

MASTER COPY

DO NOT DESTROY

UNCLASSIFIED

TECHNICAL MANUAL

for

GENERAL PURPOSE

RECEIVER SYSTEM

MODEL DDR-6H

APPENDIX



THE TECHNICAL MATERIEL CORPORATION
MAMARONECK, N.Y.

OTTAWA, ONTARIO

UNCLASSIFIED

TECHNICAL MANUAL
for
GENERAL PURPOSE
RECEIVER SYSTEM
MODEL DDR-6H

APPENDIX

THE TECHNICAL MATERIEL CORPORATION

MAMARONECK, N.Y.

OTTAWA, ONTARIO

IN-3003H

ISSUE DATE: 30 OCTOBER 1963

TABLE OF CONTENTS

DDR-6H

APPENDIX

<u>Paragraph</u>		<u>Page</u>
1.	Introduction - - - - -	1
2.	Parts Breakdown - - - - -	1
3.	RAK-16C Rack - - - - -	1
4.	DCP-1 Power Control Panel - - - - -	2
5.	LSP-7 Speaker Panel - - - - -	2
6.	Interconnecting Cable Installation - -	3
7.	Shipping Data - - - - -	3

LIST OF ILLUSTRATIONS

<u>Figure</u>		<u>Page</u>
A.	Model RAK-16C Rack - - - - -	12
B.	Cable Installation GPR-90RXD - - - - -	13
C.	Model DCP-1 Power Control Panel - - -	14
D.	Model LSP-7 Speaker Panel - - - - -	15
E.	Cable Installation Diagram - - - - -	16

LIST OF TABLES

<u>Table</u>		<u>Page</u>
A.	Parts List, DDR-6H - - - - -	3
B.	Parts List, RAK-16C - - - - -	4
C.	Parts List, LSP-7 - - - - -	8
D.	Parts List, DCP-1 - - - - -	9
E.	Shipping List, DDR-6H - - - - -	10

APPENDIX

RACK AND ACCESSORIES

1. INTRODUCTION

This part of the manual describes the RAK-16C rack structure and wiring, the LSP-7 Speaker Panel and the DCP-1 Power Distribution Panel. Minor wiring and component rating variations occurring in successive production runs of model DDR-6H are also included in this section.

2. PARTS BREAKDOWN

The major parts breakdown of the DDR-6H is outlined in Table A. For each major part, Table A refers to the section of the manual containing its list of replaceable components along with any special component variations peculiar to the DDR-6H. When reordering any major parts (GPR-90RXD, MSR-4, etc.) specify that the unit is to be for a DDR-6H in order to insure that the replacement will arrive with the variations listed in Table A.

When the DDR-6H is shipped from the factory, it is disassembled and divided into 3 crates. Table E describes the contents of each crate and includes the function and use of each loose item.

3. RAK-16C RACK

Model RAK-16C is a 13-gauge steel rack for mounting 19-inch wide components. The front mounting flange contains #10-32 threaded holes in the standard relay rack universal pattern. The rack structure contains 3 sets of drawer slides for mounting the GPR-90RXD and 2 MSR-4 units, and has a hinged rear door. There are two types of rack -- for base-mounted and shock-mounted transmitters. The

base-mounted rack consists of the basic RAK-16 rack plus MS-1901 base. The shock-mounted rack consists of the basic RAK-16 with 4 shock mounts installed in the two bottom channels and 2 shock mounts in the rear wall near the upper edge. Figure A is an outline drawing of both types and includes overall and mounting dimensions. The entire structure is finished with TMC RCAF blue-grey smooth enamel.

A reel-mounted spring (see Figure B) is provided for retracting the GPR-90RXD wiring cable to prevent cable snagging when the GPR-90RXD is drawn in and out on its drawer slides.

Two exhaust blowers for the rack forced-air cooling system are installed on the lower part of the rear door. Removable air filter (TMC #AD-103-9) is inserted in the door for the blowers. Air intake is in the ceiling of the rack (see Figure A) through removable air filter TMC #AD-103-5. Four large exit holes with cover plates are located at the bottom of the rack structure (one on either side, one in back, and one in the bottom) for passing out external wiring. Four 5/8-inch diameter knockout holes are located near the top of the rack for antenna cable entrance.

An a-c power strip is located on the right inside wall for distribution of line voltage to the components.

4. DCP-1 POWER CONTROL PANEL

Figure C shows the outline dimensions and wiring schematic diagram of Model DCP-1 Power Distribution Panel. Table D lists replaceable parts.

