10baseT cables, AUI cables, transceivers, and grounded cable. | _____ | _____ |
| 6. Cleaned, inventoried, and stored all the equipment in the transport container. | _____ | _____ |

Evaluation Guidance: Score the soldier a GO if all steps are passed. Score the soldier a NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly. The soldier then must perform the task to standard to receive a GO.

References

Required

NES OPNS SCTY DOCTRINE
SCTY PLATFORM USER MANUAL

Related

Maintain the Network Encryption System (NES) to Organizational Level

113-623-7199

Conditions: Given a NES security platform, a loaded configuration disk, KSD-64A COMSEC key, two 10baseT cables with RG-58 connectors, three T-connectors, three 50-ohm terminators, two 10base2 transceivers, grounded cable, 110V AC power cord, two AUI cables, AN/PSM-45 multimeter or equivalent, and the Security (SCTY) Platform Users Manual.

Standards: Turned the LED green on the NES.

Performance Measures

GO NO GO

NOTE: Refer to the SCTY Platform Users Manual.

CAUTION: Under no circumstances should the NES case be opened.

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|----------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|-------|
| 1. Unpacked and inventoried all the equipment. | _____ | _____ |
| 2. Inspected all cables and power cords for cracks, frays, cuts, and tears. | _____ | _____ |
| 3. Inspected the transceivers for cracks or broken connectors. | _____ | _____ |
| 4. Inspected the exterior of the NES for broken connectors or cracks in the NES case. | _____ | _____ |
| 5. Used the multimeter to inspect the 3-AMP fuse for continuity and replaced the fuse if necessary. | _____ | _____ |
| 6. Used the multimeter to inspect the 9-volt battery for serviceability and replaced the battery if necessary. | _____ | _____ |
| 7. Connected the 110V AC power cord to the power inlet on the rear panel of the NES and connected the other end of the power cord to the 110V AC power source. | _____ | _____ |

WARNING: The operator will only zeroize the NES when issued a new KSD-64A. The operator will NOT zeroize the NES if using the same KSD-64A previously used. If the message "NO TAMPER KEY" appears during boot-up procedures, the NES is zeroized. In this case, contact the security manager or the NES administrator to verify the proper KSD-64A.

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|------------------------------------------------------------------------------------------|-------|-------|
| 8. Set the NES power switch to ON. | _____ | _____ |
| 9. Inserted the configuration disk. | _____ | _____ |
| 10. Inserted the KSD-64A key into the COMSEC slot on the NES and turned it to the right. | _____ | _____ |

NOTE: Wait approximately 6 minutes for the LED to turn green. The LED turning RED will alert the NES operator/maintainer to any failure during boot up and operation. When the LED turns RED, the operator/maintainer will note the error code displayed on the LCD and refer to the SCTY Platform Users Manual for guidance. If the problem is with the fuse or battery, the NES operator/maintainer can replace either. If the NES failure is due to any other problem, the NES operator/maintainer will turn the NES over to the NES system administrator for further maintenance.

Evaluation Guidance: Score the soldier a GO if all steps are passed. Score the soldier a NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly. The soldier then must perform the task to standard to receive a GO.

References

Required

SCTY PLATFORM USER MANUAL

Related

Skill Level 3

Subject Area 7: MSE SWITCHING SYSTEM SUPERVISION

**Inspect the Installation of the Secure Mobile Anti-Jam Reliable Tactical Terminal (SMART-T)
AN/TSC-154
113-589-7119**

Conditions: Given an installed AN/TSC-154 operating in a network, TM 11-5895-1612-12, TM 11-5895-1612-30, TM 11-6115-481-13, TM 5-6115-465-12, and TM 5-6115-626-14&P.

Standards: The supervisor ensured all installation procedures were performed and power was applied without causing injury to self, other personnel, environment, or equipment damage.

Performance Measures GO NO GO
NOTE: Refer to TM 11-5895-1612-12 except as noted..

- | | | |
|-----------------------------------------------------------------------------------------------------------------------------|---|---|
| 1. Selected equipment site. | — | — |
| 2. Ensured proper equipment positioning. | — | — |
| 3. Ensured pallet (truck(s) and trailer(s)) were level. | — | — |
| 4. Inspected grounding of the SMART-T for secure connections at either end of the grounded strap. | — | — |
| 5. Inspected power cabling procedures and external power connection for secure connections at both ends of the power cable. | — | — |

DANGER: HIGH VOLTAGE is used in this equipment. DEATH on contact may result if safety precautions are not observed. Be careful when working near equipment interior or AC power distribution. Observe technical manuals' warning notes and warning decals on the equipment.

- | | | |
|-----------------------------------------------------------------------------------------------------------------------------|---|---|
| 6. Ensured preliminary servicing and adjustment of equipment were completed. | — | — |
| 7. Ensured generator pre-checks and start-up procedures were completed. (Refer to TM 5-6115-465-12 and TM 5-6115-626-14&P.) | — | — |
| 8. Ensured generator prime power source was 26 - 37V DC. | — | — |

Evaluation Guidance: Score the soldier a GO if all steps are passed. Score the soldier a NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly. The soldier then must perform the task to standard to receive a GO.

References

Required	Related
TM 11-5895-1612-12	
TM 11-5895-1612-30	
TM 11-6115-481-13	
TM 5-6115-465-12	
TM 5-6115-626-14&P	

**Verify Database Worksheets for the Large Switching System AN/TTC-46(V) or AN/TTC-47(V)
113-603-7040**

Conditions: Given database worksheets for an installed LENS AN/TTC-46(V) or NCS AN/TTC-47(V); TM 11-5805-797-12-1, TM 11-5805-797-12-2, and TM 11-5805-797-12-3 (NCS); or TM 11-5805-798-12-1, TM 11-5805-798-12-2, and TM 11-5805-798-12-3 (LENS); (O)TM 11-5810-349-10, and TM 11-5820-1024-13.

Standards: The supervisor ensured the database worksheets were correct and the AN/TTC-46(V) or AN/TTC-47(V) lines and trunks were passing traffic.

Performance Measures	<u>GO</u>	<u>NO GO</u>
1. Assigned switch functions (assigned switch initialization [ASI] and assigned switch classmarks[ASC]).	—	—
2. Ensured assignment of terminal service and terminal type for common equipment and CSP.	—	—
3. Ensured assignment of DTGs.	—	—
4. Ensured organization and assignment of TGCs.	—	—
5. Ensured assignment of terminal services to trunk terminals.	—	—
6. Ensured COMSEC assignments by location.	—	—
7. Ensured assignment of commercial and gateway routing.	—	—
8. Ensured assignment of subscriber service.	—	—
9. Ensured assignment of PS (AN/TTC-39D PS only).	—	—
10. Ensured assignment of special features.	—	—

Evaluation Guidance: Score the soldier a GO if all steps are passed. Score the soldier a NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly. The soldier then must perform the task to standard to receive a GO.

References

Required	Related
(O)TM 11-5810-349-10	FM 24-22
TM 11-5805-797-12-1	FM 24-27
TM 11-5805-797-12-2	
TM 11-5805-797-12-3	
TM 11-5805-798-12-1	
TM 11-5805-798-12-2	
TM 11-5805-798-12-3	
TM 11-5820-1024-13	

**Inspect the Installation of Small Extension Node System AN/TTC-48(V)
113-625-7073**

Conditions: Given an installed SENS AN/TTC-48, team packet, Unit OPORD, TM 11-5805-764-13-1, (O)TM 11-5810-349-10, TM 11-5820-401-10-1 or TM 11-5820-890-10-1, and TM 11-5820-1024-13.

Standards: Inspected the SENS installation and made the SENS ready for power.

Performance Measures

GO NO GO

NOTE: Refer to TM 11-5805-764-13-1 and TM 11-5820-1024-13 except as noted.

- | | | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|---|
| 1. Selected equipment site. | — | — |
| 2. Ensured shelter and power unit were grounded. | — | — |
| 3. Ensured the KY-90 and CNR were installed IAW the Unit OPORD, if required.
(Refer to (O)TM 11-5810-349-10 and TM 11-5820-401-10-1 or TM 11-5820-890-10-1.) | — | — |
| 4. Checked signal cable connections. | — | — |
| 5. Ensured the AN/GRC-224 was installed IAW the Unit OPORD, if required. | — | — |
| 6. Selected site for 9-meter antenna mast AB-1342/GRC-224, if required.
DANGER: Area used for antenna installation must be free of overhead electrical wires. INSTANT DEATH can result if the antenna comes in contact with HIGH VOLTAGE lines. | — | — |
| 7. Determined antenna polarization from the Unit OPORD.
WARNING: Do not erect mast if any parts are missing or damaged. Serious personal injury or equipment damage can result. | — | — |
| 8. Directed installation of 9-meter antenna mast AB-1342/GRC-224. | — | — |
| 9. Checked AC/DC power cable connections before power was applied.
DANGER: HIGH VOLTAGE is used in this equipment. DEATH on contact may result if safety precautions are not observed. Be careful when working near equipment interior or AC power distribution. Observe technical manuals' warning notes and warning decals on the equipment. | — | — |
| 10. Checked operation of power unit PU-753/M. | — | — |
| 11. Checked voltage reading before and after applying power to equipment. | — | — |

Evaluation Guidance: Score a GO if the soldier passes all steps. Score a NO-GO if the soldier fails any step. If the soldier fails any step, show what was done wrong and how to do it correctly. The soldier then must perform the task to standard to receive a GO.

References

Required

- (O)TM 11-5810-349-10
- TM 11-5805-764-13-1
- TM 11-5820-1024-13
- TM 11-5820-401-10-1
- TM 11-5820-890-10-1
- UNIT OPORD

Related

- TM 11-5800-216-10-1
- TM 11-5800-216-10-2
- TM 11-5800-216-10-4

**Inspect the Installation of Large Extension Node System AN/TTC-46(V) or Node Switching System AN/TTC-47(V)
113-625-7074**

Conditions: Given a vehicle-mounted LENS AN/TTC-46(V) or NCS AN/TTC-47(V) with power unit PU-753/M, shovel, axe, 8-pound sledgehammer, ground rod driver and puller, TM 5-6115-632-14&P, and TM 11-5805-797-12-1 or TM 11-5805-798-12-1.

Standards: Inspected the LENS or NCS installation and ensured it was ready for power.

Performance Measures

NOTE: Refer to TM 11-5805-765-12-1 or TM 11-5805-766-12-1 except as noted.

	<u>GO</u>	<u>NO GO</u>
1. Selected site for equipment location.	—	—
2. Ensured all protective covers were opened.	—	—
3. Ensured required equipment was identified and unpacked at site.	—	—
4. Ensured the PEPs and SEPs were grounded separately and the power unit was grounded.	—	—
5. Ensured AC/DC power cable and intershelter cables were connected.	—	—
6. Ensured the external signal cable and subscriber access devices were connected.	—	—
DANGER: HIGH VOLTAGE is used in this equipment. DEATH on contact may result if safety precautions are not observed. Be careful when working near equipment interior or AC power distribution. Observe technical manuals' warning notes and warning decals on the equipment.		
7. Checked DC power initialization using vehicle power.	—	—
8. Checked operation of power unit PU-753/M. (Refer to TM 5-6115-632-14&P.)	—	—
9. Inspected AC power switchover.	—	—

Evaluation Guidance: Score a GO if the soldier passes all steps. Score a NO-GO if the soldier fails any step. If the soldier fails any step, show what was done wrong and how to do it correctly. The soldier then must perform the task to standard to receive a GO.

References

Required

- TM 11-5805-797-12-1
- TM 11-5805-798-12-1
- TM 5-6115-632-14&P

Related

**Inspect the Installation of Communications Central System AN/TTC-50
113-625-7076**

Conditions: Given an installed COMMCEN AN/TTC-50, power unit PU-753/M, TM 5-6115-632-14&P, TM 11-5805-786-12-1, and TM 11-5985-384-12&P.

Standards: The supervisor ensured all installation procedures were performed and power was applied without causing injury to self, other personnel, environment, or equipment damage.

Performance Measures

GO NO GO

NOTE: The COMMCEN AN/TTC-50 may be deployed as a CCPS or as a CCES. Tell the soldier which configuration will be used. (Refer to TM 11-5805-786-12-1 except as noted.)

1. Inspected position of the power unit and vehicle. _____ _____

2. Ensured the TDSG cooling system was set for outside temperature. _____ _____

NOTE: Tell the soldier whether the temperature was above or below 32°F.

3. Inspected grounded rods and grounded straps. _____ _____

DANGER: HIGH VOLTAGE is used in this equipment. DEATH on contact may result if safety precautions are not observed. Be careful when working near equipment interior or AC power distribution. Observe technical manuals' warning notes and warning decals on the equipment.

4. Inspected COMMCEN cable interconnections. _____ _____

NOTE: The CCPS or CCES determined which interconnections were made.

- a. LTU CV-4180(V)2/T.
- b. NAI CV-4002.
- c. LAN.
- d. DPT CA-46/G.
- e. NMF AN/TSQ-154A.
- f. Junction box J-1077.
- g. SDC CV-4215/G.

DANGER: Area used for antenna installation must be free of overhead electrical wires. INSTANT DEATH can result if the antenna comes in contact with HIGH VOLTAGE lines.

5. Inspected the RAU antenna. (Refer to TM 11-5985-384-12&P.) _____ _____

6. Ensured AC power was applied. (Refer to TM 5-6115-632-14&P.) _____ _____

Evaluation Guidance: Score a GO if the soldier passes all steps. Score a NO-GO if the soldier fails any step. If the soldier fails any step, show what was done wrong and how to do it correctly. The soldier then must perform the task to standard to receive a GO.

References

Required

- TM 11-5805-786-12-1
- TM 11-5985-384-12&P
- TM 5-6115-632-14&P

Related

Subject Area 8: TRI-TAC SWITCHING SYSTEM SUPERVISION

**Inspect the Installation of Transportable Automatic Switching System AN/TTC-39A or AN/TTC-39D
113-603-7038**

Conditions: Given an AN/TTC-39A, AN/TTC-39D, or AN/TTC-39D with PS; power unit PU-406, MPDU AN/MJQ-10; tool kit JTK-17LMLD; GSE supplementary tool kit-OL; shovel; axe; 8-pound sledgehammer; system planner documents; TM 5-6115-465-12; TM 5-6115-626-14&P; TM 5-6115-627-14&P; TM 11-5805-747-12-1, TM 11-5805-747-12-2, and TM 11-5805-747-12-3 (AN/TTC-39A); or TM 11-5805-796-12-1 and TM 11-5805-796-12-3 (AN/TTC-39D and AN/TTC-39D PS).

