

**INSTRUCTION MANUAL  
FOR THE  
WJ-8626-4/PRE  
SUB-OCTIVE PRESELECTOR OPTION**

This document and the subject matter disclosed herein are proprietary items to which Watkins-Johnson Company retains the exclusive right of dissemination, reproduction, and sale.

**WATKINS-JOHNSON COMPANY  
700 Quince Orchard Road  
Gaithersburg, MD 20878**

January 1988

**WARNING**

**This equipment employs dangerous voltages which may be fatal if contacted. Exercise extreme caution in working with this equipment with any of the protective covers removed.**

TABLE OF CONTENTS

SECTION I

GENERAL DESCRIPTION

<u>Paragraph</u>	<u>Page</u>
1.1 Introduction . . . . .	1-1
1.2 Equipment Purpose, Capabilities, and Features . . . . .	1-1
1.3 Complementary Equipment and Accessories . . . . .	1-1
1.4 Equipment Specifications . . . . .	1-1
1.5 Functional Description . . . . .	1-1
1.6 Maintenance . . . . .	1-2
1.7 Unit Numbering Method . . . . .	1-3
1.8 Reference Designator Prefix . . . . .	1-3
1.9 Parts List . . . . .	1-3
1.10 List of Manufacturers . . . . .	1-4

LIST OF SCHEMATICS

<u>Figure</u>	<u>Page</u>
1-1 Type 794385-1 Preselector Module Assembly (A1), Schematic Diagram 470781 . . . . .	1-31
1-2 Type 791769 Input Filter PWA (A1A2), Schematic Diagram 43728 . . . . .	1-33
1-3 Type 791770 Input Filter PWA (A1A3), Schematic Diagram 43729 . . . . .	1-35
1-4 Type 791771 Input Filter PWA (A1A4), Schematic Diagram 43730 . . . . .	1-37
1-5 Type 791771 Input Filter PWA (A1A5), Schematic Diagram 43731 . . . . .	1-39
1-6 Type 791821-2 Input Preselector Digital Control PWA (A1A6), Schematic Diagram 43732 . . . . .	1-41
1-7 Type 796016 5-750 kHz/0.75-1.1 MHz Filter PWA (A1A7), Schematic Diagram 480020 . . . . .	1-43
1-8 WJ-8626-4/PRE Sub-Octave Preselector Main Chassis Schematic, Schematic Diagram 371238 . . . . .	1-45

LIST OF TABLES

<u>Table</u>	<u>Page</u>
1-1 WJ-8626-4/PRE Sub-Octave Preselector Specifications . . . . .	1-2
1-2 wj-8626-4/PRE Sub-Octave Preselector Input/Output Connectors . . . . .	1-2

## SECTION I

### GENERAL DESCRIPTION

#### 1.1 INTRODUCTION

The WJ-8626-4/PRE Sub-Octave Preselector is an option that may be installed in the WJ-8626A-4 HF Receiver/Receiver Controller. However, this option can decrease the receiver sensitivities by as much as 2 dB due to the filter and electronic switch insertion loss.

#### 1.2 EQUIPMENT PURPOSE, CAPABILITIES AND FEATURES

The WJ-8626-4/PRE Sub-Octave Preselector Option provides automatic preselection of one of ten sub-octave filters which improves second-order intermodulation distortion performance for the receiver. The option is installed at the factory as a customer selected option during the manufacturing process. Any requirements for field installation of the Sub-Octave Preselector into existing receivers requires direct coordination with the Watkins-Johnson Company, CEI Division, Engineering Department.

#### 1.3 COMPLEMENTARY EQUIPMENT AND ACCESSORIES

The WJ-8626-4/PRE Sub-Octave Preselector is a factory installed option to the WJ-8626A-4 HF Receiver/Receiver Controller. This factory installed option uses the internal circuitry of the HF Receiver/Receiver Controller to supply all required voltages and signals needed to provide the Sub-Octave Preselector capability to the WJ-8626A-4 Receiver/Receiver Controller.

#### 1.4 EQUIPMENT SPECIFICATIONS

See Table 1-1 for WJ-8626-4/PRE Sub-Octave Preselector specifications.

#### 1.5 FUNCTIONAL DESCRIPTION

Refer to Figure 1-8, Preselector 8626-4/PRE Schematic Diagram and Figure 1-1, Preselector Module Schematic Diagram. Signals enter the receiver via the RF Input connector on the rear panel and are applied to the Input Filter (A2). The filter output is applied to one of ten digitally selectable sub-octave filters contained on A2, A3, A4, A5, and A7. Sub-octave filter selection is determined by encoded frequency data from the receiver through the Input Preselector Digital Control (A6). A6 provides the logic to interpret the preselector code and input and activate the one applicable sub-octave filter.

