

Department of the Army  
Pamphlet 621-95

EDUCATION

**THE US ARMY  
SIGNAL SCHOOL  
APPRENTICESHIP  
PROGRAM FOR  
THE TRADE OF  
INSTRUMENT  
REPAIRER  
(ELECTRONIC)**

Headquarters  
Department of the Army  
Washington, DC  
15 July 1981

**UNCLASSIFIED**

# ***SUMMARY of CHANGE***

DA PAM 621-95

THE US ARMY SIGNAL SCHOOL APPRENTICESHIP PROGRAM FOR THE TRADE OF INSTRUMENT  
REPAIRER (ELECTRONIC)

Not applicable

o

o

## EDUCATION

# THE US ARMY SIGNAL SCHOOL APPRENTICESHIP PROGRAM FOR THE TRADE OF INSTRUMENT REPAIRER (ELECTRONIC)

**By Order of the Secretary of the Army:**

**E. C. MEYER**  
*General, United States Army*  
*Chief of Staff*

**Official:**

**ROBERT M. JOYCE**  
*Brigadier General, United States Army*  
*The Adjutant General*

Army electronic publishing database. No content has been changed.

**Summary.** Not applicable.

**Applicability.** This pamphlet applies to all elements of the active Army. This pamphlet does not apply to Army National Guard and Army Reserve.

**Proponent and exception authority.** The proponent agency of this pamphlet is The Adjutant General's Office.

**Interim changes.** Interim changes are not official unless they are authenticated by The Adjutant General. Users will destroy interim changes on their expiration dates unless sooner superseded or rescinded.

**Suggested Improvements.** Users are invited to send comments and suggested

improvements on DA Form 2028 (Recommended Changes to Publications and Blank Forms) to Commander, US Army Signal Center and Fort Gordon, ATTN: ATZHPA-E, Fort Gordon, GA 30905.

**Distribution.** To be distributed in accordance with DA Form 12-9A requirements for DA Pamphlets, Education plus 5 copies each to All Education Centers and Sub-centers.

Active Army: B

ARNG: None

USAR: None

**History.** This publication has been organized to make it compatible with the

**Contents** (Listed by paragraph and page number)

Purpose. • 1, *page 1*

Applicability. • 2, *page 1*

General. • 3, *page 1*

Apprenticeship Program Number and Occupational Skill Code. • 4, *page 1*

Eligibility for Participation in the Program. • 5, *page 1*

The Instrument Repairer (Electronic) Apprenticeship Program. • 6, *page 1*

Enrollment in the Program. • 7, *page 1*

Apprenticeship Log Forms. • 8, *page 1*

Credit for Previous Experience. • 9, *page 1*

Related Instruction Credit for Previous Military and Civilian Education. • 10, *page 1*

Completion of the Program. • 11, *page 2*

Partial Completers. • 12, *page 2*

### Appendixes

**A.** REFERENCES, *page 3*

**B.** WORK PROCESS SCHEDULE FOR THE TRADE OF INSTRUMENT REPAIRER (ELECTRONIC) (DOT CODE 710.261-010), *page 4*

**C.** SCHEDULE OF RELATED INSTRUCTION FOR THE TRADE OF INSTRUMENT REPAIRER (ELECTRONIC) (DOT CODE 710.261-010), *page 5*

**D.** EXAMPLE OF A PARTIAL COMPLETION LETTER, *page 6*

\*This pamphlet supersedes DA Pam 621-95, 15 April 1979.

**RESERVED**

## **1. Purpose.**

The purpose of this pamphlet is to announce the US Army Signal School Apprenticeship Program for the Trade of Instrument Repairer (Electronic)(DOT Code 710.26-010).

## **2. Applicability.**

This pamphlet applies to all elements of the Active Army. This pamphlet does not apply to Army National Guard and Army Reserve.

## **3. General.**

Policies and procedures for participation in the program are contained in AR 621-5. This pamphlet is designed to be used in conjunction with that regulation.