Standards: The supervisor ensured all installation procedures were performed and power was applied without causing injury to self, other personnel, environment, or equipment damage.

Performance Measures	<u>GO</u>	<u>NO GO</u>
1. Selected equipment site.	—	—
2. Ensured proper equipment positioning.	—	—
3. Ensured truck(s) and trailer(s) were level.	—	—
4. Inspected grounding of the AN/MJQ-10 MPDU.	—	—
5. Inspected grounding of the assemblage.	—	—
6. Inspected power cabling procedures and external power connection.	—	—
7. Ensured preliminary servicing and adjustment of equipment were completed.	—	—
8. Ensured generator pre-checks and start-up procedures were completed.	—	—
9. Ensured AC power was applied.	—	—

DANGER: HIGH VOLTAGE is used in this equipment. DEATH on contact may result if safety precautions are not observed. Be careful when working near equipment interior or AC power distribution. Observe technical manuals' warning notes and warning decals on the equipment.

Evaluation Guidance: Score a GO if the soldier passes all steps. Score a NO-GO if the soldier fails any step. If the soldier fails any step, show what was done wrong and how to do it correctly. The soldier then must perform the task to standard to receive a GO.

References

Required

- TM 11-5805-747-12-1
- TM 11-5805-747-12-2
- TM 11-5805-747-12-3
- TM 11-5805-796-12-1
- TM 11-5805-796-12-3
- TM 5-6115-465-12
- TM 5-6115-626-14&P
- TM 5-6115-627-14&P

Related

- (O)TM 11-5810-256-12
- (O)TM 11-5810-363-10
- FM 11-490-9
- TM 11-6110-249-14

Verify Database Worksheets for Transportable Automatic Switching System AN/TTC-39A or AN/TTC-39D
113-603-7039

Conditions: Given database worksheets for an installed AN/TTC-39A, AN/TTC-39D, or AN/TTC-39D PS; TM 11-5805-747-12-1, TM 11-5805-747-12-2, and TM 11-5805-747-12-3 or TM 11-5805-796-12-1 and TM 11-5805-796-12-3; and system planner documents.

Standards: The supervisor ensured the database worksheets were correct and the AN/TTC-39A, AN/TTC-39D, or AN/TTC-39D PS lines and trunks were passing traffic.

Performance Measures	<u>GO</u>	<u>NO GO</u>
NOTE: For the 39D PS, use the workstation SWITCH MAN/MACHINE terminal; for the 39D or 39A, use the VDT.		
1. Assigned switch functions (assigned switch initialization [ASI] and assigned switch classmarks [ASC]).	—	—
2. Ensured assignment of terminal service and terminal type for common equipment and CSP.	—	—
3. Ensured assignment of the DTGs.	—	—
4. Ensured organization and assignment of the TGCs.	—	—
5. Ensured assignment of terminal services to trunk terminals.	—	—
6. Ensured COMSEC assignments by location.	—	—
7. Ensured assignment of commercial and gateway routing.	—	—
8. Ensured assignment of subscriber service.	—	—
9. Ensured assignment of PS (AN/TTC-39D PS only).	—	—
10. Ensured assignment of special features.	—	—

Evaluation Guidance: Score a GO if the soldier passes all steps. Score a NO-GO if the soldier fails any step. If the soldier fails any step, show what was done wrong and how to do it correctly. The soldier then must perform the task to standard to receive a GO.

References

Required

- TM 11-5805-747-12-1
- TM 11-5805-747-12-2
- TM 11-5805-747-12-3
- TM 11-5805-796-12-1
- TM 11-5805-796-12-3

Related

- (O)TM 11-5810-256-10-1
- (O)TM 11-5810-326-13
- (O)TM 11-5810-327-10
- (O)TM 11-5810-329-10
- (O)TM 11-5810-331-13
- (O)TM 11-5810-361-10
- (O)TM 11-5810-363-10
- FM 24-27
- TM 11-5805-726-12-2

**Inspect the Installation of the Automatic Central Office Telephone AN/TTC-56(V)
113-603-7041**

Conditions: Given an installed AN/TTC-56(V), auxiliary power unit 10 KW MEP-903C, diesel generator set 10 KW PU-798, TM 11-5805-802-13&P, TM 9-6115-642-10, and TM 11-5805-804-13&P.

Standards: The supervisor ensured initialization procedures were completed.

Performance Measures

NOTE: Refer to TM 11-5805-802-13&P and TM 11-5805-804-13&P.

	<u>GO</u>	<u>NO GO</u>
1. Verified the correct site selection.	_____	_____
2. Ensured proper equipment positioning. DANGER: HIGH VOLTAGE is used in this equipment. Be careful when working near equipment interior or AC power distribution. DEATH on contact may result if safety precautions are not observed. Observe technical manuals' warning notes and warning decals on the equipment.	_____	_____
3. Ensured truck(s) and trailer(s) were level.	_____	_____
4. Inspected initialization procedures.	_____	_____

Evaluation Guidance: Score a GO if the soldier passes all steps. Score a NO-GO if the soldier fails any step. If the soldier fails any step, show what was done wrong and how to do it correctly. The soldier then must perform the task to standard to receive a GO.

References

Required

- TM 11-5805-802-13&P
- TM 11-5805-804-13&P
- TM 9-6115-642-10

Related

Subject Area 9: SWITCHING SYSTEMS MANAGEMENT

Inspect Key Management Worksheets (COMSEC)

113-573-2033

Conditions: Given TB 380-40, DA Form 5251-R, and DA Form 5251-1-R.

Standards: The COMSEC custodian verified that the key management worksheets were accurately completed.

Performance Measures

NOTE: Complete DA Form 5251-R FIRST.

	<u>GO</u>	<u>NO GO</u>
1. Ensured key identification was filled in.	—	—
a. Cryptonet name.		
b. Circuit number.		
c. System number.		
d. Telephone instrument.		
e. OW.		
2. Ensured key type was filled in.	—	—
a. KEK.		
b. TEK.		
3. Ensured classification was filled in.	—	—
4. Ensured equipment type was filled in.	—	—
NOTE: Identify the COMSEC equipment using the key.		
5. Ensured crypto period was filled in.	—	—
6. Ensured effective date was filled in.	—	—
7. Ensured alternate CNCS was completed.	—	—
8. Ensured subscriber identification was filled in.	—	—
9. Ensured distribution point of contact was filled in.	—	—
10. Ensured remarks section was filled in.	—	—
NOTE: Complete DA Form 5251-1-R.		
11. Ensured key identification was filled in.	—	—
a. Cryptonet name.		
b. Circuit number.		
c. System number.		
d. Telephone instrument.		
e. OW.		
12. Ensured key type was filled in.	—	—
a. KEK.		
b. TEK.		
13. Ensured classification was filled in.	—	—
14. Ensured effective date was filled in.	—	—
15. Ensured supersession date was filled in.	—	—
16. Ensured date generated was filled in.	—	—

Performance Measures

	<u>GO</u>	<u>NO GO</u>
17. Ensured HUS location was identified.	—	—
18. Ensured KYK-13 serial number and location were filled in.	—	—
19. Ensured KYX-15 serial number and location were filled in.	—	—
20. Ensured courier was filled in.	—	—
21. Ensured remarks section was filled in.	—	—

Evaluation Guidance: Score a GO if the soldier passes all steps. Score a NO-GO if the soldier fails any step. If the soldier fails any step, show what was done wrong and how to do it correctly. The soldier then must perform the task to standard to receive a GO.

References

Required
TB 380-40

Related
DA PAM 738-750

**Configure the Router for the Tactical High-Speed Data Network
113-581-8004**

Conditions: Given the mission requirements to provide data connectivity through the router in a tactical environment, a data network, Unit OPORD, and the configuration guide.

Standards: Programmed the router to support the network requirements provided by the Unit OPORD.

Performance Measures	<u>GO</u>	<u>NO GO</u>
NOTE: Refer to the Unit OPORD.		
1. Verified inter-network operating system.	—	—
2. Configured the host name.	—	—
3. Configured the interface IP address and subnet mask.	—	—
4. Configured the router for OSPF 21. (Identified advertised networks, inverse mask, and area.)	—	—
5. Configured the router for BGP.	—	—
a. Identified the autonomous system number (ASN).		
b. Identified the neighbor.		
6. Configured an access list. (Applied to OSPF and BGP statements.)	—	—
7. Configured the simple network management protocol (SNMP)-server community string.	—	—
8. Configured the passwords for telnet access.	—	—

Evaluation Guidance: Score a GO if the soldier passes all steps. Score a NO-GO if the soldier fails any step. If the soldier fails any step, show what was done wrong and how to do it correctly. The soldier then must perform the task to standard to receive a GO.

References
Required
 UNIT OPORD

Related

Present an Informal Signal Situation Briefing
113-608-6001

Conditions: As a communications systems supervisor, you are required to brief visiting personnel. Given a Communications Systems/Equipment Status Report and a situation map.

Standards: Identified and described the four types of military briefings and presented an informal signal situation briefing in a clear, concise, and logical manner that reflected the current communications status.

Performance Steps

1. Briefings are a means of presenting information to commanders, staff, and other designated audiences. The techniques employed are determined by the purpose of the briefing, the desired response, and the role of the briefer. There are four types of military briefings.
 - a. The information briefing is intended to inform the listener and gain his understanding. It does not include conclusions, recommendations, or require decisions. The briefer provides a short introduction to define the subject and orient the listener; then presents the information.
 - b. The decision briefing is intended to obtain an answer or a decision. It is the presentation of a staff officer's recommended solution resulting from analysis or study of a problem or a problem area. The briefer must be prepared to present his assumptions, facts, alternative solutions, reasons for choosing the recommended solution, and the coordination involved. The briefer must state, at the beginning, that he is seeking a decision. The briefer will be certain that he understands the decision thoroughly.
 - c. The mission briefing is used under operational conditions to provide information, give specific instructions, or instill an appreciation of the mission. One briefer, either the commander or his representative, depending on the nature of the mission or the level of the headquarters, usually presents it. The mission briefing reinforces orders, provides more detailed requirements and instructions for the individuals, and provides an explanation of the significance of their individual role.
 - d. The staff briefing is intended to secure a coordinated or unified effort. This may involve the exchange of information, the announcement of decisions within a command, the issuance of directives, or the presentation of guidance. Each staff representative is prepared to brief on his area of responsibility. In garrison, staff briefings are often held on a regularly scheduled basis. In combat, staff briefings are held when required by the situation. In this type of briefing, the staff officer involved follows the general pattern prescribed for the staff element being presented.
2. A briefing assignment has four steps.
 - a. Analyzing the situation is accomplished by determining who is being briefed and why, how much knowledge of the subject the audience has, and what is expected of the briefer. The briefer must understand the purpose of the briefing. The purpose is based on facts or recommendations. The briefer prepares a detailed presentation plan and coordinates with his assistants, if any. The briefer makes an initial estimate of the deadline for each task, schedules facilities for practice, and requests critiques.
 - b. The construction of the briefing will vary with the type and purpose of the briefing. The analysis provides the basis for this determination. The major steps in preparing for a briefing are:
 - (1) Collect the material.
 - (2) Know the subject thoroughly.
 - (3) Isolate the key points.
 - (4) Arrange the key points in logical order.
 - (5) Provide supporting data to substantiate the validity of key points.
 - (6) Select visual aids.
 - (7) Establish the wording.
 - (8) Rehearse before a knowledgeable person who can critique the briefing.

Performance Steps

- c. A successful briefing depends on how it is presented. A confident, relaxed, forceful, clear delivery obviously based on thorough knowledge of the subject helps convince the audience. The delivery is concise, objective, and accurate. The briefer must be aware of the following:
 - (1) The basic purpose is to present the subject and ensure it is understood by the audience.
 - (2) Brevity includes a concise introduction or summary.
 - (3) Logic must be used in arriving at conclusions and recommendations.
 - (4) Interruptions and questions can occur at any moment. The briefer must anticipate possible questions and be prepared to answer them. The briefer must be prepared to support any part of the briefing.
- d. When the briefing is over, the briefer prepares a memorandum for record (MFR). This MFR should record the subject, date, time, and place of the briefing; and the ranks, names, and positions of those present. The MFR is distributed to those staff sections or agencies with operations or plans which may be influenced; and who must take action on the decision and on the instructions contained in it.

Evaluation Preparation: Setup: Communications systems/equipment status report and situation map will be provided.

Brief soldier: You will present a briefing in a clear, concise, and logical manner which reflects the current communications status.

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Described the purpose for each of the four types of military briefings.	—	—
2. Conducted an informal briefing assignment.	—	—
a. Analyzed the situation.		
b. Constructed the briefing.		
c. Delivered the briefing.		
d. Prepared the follow-up MFR.		

Evaluation Guidance: Score a GO if the soldier passes all steps. Score a NO-GO if the soldier fails any step. If the soldier fails any step, show what was done wrong and how to do it correctly. The soldier then must perform the task to standard to receive a GO.

References

Required

Related
FM 101-5

Perform Site Reconnaissance

113-611-1013

Conditions: In all conditions and situations, given Unit SOP, Unit OPORD/OPLAN, appropriate map(s) with areas marked to indicate equipment location, FM 24-1, and FM 71-1.

Standards: Selected a signal site, marked the stakes to indicate equipment location, and prepared the site layout and strip maps.

Performance Steps

1. Specific requirements for the signal site are contained in the Unit OPORD/OPLAN. Ensure you take note of personnel, equipment, and logistics requirements when preparing for site selection.
2. Use the appropriate map to narrow the number of potential sites and routes to a list of the best possible candidate site and route(s).
3. Evaluation of potential sites must include at a minimum:
 - a. Accessibility. Can the site be reached regardless of the weather or time of year? What must travel the roads/paths? What is the condition of those roads/paths?
 - b. Terrain. Is the site relatively flat and well drained?
 - c. Camouflage/concealment. Does the potential site provide overhead camouflage and concealment?
 - d. Technical suitability. Is the site location within the range, capabilities, and limitations of the equipment to be deployed?
4. Once the best site is selected, the site will be marked for location of tents, vehicles, generators, fuel points, and fire points. The easiest way to do this is to drive stakes at desired locations and mark them with tags to indicate what will be placed where.
5. Based on your current location, the new site, and the route(s) to take, prepare strip maps providing adequate navigational information to permit drivers to find their way if they become separated from the main body.

Evaluation Preparation: Setup: The Unit OPORD/OPLAN, appropriate maps, and transportation will be provided.