5. LSP-7 SPEAKER PANEL

Figure D shows the outline dimensions and wiring schematic

diagram of Model LSP-7 Loudspeaker Panel. Table C lists replaceable parts.

6. INTERCONNECTING CABLE INSTALLATION

To install DDR-6H cabling, make connections per Figures B and E. Refer to Table E for parts included in the shipment as "loose items". This table includes the function of each loose item in the "description" column.

7. SHIPPING DATA

The complete DDR-6H is disassembled and shipped in three crates; the contents of each crate is described in Table E. Crate numbers, sizes, and weights are as follows:

<u>Crate No.</u>	<u>Size of Crate (in inches)</u>	<u>Total Weight of Crate and Contents</u>
1 - - - - -	24-1/2x31-1/8x66-1/2 - - - - -	390 lbs.
2 - - - - -	21-5/8x25-3/4x27 - - - - -	155 lbs.
3 - - - - -	23-7/8x31-1/2x31-3/4 - - - - -	184 lbs.

TABLE A. PARTS LIST, DDR-6H

<u>QTY/ UNIT</u>	<u>TMC PART NO.</u>	<u>TITLE</u>	<u>DESCRIPTION</u>
1	RAK-16C	Rack	Consists of rack structure and components listed in RAK-16C parts list (Table B).
1	GPR-90RXD	Communications Receiver	Consists of unit and parts as described in GPR-90RXD Manual. Includes special AC power cable TMC #CA-575-1, and loose items as described for GPR-90RXD in Table E, crate #1.

TABLE A. PARTS LIST, DDR-6H(Cont)

QTY/ UNIT	TMC PART NO.	TITLE	DESCRIPTION
2	MSR-4	Single Sideband Converter	Consists of unit and parts as described in MSR-4 Manual.
1	LSP-7	Speaker Panel	Consists of unit as shown in Figure D and parts as listed in Table C.
1	DCP-1	Power Control Panel	Consists of unit as shown in Figure C and parts as listed in Table D.
1	SFP-2	Filter Panel	Consists of unit and parts as described in SFP-2 Manual.
1	CFA-1	Frequency Shift Converter	Consists of unit and parts as described in CFA-1 Manual.
1	MS-157-1-S	Blank Panel	1-3/4 x 19 inches.
1	MS-157-3-S	Blank Panel	5-1/4 x 19 inches.
1	MS-157-6-S	Blank Panel	10-1/2 x 19 inches.
		Loose items as described for DDR-6H in Table E, crate #1.	

TABLE B. PARTS LIST, RAK-16C

SYM	DESCRIPTION	FUNCTION	TMC PART NO.
B601	BLOWER, axial: 100 CFM, 115 VAC, 60 cycle, single phase.	Rack cooling	BL-106-2

TABLE B. PARTS LIST, RAK-16C (Cont)

SYM	DESCRIPTION	FUNCTION	TMC PART NO.
B602	Same as B601	Rack Cooling	
CP601	ADAPTER, connector: tee, RF coaxial, BNC series.	Mates with P612, P613, and P614	UG-274/U
J601	CONNECTOR: receptacle: AC, male, 3-prong	DDR-6H Main power input	PL-133-NG
J602	CONNECTOR: receptacle: AC, female, 2-prong, w/bracket.	Rack AC strip outlet	JJ-170
J603	Same as J602	Rack AC strip outlet	
J604	Same as J602	Rack AC strip outlet	
J605	Same as J602	Rack AC strip outlet	
J606	Same as J602	Rack AC strip outlet	
MP601	FILTER, air: forced- air cooling system	Rack intake air filter	AD-103-5
MP602	FILTER, air: forced- air cooling system	Rack intake air filter	AD-103-9
P601	CONNECTOR, plug: a-c, 3-prong	Mates out J601	PL-134-NG
P602	CONNECTOR, plug: tip, dual contact, phono type. (P/O W608)	Mates with J1A and J1B on GPR- 90RXD	PL-147-2
P603	CONNECTOR, plug: male, 2-prong (P/O W602)	Mates with J603 on AC Power Strip	PL-171

TABLE B. PARTS LIST, RAK-16C (Cont)

