
TECHNICAL MANUAL

OPERATOR'S, ORGANIZATIONAL, DIRECT SUPPORT,
AND GENERAL SUPPORT MAINTENANCE MANUAL

FOR

SWITCHING SET, COMMUNICATIONS AN/MSQ-74(V)1
(NSN 5895-00-949-5868)

SWITCHING SET, COMMUNICATIONS AN/MSQ-74(V)2
(NSN 5895-00-949-5906)

SWITCHING SET, COMMUNICATIONS AN/MSQ-74(V)3
(NSN 5895-00-948-5606)

SWITCHING SET, COMMUNICATIONS AN/MSQ-74(V)4
(NSN 5895-00-948-5642)

SWITCHING SET, COMMUNICATIONS AN/MSQ-74(V)5
(NSN 5895-00-949-5900)

SWITCHING SET, COMMUNICATIONS AN/MSQ-74(V)6
(NSN 5895-00-948-6410)

SWITCHING SET, COMMUNICATIONS AN/MSQ-74(V)7
(NSN 5895-00-948-5689)

SWITCHING SET, COMMUNICATIONS AN/MSQ-74(V)8
(NSN 5895-00-948-5680)

SWITCHING SET, COMMUNICATIONS AN/MSQ-74(V)9
(NSN 5895-00-930-2643)