Brief soldier: You will select a site, drive and mark stakes to indicate equipment locations at the site, and prepare strip maps.

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Determined specific site requirements.	—	—
a. Logistics.		
b. Equipment.		
c. Personnel.		
2. Conducted preliminary site selection using maps.	—	—
3. Determined site suitability.	—	—
a. Accessibility.		
b. Relative flatness.		
c. Natural cover/concealment.		
d. Within equipment range.		
e. Dependability.		
4. Staked equipment locations, time permitting (optional).	—	—

Performance Measures

GO NO GO

5. Prepared strip maps to indicate route of travel to site.

Evaluation Guidance: Score a GO if the soldier passes all steps. Score a NO-GO if the soldier fails any step. If the soldier fails any step, show what was done wrong and how to do it correctly. The soldier then must perform the task to standard to receive a GO.

References

Required

- FM 24-1
- FM 71-1
- UNIT OPLAN
- UNIT OPORD
- UNIT SOP

Related

Direct the Establishment of a Signal Site Defense
113-611-5016

Conditions: Given a specified area to defend, a Signal platoon, the Unit SOP, map, protractor, Unit OPORD, a requirement to defend that area, STP 21-1-SMCT, and STP 21-24-SMCT.

Standards: Planned and established a site defense and prepared a site defense overlay.

Performance Steps

1. A well-prepared site defense gives advance warning of attackers, reduces the number of possible approach routes, and assists in denying or delaying penetration by the enemy.
2. Listening and observation posts should be established and manned as personnel and mission requirements permit. These posts should be established outside the security zone in protected locations that provide an unobstructed view of possible avenues of enemy approach.
3. Protective physical barriers must be established to provide security for the security zone. The size of the area is determined by the complexity of the site and the degree of compartmentalization required. Positive barriers should be established to:
 - a. Control vehicular and pedestrian traffic flow.
 - b. Check identification of personnel entering or departing.
 - c. Define a buffer zone for more highly classified areas.
4. Fighting positions are established for both individual and crew-served weapons. Locate these positions to take maximum advantage of natural cover and concealment and to provide good, clear fields of fire so a credible defense of the site is accomplished.
 - a. Keep individual fighting positions as small as possible, but large enough for individual soldiers in full combat gear. Construction overhead protection if time and the tactical situation permit.
 - b. Crew-served weapons fighting positions are larger owing to the requirements for two or more soldiers to man the weapons. When constructing these positions, provide firing positions for both the crew-served weapons and the individual weapons of the soldiers.
5. Use concertina wire when it is available, especially around areas where classified information or material is located. The Unit SOP provides additional guidance on the use of this barrier material.
6. Coordinate command and control of site defense from a centralized location that is identified to all soldiers.
7. In the event it becomes necessary to withdraw from a location, materials ranging from classified papers to equipment may have to be destroyed in place. The Unit SOP will contain instructions for the implementation of site destruction plans. The procedures to follow for the destruction of classified material are contained in the performance steps of Task 113-573-0001.

Evaluation Preparation: Setup: You are provided with an operational tactical signal site, equipment, and personnel.

Brief the Soldier: You will direct the establishment of a site defense.

Performance Measures

HDR: Locations for site elements must be determined with consideration for operational requirements, tactical cover, and dispersion.

	<u>GO</u>	<u>NO GO</u>
1. Made a tentative plan.	—	—
2. Positioned security outposts around the site to provide early warning of an enemy approach.	—	—

Performance Measures	<u>GO</u>	<u>NO GO</u>
3. Established entrance/exit points and lanes for traffic flow within the site.	—	—
4. Coordinated with engineer elements for assistance in establishing field fortifications for communications assemblages, as required.	—	—
5. Directed the location and construction of individual and crew-served fighting positions.	—	—
6. Directed the installation of artificial obstacles, as required.	—	—
7. Identified and located focal points for command and control of the site defense.	—	—
8. Planned for orderly withdrawal.	—	—
a. Specific instructions for destruction of material that could be evacuated.		
b. Positive controls for implementation of the destruction plan.		

Evaluation Guidance: Score a GO if the soldier passes all steps. Score a NO-GO if the soldier fails any step. If the soldier fails any step, show what was done wrong and how to do it correctly. The soldier then must perform the task to standard to receive a GO.

References

Required

STP 21-1-SMCT
 STP 21-24-SMCT
 UNIT OPORD
 UNIT SOP

Related

FM 21-75
 TC 24-21

**Conduct Inventory of a Prescribed Load List (PLL) for an Electronic Switching System
113-623-6013**

Conditions: Given a spare parts facility AN/TSM-183 (MSE) or S-640/G (TRI-TAC) with PLL stock, DA Form 2063-R, DA Form 3318, blank DD Form 2765-1, DD Form 1348-6, and DA Pam 710-2-1.

Standards: Documented and ordered all shortages on the appropriate forms.

Performance Measures	<u>GO</u>	<u>NO GO</u>
1. Reviewed PLL inventory for accuracy.	_____	_____
2. Updated DA Form 2063-R and DA Form 3318 as required.	_____	_____
a. Items added to the PLL.		
b. Items deleted from the PLL.		
c. Items with an increase in stockage quantity.		
d. Items with a decrease in stockage quantity.		
3. Prepared DD Form 2765-1 as required.	_____	_____
4. Posted locations and quantities of PLL items on DA Form 3318.	_____	_____

Evaluation Guidance: Score a GO if the soldier passes all steps. Score a NO-GO if the soldier fails any step. If the soldier fails any step, show what was done wrong and how to do it correctly. The soldier then must perform the task to standard to receive a GO.

References

Required

DA PAM 710-2-1

Related

TM 38-L32-11

**Direct Preventive Maintenance Checks and Services (PMCS)
113-623-7119**

Conditions: As a communications systems supervisor, you are required to check the PMCS performed by assigned personnel. Given assigned table(s) of organization and equipment (TOE), assigned personnel, authorized parts and materials, AR 750-1, and DA Pam 738-750.

Standards: Inspected all required PMCS for completeness on maintenance forms.

Performance Steps

1. The cornerstone of unit maintenance is operator/crew performance of PMCS from the applicable technical manuals (-10 and -20 series). The BEFORE, DURING, and AFTER PMCS concentrate on ensuring equipment is fully mission capable.
2. To ensure adequate time is provided for performance of PMCS, you will have to coordinate with the training officer/NCO for scheduling maintenance time on the training schedule.
3. The performance of PMCS must be accomplished within the authorized maintenance level. You will have to monitor operator/new performance of PMCS to ensure these are performed properly. Because of PMCS requirements, you will need to refer to the appropriate equipment technical manuals.
4. Coordinate with the unit motor sergeant for technical assistance in performing PMCS for vehicle and generator equipment and with the electronic maintenance NCO for assistance for signal equipment.
5. Once PMCS is completed, you must ensure DA Form 2404 has been updated to reflect the date in block 10c and the operator's initials are in block 10c. If uncorrected faults remain after PMCS is completed, these must be recorded on DA Form 2404 in block 10c, and the readiness status recorded in 10b.
6. When PMCS reveals deficiencies requiring higher-level maintenance, you must ensure a DA Form 2407 is completed and the equipment is turned in for repair.
7. Equipment logbooks must be maintained on some equipment. You must ensure that logbook forms are properly completed and maintained. DA Pam 738-750 identifies equipment requiring logbooks.

Evaluation Preparation: Setup: TOE assigned equipment, assigned personnel, appropriate technical manuals, and authorized parts and materials will be available.

Brief soldier: You will direct the performance of PMCS on assigned TOE equipment.

Performance Measures

NOTE: Refer to DA Pam 738-750 for all performance measures.

	<u>GO</u>	<u>NO GO</u>
1. Coordinated the scheduling of maintenance time and training schedules with the training officer/NCO.	—	—
2. Ensured required supplies, equipment, and technical publications were available and utilized.	—	—
3. Ensured equipment operators performed PMCS within their authorized level of maintenance as outlined in the applicable technical manuals.	—	—
4. Ensured correct maintenance procedures, as outlined in applicable technical manuals, were followed.	—	—
5. Coordinated with the applicable section for technical assistance.	—	—

Performance Measures	<u>GO</u>	<u>NO GO</u>
a. Motor Sergeant for vehicle and generator equipment.		
b. Battalion electronic maintenance for signal equipment.		
6. Ensured DA Form 2404 reflected:	—	—
a. Inspection and services that were completed.		
b. Uncorrected faults.		
c. Readiness status.		
7. Directed submission of DA Form 2407 as required.	—	—
8. Ensured equipment logbook and forms were completed and maintained IAW DA Pam 738-750.	—	—
9. Reported the readiness status of all equipment to the maintenance officer/NCO.	—	—

Evaluation Guidance: Score a GO if the soldier passes all steps. Score a NO-GO if the soldier fails any step. If the soldier fails any step, show what was done wrong and how to do it correctly. The soldier then must perform the task to standard to receive a GO.

References

Required

- AR 750-1
- DA PAM 738-750

Related

Subject Area 10: SYSTEM CONTROL CENTER, TELEPHONE ROUTING AN/TYQ-46(V)

**Install System Control Center, Telephone Routing AN/TYQ-46(V)
113-625-1051**

Conditions: Given a vehicle-mounted AN/TYQ-46(V), power unit PU-753/M, 8-pound sledgehammer, ground rod driver/puller, axe, shovel, TM 11-5895-1498-12-1, TM 5-6115-632-14&P, and TM 5-6115-585-12.

Standards: Positioned the AN/TYQ-46(V) and applied power.

Performance Measures

NOTE: The SCC can be installed in either corps or division configuration. This task deals only with the division configuration. (Refer to TM 11-5895-1498-12-1 except as noted.)

	<u>GO</u>	<u>NO GO</u>
1. Positioned shelters and power unit.	_____	_____
a. Adjusted vehicle's position until level.		
b. Applied parking brakes, turned off engines, and blocked wheels.		
2. Unpacked cables and equipment.	_____	_____
3. Installed shelter ground rods and grounded straps.	_____	_____
a. Scooped out small 6-inch hole at grounding site.		
b. Used a sledgehammer to drive the rod into the hole. Left 3 inches of rod extended above hole bottom.		
c. Saturated ground around rod with water.		
WARNING: Grounded straps must be connected to grounded rod BEFORE grounded rod is connected to shelter or power unit.		
4. Connected intra-shelter signal cables, including ¼-mile CX-112030/G cable to adjacent node center.	_____	_____
WARNING: Before connecting DC cable, ensure 28V DC CB1 is OFF.		
5. Applied DC power to shelters.	_____	_____
a. Connected P1 and DC power cable to P2 of shelters and P2 end to vehicle's slave receptacles.		
b. Started vehicle engine after cable connection and checked voltmeter for a normal reading.		
c. Set 28V DC CB1 at power panel to ON.		
d. Adjusted engine speed as necessary to provide 25 to 28.5V DC.		
6. Positioned power unit.	_____	_____
a. Positioned the power unit at least 30 feet behind shelter.		
b. Positioned the power unit at a 45-degree angle to the shelters.		
c. Positioned the power unit as level as possible and set brakes.		
d. Pulled down front and rear legs.		
e. Blocked trailer wheels with suitable wheel blocks.		
f. Rain rolled and secured generator flaps.		
7. Grounded the generator using the same procedures as for the shelters.	_____	_____
8. Connected AC power cables.	_____	_____
a. Set output reconnection switch to 120V, 1PH.		
b. Connected LO (two green leads) of 15-foot stub end to AC power unit grounded terminal TB1-LO.		

Performance Measures

GO NO GO

- c. Connected L1 (white lead) of 15-foot stub end to AC power unit loaded terminal block TB1-L1.
- d. Connected L3 (black lead) of 15-foot stub end to AC power unit loaded terminal block TB1-L3.
- e. Connected P1 end of 35-foot AC power cable to AC power connector J1 on tech/management shelter's PEP.
- f. Connected 15-foot AC power cable to 35-foot AC power cable.
- g. Repeated steps 8b through 8f for the management shelter.

WARNING: Before switching to AC power, check the AC power cables, grounded straps, and signal cables for secure connections.

- 9. Switched over to AC power.
 - a. Performed preliminary checks on power unit. (Refer to TM 5-6115-632-14&P.)
 - b. Started power unit. (Refer to TM 5-6115-585-12.)
 - c. Ensured AC voltage meter at power unit indicated 116-118V AC.
 - d. Ensured AC frequency meter at power unit indicated 58-62 Hz.
 - e. Ensured AC circuit breaker at power unit was set to ON.
 - f. Checked for 115 ±12V AC and 58/62 Hz at shelter's power control panel.
 - g. Set 28V DC CB1 to OFF at shelter's PEP.

Evaluation Guidance: Score a GO if the soldier passes all steps. Score a NO-GO if the soldier fails any step. If the soldier fails any step, show what was done wrong and how to do it correctly. The soldier then must perform the task to standard to receive a GO.

References

Required

- TM 11-5895-1498-12-1
- TM 5-6115-585-12
- TM 5-6115-632-14&P

Related

- TM 5-6115-630-14&P

Evaluation Guidance: Score a GO if the soldier passes all steps. Score a NO-GO if the soldier fails any step. If the soldier fails any step, show what was done wrong and how to do it correctly. The soldier then must perform the task to standard to receive a GO.

References

Required

TM 11-5895-1498-12-1

Related

TM 11-5800-216-10-1

**Perform System Shutdown for System Control Center, Telephone Routing AN/TYQ-46(V)
113-625-2104**

Conditions: Given an operational AN/TYQ-46(V) operating under normal conditions without an RTS, a system shutdown OPORD, and TM 11-5895-1498-12-1.

Standards: Made the SCC ready for movement.

Performance Measures

GO NO GO

NOTE: Refer to TM 11-5895-1498-12-1, Chapter 3 for performance measures 1 through 6 and Chapter 2 for performance measures 7 through 11.

- | | | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|---|
| 1. Selected the SHUTDOWN option, at the technical workstation, from the window operations menu. | — | — |
| 2. Turned off power to all other workstations connected by LANs. | — | — |
| 3. Clicked on the system pushbutton at the NMC workstation.
a. Clicked on SHUTDOWN THE SYSTEM.
b. Clicked on YES. | — | — |
| 4. Set the AC SCS 1&2, DC SCS 1, and DC SCS 2 circuit breakers to OFF at the tech/management planning shelter circuit breaker panels. | — | — |
| 5. Set the AC SCS 1&2, DC SCS 1, and DC SCS 2 circuit breakers to OFF at the management/planning shelter circuit breaker panel. | — | — |
| 6. Set all workstation monitor power switches to OFF, then set all remaining equipment/circuit breakers to OFF.
a. PS.
b. Intercom.
c. Printer.
d. CM. | — | — |
| 7. Placed the generator panel light switch and the master switch in the OFF position and powered down the generator. | — | — |
| 8. Disconnected and secured power cables and signal cables.
WARNING: To prevent injury, PWR cable and ¼-mile cable require a two-person lift. | — | — |
| 9. Packed and secured all crew bags. | — | — |
| 10. Closed and secured all external covers on shelters and generator.
WARNING: Do not permit personnel to remain inside shelters during transit. Serious injury can result. | — | — |
| CAUTION: Adjust slack in brake safety chain so the trailer brake engages before the trailer safety chains become taut due to towing pintle/towing bar separation. Allow sufficient safety chain slack to prevent inadvertent brake engagement on tight turns. | | |
| 11. Prepared vehicle and generator for movement to new location.
a. Placed ladder in storage.
b. Unblocked vehicle/trailer wheels.
c. Attached power unit to towing vehicle.
d. Secured trailer support leg.
e. Released trailer handbrakes. | — | — |

Evaluation Guidance: Score a GO if the soldier passes all steps. Score a NO-GO if the soldier fails any step. If the soldier fails any step, show what was done wrong and how to do it correctly. The soldier then must perform the task to standard to receive a GO.

References

Required

TM 11-5895-1498-12-1

Related

TM 5-6115-632-14&P

Operate System Control Center, Telephone Routing AN/TYQ-46(V)
113-625-2109

Conditions:

PART I. Plan an MSE network using the network planning terminal (NPT) within the system control center (SCC). Given the requirement to plan the deployment of an MSE Signal battalion/brigade in support of an Army mission, mission statement/commander's battle plan, defined area of operation, radios to be used, available assets and unit information, frequency resources, electronic warfare threats, desired link reliability, environmental parameters, defined planning factors, correct data for your area of operation found on paper maps, MSE-NPT with supporting software, TB 11-5895-1544-10-1 and TB 11-5895-1544-10-2.

PART II. Engineer an MSE network using the NPT within the SCC. You are directed to engineer an MSE communications network in support of an Army mission. As a plans/operations NCO in a Signal battalion/brigade operation center, given communications system/equipment status report, reference material, maps, mission statement/commander's battle plan, MSE-NPT, TB 11-5895-1544-10-1, and TB 11-5895-1544-10-2.

Standards:

PART I. Planned an MSE network that met the requirements of the mission statement/commander's battle plan and was approved by battalion/brigade S3

PART II. Engineered an MSE network using the NPT within the SCC that met the requirements of the mission statement/commander's battle plan and was approved by the S3 OIC/NCOIC.

Performance Steps

PART I. Plan an MSE network using the NPT within the SCC.

1. Collect and Initialize Data. Before using the MSE-NPT to plan a network, you must gather certain information and use that information to initialize certain databases and data files. The required information and associated MSE-NPT applications are described below.
 - a. Define Area of Operation. The network planner must define the area of operation (AO) that will contain topographic information from the Defense Mapping Agency and map background displays from ADRG data. To create and maintain the topographic database, use Topographic Data Files (WOTL). To create an AO and maintain the map background display database, use Map Products and Interfaces (MPI).
 - b. Define Radios to be Used. The network planner needs to know all of the MSE and non-MSE equipment that is to be used. The equipment characteristics must be current and the radio data must be on-line for the users of the MSE-NPT. To maintain the equipment characteristics database, use Equipment Characteristics. To generate the on-line radio files for use by the MSE-NPT software, use Radio/Antenna Files (DWNLOD).
 - c. Define Available Assets and Unit Information. The number of node centers (NCs), LENSs, SENs, and RAUs must be determined and set using Automatic Asset Placement. In addition, you will need to specify a force lay down by name, size, type, location, and the number of mobile subscriber radiotelephone terminals (MSRTs), stand-alone digital subscriber voice terminals (DSVTs), and digital nonsecure voice terminals (DNVTs) the unit has. This information will be used to automatically place network assets at locations that will meet the unit's needs. Also, you will need to use the Team Information application to specify which assets are active in the network. Only active assets will receive messages from the MSE-NPT.
2. Define Frequency Resources. The frequencies available for assignment in the very high frequency (VHF), ultra high frequency (UHF), and super high frequency (SHF) bands will be required prior to generating the assignments.
3. Define Electronic Warfare Threats. Any known locations and emitter types of EW threats that can affect the assets will be required when using Net Planning - Electronic Warfare Threat Analysis.

Performance Steps

4. Define Desired Link Reliability. The desired path reliability must be specified for each type of link to achieve a network with acceptable quality. The default value is 90 percent. Higher values are usually specified in more critical links, such as single thread extension links. To review examples of reliability for different types of uses and to set the desired link reliability after establishing the link, use Net Planning - Interactive Asset Placement.
5. Define Environmental Parameters. The network planner needs to set values dealing with the environment in the AO. These values are refractivity, grounded type, background noise level, humidity, and Fresnel zone clearance. The plot units (metric or English units on plot outputs) may also be set. To set the environmental parameters, use Environmental Parameters (ENVPAR).
6. Define Planning Factors. Before placing any equipment, the planning factors concerning the nominal distances to consider between NCs, extension nodes, and remote RAUs must be established. To set the planning factors, use Automatic Asset Placement.
7. Define Data. The calculations for coordinates used in site placement and network analyses depend on the data selected. It is important that the correct data for your area of interest is selected before any sites or links are identified. The data for a particular area is found on the paper maps being used for network identification.

PART II. Engineer an MSE network using the NPT within the SCC.

8. Engineering the MSE network using the MSE-NPT requires you to use all the information gathered during the planning stage and input it into the MSE-NPT mission database in seven defined steps. Those seven steps and associated MSE-NPT applications are described below.
9. Placed assets.
 - a. Create Force Lay Down AO. Using Automatic Asset Placement, specify the AO where your unit will be located. Ensure that the AO is large enough to cover the portion of the battlefield for which you are responsible for proving communications.
 - b. Enter Unit Information. Enter the information collected about the units in the AO.
 - c. Specify Area Coverage. Automatic Asset Placement allows you to tailor the RAU coverage in your AO to provide selected areas with zero, single, double, or triple coverage. Automatic Asset Placement will adjust the placements of RAUs and NCs according to the amount of coverage specified. If no area coverage boundaries are created in the Automatic Asset Placement scenario, Automatic Asset Placement will use single coverage as the requirement for the entire AO.
 - d. Edit Planning Factors. Before placing the nodes and RAUs, view the factors used in the network planning of Automatic Asset Placement. Enter the constraints collected for your network during the planning stage. When placed, extension nodes that do not meet the nominal planning factors will not be connected to NCs.
 - e. Edit MSE Assets. For Automatic Asset Placement to know what assets are available for use in the network, you must enter the number of node switches, LENSs, SENs (V1 and V2), and remote RAUs. Use the data collected in the planning stage.
 - f. Placed Extension Nodes, NCs, and Remote RAUs. The extension nodes are allocated according to the number of wire line subscribers at a specific location. LENSs will be placed at a unit location where the number of stand-alone DSVTs and DNVTs exceeds the capabilities of an SEN. NCs will be placed so that each extension node can be connected to the network in such a way that the extension nodes meet the planning factor criteria. The remote RAUs are placed based on the mobile subscriber density. An area that does not have any mobile subscribers will not have RAU coverage.
 - g. Interconnect the Network. After placing the remote RAUs, you can install the "backbone" by interconnecting the network. Each NC is automatically connected to three other NCs. This option also connects the remote RAUs to an NC. At this point, the network is completed; however, link reliability has not been analyzed.

Performance Steps

- h. Summary. The initial network generated by Automatic Asset Placement was based primarily on the user-defined unit and network planning factor requirements. In general, the Automatic Asset Placement network will not provide reliable links throughout the network. The MSE-NPT procedures to assist in upgrading the link reliability are discussed in the following performance steps.
10. Modify site locations and links.
 - a. Site locations and links need to be modified if the link reliability is unacceptable or if sites have been placed in areas that are inaccessible. These sites should be relocated before assigning frequencies to the network.
 - b. Evaluate Link Reliability. Interactive Asset Placement (IAP) provides a path reliability evaluation of each link and a capability to manipulate the network to improve link reliability that is initially unacceptable. If a link is critical to the network quality, its reliability requirement should be increased from the 90 percent default requirement. After the individual desired link reliability has been selected, the network display will indicate link quality by the color of the link on the display. A red link is unacceptable and inoperable. An amber link is marginally reliable. A green link indicates an acceptable and operable link. Sites and links should be modified to upgrade the red and amber links to green.
 - c. Site Modification. A method of selecting candidate locations for assets that need to be relocated is to use the High Elevation Retrieval option with Network Planning - Frequency Assignment. This capability enables you to select a specified number of high elevation sites within an user-defined area. The high elevation sites will usually provide improved link performance for the sites selected by Automatic Asset Placement. If any RAU sites are modified or added, IAP should be used to evaluate the reliability of these added or modified links.
 - d. Antenna Height Modifications. One method of improving link reliability is the modification of antenna heights at the site. However, link degradation may occur from increased antenna heights.
 11. Evaluate RAU coverage.
 - a. The RAU Siting Option of Network Planning - Frequency Assignment should be used to plot radio coverage of local and remote RAUs and to perform propagation analysis.
 - b. Automatic Asset Placement can also be used to site and adjust the placement of RAUs on a map background according to zero, single, double, and triple coverage requirements. This coverage is based solely on the planning range of the RAU and not on a propagation analysis, as is performed in the RAU Siting option mentioned above.
 - c. If the RAU plot shows areas that are not covered by an RAU, you can move one or more RAUs while in the RAU Siting option by selecting an RAU and entering new coordinates. You also have the ability to add a new RAU. Once the RAUs are positioned to provide the required coverage, you can save the new coordinate to an exercise.
 - d. If any RAU sites are modified or added, IAP should be used to evaluate the reliability of the added or modified RAU-to-node links.
 12. Assign frequencies.
 - a. Assign UHF and SHF. UHF and SHF are assigned for the network links through use of Network Planning - Frequency Assignment. Before assigning frequencies, you must select the list of frequencies available for assignment and the appropriate sets of criteria for the radios in exercise.
 - b. Select Frequency Lists and Selection Criteria. Create one or more frequency list(s) that contain all of the available frequencies for the exercise. Frequencies must be specified for each radio type in the exercise. In addition, a primary criteria list will be required for each radio type in the exercise. Each radio type also may have a secondary and a tertiary criteria list. These criteria lists should be progressively more lenient. The tertiary list should contain the most relaxed restrictions. If MSE-NPT cannot assign frequencies to all the links based on the primary criteria, it will try using the secondary and tertiary criteria.

Performance Steps

- c. Performed Frequency Assignment. Select the frequency assignment option of MSE-NPT and the method of assignment. If MSE-NPT is unable to assign frequencies to all the links, you must either relax the selection criteria or select a different method of assignment. After the frequencies are assigned, the link reliability is reevaluated using IAP.
 - d. Assign VHF. VHF assignments are recommended for MSRTs and RAUs using VHF planning and management. You may create your own frequency resource or you may load a resource via floppy disk. Once a frequency resource has been generated, you can specify the number of pairs to be assigned and the assignment strategy. A list of frequency pairs will be generated to create a VHF plan. You may also manually enter a frequency plan. VHF plans are then distributed to the RAU GLUs and activated at the appropriate time.
13. Analyze Electronic Warfare (EW) Threat. After the frequencies have been assigned to the network, you may then determine the effect of any known threat emitters.
- a. Create and Position EW Threat Platforms. You may create and position an EW threat platform element by entering the characteristics of the jammer elements. It will be necessary to refer to the appropriate threat documentation to obtain the jammer characteristics. In a tactical environment, coordination with military intelligence will be necessary to enable you to define the position and emitter type of the jammer.
 - b. Display EW Effects. Use the option to display the effects of EW threats on your network. If link reliability degrades to unacceptable, the sites and/or links will need to be modified.
 - c. Respond to EW Threats. Once the effects of EW threats have been determined and displayed, Net Planning - Network Connectivity Optimization can be used to suggest site locations that will provide upgraded link performance.
14. Reassign Frequencies. The MSE-NPT frequency assignment algorithm depends on the network geometry. Therefore, after site and/or link modification have been incorporated, the network frequencies must be reassigned by using Network Planning - Frequency Assignment.

Evaluation Preparation: PART II. Engineer an MSE network using the NPT within the SCC.

Setup: Communications system/equipment status report, reference materials, mission statement/commander's battle plan, and maps will be available.

Brief soldier. You will engineer an MSE network using the MSE-NPT to meet the requirement of the mission statement/commander's battle plan. The S3 OIC-NCOIC for you to receive a GO must approve it.

Performance Measures

PART I. Plan an MSE network using the NPT within the SCC.

GO NO GO

NOTE: Refer to TB 11-5895-1544-10-1 and TB 11-5895-1544-10-2 for performance measures 1 through 13.

- | | | |
|------------------------------------------------------------------------------------------------------------------------------------------|-------|-------|
| 1. Performed MSE-NPT system power-up procedures. | _____ | _____ |
| 2. Initialized the MSE-NPT software. | _____ | _____ |
| 3. Made a topographic data file of the mission area from a National Imagery and Mapping Agency (NIMA) source using the WOTL application. | _____ | _____ |
| 4. Made an AO from Map Products and Interface (MPI) application. | _____ | _____ |
| 5. Made a subset of the equipment characteristics database using the Radio/Antenna files (DWNLOD) application. | _____ | _____ |

Performance Measures	<u>GO</u>	<u>NO GO</u>
6. Performed Automatic Asset Placement (AAP) functions to specify available assets and unit information.	—	—
7. Inspected the on-hand frequency list to ensure the availability of appropriate frequencies to support the radios that were used during the mission.	—	—
8. Queried the battalion/brigade/division S2 for known and projected EW threat emitter locations within the AO.	—	—
9. Defined the desired link reliability factors as stated by the mission statement/commander's battle plan.	—	—
10. Set the default environment parameters that were used during the mission using the ENVPAR application.	—	—
11. Set planning factors that were used for the mission using the AAP application.	—	—
12. Selected the correct data from the paper maps used for network identification and entered the information into the Datum Selection (SELDTM) application.	—	—
13. Submitted to S3 OIC/NCOIC for approval of the planned ECB MSE network.	—	—

PART II. Engineer an MSE network using the NPT within the SCC.

NOTE: Refer to TB 11-5895-1544-10-1 and TB 11-5895-1544-10-2 for performance measures 14 through 22.