## **4. Apprenticeship Program Number and Occupational Skill Code.**

*a.* The following apprenticeship program number and occupational skill code are used to identify the US Army Signal School Apprenticeship Program for the Trade of Instrument Repairer (Electronic).

(1) Apprenticeship Program Number: 99904.

(2) Occupational Skill Code: 17.

*b.* The apprenticeship program number and occupational skill code must be entered on DA Form 4409-R (Apprenticeship Application) to identify the program for which the soldier is making application.

## **5. Eligibility for Participation in the Program.**

Eligibility for Participation in the Program. Soldiers holding as primary or secondary the MOS of 35B, Electronic Instrument Repairer and serving in the MOS may participate in the program.

## **6. The Instrument Repairer (Electronic) Apprenticeship Program.**

This is an 8,000-hour program which leads to certification as journeyworker in the trade of Instrument Repairer (Electronic). Participation in the program is voluntary, and no membership in labor unions or professional associations is required. The work process schedule and schedule of related instruction for the trade are attached (app. B and C). The purpose of the work process schedule and the schedule of related instruction are as indicated below:

*a.* The work process schedule reflects categories of work experience required by soldier-apprentices to qualify as journeyworker and hours of work experience required in each category.

*b.* The schedule of related instruction identifies courses which may be taken by soldier-apprentices to satisfy the 576 hours of related instruction required for completion of the program.

## **7. Enrollment in the Program.**

Soldiers may enroll in the program by contacting their installation education services officers (ESOs) who will explain requirements of the program and assist in the preparation of the apprenticeship qualification form (DA Form 4409-R).

## **8. Apprenticeship Log Forms.**

Apprenticeship log forms and instructions on use of forms will be issued to soldiers by installation ESOs at the time of registration in the program. Log instruction sheets will be maintained by soldiers in a three-ring binder. Soldier-apprentices will be required to annotate their work experience on log sheets on a daily basis. The standard for the amount of work experience logged will be 132 hours per month. Hours logged above this standard amount must be justified in the remarks section of the daily work experience record and attested to by the signature and rank of the shop craft supervisor or an individual holding a comparable position. Log entries must be verified by the soldier-apprentice's immediate supervisor on a weekly basis.

## **9. Credit for Previous Experience.**

*a.* Newly enrolled soldier-apprentices who have partially completed an approved Federal or State registered civilian apprenticeship in the trade of Instrument Repairer (electronic) or a related trade will, upon presentation of documentation, be awarded credit for all experience related to categories of work contained in the work process schedule cited at appendix B.

*b.* Up to 4,000 hours of credit for previous military work experience may be awarded upon presentation of authenticated documentation of satisfactory performance. Such experience must be directly related to the occupation in which the apprenticeship is being performed. Statements from previous supervisors or other such documentation which certify category of work, number of hours by category, and quality of performance will be submitted by soldier-apprentices to their installation ESOs for consideration. ESOs will forward these documents to the Commander, US Army Signal Center and Fort Gordon, ATTN: ATZHPA-E, Fort Gordon, GA 30905, for final determination.

## **10. Related Instruction Credit for Previous Military and Civilian Education.**

Credit for previous military and civilian education may be awarded to satisfy related instruction requirements by

presenting certificates of course completion or other such documentation from official military records or other sources. The installation ESO will determine the amount of credit to be awarded. The ESO will consult sponsor Service schools, as required, in order to determine the appropriate amount of credit for each course not listed in appendix C of this pamphlet.

#### **11. Completion of the Program.**

Upon successful completion of the program, a Certificate of Completion of Apprenticeship will be awarded by the US Department of labor. While the award of a Certificate of Completion of Apprenticeship will not guarantee a job, it will certify that journeyworker status has been attained, and should enable completers of the program to be more competitive with civilians in the trade.