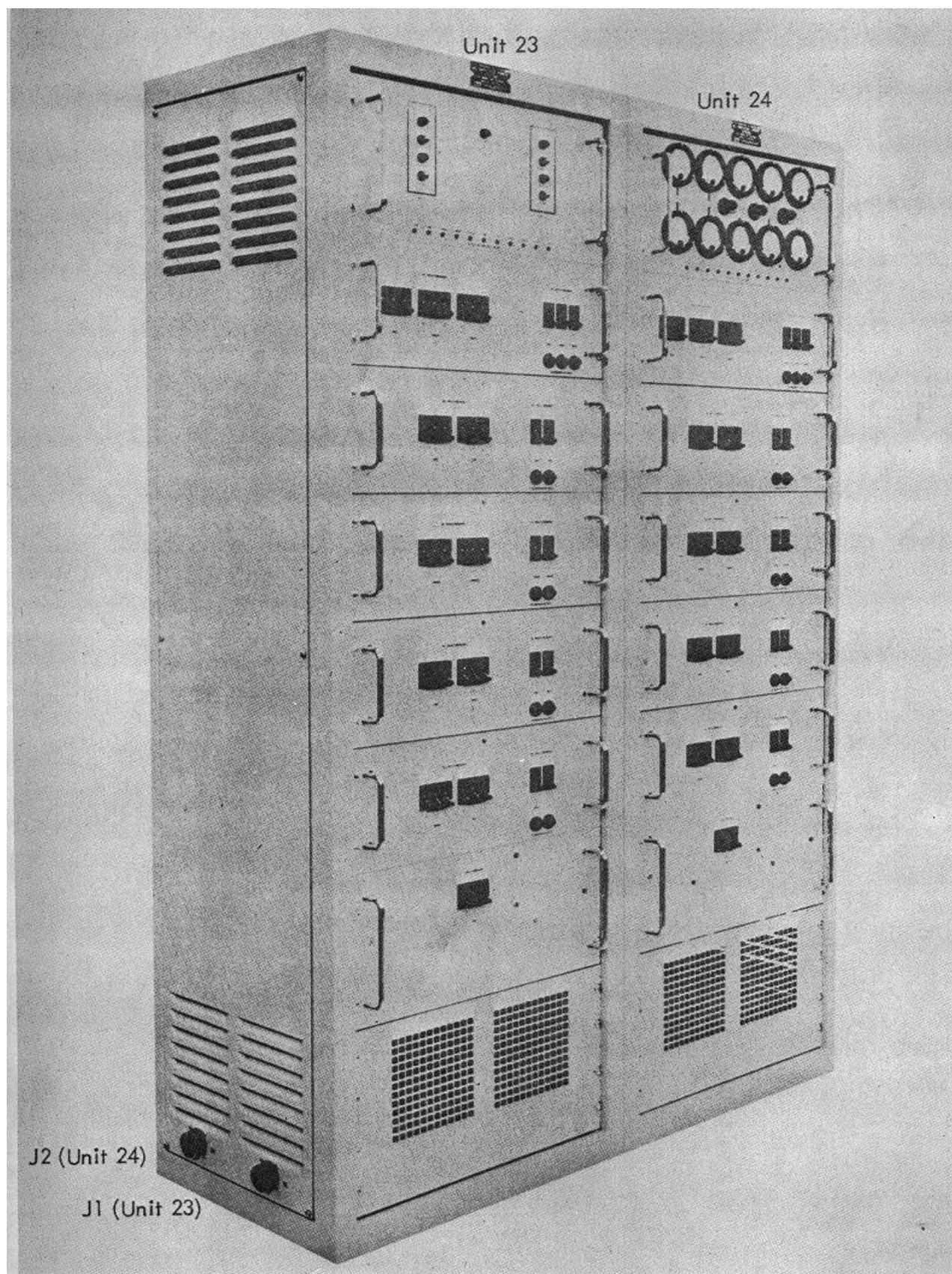
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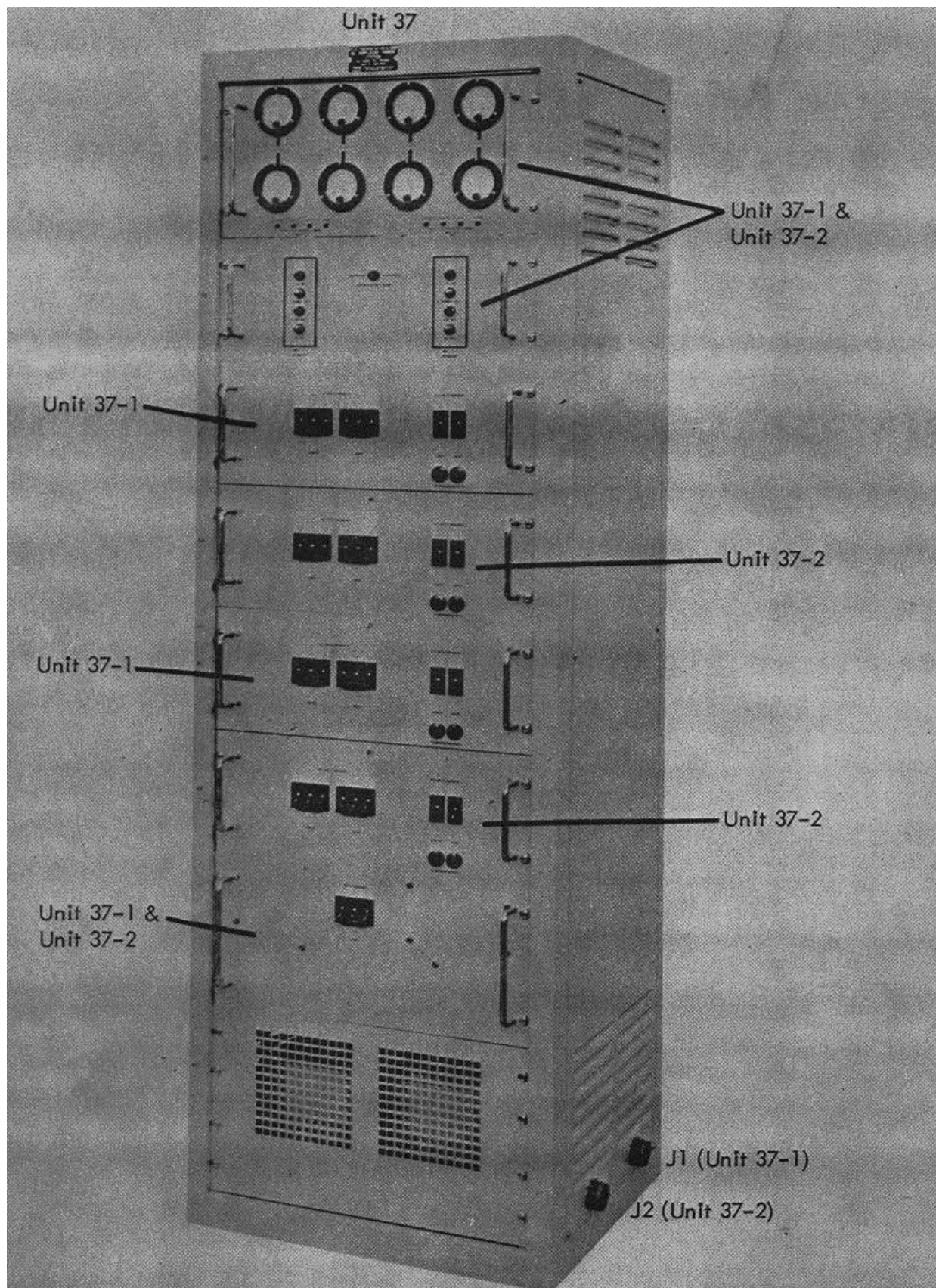
SWITCHING SET, COMMUNICATIONS AN/MSQ-74(V)12
(CONSOLE REMOTE EQUIPMENT) (NUS 7640)

HEADQUARTERS, DEPARTMENT OF THE ARMY

JUNE 1976



Frontispiece. DC Duplexed Power System, Model PS1063A,
ITT-FL PN 2351567-G2 (Sheet 2 of 3)



Frontispiece. DC Duplexed Power System, Model PS1085A,
ITT-FL PN 2351567-G3 (Sheet 3 of 3)
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AND
 SWITCHING SET, COMMUNICATIONS AN/MSQ(V)12
 (CONSOLE REMOTE EQUIPMENT) (NUS 7640)

REPORTING OF ERRORS

You can help improve this manual by calling attention to errors and by recommending improvements and stating your reasons for the recommendations. Your letter or DA Form 2028 (Recommended Changes to Publications and Blank Forms) should be mailed direct to the Commander, US Army Electronics Command, ATTN: DRSEL-MA-Q, Fort Monmouth, New Jersey 07703.