14. Performed MSE-NPT system power-up procedures.	—	—
15. Initialized the MSE-NPT software.	—	—
16. Place assets. <ul style="list-style-type: none"> a. Created force lay down AO. b. Entered unit information. c. Specified area coverage. d. Edited unit information. e. Edited MSE assets. f. Placed extension nodes. g. Interconnected the network. 	—	—
17. Modified site locations and links. <ul style="list-style-type: none"> a. Evaluated link reliability. b. Performed site modification as required. c. Implemented antenna height modifications as required. 	—	—
18. Evaluated RAU coverage. <ul style="list-style-type: none"> a. Performed propagation analysis to plot radio coverage of local and remote RAUs. b. Adjusted RAU locations as required. c. Evaluated the reliability of added or modified RAU-to-node links. 	—	—
19. Assigned frequencies. <ul style="list-style-type: none"> a. Assigned UHF and SHF frequencies. b. Selected frequency lists and selection criteria. c. Performed frequency assignment. d. Assigned VHF frequencies. 	—	—

Performance Measures

	<u>GO</u>	<u>NO GO</u>
20. Analyzed EW threat.	—	—
a. Positioned the EW threat platform.		
b. Displayed EW effects.		
c. Responded to EW threats.		
21. Reassigned frequencies as required.	—	—
22. Submitted to S3 OIC/NCOIC approval of the planned ECB MSE network.	—	—

Evaluation Guidance: Score a GO if the soldier passes all steps. Score a NO-GO if the soldier fails any step. If the soldier fails any step, show what was done wrong and how to do it correctly. The soldier then must perform the task to standard to receive a GO.

References

Required

- TB 11-5895-1544-10-1
- TB 11-5895-1544-10-2

Related

- FM 11-55

Perform Preventive Maintenance Checks and Services on System Control Center, Telephone Routing AN/TYQ-46(V)
113-625-3094

Conditions: Given a Division AN/TYQ-46(V), TM 11-5895-1498-12-3, and DA Form 2404.

Standards: Corrected or documented and reported all deficiencies/shortcomings to the next maintenance level.

Performance Measures	<u>GO</u>	<u>NO GO</u>
NOTE: Refer to TM 11-5895-1498-12-3. Follow the PMCS tables in the technical manual according to the required maintenance interval: before, during, after, or weekly.		
1. Determined the PMCS interval.	—	—
NOTE: During the operation of the assemblage, perform only the checks and services that DO NOT interfere with the mission requirements.		
2. Performed routine check procedures and made the appropriate on-the-spot corrections.	—	—
NOTE: Observe all WARNINGS and CAUTIONS in the technical manuals and on equipment plates and decals.		
3. Recorded all uncorrected deficiencies on DA Form 2404.	—	—
4. Reported all uncorrected deficiencies to the next maintenance level.	—	—

Evaluation Guidance: Score a GO if the soldier passes all steps. Score a NO-GO if the soldier fails any step. If the soldier fails any step, show what was done wrong and how to do it correctly. The soldier then must perform the task to standard to receive a GO.

References

Required

TM 11-5895-1498-12-3

Related

DA PAM 738-750

Subject Area 11: PACKET SWITCHING

**Install Computer System, Digital AN/TYC-22
113-625-1052**

Conditions: Given an initialized AN/TYQ-46(V), an OPORD for AN/TYC-22 installation, tool kit TK-105/G, and TM 11-5805-791-13&P.

Standards: Installed the AN/TYC-22 and applied power.

Performance Measures

NOTE: Refer to TM 11-5805-791-13&P. The digital computer system is commonly known as the RTS.

GO NO GO

- | | |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|
| <p>1. Positioned RTS equipment for operation.</p> <p>WARNING: The computer and monitor cases weigh more than 100 pounds. A two-man lift is required to prevent injury.</p> <ul style="list-style-type: none"> a. Positioned monitor and computer side by side. b. Removed front and rear covers of both transit cases, removed keyboard, and tracked ball from stored position. c. Removed printer from transit case and positioned it not further than 10 feet away. | <p>_____</p> <p>_____</p> |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|

WARNING: To avoid overheating, provide sufficient space for cooling; to avoid dust particles, place on a table, NOT on the ground.

WARNING: To avoid the possibility of crashing the RTS, 50-ohm terminator (AT2) must be connected to the HVA connector CP1-C.

- | | |
|----------------------------------------------|--------------|
| <p>2. Grounded the RTS.</p> | <p>_____</p> |
| <p>3. Connected signal cables and power.</p> | <p>_____</p> |
| <p>4. Applied power to the RTS.</p> | <p>_____</p> |

Evaluation Guidance: Score a GO if the soldier passes all steps. Score a NO-GO if the soldier fails any step. If the soldier fails any step, show what was done wrong and how to do it correctly. The soldier then must perform the task to standard to receive a GO.

References

Required

TM 11-5805-791-13&P

Related

TM 11-5895-1498-12-1

Skill Levels 1/2/3

Subject Area 12: FUNCTIONAL COURSE AN/TTC-56(V)

**Install the Automatic Central Office Telephone AN/TTC-56(V)
113-603-1050**

Conditions: Given an AN/TTC-56(V) with auxiliary power unit 10 KW MEP-903C, diesel generator set 10 KW PU-798, support trailer, OVM kit, TM 9-6115-642-10, TM 9-6615-660-13&P, and TM 11-5805-802-13&P.

Standards: Properly positioned, grounded, and applied DC power to the AN/TTC-56(V) IAW TM 11-5805-803-13&P-1.

Performance Measures

NOTE: Refer to TM 11-5805-803-13&P-1. The supervisor will tell the soldier where to position the switch and power unit.

	<u>GO</u>	<u>NO GO</u>
1. Positioned power units and vehicles.	_____	_____
2. Opened protective covers.	_____	_____
3. Unpacked cables and equipment.	_____	_____
4. Unpacked crew bags, ground rods, and ground straps.	_____	_____
5. Unpacked support filter.	_____	_____
6. Installed shelter ground rods/ground straps.	_____	_____
7. Connected DC (AUX) power cable W002 to shelter.	_____	_____
8. Connected signal cables to the SEP.	_____	_____
9. Performed patch panel loops and DTGs.	_____	_____
10. Applied DC power to the shelter and ensured it was applied at 28V DC (+ -) 2.5 volts.	_____	_____

DANGER: HIGH VOLTAGE is used in this equipment. Death on contact may result if safety precautions are not observed. Be careful when working near equipment interior or AC power distribution. Observe technical manuals' warning notes and warning decals on the equipment.

Evaluation Guidance: Score a GO if the soldier passes all steps. Score a NO-GO if the soldier fails any step. If the soldier fails any step, show what was done wrong and how to do it correctly. The soldier then must perform the task to standard to receive a GO.

References

Required

- TM 11-5805-802-13&P
- TM 9-6115-642-10
- TM 9-6115-660-13&P

Related

**Perform System Initialization for Automatic Central Office Telephone AN/TTC-56(V)
113-603-1051**

Conditions: Given an installed AN/TTC-56(V), the Unit SOP, Unit Key Variable Management (KVM) Plan, and TM 11-5805-803-13&P-1.

Standards: Completed the battery test and equalizing charge procedures.

Performance Measures

GO NO GO

NOTE: Refer to TM 11-5805-803-13&P-1, Unit SOP, and KVM Plan.

- 1. Performed cold start DC power-up procedures.

NOTE: Turn the DC to AC power converter on before the router or workstation.

- 2. Performed switch equipment initialization.

- a. Initialized HCU Sun SPARC workstation.
- b. Initialized Compact Digital Switch (CDS); selected the "CEQ" database.

NOTE: During the normal processor initialization, CDS initialization is performed before SMU initialization.

- c. Selected Switch Operations/Switch Identification/Assign switch ID 4 digit #/click "Execute."
- d. Selected Node Management/Routing/Area Code/Assign NYX/home area = "H"/click "Execute."
- e. Selected Subscriber Service/CSP/Assign/Add TT-121/Units = 1/Voice Port 1 = 08-01. Voice Port 2 = 08-02, Signaling Port 08-03/Enter Directory Number/click "Execute."
- f. Selected Node Management/DTG/Assign/Add/DTG #11/at group rate 2304 for 16 kbs, or 4608 for 32 kbs, with 121 channels beginning at address 01.
- g. Selected Node Management/Terminal Service/Assign/Add TT-119/at address 01-00/"Execute."
- h. Selected Node Management/DTG/Assign/Add/DTG #13/at group rate 2048 16 kbs, or 4096 for 32 kbs with a total of 77 channels for 16 kbs and 69 for 32 kbs beginning at 03-00/Node Management/Terminal Service/Assign/Add TT-119 at address 03-00/click "Execute."
- i. Selected Switch Operations/Database Management/Database Action/Write DBXXXX/click "Execute."
- j. Initialized Switch Multiplex Unit (SMU).

- 3. Performed COMSEC initialization IAW Unit KVM Plan and TM 11-5805-803-13&P-1.

- a. Initialized and loaded COMSEC - HGX-83 Automatic Key Distribution Center (AKDC).
- b. Initialized and loaded COMSEC into the KG-82 loop key generators (LKGs).
- c. Initialized and loaded COMSEC into the KY-57, KY-68 DSVT, and KG-194 TEDs.

NOTE: If there is an NMT and the SSS is being started in a new network, or if the working disk has been replaced since the last time the packet switch was used, use the N253 disk. If the network does not have an NMT, use the unique disk.

- 4. Loaded the packet switch start-up disk, the N253 or unique disk, and the working disk.

NOTE: The router will integrate on high speed DATA and VTC links (for example, HS-MUX II, ETGMOW, EDTG, HS-FEC, channel reassignments). An understanding of the OSI model, IEEE standards, and router technology is vital to the technical development of the 31F10-level soldier.

Performance Measures

	<u>GO</u>	<u>NO GO</u>
5. Switched to AC power IAW TM 11-5805-803-13&P-1 (ground and power up AC generator).	—	—
6. Transferred shelter to AC power IAW TM 11-5805-803-13&P-1.	—	—
7. Performed battery test and equalizing charge procedures for DC bus voltage V DC +- 2.5V DC.	—	—

Evaluation Guidance: Score a GO if the soldier passes all steps. Score a NO-GO if the soldier fails any step. If the soldier fails any step, show what was done wrong and how to do it correctly. The soldier then must perform the task to standard to receive a GO.

References

Required

TM 11-5805-803-13&P-1
UNIT SOP

Related

Establish an Internodal/Extension Link Using the Automatic Central Office Telephone AN/TTC-56(V)

113-603-2208

Conditions: Given an installed and operational AN/TTC-56(V) with a CX-11230 cable to a distant end switching system, TB 11-5800-224-10-1, TB 11-5800-224-10-2, Unit OPORD, and switching cut sheets.

Standards: Displayed the duplications transferred for bypass reception IAW the Unit OPORD and switching cut sheets.

Performance Steps

1. Establish a tactical high-speed data network through an SEN link.
 - a. Select Link Management/Add Link/Link Type/SEN/click "Execute."
 - b. Select SEN link/click "Apply" to acquire data.
 - c. Ensure the data is IAW the switching cut sheets.
 - d. Click "Execute" to launch the MACRO command (automated steps).
 - e. Receive "Complete" status.
 - f. Select Node Management/Digital Transmission Group/Display DTG #/click "Execute"/Print channels.
 - g. Select Node Management/Terminal Service/Display.
 - h. Delete the trunks (BS-LA) that will be used for the VTC and data channels.
 - i. Select Subscriber Services/Channel Reassignment/Assign/"Execute."
 - j. Select VTC channel-Select "Add," From DTG #/Start Channel/End Channel/To DTG #/Start Channel/End Channel/click "Execute"/click "Reset."
 - k. Select Data channel-Select "Add," From DTG #/Start Channel/End Channel/To DTG #/Start Channel/End Channel/click "Execute."
 - l. Ensure the distant end SENS HS-MUX II CCA settings allow for the correct data rate for voice, VTC, and data.
 - m. Ensure the HS-FEC CCA is enabled on both ends of the link.

Table 3-5

LINK STATUS	FEC	FAULT LED	BER LED	SYNC LED	TESTED LED	FEC LED
BER < 10-6	On	Green	Green	Green	Off	Yellow
BER > 10-6	On	Red	Red	Red	Off	Yellow

NOTE: Reference Table 3-5 above.

- n. Load TED assigned to the DTG with "TE" key.
 - o. Observe "Full Op" LED and "Resync" LED on TED is illuminated.
 - p. Ensure the patch cords or plugs are in normal through on the DTG on both ends of the link.
 - q. Establish DVOW communications through the communications modem with the SEN.
 - r. Observe "Full Op" LED and "Resync" LED on TED is illuminated.
 - s. Perform AOD 61 to connect operator DNVT BS-LA to a BS-LA voice path on the TGC you just installed.
 - t. Complete a voice call down the TGC using the operator DNVT.
2. Establish a tactical high-speed data network through an internodal link.
 - a. Select Link Management/Add Link/Link Type/Flood Search/click "Execute."
 - b. Select NCS link/click "Apply" to acquire the data.
 - c. Ensure the data is IAW the switching cut sheets.
 - d. Click "Execute" to launch the MACRO command (automated steps).
 - e. Receive "Complete" status.

Performance Steps

- f. Select Node Management/Truck Group Cluster/Display/Print Channels.
- g. Receive complete status and click "Reset."
- h. Select Subscriber Services/Channel Reassignment/Assign/"Execute."
- i. Select VTC channel-Select "Add," From DTG #/Start Channel/End Channel/To DTG #/Start Channel/End Channel/click "Execute"/click "Reset."
- j. Select data channel-Select "Add," From DTG #/Start Channel/End Channel/To DTG #/Start Channel/End Channel/click "Execute."
- k. Ensure the appropriate port of the HS-MUX II CCA at both ends of the link are set to 00110010.
- l. Ensure the HS-FEC CCA is enabled on both ends of the link.

Table 3-6

LINK STATUS	FEC	FAULT LED	BER LED	SYNC LED	TESTED LED	FEC LED
BER < 10-6	On	Green	Green	Green	Off	Yellow
BER > 10-6	On	Red	Red	Red	Off	Yellow

NOTE: Reference Table 3-6 above.