SYM	DESCRIPTION	FUNCTION	TMC PART NO.
P604	Same as P603 (P/O W603)	Mates with J604 on AC Power Strip	
P605	Same as P603 (P/O W604)	Mates with J605 on AC Power Strip	
P606	Same as P603 (P/O W605)	Mates with J606 on AC Power Strip	
P607	CONNECTOR, plug: MIL type MS3106A16S-5S, female (P/O W602)	Mates with J2 on upper MSR-4	MS3106A16S-5S
P608	CONNECTOR, plug: AC, female, 2-prong (P/O W603)	Mates with J2 on CFA-1	PL-100
P609	Same as P607 (P/O W604)	Mates with J2 on lower MSR-4	
P610	CONNECTOR, plug: RF coaxial, BNC series (P/O W601)	Mates with J1 on upper MSR-4	UG-88/U
P611	Same as P610 (P/O W601)	Mates with J1 on lower MSR-4	
P612	CONNECTOR, plug: RF coaxial, BNC series (P/O W601)	Mates with CP601	UG-89/U
P613	Same as P610 (P/O W601)	Mates with CP601	
P614	Same as P610 (P/O W601)	Mates with CP601	
TB601	TERMINAL BLOCK: Barrier type, 4-terminal, 4 #6-32 binder head screws, bakelite body.	B601 and B602 Blower connections	TM-102-4

TABLE B. PARTS LIST, RAK-16C (Cont)

SYM	DESCRIPTION	FUNCTION	TMC PART NO.
TB602	TERMINAL BLOCK: Barrier type, 9-terminal, 9 #6-32 binder head screws, bakelite body	DDR-6H output connections	TM-102-9
TB603	FANNING STRIP: 4-terminal, right angle, right end feed (P/O W601)	Mates with TB-101 on LSP-7	TM-105-4AR
TB604	FANNING STRIP: 12-terminal, right angle, right end feed (P/O W601)	Mates with E1 on upper MSR-4	TM-105-12AR
TB605	FANNING STRIP: 9-terminal, right angle, right end feed (P/O W601)	Mates with E1 on CFA-1	TM-105-9AR
TB606	Same as TB605 (P/O W601)	Mates with E101 on SFP-2	
TB607	Same as TB604 (P/O W601)	Mates with E1 on lower MSR-4	
TB608	FANNING STRIP: 9-terminal, straight, left and feed (P/O W601)	Mates with TB602	TM-105-9SL
W601	CABLE, harness: consists of wiring shown in Figure E, CP601, P602, P610 thru P614, TB603 thru TB608.	Interconnecting all modular units	CA-738
W602*	CABLE, AC power: consists of 2-conductor coiled AC power cable, 1 foot long retracted, P603 and P607	J603 (AC power strip) to J2 (upper MSR-4)	CA-581-1
W603	CABLE, AC power: consists of 2-conductor coiled AC power cable, 7 inches long retracted, P604 and P608	J604 (AC power strip) to J2 (CFA-1)	CA-435-3

* W602 and W604 are interchangeable

TABLE B. PARTS LIST, RAK-16C (Cont)

SYM	DESCRIPTION	FUNCTION	TMC PART NO.
W604*	CABLE, AC power: consists of 2-conductor coiled AC power cable, 1 foot long retracted, P605 and P609	J605 (AC power strip) to J2 (lower MSR-4)	CA-581-1
W605	CABLE, AC power: consists of 2-conductor coiled AC power cable, 1 foot long retracted, 2 terminals and P606	J606 (AC power strip) to TB601	CA-575-2
W606	CABLE, AC power: consists of 2-conductor AC power cable, 60 inches long and 2 terminals	E2 (DCP-1) to AC power strip	CA-588-3
W607	CABLE, AC power: consists of 2-conductor coiled AC power cable, 36 inches long, and 2 terminals	J601 (on rack) to E1 (DCP-1)	CA-588-1

TABLE C. PARTS LIST, LSP-7

SYM	DESCRIPTION	FUNCTION	TMC PART NO.
E101	TERMINAL BLOCK: Barrier type, 4-terminal, #6-32 binder head screws, bakelite body.	External Connections	TM-102-4
LS101	LOUDSPEAKER: 4-ohms impedance; voice coil, 3.2 ohms, 4.5 watts.	Sound Output	LS-101

* W602 and W604 are interchangeable

TABLE C. PARTS LIST, LSP-7 (Cont)

SYM	DESCRIPTION	FUNCTION	TMC PART NO.
LS102	Same as LS101		
R101	ATTENUATOR, variable: "T" pad, 4-ohms im- pedance, 4 watts max continuous, 15 watts peak audio, 36 db max attenuation.	LS-1 INCR control	RV-107-T4
R102	Same as R101	LS-2 INCR control	