Table 1-1. WJ-8626-4/PRE Sub-Octive Preselector Specifications

Frequency Range . . . . .	5 kHz to 30 MHz
Insertion Loss . . . . .	2 dB, maximum
Input/Output Impedence . . . . .	50 ohms, nominal; 2:1 maximum VSWR
Input/Output Connectors . . . . .	(2) SMA (1) SRE Series, 7-pin
Filter Type . . . . .	5-pole Tschebycheff sub-octive bandpass
Power Consumption . . . . .	2 Watts, maximum
Filter Band Breaks . . . . .	1 5 kHz - 799 kHz 2 800 kHz - 1.19 MHz 3 1.20 MHz - 1.79 MHz 4 1.80 MHz - 2.59 MHz 5 2.60 MHz - 3.99 MHz 6 4.00 MHz - 5.99 MHz 7 6.00 MHz - 8.99 MHz 8 9.00 MHz - 12.99 MHz 9 13.00 MHz - 19.99 MHz 10 20.00 MHz - 30.00 MHz

Table 1-2. WJ-8626-4/PRE Sub-Octive Preselector Input/Output Connectors

Ref. Desig	Description	Connection
J1	RF Signal Input	A2P1 - From Input Filter (A2)
PRE-P2	RF Signal Output	A3J1 - To Input Converter (A3)
J2	Preselector	From P12 on Receiver Chassis

1.6 MAINTENANCE

The 8626A-4/PRE Sub-Octive Preselector is been designed to operate for extended period of time with minimum routine maintenance. Inspection and performance tests should be conducted at regular intervals consistent with the user's normal preventive maintenance schedules. No routine adjustments are required. Many existing or potential troubles can be detected by visual inspection. For this reason, a complete visual inspection should be performed during regularly scheduled preventive maintenance checks and services. Any component showing signs of deterioration and it's associated circuitry should be checked to verify proper operation. Inspect mechanical parts such as pin connectors, contacts, printed wiring board guides, contacts, and chassis wiring for excessive wear, misalignment, corrosion, looseness, or other deterioration.

1.7 UNIT NUMBERING METHOD

The unit numbering method of assigning reference designations (electrical symbol numbers) has been used to identify assemblies, subassemblies (and modules) and parts. An example of the unit numbering method follows:

<u>Subassembly designation</u> <u>AI</u>	<u>R1</u> <u>Class and No. of Item</u>	
Identify from right to left as:	First (1) resistor (R) of first	(1)
subassembly (A)		

Components which are an integral part of the main chassis have no subassembly designation.

1.8 REFERENCE DESIGNATION PREFIX

Partial reference designations have been used on the equipment and consist of the class letter(s) and identifying item number. The complete reference designations may be obtained by placing the proper prefix before the partial reference designations. Reference Designation Prefixes are provided on schematics in parentheses within the figure title.

1.9 PARTS LIST

The parts list which follows contains all electrical parts used in the equipment. When ordering replacement parts from the Watkins-Johnson Company, specify the type and serial number of the equipment and the reference designation and description of each part ordered. The list of manufacturers is provided in **paragraph 1.10**. These parts may not necessarily agree with the parts installed in the equipment; however, the parts specified in this list will provide satisfactory operation of the equipment. Replacement parts may be obtained from any manufacturer as long as the physical and electrical parameters of the part selected agree with the original indicated part. In the case of components defined by a military or industrial specification, a vendor which can provide the necessary component is suggested as a convenience to the user.

NOTE

As improved semiconductors become available, it is the policy of Watkins-Johnson to incorporate them in proprietary products. For this reason, some transistors, diodes, and integrated circuits installed in the equipment may not agree with those specified in the parts list and schematic diagrams of this manual. However, the semiconductors designated in the manual may be substituted in every case with satisfactory results.

GENERAL INFORMATION

WJ-8626-4/PRE

1.10 LIST OF MANUFACTURERS

The list of Manufacturers that follows is listed numerically by the manufacturer's Federal Supply Code or "Code Ident" as it appears in the parts list.