- m. Load TED with "TI" key.
 - n. Observe "Full Op" LED and "Resync" LED on TED is illuminated.
 - o. Ensure patch cords are set for normal through at both ends of the link.
 - p. Establish DVOW communications through the communications modem with the distant end switch.
 - q. Select Link Management/Flood Search Initialization/click Add.
 - r. Select appropriate TGC.
 - s. Select appropriate XMSN path.
 - t. Select the appropriate satellite Y or N.
 - u. Select the appropriate glare: Slave switch select "Y" or Master switch select "N."
 - v. Select the Link State-Initialize.
 - w. Select PS "Y."
 - x. Click "Execute."
 - y. Receive a "Complete" status.
 - z. Receive status for DTG STATUS 13, TGC STATUS 5.
 - aa. Perform AOD 61 to connect operator DNVT BS-LA to a BS-LA voice path on the TGC you just installed.
 - ab. Complete a voice call down the TGC using the operator DNVT.
3. Provide T1 or E1 connectivity through the line termination unit (LTU) CV-4108A(V).
- a. Select Link Management/Add Link/Link Type/Deterministic Inter-switch/click "Execute."
 - b. Select a DTG IAW switching cut sheets for T1 or E1 link/click "Apply" to acquire the data.
 - c. Ensure 32 channels for T1 and group rate = 512 KB (E1 36 channels and group rate = 576 KB).
 - d. Perform ADT "Modify" to ensure one TSB is assigned on the first channel.
 - e. Perform ATS "Add" to ensure 24 TT-29 channels are added to the circuit. (E1 - 30 TT-29 channels.)
 - f. Click "Execute" to launch the MACRO command (automated steps).
 - g. Receive "Complete" status.
 - h. Assign gateway classmarks area code (AGC) IAW switching cut sheets.
 - i. Perform AOD 61 to connect operator telephone BS-LA to a BS-LA voice path on the TGC.
 - j. Affiliate the operator DNVT and complete a voice call down on the TGC.
4. Perform bulk transfer.
- a. Ensure Master and Slave switches select Switch Operations/COMSEC/Bulk Transfer.

Performance Steps

- b. Ensure Master switch selects Activate/List #/COMSEC ID IAW switching cut sheet/click "Execute."
- c. Ensure Slave switch selects Receive Authorization/COMSEC ID IAW switching cut sheet/click "Execute."
- d. Ensure Master switch selects Switch Operations/COMSEC/Display Outgoing Bulk Transfer (DOT).
- e. Ensure Slave switch selects Switch Operations/COMSEC/Display Incoming Bulk Transfer (DIT).
- f. Ensure Receive "Complete" on both ends of the link.

5. Perform bypass and duplications.

NOTE: Network traffic will affect the transfer rate of duplications. The receiving switch may take the option to perform an invalid command on their workstation to ensure their workstation is not sending any data down the link. This action is recommended.

- a. Select Link Management/Display Link to verify "Y-2" status on the DTG.
- b. Perform an AOD 18 on the TGC to verify "GOOD" status on the TGC.
- c. Ensure the TGM/DTG status 13 and TSB status 5.
- d. Select Switch Operations/Duplication and Bypass/Bypass and Duplication Groups/Assign.
- e. Assign Duplications IAW Unit SOP (for example, even numbers to SWID#, odd numbers to SWID#).
- f. Select Switch Operations/Duplication and Bypass/Bypass and Duplication Groups/Display.

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Established a tactical high-speed data network through an SEN link.	—	—
2. Established a tactical high-speed data network through an internodal link.	—	—
3. Provided T1 or E1 connectivity through the LTU CV-4108A(V).	—	—
4. Performed bulk transfer.	—	—
5. Displayed the list of duplications assigned for bypass reception.	—	—

Evaluation Guidance: Score a GO if the soldier passes all steps. Score a NO-GO if the soldier fails any step. If the soldier fails any step, show what was done wrong and how to do it correctly. The soldier then must perform the task to standard to receive a GO.

References

Required

- TB 11-5800-224-10-1
- TB 11-5800-224-10-2
- UNIT OPORD

Related

- TM 11-5805-802-13&P
- TM 11-5805-804-13&P
- TM 11-5895-792-13&P

**Provide Call Service at Automatic Central Office Telephone AN/TTC-56(V)
113-603-2209**

Conditions: Given an installed AN/TTC-56(V) and TM 11-5805-803-13&P-1.

Standards: Extended an incoming call from queue to a commercial network.

Performance Measures

NOTE: Refer to TM 11-5805-803-13&P-1 (Call Service Position Console (CSPC) Operation).

	<u>GO</u>	<u>NO GO</u>
1. Connected the CSPC.	—	—
2. CSP initial operating.	—	—
3. Placed outgoing calls.	—	—
4. Transferred incoming calls from queue.	—	—
5. Transferred an incoming call from queue with re-ring.	—	—
6. Extended an incoming call from queue with precedence upgrade.	—	—
7. Placed an incoming call on hold.	—	—
8. Provided directory assistance.	—	—
9. Transferred the CSPC directory number to another location.	—	—
10. Terminated transfer of the CSPC directory number to another location.	—	—
11. Extended a call from queue to the commercial network.	—	—

Evaluation Guidance: Score a GO if the soldier passes all steps. Score a NO-GO if the soldier fails any step. If the soldier fails any step, show what was done wrong and how to do it correctly. The soldier then must perform the task to standard to receive a GO.

References

Required

TM 11-5805-803-13&P-1

Related

**Perform System Shutdown for Automatic Central Office Telephone AN/TTC-56(V)
113-603-2210**

Conditions: Given an operational AN/TTC-56(V), auxiliary power unit 10 KW MEP-903C, diesel generator set 10 KW PU-796, a team packet with movement orders, ground extraction tool, 8-pound sledge hammer, TM 9-6115-660-13&P, TM 11-5805-802-13&P, and TM 9-6115-642-10.

Standards: Powered down, packed up, and secured the AN/TTC-56(V).

Performance Measures	<u>GO</u>	<u>NO GO</u>
NOTE: Refer to TM 11-5805-802-13&P.		
1. Performed shutdown procedures on the Sun SPARC workstation HCU.	—	—
2. Performed shutdown procedures on the SMU.	—	—
3. Performed shutdown procedures on the CDS.	—	—
4. Performed shutdown procedures on the COMSEC equipment.	—	—
5. Performed shutdown procedures on the packet switch.	—	—
6. Powered down all the peripheral devices and power supplies inside the S-788/G operations shelter.	—	—
7. Performed DC circuit breaker shutdown procedures on the power bay.	—	—
8. Performed AC circuit breaker shutdown procedures on the power bay.	—	—
9. Removed AC power cord at the power entry panel on both shelters.	—	—
10. Disconnected all external cables and junction boxes from the S-788/G operations shelter.	—	—
11. Removed all ground rods and disconnected all ground straps from both shelters.	—	—
12. Packed all ground rods, ground straps, cables, and junction boxes inside the S-805 maintenance shelter.	—	—
13. Closed and secured shelter door and all external covers on both shelters.	—	—
14. Secured the S-788/G operations shelter and the S-805 maintenance shelter.	—	—

Evaluation Guidance: Score a GO if the soldier passes all steps. Score a NO-GO if the soldier fails any step. If the soldier fails any step, show what was done wrong and how to do it correctly. The soldier then must perform the task to standard to receive a GO.

References

Required	Related
TM 11-5805-802-13&P	
TM 9-6115-642-10	
TM 9-6115-660-13&P	

**Perform Preventive Maintenance Checks and Services for the Automatic Central Office Telephone
AN/TTC-56(V)
113-603-3231**

Conditions: Given an AN/TTC-56(V)1, auxiliary power unit 10 KW MEP-903C, diesel generator set 10 KW PU-798, TM 9-6115-642-10, TM 9-6115-660-13&P, TM 9-4120-401-14, (O)TM 11-5810-329-10, TM 11-5805-802-13&P, TM 11-5805-804-13&P, DA Pam 738-750, and DA Form 2404.

Standards: Corrected or reported all deficiencies to the next maintenance level.

Performance Measures	<u>GO</u>	<u>NO GO</u>
NOTE: Refer to TM 11-5805-802-13&P. Follow the PMCS tables in the technical manual according to the required maintenance interval: before, during, after, or weekly.		
1. Determined the PMCS interval.	—	—
NOTE: During the operation of the assemblage, perform only the checks and services that DO NOT interfere with the mission requirements.		
2. Performed routine procedures and made the appropriate on-the-spot corrections.	—	—
NOTE: Observe all WARNINGS and CAUTIONS in the technical manuals and on the equipment plates and decals.		
3. Recorded all uncorrected deficiencies on DA Form 2404.	—	—
4. Reported all uncorrected deficiencies to the next maintenance level.	—	—

Evaluation Guidance: Score a GO if the soldier passes all steps. Score a NO-GO if the soldier fails any step. If the soldier fails any step, show what was done wrong and how to do it correctly. The soldier then must perform the task to standard to receive a GO.

References

Required	Related
DA PAM 738-750	
TM 11-5805-802-13&P	
TM 11-5805-804-13&P	
TM 9-6115-642-10	
TM 9-6115-660-13&P	

**Maintain the Automatic Central Office Telephone AN/TTC-56(V) to Direct Support Level
113-603-4226**

Conditions: Given an installed AN/TTC-56(V), auxiliary power unit 10 KW MEP-903C, diesel generator set 10 KW PU-798, tool kit TK-17G, digital multimeter AN/PSM-45A, transmission test set AN/USM-485, ESA test set TS-3684/G, PCC extractor, CCA extractor, workstation kit, ESA portable, power supply, TM 9-6115-660-13&P, TM 11-5805-802-13&P, TM 11-5805-804-13&P, and TM 9-6115-642-10.

Standards: Corrected or reported the fault to higher-level maintenance as per the Maintenance Allocation Chart (MAC).

Performance Measures	<u>GO</u>	<u>NO GO</u>
NOTE: Performance measure 1 determines which technical manual is used for the remaining performance measures.		
1. Identified and categorized fault.	—	—
2. Performed EUB if required.	—	—
3. Isolated fault to LRU.	—	—
4. Repaired and/or replaced faulty component or reported unrepairable faults to the next maintenance level as per the MAC in TM 11-5805-802-13&P.	—	—
5. Tested and verified repairs.	—	—
6. Returned equipment to normal operation (if necessary refer to the MAC in TM 11-5805-802-13&P).	—	—
7. Completed all required forms for turn in to the next higher maintenance level (if required by the MAC).	—	—

Evaluation Guidance: Score a GO if the soldier passes all steps. Score a NO-GO if the soldier fails any step. If the soldier fails any step, show what was done wrong and how to do it correctly. The soldier then must perform the task to standard to receive a GO.

References

Required	Related
TM 11-5805-802-13&P	
TM 11-5805-804-13&P	
TM 9-6115-642-10	
TM 9-6115-660-13&P	

Subject Area 13: FUNCTIONAL COURSE AN/TYQ-76A(V)1/2

**Install the Integrated System Control (ISYSCON) AN/TYQ-76A(V)1/2
113-581-1002**

Conditions: Given a vehicle mounted ISYSCON AN/TYQ-76A(V)1, tent and tent equipment, PU-753/M generator set, ground rods and ground straps, 8-pound sledgehammer, TM 5-6115-632-14&P, TM 11-5895-1560-13&P, TM 9-2320-280-20-1, TM 9-2320-280-20-2, and TM 9-2320-280-3.

Standards: Positioned the ISYSCON AN/TYQ-76A(V)1 when the power was applied.

Performance Measures

NOTE: Refer to TM 11-5895-1560-13&P except as noted. The ISYSCON can be installed in Division and Corps configurations. This task deals only with the ISYSCON (V)1 in the Corps configuration.

- | | <u>GO</u> | <u>NO GO</u> |
|------------------------------------------------------------------------------------------------------|-----------|--------------|
| 1. Positioned shelters and power unit. (Refer to TM 11-5895-1560-13&P.) | — | — |
| 2. Unpacked cables, tents, and tent equipment. | — | — |
| 3. Installed shelter ground rods and straps. (Refer to TM 11-5895-1560-13&P and TM 5-6115-632-14&P.) | — | — |

WARNING: Ground straps must be connected to ground rod BEFORE ground rod is connected to the shelter or power unit. Before connecting DC cable, ensure 28V DC CB1 is OFF.

- | | | |
|---------------------------------------------------------------------------------------|---|---|
| 4. Applied DC power to shelters. (Refer to TM 11-5895-1560-13&P.) | — | — |
| 5. Grounded AC power unit. (Refer to TM 11-5895-1560-13&P and TM 5-6115-632-14&P.) | — | — |
| 6. Connected AC power cables. (Refer to TM 11-5895-1560-13&P and TM 5-6115-632-14&P.) | — | — |

WARNING: Before switching to AC power, secure connections to AC power cables, ground straps, and signal cables.

- | | | |
|-----------------------------------------------------------------------------------|---|---|
| 7. Switched over to AC power operation. (Refer to TM 11-5895-1560-13&P.) | — | — |
| 8. Installed bootwall, tent, and tent equipment. (Refer to TM 11-5895-1560-13&P.) | — | — |
| 9. Connected tent signal and power cables. (Refer to TM 11-5895-1560-13&P.) | — | — |

Evaluation Guidance: Score a GO if the soldier passes all steps. Score a NO-GO if the soldier fails any step. If the soldier fails any step, show what was done wrong and how to do it correctly. The soldier then must perform the task to standard to receive a GO.

References

Required	Related
TM 11-5895-1560-13&P	
TM 5-6115-632-14&P	
TM 9-2320-280-20-1	
TM 9-2320-280-20-2	
TM 9-2320-280-20-3	

**Perform System Initialization for the Integrated System Control (ISYSCON) AN/TYQ-76A(V)1/2
113-581-1003**

Conditions: Given an installed, vehicle mounted ISYSCON AN/TYQ-76A(V)1, TM 11-5895-1560-13&P, and TM 11-5895-1465-13&P.

Standards: Made the ISYSCON AN/TYQ-76A(V)1 ready to process traffic.

Performance Measures

NOTE: If ISYSCON is being started in a new network or the working disk has been replaced since the last time the packet switch has been used, use the N253 disk during start-up. Use the working disk during warm-start.

	<u>GO</u>	<u>NO GO</u>
1. Set all DC and AC power panel circuit breakers and all equipment switches to ON.	—	—
2. Ensured packet switch start-up procedures were completed. (Refer to TM 11-5895-1560-13&P.)	—	—
3. Ensured the CM front panel LEDs were set or displayed the following:	—	—
a. PWR lamp set to lit.		
b. Group 1 bite fault card ID displayed 00.		
c. Group 1 bite fault code displayed 0.		
d. Group 1 TMG NORM/ALT switch set to NORM.		
e. Group 1 mode NORM/ALT switch set to NORM.		
f. Group 1 cable length switch set to 1.		
g. Group 1 group rate switch set to 4.		
h. Test select switch set to OPERATE.		
4. Ensured the server initialization process was completed. (Connected the signal cables.) (Refer to TM 11-5895-1560-13&P.)	—	—
5. Powered up and initialized tent workstations. (Refer to TM 11-5895-1560-13&P.)	—	—

Evaluation Guidance: Score a GO if the soldier passes all steps. Score a NO-GO if the soldier fails any step. If the soldier fails any step, show what was done wrong and how to do it correctly. The soldier then must perform the task to standard to receive a GO.