TABLE D. PARTS LIST, DCP-1

SYM	DESCRIPTION	FUNCTION	TMC PART NO.
CB1	CIRCUIT BREAKER: dual, toggle switch type, 10 amps, 110/230 VAC	A-c input line protection	SW-251
E1	TERMINAL BLOCK: Barrier type, 2-terminal, #10-32 binder head screws	Input connection	TM-118-2
E2	Same as E1	Output connection	
I1	LAMP, incandescent: 115-125V, 6 watts, S-6 clear bulb, double contact bayonet base	MAIN POWER indicator	BI-102-2
J1	CONNECTOR, receptacle: AC, female, 2-prong, polarized, 115/230V.	External input connection	JJ-130
R1	RESISTOR, fixed: wire wound, 2.5 k, 25 watts	115- to 230-V conversion	RW-111-25

TABLE D. PARTS LIST, DCP-1

SYM	DESCRIPTION	FUNCTION	TMC PART NO.
X11	SOCKET, lamp: for S-6 double contact bayonet bulb, red lens (back frosted).	11 socket	TS-114-11

TABLE E. SHIPPING LIST, DDR-6H

CRATE NO.	QTY	TMC PART NO.	DESCRIPTION
1	1	RAK-16C	Equipment rack with W605 cable, B601 and B602 blowers, TB601 and TB602 terminal blocks, CA-550 cable, LSP-7 and DCP-1 installed.
	1	CA-738 (P/O RAK-16C)	Interconnecting harness cable consists of wiring as shown in Figure E.
	2	CA-581-1 (P/O RAK-16C)	A-c power cable assembly, a-c power strip to MSR-4
	1	CA-435-3 (P/O RAK-16C)	A-c power cable assembly, a-c power strip to CFA-1
	1	CA-588-3 (P/O RAK-16C)	A-c power cable assembly, a-c power strip to DCP-1
	1	CA-588-1 (P/O RAK-16C)	A-c power cable assembly, J601 receptacle to DCP-1
	1	PL-134-NG (P/O DDR-6H)	Plug, a-c power, 3-prong, female, locking type, non-grounded. Mates with J601 a-c power receptacle in rack.

TABLE E. SHIPPING LIST, DDR-6H (Cont)

CRATE NO.	QTY	TMC PART NO.	DESCRIPTION
1 (Cont)	4	UG-360/U (P/O GPR-90RXD)	Plug, r-f coaxial, series BNC, straight. Mates with J6 ANT. 75 μ jack, J5 EXT HFO jack, J7 BFO IN jack, and J8 IFO IN jack.
	1	PL-123 (P/O GPR-90RXD)	Plug, battery type, male. Mates with J4 RELAY jack on GPR-90RXD. For use in transmitter/receiver systems.
	1	PL-124 (P/O GPR-90RXD)	Shell, plug, for PL-123.
	1	TM-105-9-AL (P/O DDR-6H)	Fanning strip, 9 terminals, right angle, left end feed. Mates with TB602 external output terminal block.
	1	MS3106A14S-2S (P/O DDR-6H)	Plug, MIL type MS3106A14S-2S. Mates with J4 on MSR-4.
	1	MS3057-6 (P/O DDR-6H)	Cable adapter, for use with MS3106A14S-2S.
	24	SCBP1032BN8 (P/O DDR-6H)	Machine screw, #10-32 thread x 1/2 in. long, binding head. For unit mounting.
	24	WA-101-11	Fiber washer, #10, flat. For unit mounting.
	4	SC-142-C	Eyebolt, #7/16-14 thread, forged steel, cad. plate, 1 ton load. For hoisting rack.
2	1	GPR-90RXD	Communications Receiver
	1	CFA-1	Frequency Shift Converter
3	2	MSR-4	Mode Selector, Receiving
	1	SFP-2	Filter Panel