#### **12. Partial Completers.**

Soldiers leaving the Service prior to the completion of the program will receive documented credit for that portion of the program which they did complete. This documentation may be presented for satisfaction of requirements of civilian apprenticeship programs in the trade of Instrument Repairer (Electronic) or a related trade. See appendix D.

## **Appendix A REFERENCES**

### **Section I Required Publications**

This section contains no entries.

### **Section II Related Publications**

This section contains no entries.

### **Section III Prescribed Forms**

This section contains no entries.

### **Section IV Referenced Forms**

This section contains no entries.

**Appendix B**  
**WORK PROCESS SCHEDULE FOR THE TRADE OF INSTRUMENT REPAIRER (ELECTRONIC)**  
**(DOT CODE 710.261-010)**

**Table B-1**  
**WORK PROCESS SCHEDULE FOR THE TRADE OF INSTRUMENT REPAIRER (ELECTRONIC)**

	<i>Hours</i>
A. Orientation to Electronic Equipment such as, but not limited to: Signal Generators, Analyzers, Test Sets, Oscilloscopes and Various Meters (i.e. volt, frequency, etc.) . . . . .	500
1. Develop skills in the use, care and storage of handtools.	
2. Apply proper shop and trade terminology used on the job.	
3. Assist experienced repairer in the repair of electrical instrument equipment.	
4. Care of shop and workbenches for general appearance.	
5. Maintain test equipment, materials records and inventories.	
6. Keep project records, job records and time cards.	
B. Maintenance . . . . .	600
1. Perform preventive checks on equipment.	
2. Test equipment for accuracy to meet required tolerances.	
3. Perform minor adjustments as necessary for operation or accuracy.	
C. Troubleshooting . . . . .	4,000
1. Visually inspect for damage.	
2. Utilize schematic wiring diagrams and troubleshooting charts.	
3. Analyze theory of operation of equipment requiring maintenance.	
4. Sectionalize trouble to a major component.	
5. Localize problems to subassembly or circuit.	
6. Isolate defective parts of components with test equipment.	
7. Observe high voltage warnings.	
8. Disassemble equipment as required for troubleshooting.	
D. Repair . . . . .	1,500
1. Removal of equipment from inclosures, such as cabinet cases or metal boxes.	
2. Disassemble equipment as required for repair.	
3. Reassemble equipment as required after repair.	
4. Perform soldering and unsoldering on circuitry and components.	
5. Replace defective parts or components.	
6. Test replaces part of component for correct mechanical or electronic operation.	
E. Align and Adjust . . . . .	800
1. Align electronic equipment to develop standards of operation.	
2. Adjust electronic equipment for proper operation after repair using visual means and/or electronic test equipment.	
3. Perform calibration adjustments as required.	
F. Final Test . . . . .	600
1. Perform final operation check of repaired equipment in accordance with charts, manuals and manufacturers service data.	
2. Final check for overall operating characteristics and proper repair.	
<b>TOTAL</b>	<b>8,000</b>

This paragraph contains no entries.

## Appendix C

### SCHEDULE OF RELATED INSTRUCTION FOR THE TRADE OF INSTRUMENT REPAIRER (ELECTRONIC) (DOT CODE 710.261-010)

A total of 576 hours of related instruction is required to complete this program. Completion of any one or a combination of the below listed courses which equals 576 hours of related instruction or more may be taken to satisfy this requirement. Credit for courses not listed below may be awarded upon presentation of authenticated documentation of satisfactory completion. A synopsis of the course must be submitted with documentation. Documentation and synopsis of courses not listed below will be forwarded by ESOs to the Commander, US Army Signal Center and Fort Gordon, ATTN: ATZHPA-E, Fort Gordon, GA 30905, for final determination.