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SECTION I

GENERAL INFORMATION

1-1. INTRODUCTION.

Section I contains a general description of the DC Duplexed Power System (also referred to as the "Power Supply"), general configuration information, operating specifications, primary power requirements, general physical characteristics, and a table of leading particulars.

1-2. GENERAL DESCRIPTION.

The DC Duplexed Power System is a multi-channel power converter which converts commercial three-phase 50-60 cps AC power to several channels of regulated DC power. The regulated DC output voltages are required to operate a complete communication control and data reduction center, which is housed in a portable trailer van.

To insure maximum system reliability, the DC Duplexed Power System is totally redundant (duplexed). Two separate non-synchronized AC outside power sources are connected to two separately operating converter systems, which are in turn coupled to redundant control center systems, within each DC Duplexed Power System. Therefore, failure of one of the outside power sources would not impair the operational capability of the control center. Also, failure of half of the DC Duplexed Power System converter system itself would not affect the operational capability of the control center.

Three versions of the DC Duplexed Power System are utilized to support two types of control centers. These control centers contain similar equipment but in different quantities. The Local Equipment Van contains approximately twice as much equipment as the Remote Equipment Van and therefore requires approximately twice the operating power. DC Duplexed Power Systems, Models PS1062A and PS1085A, furnish the required power for the Local Equipment Van. DC Duplexed Power System, Model PS1063A, furnishes the required power for the Remote Equipment Van.

1-3. GENERAL CONFIGURATION. (See Figures 1-1 through 1-7)

DC Duplexed Power Systems, Models PS1062A and PS1063A, contain six removable drawers. DC Duplexed Power System, Model PS1085A, contains five removable drawers. One drawer in each model contains an axial fan assembly for cabinet

cooling and an auxiliary transformer-rectifier-filter assembly. The remaining drawers in each model contain rectifier-filter-regulator assemblies. Each drawer in DC Duplexed Power System Models PS1062A and PS1063A is directly interchangeable with its "twin" in the adjoining cabinet. DC Duplexed Power System Model PS 085A drawers A3 and A4 are interchangeable, as are drawers A5 and A6.

A large power transformer is mounted in the bottom of each DC Duplexed Power System cabinet assembly. The transformer provides appropriate low voltage, high current inputs to the regulator drawers.

In DC Duplexed Power System Models PS1062A and PS1063A, the alarm panels, which provide continuous visual indication of the Power System status, are mounted at the top of the left-hand cabinet assembly. The left-hand cabinet is designated as Unit 23, for identification purposes. In DC Duplexed Power System Model PS1085A the alarm panel is mounted directly below the meter panel, and is designated as A2.

In DC Duplexed Power System Models PS1062A and PS1063A, the meter panels, which indicate output voltage and load current, are mounted at the top of the right-hand cabinet assembly. The right-hand cabinet is designated as Unit 24, for identification purposes. In DC Duplexed Power System Model PS1085A the meter panel is the top panel and is designated as A1.

In DC Duplexed Power System Models PS1062A and PS1063A the alarm and meter panels swing down to allow access to the two control chassis assemblies and to the back of each panel. In DC Duplexed Power System Model PS1085A the meter panel swings down to allow access to the single control chassis assembly. Although there is no equipment located behind the alarm panel, the panel swings down to allow access to the rear of the panel for servicing.

Immediately behind the meter panel on all three DC Duplexed Power Systems and behind the alarm panels on DC Duplexed Power System Models PS1062A and PS1063A are the control chassis assemblies which provide mounting for the regulator control printed circuit boards, circuit protection, OUTPUT VOLTAGE ADJUSTMENT and OVERVOLTAGE ADJUSTMENT potentiometers. DC Duplexed Power System Model PS1062A utilizes 15 printed circuit boards in each control chassis assembly. DC Duplexed Power System Model PS1063A utilizes 11 printed circuit boards in each control chassis assembly. DC Duplexed Power System Model PS1085A utilizes four printed circuit boards in Unit 37-1 (left-hand side of control chassis assembly) and four printed circuit boards in Unit 37-2 (righthand side of control chassis assembly).