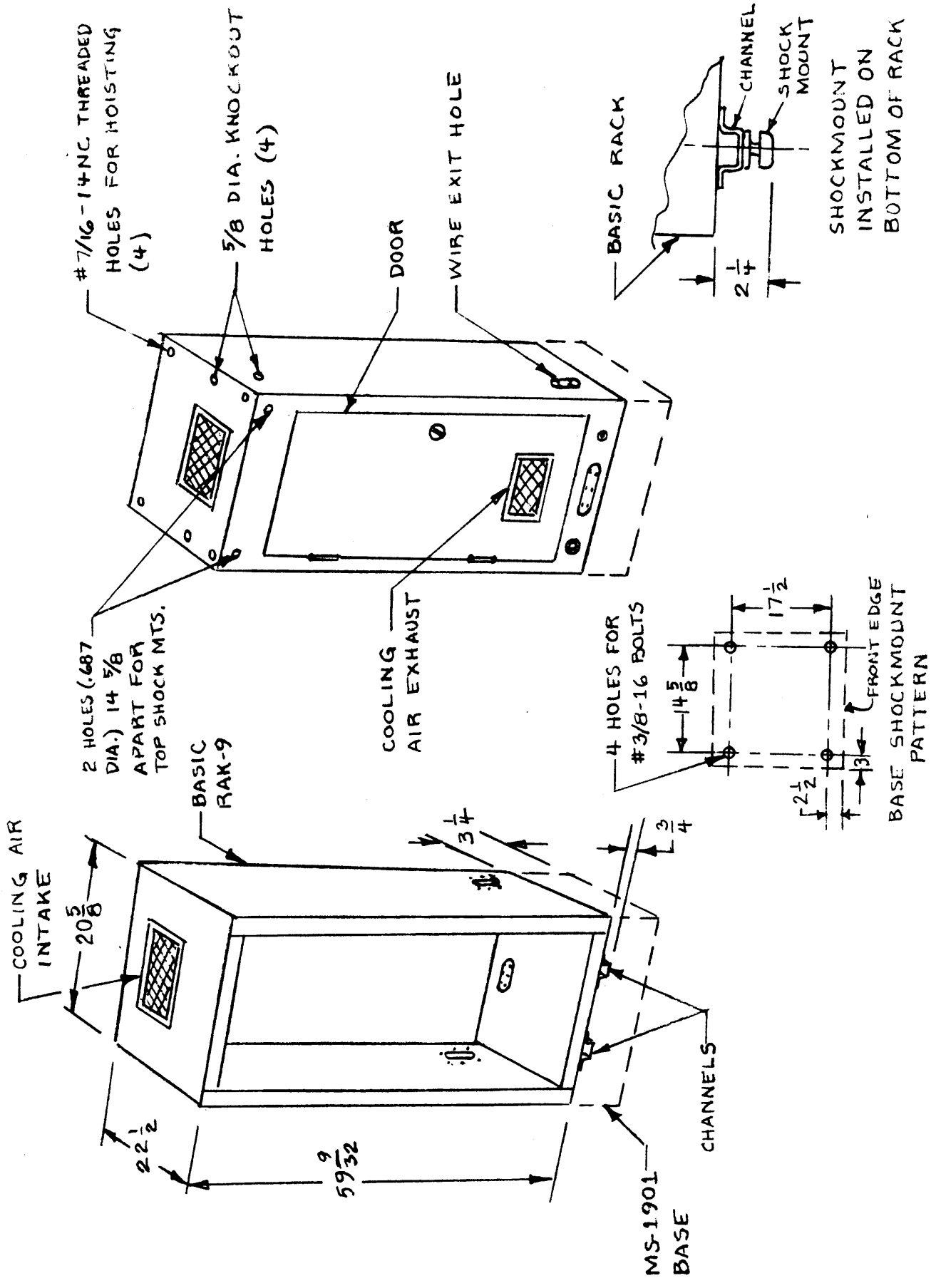


FIGURE A. MOTOR RACK-1000 MS-1901

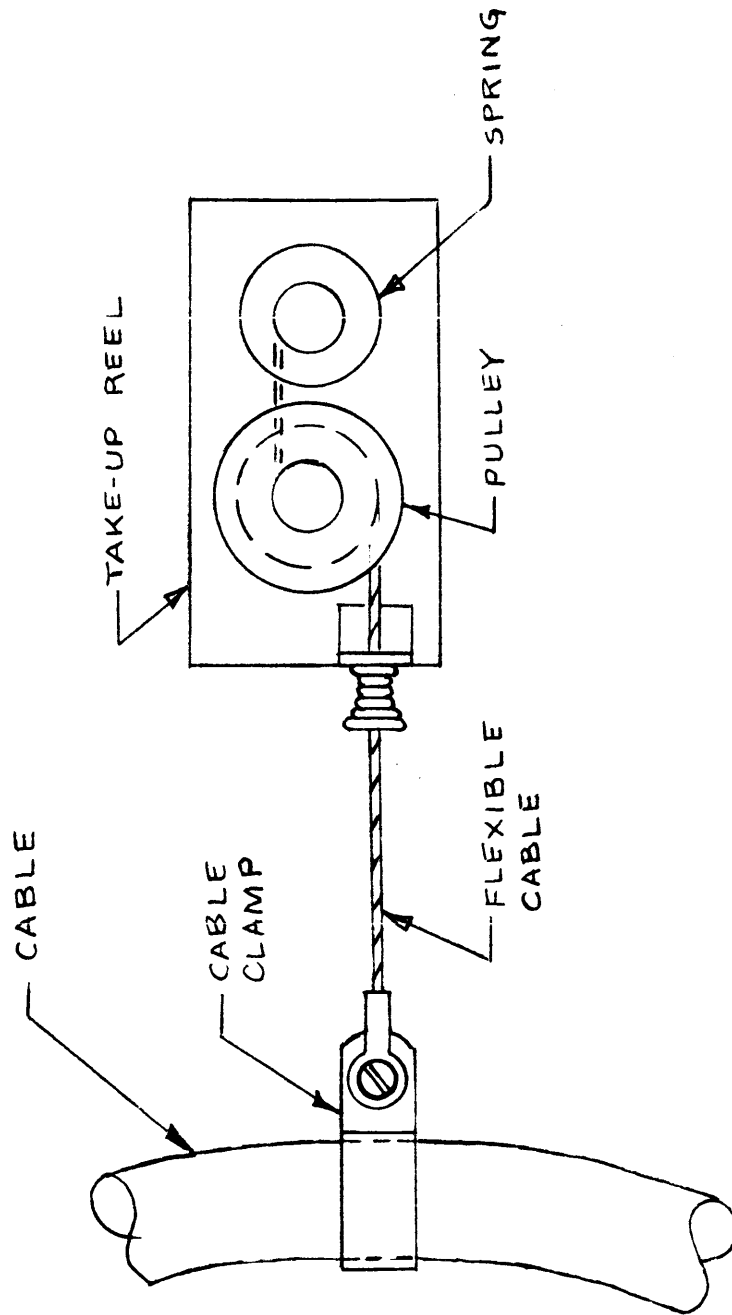
