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Instructor's Guide for the AN/FSQ-7

TM-1118/001/00

TECHNICAL MEMORANDUM

(TM Series)

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Instructor's Guide

for the AN/FSQ-7

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PREFACE

The purpose of this document is to present in organized fashion the necessary tools, excluding textual material, for a 4-week course in Q-7 coding. Because of the nature of the material, each volume is published separately. They are as follows:

TM-1118/001/00	Introduction
TM-1118/002/00	Outline/Bibliography
TM-1118/003/00	Problem Set
TM-1118/004/00	Problem Solutions
TM-1118/005/00	Examinations, P.A.T.s (Programming Aptitude Tests)
TM-1118/006/00	Class Problem

Volumes 2, 3, and 6 can be given to the students along with the documents listed in the bibliography. Volumes 4 and 5 must obviously be restricted, and are published in limited form.

The course as outlined in Volume 2 has been classroom tested, and the order of presentation has proven to be satisfactory. Specific areas may be modified to suit individual tastes without altering the course as a whole. Discretion must be exercised in doing so, however, because the problem sets and exams presuppose use of the outlined chronology.

The authors wish to thank those members of the staff who contributed to the content of this document.

INTRODUCTION

I. Construction of the Course

The order of topics presented in the outline is a logical, workable one. The student is given a brief description of the computer and it's component parts and is then introduced to the simpler instructions. Many instructions are introduced in rapid-fire manner to give the trainee the tools for writing simple but meaningful programs very early in the course. The course then broadens and steadily increases in complexity through input-output programming. The class problem was designed to follow the same basic pattern. It is to be assigned in three sections, the first of which is simple, the last rather complex.

The course is divided into four segments. The first three present the tools for programming the Q-7. Each of these three segments is supplemented by a problem set and followed by an exam and P.A.T. (Programming Aptitude Test). The fourth segment includes tape file maintenance and debugging tools which are not directly tested. The final exam concludes the course.

II. The Outline - Bibliography

The outline is a list of topics to be presented with bibliographical references. No attempt has been made to restrict the instructor to a day-to-day schedule of lectures or assignments. The bibliography is a list of the most helpful and accurate Q-7 documents available. With this arrangement, the students have a convenient reference for the more important parts of the course.

III. The Problem Sets

These problems are presented to give the student practice in writing, analyzing, and debugging routines. They are designed to supplement the first three segments of the course, i.e., problems 11 - 19 supplement the material tested in Exam 1, problems 21 - 29 Exam 2, etc. In general, the problems increase in complexity with increased problem number within each segment, and test all the major topics in the outline. In many cases the solutions given are not the only ones, but serve as well coded examples.

IV. Exams and P.A.T.s

The exams consist of the best problems from prior exams plus new ones designed to test specific concepts. Each major topic on the outline is tested in either an analysis or debugging type of problem. The P.A.T. tests the students ability to write a fairly difficult routine under the pressure of time. Thus the two types of examination require writing, analyzing, and debugging programs.

V. The Class Problem

The problem is thoroughly outlined in volume 6, but a few comments about its use are in order. Experience has shown that timing is important in assigning the problem. Part one should not be assigned until after the first exam even though the necessary tools will have been given earlier. Part two involves multiplication and division and must of necessity follow those topics. Similarly, part three requires manipulation of input-output and here the student should have a knowledge of the card reader, punch, and the line printer as well as General Input and General Output. Tapes and drums need not have been covered.

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Presents the necessary tools for
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Lists the contents of each
volume in this series.

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