BM274	WATKINS-JOHNSON CO., GAITHERSBURG, MD.	DATE 11/04/87	PAGE 1
CODE	NAME AND ADDRESS		ZIP
04713	MOTOROLA INC SEMICOND PRGD DIV PHOENIX, ARIZONA		
09021	AIRCO ELECTRONICS BRADFORD, PENNSYLVANIA		85001
14632	WATKINS-JOHNSON CO CEI DIV GAITHERSBURG, MARYLAND		16701
19505	APPLIED ENGINEERING PRODUCTS NEW HAVEN, CONNECTICUT		20878
27014	NATIONAL SEMI-CONDUCTOR CORP SANTA CLARA, CALIFORNIA		06525
27735	F-DYNE ELECTRONICS BRIDGEPORT, CONNECTICUT		95051
28480	HEWLETT-PACKARD CO PALO ALTO, CALIFORNIA		06605
33095	SPECTRUM CONTROL INC FAIRVIEW, PENNSYLVANIA		94304
56289	SPRAGUE ELECTRIC CO NORTH ADAMS, MASSACHUSETTS		16415
59660	TUSONIX INC. TUCSON AZ.		01247
71279	MIDLAND-ROSS CORP. (CAMBRIDGE THEMICNIC CORP), CAMBRIDGE, MA		85745
71785	CINCH CONNECTOR OPERATIONS OF TRW ELK GROVE VILLAGE, ILLINOIS		02140
72136	ELECTRO MOTIVE CORP FLORENCE, SOUTH CAROLINA		60007
80131	ELECTRONIC INDUSTRIES ASSOCIATION WASHINGTON, DC		
81312	WINCHESTER ELECTRONICS DIV OF LITTON IND OAKVILLE, CONNECTICUT		20006
81349	MILITARY SPECIFICATIONS		06779
99800	DELEVAN ELECTRONICS DIV AMERICAN PRECISION IND AURORA, NEW YORK		14052



BM272 WATKINS-JOHNSON CO., GAITHERSBURG, MD. DATE 11/04/87 PAGE 1

TYPE NUMBER 8626-4/PRE REVISION A SCHEMATIC 371238

TITLE - PRESELECTOR

REF DESIG	DESCRIPTION	QTY/ EQPT	PART NUMBER	CODE IDENT	REF ASSY
PRE-A1	PRESELETOR	1	794385-1 (SEP PL)	14632	
PRE-P1	CONN/JACK/SMB STRAIGHT FEMALE CABLE PLUG CRIMP TYPE 7/32 HEX CABLE FOR KG-178	2	2002-7571-005	19505	
PRE-P2	S/A PRE-P1				
PRE-w1	CABLE ASSEMBLY	1	17300-349-1	14632	

BM272 WATKINS-JOHNSON CO., GAITHERSBURG, MD. DATE 11/04/87 PAGE 1

TYPE NUMBER 794385-1 REVISION B SCHEMATIC 470781

TITLE - PRESELECTOR MODULE ASSY

REF DESIG	DESCRIPTION	QTY/ EQPT	PART NUMBER	CODE IDENT	REF ASSY
A1	FILTER MOTHER BOARD PW ASSY	1	371022-1 (SEP PL)	14632	
A2	INPUT FILTER PC ASSY	1	791769 (SEP PL)	14632	A1
A3	INPUT FILTER PC ASSY	1	791770 (SEP PL)	14632	A1
A4	INPUT FILTER PC ASSY	1	791771 (SEP PL)	14632	A1
A5	INPUT FILTER PC ASSY	1	791772 (SEP PL)	14632	A1
A6	DIGITAL BOARD PC ASSY	1	791821-2 (SEP PL)	14632	A1
A7	INPUT FILTER PC ASSY	1	796016 (SEP PL)	14632	A1
C1	CAP/CER/FDTHRU .05UF GMV 300V	6	54-785-002-503P	33095	
C2	S/A C1				
C3	S/A C1				
C4	S/A C1				
C5	S/A C1				
C6	S/A C1				
C7	CAP/CER/DISC 0.47UF 20PCT 100V	2	8131M100-651-474M	59660	
C8	S/A C7				
J1	CONN/RECEP/SMB CONN/RECEP	2	2012-7511-000	19505	
J2	S/A J1				
J3	CONN/RECEP MULTIPIN 9 PINS	1	SRE9PJ	81312	

BM272 WATKINS-JOHNSON CO., GAITHERSBURG, MD. DATE 11/04/87 PAGE 2

TYPE NUMBER 794385-1 REVISION B SCHEMATIC 470781

TITLE - PRESELECTOR MODULE ASSY

REF DESIG	DESCRIPTION	QTY/ EQPT	PART NUMBER	CODE IDENT	REF ASSY
L1	COIL/TOROIDAL	2	280163-1	14632	
L2	S/A L1				

\*\*\*\*\*  
BM272 WATKINS-JOHNSON CO., GAITHERSBURG, MD. DATE 11/04/87 PAGE 1

TYPE NUMBER 371022-1 REVISION A SCHEMATIC 470781

TITLE - FILTER MOTHER BD ASSY

REF DESIG	DESCRIPTION	QTY/ EQPT	PART NUMBER	CODE IDENT	REF ASSY
E1-E9	TERMINAL/FORKED .062 MATL THKNS X .156 HIGH .046 X .094DP GROOVE SILVER PLATE	9	140-1941-02-01	71279	
XA1	CONN/PLUG SGL READOUT 18POS STD EDGE 0.156 CTR	6	252-18-30-240	71785	
XA2	S/A XA1				
XA3	S/A XA1				
XA4	S/A XA1				
XA5	S/A XA1				
XA6	S/A XA1				