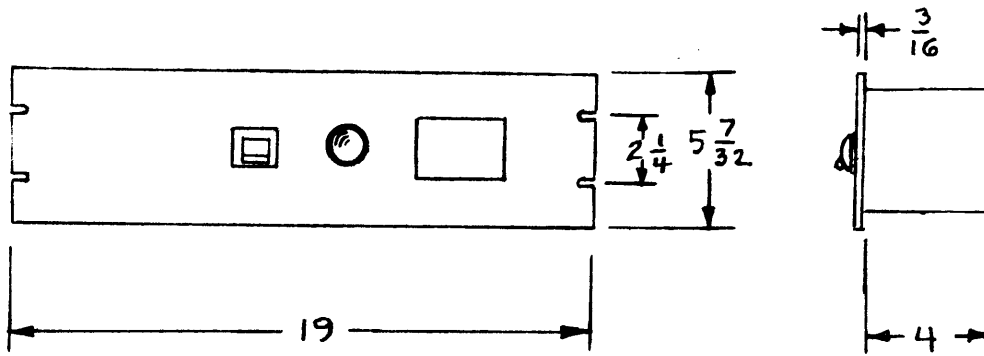
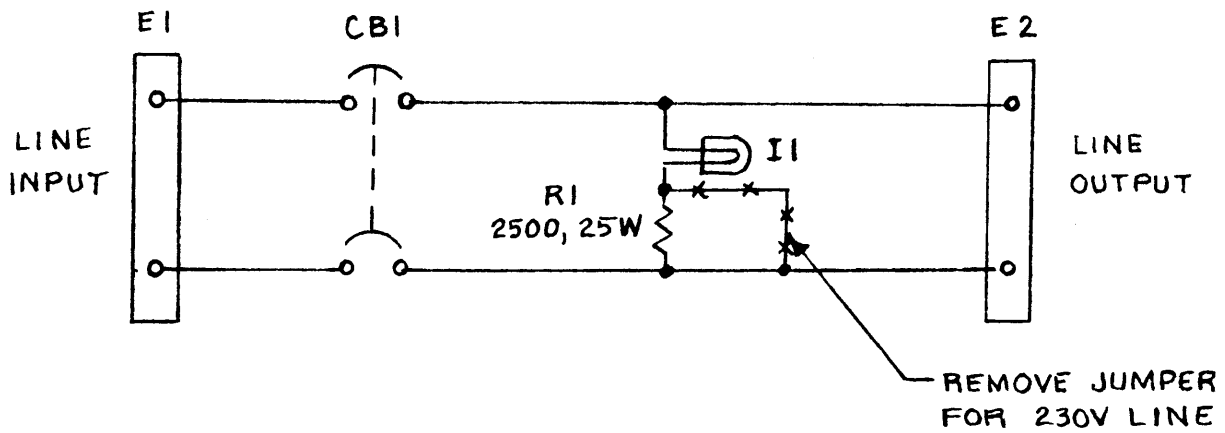