References

Required	Related
TM 11-5895-1465-13&P	
TM 11-5895-1560-13&P	

**Perform System Shutdown for the Integrated System Control (ISYSCON) AN/TYQ-76A(V)1/2
113-581-1004**

Conditions: Given an operational ISYSCON AN/TYQ-76A(V)1, TM 11-5895-1560-13&P, and TM 11-5895-1465-13&P.

Standards: Made the ISYSCON AN/TYQ-76A(V)1 ready for movement.

Performance Measures

NOTE: Refer to TM 11-5895-1560-13&P.

	<u>GO</u>	<u>NO GO</u>
1. Performed equipment shutdown procedures for the shelter, tent, and power units.	—	—
2. Performed pack-up procedures for the shelter, tent, and generators.	—	—
a. Disconnected external cables.		
b. Disconnected ISYSCON workstation signal cables and power cables.		
c. Disconnected tent DNV, DSV, and intercom from tent J-box.		
d. Disconnected ISYSCON tent signal cable (SMD-811235) from tent J-box.		
e. Disconnected ground straps.		
f. Took down tent and tent bootwall.		
g. Packed power unit trailer.		
h. Packed cargo trailer AN/TYQ-76A(V)1.		
i. Secured loose equipment and covers.		
3. Set all workstation monitor power switches to OFF, then set all remaining equipment/circuit breakers to OFF.	—	—
a. PS.		
b. Intercom.		
c. Printer.		
d. CM.		
4. Placed the generator panel light switch and the master switch in the OFF position and powered down the generator.	—	—
5. Disconnected and secured the power cables and signal cables.	—	—
WARNING: To prevent injury, PWR cable requires a two-person lift. DO NOT permit personnel to remain inside shelters during transit. Serious injury can result.		
6. Prepared vehicle and generator for movement to new location.	—	—
CAUTION: Adjust slack in brake safety chain so the trailer brake engages before the trailer safety chains become taut due to towing pintle/towing bar separation. Allow sufficient safety chain slack to prevent inadvertent brake engagement on tight turns.		
a. Placed ladder in storage.		
b. Unblocked vehicle/trailer wheels.		
c. Attached power unit to towing vehicle.		
d. Secured trailer support leg.		
e. Released trailer handbrakes.		

Evaluation Guidance: Score a GO if the soldier passes all steps. Score a NO-GO if the soldier fails any step. If the soldier fails any step, show what was done wrong and how to do it correctly. The soldier then must perform the task to standard to receive a GO.

References

Required

- TM 11-5895-1465-13&P
- TM 11-5895-1560-13&P

Related

**Maintain the Integrated System Control (ISYSCON) AN/TYQ-76A(V)1/2
113-581-3001**

Conditions: Given a faulty installed ISYSCON AN/TYQ-76A(V)1, tool kit TK-17G, GSE supplementary tool kit-OL, multimeter AN/PSM-45A, digital multimeter ANUSM-485, battery tool kit TK-90/G, ESA test set TS-3684/G, PCC extractor, CCA extractor, workstation kit, ESA portable, TM 11-5895-1560-13&P, TM 11-5895-1465-13&P, TB 43-0124, TM 5-6115-632-14&P, and TM 10-5410-230-13.

Standards: Identified, isolated, and repaired or replaced all faults to the LRU and returned the ISYSCON to normal operation or reported an unrepairable fault to the next maintenance level.

Performance Measures

GO NO GO

NOTE: Refer to TM 11-5895-1560-13&P, Chapter 5 for unit and organizational maintenance and Chapter 7 for direct support, and the maintenance allocation chart in the technical manual.

- | | | |
|---------------------------------------------------------------|---|---|
| 1. Identified and categorized all fault symptoms. | — | — |
| 2. Isolated fault to the LRU. | — | — |
| 3. Repaired and or replaced faulty component(s) to the LRU. | — | — |
| 4. Verified and repaired or replaced faulty component(s). | — | — |
| 5. Returned the AN/TYQ-46(V) to normal operation. | — | — |
| 6. Reported unrepairable fault to the next maintenance level. | — | — |

Evaluation Guidance: Score a GO if the soldier passes all steps. Score a NO-GO if the soldier fails any step. If the soldier fails any step, show what was done wrong and how to do it correctly. The soldier then must perform the task to standard to receive a GO.

References

Required

- TB 43-0124
- TM 10-5410-230-13
- TM 11-5895-1465-13&P
- TM 11-5895-1560-13&P
- TM 5-6115-632-14&P

Related

- DA PAM 738-750
- TM 9-6140-200-14

**Perform Preventive Maintenance Checks and Services on the Integrated System Control
(ISYSCON) AN/TYQ-76A(V)1/2
113-581-3002**

Conditions: Given an ISYSCON AN/TYQ-76A(V)1, TM 11-5895-1560-13&P, and DA Pam 738-750.

Standards: Corrected or documented and reported all deficiencies and shortcomings to the next maintenance level.

Performance Measures	<u>GO</u>	<u>NO GO</u>
NOTE: Refer to TM 11-5895-1560-13&P, Chapter 4 and Chapter 5, Section IV. Follow the PMCS tables in the technical manual according to the required maintenance interval: before, during, after, or weekly.		
1. Determined the PMCS interval.	—	—
NOTE: During the operation of the assemblage, perform only the checks and services that DO NOT interfere with the mission requirements.		
2. Performed routine procedures and made the appropriate on-the-spot corrections.	—	—
NOTE: Observe all WARNINGS and CAUTIONS in the technical manuals and on the equipment plates and decals.		
3. Recorded all uncorrected deficiencies on DA Form 2404.	—	—
4. Reported all uncorrected deficiencies to the next maintenance level.	—	—

Evaluation Guidance: Score a GO if the soldier passes all steps. Score a NO-GO if the soldier fails any step. If the soldier fails any step, show what was done wrong and how to do it correctly. The soldier then must perform the task to standard to receive a GO.

References

Required

DA PAM 738-750
TM 11-5895-1560-13&P

Related

**Perform System Administration Functions on the Integrated System Control (ISYSCON) AN/TYQ-76A(V)1/2
113-581-8005**

Conditions: Given an operational ISYSCON AN/TYQ-76A(V)1, mission requirements, and TM 11-5895-1560-13&P.

Standards: The ISYSCON performed its functions as the network controller in a tactical circuit switch and packet switch environment.

Performance Measures	<u>GO</u>	<u>NO GO</u>
NOTE: Refer to TM 11-5895-1560-13&P.		
1. Performed operations under normal conditions.	—	—
a. Configuration management.		
b. Account management operations.		
c. Database administration.		
d. Files administration.		
e. Node administration.		
f. Security management operations.		
g. Map data administration.		
2. Performed operations under unusual conditions.	—	—
a. Configuration management.		
b. Account management operations.		
c. Database administration.		
d. Files administration.		
e. Node administration.		
f. Security management operations.		
g. Map data administration.		

Evaluation Guidance: Score a GO if the soldier passes all steps. Score a NO-GO if the soldier fails any step. If the soldier fails any step, show what was done wrong and how to do it correctly. The soldier then must perform the task to standard to receive a GO.

References

Required	Related
TM 11-5895-1560-13&P	

APPENDIX A - HANDS-ON EVALUATION (DA FORM 5164-R)**A-1. Introduction.**

The DA Form 5164-R (Hands-On Evaluation) allows the trainer to keep a record of the performance measures a soldier passes or fails on each task. Instructions for using this form follow.

A-2. Prior to evaluating the soldier.

- a. Obtain a blank copy of DA Form 5164-R, which you may locally reproduce on 8 1/2- by 11-inch paper.
- b. Enter the task title and 10-digit number for the task from the evaluation guide of the soldier's manual task summary.
- c. In column a, enter the number of each performance measure from the evaluation guide.
- d. In column b, enter the performance measure corresponding to the performance measure number in column a. (You may abbreviate this information if necessary.)
- e. Enter the feedback statement from the evaluation guide just below the last performance measure.
- f. Locally reproduce the partially completed form if you are evaluating more than one soldier on the task or the same soldier on more than one task.

A-3. During the evaluation.

- a. Enter the date just before evaluating the soldier's task performance.
- b. Enter the evaluator's name and the soldier's name and unit.
- c. For each performance measure, column b, enter a check in column c (*PASS*) or column d (*FAIL*), as appropriate.
- d. Compare the number of performance measures the soldier passes (and if applicable, which ones) against the task standard shown in the Feedback statement. If the standard is met or exceeded, check the *GO* block under *STATUS*; otherwise check the *NO-GO* block.

Figure A-1 is a sample of a completed DA Form 5164-R.

HANDS-ON EVALUATION		DATE	
For use of this form, see AR 350-37. The proponent agency is DCSOPS.		2 APR 2001	
TASK TITLE PERFORM SYSTEM SHUTDOWN FOR SEN SYSTEM AN/TTC-48(V)		TASK NUMBER 113-625-2090	
ITEM a	PERFORMANCE STEP b	SCORE (Check One)	
		PASS c	FAIL d
1	PERFORMED OPERATIONAL SHUTDOWN PROCEDURES	<input checked="" type="checkbox"/> P	<input type="checkbox"/> F
2	PERFORMED STORAGE PROCEDURES	<input checked="" type="checkbox"/> P	<input type="checkbox"/> F
3	PERFORMED POWER CABLING REMOVAL/ STORAGE PROCEDURES	<input checked="" type="checkbox"/> P	<input type="checkbox"/> F
4	PERFORMED SUBSCRIBER FIELD CABLE REMOVAL/STORAGE PROCEDURES	<input checked="" type="checkbox"/> P	<input type="checkbox"/> F
5	PERFORMED GROUNDED STRAP AND ROD REMOVAL PROCEDURES	<input type="checkbox"/> P	<input checked="" type="checkbox"/> F
6	SECURED THE SHELTER DOOR AND ALL EXTERNAL COVERS	<input checked="" type="checkbox"/> P	<input type="checkbox"/> F
EVALUATOR'S NAME SFC WHITMAN		UNIT A CO 369TH	
SOLDIER'S NAME SPC ANDERSON		STATUS <input type="checkbox"/> GO <input checked="" type="checkbox"/> NO GO	

DA FORM 5164-R, SEP85 (EDITION OF 82 TO BE USED)

Figure A-1. Sample of a Completed DA Form 5164-R

GLOSSARY

Section I **Abbreviations**

#	number
(C)	CONFIDENTIAL
(O)	FOR OFFICIAL USE ONLY
(V)	version
AAP	Army Apprenticeship Program; Automatic Asset Placement
AC	alternating current/Active Component/assistant commandant
ACCP	Army Correspondence Course Program
ADRG	ARC Digitized Raster Graphic
ADT	Active Duty for Training
ADTLP	Armywide Doctrinal and Training Literature Program
AGC	automatic gain control; assign gateway classmarks
AIT	Advanced Individual Training
AKDC	automatic key distribution center
ALT	alternate
AM/FM	amplitude modulation/frequency modulation
AMP/amp	ampere; amplifier
AN	annually (frequency code)
AO	area of operation
AOD	assign online diagnostics
AR	Army Regulation/Army Reserve
ARTEP	Army Training and Evaluation Program
ASC	AUTODIN switching center; Army Service Center; assigned switch classmarks
ASI	Additional Skill Identifier; alarm status indicator
ASN	assigned serial number; autonomous system number
ATS	automatic transfer switch

ATSC	Army Training Support Command
attn	attention
AUI	access unit interface; asynchronous universal interface; application user interface
AVOW	analog voice orderwire
BER	bit error rate
BGP	bogus gateway protocol; border gateway protocol
BNCOC	Basic Noncommissioned Officer Course
CCA	circuit card assembly
CCES	COMMCEN extension switch
CCPS	communications parent switch; COMMCEN parent switch
CDS	compact digital switch
CEG	common equipment group
CM/cm	communications modem; control monitor; centimeter
CNCS	cryptonet control station
CNR	combat net radio; calibration not required
CNV	cryptonet variable
COMMCEN	communications central; communications center
COMSEC	communications security
CSP	call service position
CSPC	call service position console
CSS	combat services support/communications switching set
CVSD	continuous variable slope delta
DA	Department of the Army; distribution amplifier
dB	decibel
DC	Dental Corps; direct current; District of Columbia
DD Form	Department of Defense Form
DIT	display incoming transfer

DLPMA	diphase loop modem
DNMF	dismounted node management facility
DNVT	digital nonsecure voice telephone
DOT	display outgoing transfer
DPT	data processing terminal
DSVT	digital subscriber voice terminal
DTG	date-time group; digital transmission group
DVOW	digital voice orderwire
DWNLOD	download
ECB	echelons corps and below
ECCM	electronic counter-counter measures
ECM	electronic countermeasures
ENVPAR	environmental parameters
ESA	electronic surge arrester
EUB	essential user bypass
EW	electronic warfare
FM	field manual; frequency modulation; file maintenance
FREQ	frequency, the number of recurrences of a periodic phenomenon in a unit of time
GLU	group logic unit
GM	group modem
GPS	Global Positioning System
GSE	government supplied equipment
HMMWV	high mobility multipurpose wheeled vehicle
HS	high speed
HUS	hardened unique storage
HVA	high voltage arrestor
Hz	hertz
IAW	in accordance with

ID	identification
IEEE	Institute of Electrical and Electronics Engineers
IGW	integrated gateway
IP	Internet protocol; implementation procedures
JCS	Joint Chiefs of Staff
JCSPUB	Joint Chiefs of Staff Publication
KEK	key encryption key
KW/kw	kilowatt
LAN	local area network
LDR/ldr	Leader/leader
LEN	large extension node
LENS	large extension node switch/system
LGM	loop group multiplexer
LKG	loop key generator
LOS	line of sight
LRU	lowest repairable unit
LSCDM	low speed cable driver modem
LTU	line terminating/termination unit
MAC	Maintenance Allocation Chart
MDR	medium data rate; Milestone Decision Review
METL	mission essential task list
MFR	memorandum for record
MIJI	meaconing, intrusion, jamming, and interference
MO	monthly (frequency code)
MOPP	mission oriented protection/protective positive
MOS	Military Occupational Specialty
MPDU	master power distribution unit
MPI	Map Products and Interfaces