**Table C-1**  
**SCHEDULE OF RELATED INSTRUCTION FOR TRADE OF ELECTRONIC TECHNICIAN**

Course Number	Course Title	School	Resident	Non-resident	Credit Hours
A. 198-35B10	Electronic Instrument Repair	USASC	X		964
B. 6-24	Electronic Instrument Repair(35B10)	USASC		X	151
C. SSO 308	Introduction to Electricity	USASC		X	6
D. SSO 309	Introduction to Electronics	USASC		X	10
E. SSO 311	Electron Tubes	USASC		X	10
F. SSO 312	Electron-Tube Applications	USASC		X	12
G. SSO 313	Semiconductor Devices	USASC		X	7
H. SSO 314	Semiconductor Applications	USASC		X	10
I. SSO 315	Power Transistors	USASC		X	5
J. SSO 371	Timing Circuits	USASC		X	15
K. SSO 391	Digital Circuit Fundamentals	USASC		X	11
L. SSO 650	Safety and Preventive Maintenance	USASC		X	3
M. SSO 462	Basic Test Equipment—Operation	USASC		X	9
N. SS9 462	Basic Test Equipment—Operation(SOJT)	USASC		X	12
O. SS9 448	Operation of Multimeter TS-352(1/U (SOJT))	USASC		X	3
P. SS9 449	Operation of Multimeter ME-26/U(SOJT))	USASC		X	2
Q. SS9 443	Operation of Electronic Voltmeter ME-20/U(SOJT))	USASC		X	2
R. SSO 651	Shop Practices and Safety	USASC		X	3
S. SS9 917	Localizing Faults in Electronic Power Supplies(TEC)	USASC		X	13
T. SS9 444	Operation of Signal Generator AN/URM-127(SOJT)	USASC		X	2
U. SS9 445	Operation of Signal Generator AN/URM-103(SOJT)	USASC		X	3
V. SS9 446	Operation of Electronic Digital Readout Counter AN/USM-207 for Frequencies Below 85MHZ(SOJT)	USASC		X	2
W. SS9 447	Operation of Electronic Digital Readout Counter AN/USM-207 for Frequencies Above 85MHZ(SOJT)	USASC		X	2
X. SS9 706	Operation of Oscilloscope AN/USM-281C(SOJT)	USASC		X	3
Y. SS9 707	Operation of Oscilloscope AN/USM-140(B)(C-)(SOJT)	USASC		X	3
Z. SS9 709	Operation of Oscilloscope AN/USM-281A(SOJT)	USASC		X	3

This paragraph contains no entries.

**Appendix D  
EXAMPLE OF A PARTIAL COMPLETION LETTER**

(Enter Office Symbol)

(Enter Date)

TO WHOM IT MAY CONCERN:

This is to certify that \_\_\_\_\_ was enrolled in the Army  
(Name)

Apprenticeship Program for \_\_\_\_\_  
(Name of Occupational Skill Area)

\_\_\_\_\_ During this period \_\_\_\_\_ to \_\_\_\_\_. During that period  
(Registration Number) (Date) (Date)

he successfully completed the following hours:

<i>Work Process</i>	<i>Hours</i>
A	_____
B	_____
_____	_____
_____	_____

Army Apprentice Programs are registered with the US Department of Labor and the fact that this individual did participate can be verified with the Bureau of Apprenticeship and Training, Patrick Henry Building, Washington, DC 20213, or by contacting Headquarters, TRADOC, ATTN: ATPL-AGE, Fort Monroe, VA, 23651.

Sincerely,

ESO's SIGNATURE BLOCK

**Figure D. EXAMPLE OF A PARTIAL COMPLETION LETTER**

This paragraph contains no entries.

**UNCLASSIFIED**

**PIN 033255-000**

# USAPA

ELECTRONIC PUBLISHING SYSTEM

OneCol FORMATTER .WIN32 Version 144

PIN: 033255-000

DATE: 03-16-01

TIME: 12:25:19

PAGES SET: 10

---

DATA FILE: C:\wincomplyonatan.fil

DOCUMENT: DA PAM 621-95

DOC STATUS: NEW PUBLICATION