BM272 WATKINS-JOHNSON CO., GAITHERSBURG, MD. DATE 11/04/87 PAGE 1

TYPE NUMBER 791769 REVISION SCHEMATIC 43728

TITLE - INPUT PRESELECTOR FILTER PRINT CKT ASSY

REF DESIG	DESCRIPTION	QTY/ EQPT	PART NUMBER	CODE IDENT	REF ASSY
CR1	DIODE DIODE	2	1N4446	80131	
CR2	DIODE VHF/UHF SW PIN DIODE CT 1.0 PF RS 0.6 OHM	8	5082-3188	28480	
CR3	S/A CR2				
CR4	S/A CR2				
CR5	S/A CR2				
CR6	S/A CR2				
CR7	S/A CR2				
CR8	S/A CR2				
CR9	S/A CR2				
CR10	S/A CR1				
C1	CAP/CER/DISC 0.47UF 20PCT 100V	10	8131M100-651-474M	59660	
C2	S/A C1				
C3	S/A C1				
C4	CAP/MICA/DIPPED 4300PF 2PCT 500V	3	CM06FD432G03	81349	
C5	CAP/MICA/DIPPED 270PF 2PCT 500V	2	CM05FD271G03	81349	
C6	CAP/MICA/DIPPED 1000PF 2PCT 100V	2	DM15-102G	72136	
C7	CAP/MICA/DIPPED 3900PF 2PCT 500V	1	CM06FD392G03	81349	

BM272 WATKINS-JOHNSON CO., GAITHERSBURG, MD. DATE 11/04/87 PAGE 2

TYPE NUMBER 791769 REVISION SCHEMATIC 43728

TITLE - INPUT PRESELECTOR FILTER PRINT CKT ASSY

REF DESIG	DESCRIPTION	QTY/ EQPT	PART NUMBER	CODE IDENT	REF ASSY
C8	CAP/MICA/DIPPED 3600PF 2PCT 500V	1	CM06FD362G03	81349	
C9	S/A C6				
C10	S/A C5				
C11	S/A C4				
C12	S/A C1				
C13	CAP/MICA/DIPPED 3000PF 2PCT 500V	2	CM06FD302G03	81349	
C14	CAP/MICA/DIPPED 180PF 2PCT 500V	2	CM05FD181G03	81349	
C15	CAP/MICA/DIPPED 620PF 2PCT 300V	2	DM15-621G	72136	
C16	CAP/MICA/DIPPED 1200PF 2PCT 100V	1	DM15-122G	72136	
C17	S/A C4				
C18	S/A C15				
C19	S/A C13				
C20	S/A C14				
C21	S/A C1				
C22	S/A C1				
C23	CAP/ELEC/TANT 4.7UF 20PCT 35V	1	196D475X0035JE3	56289	
C24	S/A C1				
C25	S/A C1				

BM272 WATKINS-JOHNSON CO., GAITHERSBURG, MD. DATE 11/04/87 PAGE 3

TYPE NUMBER 791769 REVISION SCHEMATIC 43728

TITLE - INPUT PRESELECTOR FILTER PRINT CKT ASSY

REF DESIG	DESCRIPTION	QTY/ EQPT	PART NUMBER	CODE IDENT	REF ASSY
C26	S/A C1				
C27	S/A C1				
L1	COIL/FIXED 560UH 10PCT	10	553-3635-34	71279	
L2	S/A L1				
L3	S/A L1				
L4	S/A L1				
L5	S/A L1				
L6	COIL VARIABLE	2	34960-2	14632	
L7	COIL VARIABLE	2	34960-5	14632	
L8	COIL VARIABLE	1	34960-8	14632	
L9	S/A L7				
L10	S/A L6				
L11	COIL VARIABLE	2	34960-17	14632	
L12	COIL VARIABLE	2	34960-4	14632	
L13	COIL VARIABLE	1	34960-16	14632	
L14	S/A L12				
L15	S/A L11				
L16	S/A L1				
L17	S/A L1				
L18	S/A L1				