MSE	mobile subscriber equipment
MSRT	mobile subscriber radiotelephone terminal
MTA	maintenance task analysis; maintenance technical assistance; major training area; message transfer agent; military training area; multiple terminal access
MTP	Mission Training Plan; MOS training plan
MUX	multiplex
NAI	NATO analog interface
NC	node center
NCO	noncommissioned officer
NCOIC	noncommissioned officer in charge
NCS	net control station
NES	Network Encryption System
NMF	node management facility
NMT	network management tool
NORM	normal
NPT	network planning terminal
NRI	net radio interface
OCU	orderwire control unit
OIC	officer in charge
OPER	operate
OPLAN	operation plan
OPNS	operation; operational
OPORD	operation order
OSI	open system interconnection; open switching interval; operator system interface
OSPF	open shortest path first
OTAR	over-the-air-rekey
OVM	operator vehicle maintenance; organizational vehicle maintenance

OW	orderwire
PAM/Pam	power amplifier; port adapter module; pulse amplitude modulation; pamphlet
PCC	printed circuit card
PEP	power entry panel
PLL	prescribed load list
PMCS	preventive maintenance checks and services
PS	packet switch/point of sight
PTP	point to point
PWR	power
QT	quarterly (frequency code)
RAU	radio access unit
RCSP	remote call service position
RDY	ready
RF	Reserve Forces; radio frequency
RKV	rekey variable
RTS	radio test set; real time system; remote trunking system(s); reliable transfer service; reliability test system; remote terminal subsystem; radar test set; Regional Training Sites
S2	Battalion Intelligence Officer
S3	Battalion Operations Officer
SA	situational awareness; semiannually (frequency code)
SCC	system control center
SCCOMP	system control center off-line maintenance program
SCS	secure communications switch; satellite communications system; satellite control satellite/section; sensor control system; simulation control subsystem; small computer system
SCTY	security
SDC	signal data converter
SDNRI	secure digital net radio interface unit
SDSG	space division switching group

SEN	small extension node; Satellite Education Network
SENS	small extension node switch/system
SEP	signal entry panel
SHF	super high frequency
SL	skill level
SM	soldier's manual
SMART-T	Secure Mobile Anti-Jam Reliable Tactical Terminal
SMCT	Soldier's Manual of Common Tasks
SMU	switch multiplex unit; SCC memory unit
SNMP	simple network management protocol
SOI	signal operation instructions
STP	soldier training publication
SYS	system
TB	technical bulletin
TC	technical coordinator; training circular; thermocouple
TDSG	time division switching group
TDSG(M)	time division switching group (modified)
TEC	Training Extension Course
TED	trunk encryption device
TEK	trunk encryption key
TEMP	temperature; Test and Evaluation Master Plan
TG	trainer's guide
TGC	trunk group cluster
TM	technical manual
TMG	tactical multinet gateway
TNS	tactical name server/service
TOE	table(s) of organization and equipment
TRANSEC	transmission security

TRI-TAC	tri-service tactical
TSB	trunk signaling buffer
TTY	teletypewriter
UHF	ultra high frequency
UPS	universal power supply; uninterruptable power supply
V	volt; nerve agent; vertical
VDT	video display terminal
VHF	very high frequency
VTC	video teleconference
XSMN	transmission

Section II

Terms

access

The process of obtaining data from or placing data into storage.

Additional skill identifier

Identification of specialized skills that are closely related to and are in addition to those required by MOS or specialty skill identifier (SSI). Specialized skills identified by the ASI include operation and maintenance of specific weapons systems and equipment, administrative-type systems and subsystems, computer programming languages, procedures, installation management, analytic methods, animal handling techniques, and similar required skills that are too restricted in scope to comprise an MOS or SSI.

analog transmission

Transmission of continuously variable signal as opposed to a discretely variable signal

Army Training and Evaluation Program (ARTEP)

The US Army's collective training program. ARTEP establishes unit training objectives critical to unit survival and performance in combat. They combine the training and the evaluation processes into one integrated function. The ARTEP is a training program and not a test. The sole purpose of external evaluation under this program is to diagnose unit requirements for future training.

Collective training

Training in units to prepare cohesive teams and units to accomplish their combined arms and services missions on the integrated battlefield.

common task

A critical task for which all soldiers at a given skill level are accountable, regardless of their MOS.

Condition

Task condition--The task condition describes the field conditions under which the task will be performed. The condition expands on the information in the task title by identifying when, where, and why the soldier performs the task and what materials, personnel, and equipment the soldier must have to perform the task. Learning objective condition--The learning objective condition describes the training situation or environment under which the student must perform the learning action statement. It includes any pertinent influence on learning objective performance, including identification of materials, facilities, and equipment the student must have to perform the objective.

Critical Task

A task that is essential for accomplishment of the unit mission, successful individual skill performance and/or survival in battle, and requires training.

hertz (Hz)

Standard unit of frequency.

Individual training

Training which the officer, NCO, or soldier receives in the training base, units, on the job, or by self-study. This training prepares the individual to perform specified duties or tasks related to the assigned or next higher specialty code of MOS skill level and duty position.

Military occupational specialty

A group of duty positions requiring similar qualifications and the performance of closely related duties.

Mission essential task list (METL)

A compilation of collective mission essential tasks that must be successfully performed if an organization is to accomplish its wartime mission(s).

MOS training plan (MTP)

The MTP is a guide for the conduct of individual training in units. An MTP is developed for each MOS and addresses all skill levels of an MOS and all duty positions. The MTP lists all MOS-specific and shared critical tasks for which the MOS is responsible. It will not include common tasks.

self-development

A planned, progressive and sequential program followed by leaders to enhance and sustain their military competencies. Self-development consists of individual study, research, professional reading, practice, and self-assessment.

Sustainment training

The provision of instruction and opportunities for practice to insure that individual or collective task proficiency is maintained at a requisite level. The frequency will vary with individual and collective tasks, the role, location, and personnel fill of the unit, and the desires of the commander.

Task Summary (TS)

A statement of the task in an action-verb format plus all essential performance measures. A standard format fully describes the task for the soldier in the field. It will accommodate any product or process task whether it is in fixed sequence, alternate sequence, or combination. The task summary is used both to train the soldier to perform the task and to evaluate the soldier's ability to perform the task (within testing constraints).

Train-Up

The process of increasing the skills and knowledge of an individual to a higher skill level in the appropriate MOS. (It may involve certification.)

unit training

Training (individual, collective, and joint or combined) conducted in the unit.

REFERENCES

Army Regulations

AR 750-1 Army Materiel Maintenance Policy and Retail Maintenance Operations.
1 August 1994

Department of the Army Pamphlets

DA PAM 710-2-1 Using Unit Supply System (Manual Procedures). 31 December 1997
DA PAM 738-750 Functional Users Manual for the Army Maintenance Management
System (TAMMS). 1 August 1994

Field Manuals

FM 24-1 Signal Support in the AirLand Battle. 15 October 1990
FM 24-33 Communications Techniques: Electronic Counter-Countermeasures.
17 July 1990
FM 71-1 Tank and Mechanized Infantry Company Team. 26 January 1998

Other Product Types

NES OPNS SCTY DOCTRINE Network Encryption System (NES) Operations (OPNS) Security (SCTY)
Doctrine
SCTY PLATFORM USER
MANUAL Security (SCTY) Platform Users Manual
UNIT OPLAN Unit Operation Plan
UNIT OPORD Unit Operation Order
UNIT SOP Unit Standing Operating Procedure

Soldier Training Publications

STP 21-1-SMCT Soldier's Manual of Common Tasks Skill Level 1. 1 October 1994
STP 21-24-SMCT Soldier's Manual of Common Tasks (SMCT) Skill Level 2-4.
1 October 1992

Technical Bulletins

TB 11-5800-224-10-1 Enhanced Switch Operation Program (ESOP) Software User's Guide
Vol I. 1 August 1997
TB 11-5800-224-10-2 Enhanced Switch Operation Program (ESOP) Software User's Guide
Vol II. 1 August 1997
TB 11-5895-1544-10-1 Operator's Manual for Mobile Subscriber Equipment Network Planning
Terminal (MSE-NPT) V1.00. 1 May 1994
TB 11-5895-1544-10-2 Operator's Manual for Mobile Subscriber Equipment Network Planning
Terminal (MSE-NPT) V1.00 (Reprinted w/Basic Incl C1-2). 1 May 1994
TB 43-0124 Maintenance and Repair Procedure for Shelters, Electrical Equipment S-
141/G and S-141B/G; S-144/G, S-144A/G, S-144B/G, S-144C/G, and S-
144D/G..(Reprinted w/Basic Incl C1-3). 5 June 1979

Technical Manuals

(O)TM 11-5810-256-10-1 Net Controller Operating Procedures for Communications Security
Equipment KY-57. 30 June 1988
(O)TM 11-5810-292-13&P Operator's, Unit and Direct Support Maintenance Manual for General
Purpose Tape Reader KOI-18, Electronic Transfer Device KYK-13, Net
Control Device KYX-15/15A. 31 May 1989

- (O)TM 11-5810-326-13 Operator's, Organizational, and Direct Support Maintenance Manual for Loop Key Generator/Common Unit HGX-82/TSEC. 22 July 1989
- (O)TM 11-5810-327-10 Operator's Manual for Automatic Key Distribution Center Rekeying Control Unit HGX-83/TSEC. 22 May 1984
- (O)TM 11-5810-329-10 Operator's, Organizational, and Direct Support Maintenance Manual for Digital Subscriber Voice Terminal TSEC/KY-68 and HYP-71/TSEC. 15 September 1983
- (O)TM 11-5810-330-13 Operator's, Organizational, and Direct Support Maintenance Manual for Loop Key Generator Set TSEC/KG-82. 30 October 1985
- (O)TM 11-5810-331-13 Operator's, Organizational, and Direct Support Maintenance Manual for Key Variable Generator TSEC/KG-83. 30 October 1987
- (O)TM 11-5810-349-10 Operator's Manual, Secure Digital Net Radio Interface Unit KY-90. 30 December 1987
- (O)TM 11-5810-349-23 Organizational and Direct Support Maintenance, Secure Digital Net Radio Interface Unit KY-90. 30 December 1987
- (O)TM 11-5810-361-23 Unit and Direct Support Maintenance Manual for Trunk Encryption Devices KG-94, KG-194 and Ancillary Signal Frames HNF-81-1, HNF-81-2 and Transition Unit/Frames HGF-91, HGF-94. 13 September 1990
- (O)TM 11-5810-363-10 Operator's Manual HGF-93/KGX-93 Transition Unit Nest Assembly/Automatic Key Distribution Center. 21 March 1989
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Related Publications

Related publications are sources of additional information. They are not required in order to understand this publication.

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TM 11-7021-216-13&P Operator's, Unit, and Direct Support Maintenance Manual Including Repair Parts and Special Tools List for Computer, Digital AN/UYK-86(V)1, AN/UYK-86(V)2, AN/UYK-86(V)3. (Reprinted w/Basic Incl C1-3). 1 September 1991

TM 11-7025-281-12&P Operator's and Unit Level Maintenance Manual (Including Repair Parts and Special Tools List) for Automatic Data Processing Printers PT-546(V)1/U, PT-546(V)2/U, PT-546(v)3/U, PT-546(V)4/U, PT-546(V)5/U (Reprinted w/Basic Incl C1). 15 July 1993

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TM 5-6115-630-14&P Operator's, Unit, Direct Support and General Support Maintenance Manual (Including Repair Parts and Special Tools List) for Power Unit, PU-751/M MEP-002A, 5 KW, 60 Hz Generator Set M116A1.2-Wheel, 2-Tire, Modified Trailer (Reprinted w/Basic Incl C1-3). 5 October 1989

TM 9-2320-280-10 Operator's Manual for Truck, Utility: Cargo/Troop Carrier, 1 1/4-Ton, 4x4, M998; M998A1; Truck, Utility: Cargo/Troop Carrier, 1 1/4-Ton, 4x4, w/Winch, M1038A1; Truck, Utility: Heavy Variant, 4x4, M1097; M1097A1; Truck, Utility: Tow Carrier, Armored, 1-1/4 Ton, 4X4, M966; M966A1; Truck, Utility: Tow Carrier, Armored, 1-1/4 Ton, 4X4, w/Winch, M1036; Truck, Utility: Tow Carrier, w/Supplemental Armor, 1-1/4 Ton, 4X4, M1045; M1045A1; M1045A2; Truck, Utility: Tow Carrier, w/Supplemental


- Armor, 1-1/4 Ton, 4X4, w/Winch, M1046; M1046A1; Truck, Utility: Armament Carrier, Armored, 1-1/4 Ton, 4X4, M1025; M1025A1; M1025A2; Truck, Utility: Armament Carrier, Armored, 1-1/4 Ton, 4X4, w/Winch, M1026; M1026A1; Truck, Utility: Armament Carrier, w/Supplemental Armor, 1-1/4 Ton, 4X4, M1043; M1043A1; M1043A2; Truck, Utility: Armament Carrier, w/Supplemental Armor, 1-1/4 Ton, 4X4, w/Winch, M1044; M1044A1; Truck, Utility: S250 Shelter Carrier, 4X4, M1037; Truck, Utility: S250 Shelter Carrier, 4X4, w/Winch, M1042; Truck, Ambulance, 2-Litter, Armored, 4X4, M996; M996A1; Truck, Ambulance, 4-Litter, Armored, 4X4, M997; M997A1; M997A2; Truck, Ambulance, 2-Litter, Soft Top, 4X4, M1035; M1035A1; M1035A2. 31 January 1996
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- TM 9-4120-367-14 Operator's, Unit, Direct Support and General Support Maintenance Manual for Air Conditioner, Horizontal, Compact, 18,000 BTU/HR Cooling Model: F18H, Power: 230V, Single Phase, 50/60 Hz Model: F18H-3, Power: 208V, 3 Phase, 50/60 HZ; Model: K1F-18H-4, Power: 208V, 3 Phase, 400 HZ, Model: F18H-3A, Power: 208V, 3 Phase, 50/60 HZ, Model: F18H-4A, Power: 208V, 3 Phase, 400 HZ, Model: MHP-20-4-08, Power: 208V, 3 Phase, 400 HZ (Reprinted w/Basic Incl C1). 31 August 1993
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- Training Circulars**
- TC 24-21 Tactical Multichannel Radio Communications Techniques. 3 October 1988

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