FIGURE B. CABLE INSTALLATION, GPR-90HXD

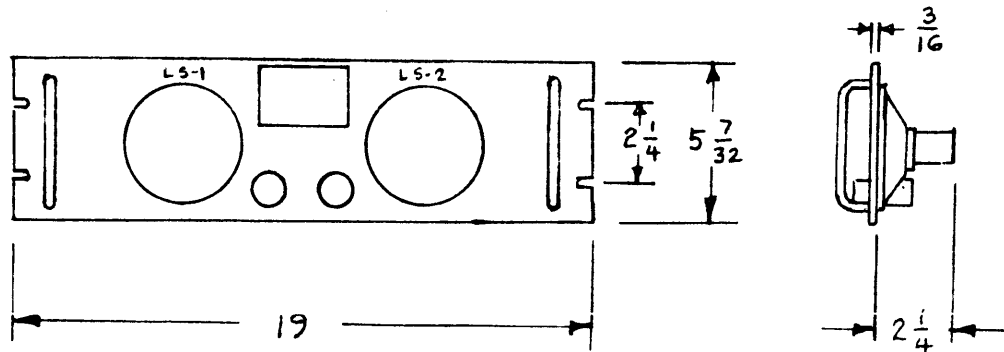


DCP-1 DIMENSIONAL OUTLINE

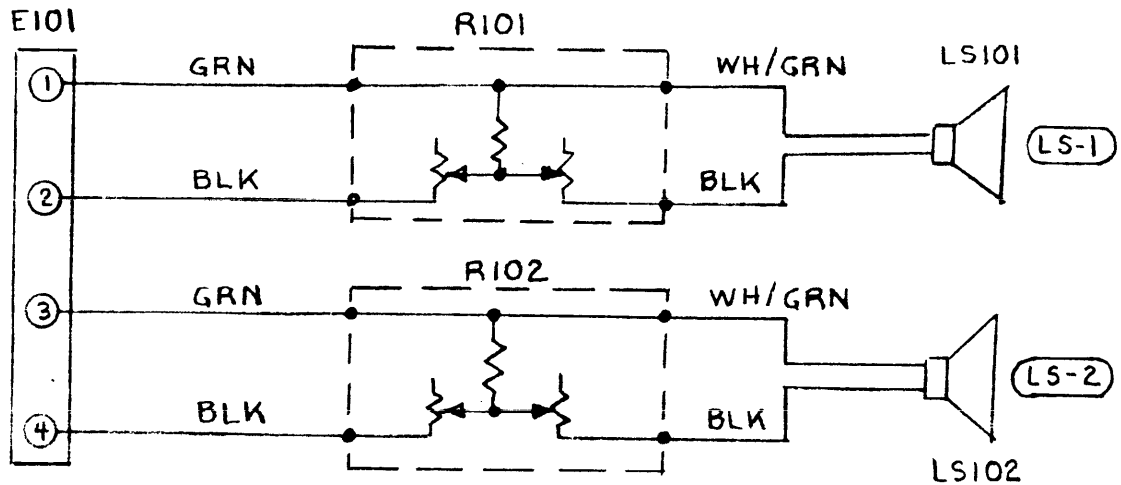


DCP-1 SCHEMATIC WIRING DIAGRAM

FIGURE C. MODEL DCP-1 POWER CONTROL PANEL



LSP-7 DIMENSIONAL OUTLINE



LSP-7 SCHEMATIC WIRING DIAGRAM

FIGURE D. MODEL LSP-7 SPEAKER PANEL