BM272 WATKINS-JOHNSON CO., GAITHERSBURG, MD. DATE 11/04/87 PAGE 4

TYPE NUMBER 791769 REVISION SCHEMATIC 43728

TITLE - INPUT PRESELECTOR FILTER PRINT CKT ASSY

REF DESIG	DESCRIPTION	QTY/ EQPT	PART NUMBER	CODE IDENT	REF ASSY
L19	S/A L1				
L20	S/A L1				
R1	RES/FIXED/COMPO 15 OHMS 5PCT .5W	2	RCR20G150JS	81349	
R2	RES/FIXED/COMPO 30 OHM 5PCT .5W	4	RCR20G300JS	81349	
R3	S/A R2				
R4	S/A R2				
R5	S/A R2				
R6	S/A R1				



BM272 WATKINS-JOHNSON CO., GAITHERSBURG, MD. DATE 11/04/87 PAGE 1

TYPE NUMBER 791770 REVISION E SCHEMATIC 43729

TITLE - INPUT PRESELECTOR FILTER

REF DESIG	DESCRIPTION	QTY/ EQPT	PART NUMBER	CODE IDENT	REF ASSY
CR1	DIODE DIODE	2	1N4446	80131	
CR2	DIODE S/A C/N 380233 P/N 5082-3188	8	MPN3401	04713	
CR3	S/A CR2				
CR4	S/A CR2				
CR5	S/A CR2				
CR6	S/A CR2				
CR7	S/A CR2				
CR8	S/A CR2				
CR9	S/A CR2				
CR10	S/A CR1				
C1	CAP/CER/DISC .1UF 20PCT 100V	6	8131M100-651-104M	59660	
C2	S/A C1				
C3	S/A C1				
C4	CAP/MICA/DIPPED 1800PF 2PCT 500V	2	CM06FD182G03	81349	
C5	CAP/MICA/DIPPED 270PF 2PCT 500V	4	CM05FD271G03	81349	
C6	CAP/MICA/DIPPED 430PF 2PCT 300V	2	DM15-431G	72136	
C7	CAP/MICA/DIPPED 3600PF 2PCT 500V	1	CM06FD362G03	81349	

BM272 WATKINS-JOHNSON CO., GAITHERSBURG, MD. DATE 11/04/87 PAGE 2

TYPE NUMBER 791770 REVISION E SCHEMATIC 43729

TITLE - INPUT PRESELECTOR FILTER

REF DESIG	DESCRIPTION	QTY/ EQPT	PART NUMBER	CODE- IDENT	REF ASSY
C8	S/A C6				
C9	S/A C5				
C10	S/A C4				
C11	S/A C1				
C12	CAP/MICA/DIPPED 1000PF 2PCT 100V	2	DM15-102G	72136	
C13	CAP/MICA/DIPPED 330PF 2PCT 500V	2	CM05FD331G03	81349	
C14	S/A C5				
C15	CAP/MICA/DIPPED 300PF 2PCT 500V	1	CM05FD301G03	81349	
C16	CAP/MICA/DIPPED 2000PF 2PCT 500V	1	CM06FD202G03	81349	
C17	S/A C5				
C18	S/A C13				
C19	S/A C12				
C20	S/A C1				
C21	S/A C1				
C22	CAP/ELEC/TANT 4.7UF 20PCT 35V	1	196D475X0035JE3	56289	
C23	CAP/CER/DISC 0.47UF 20PCT 100V	4	8131M100-651-474M	59660	
C24	S/A C23				
C25	S/A C23				

BM272 WATKINS-JOHNSON CO., GAITHERSBURG, MD. DATE 11/04/87 PAGE 3

TYPE NUMBER 791770 REVISION E SCHEMATIC 43729

TITLE - INPUT PRESELECTOR FILTER

REF DESIG	DESCRIPTION	QTY/ EQPT	PART NUMBER	CODE IDENT	REF ASSY
C26	S/A C23				
L1	COIL/FIXED 100UH 5PCT /MIL P/N MS90538-12/	10	1537-76 (90538-12)	99800	
L2	S/A L1				
L3	S/A L1				
L4	S/A L1				
L5	S/A L1				
L6	COIL VAR	2	34960-10	14632	
L7	COIL VAR	2	34960-11	14632	
L8	COIL VAR	1	34960-14	14632	
L9	S/A L7				
L10	S/A L6				
L11	COIL VAR	2	34960-18	14632	
L12	COIL VAR	2	34960-19	14632	
L13	COIL VARIABLE	1	34960-13	14632	
L14	S/A L12				
L15	S/A L11				
L16	S/A L1				
L17	S/A L1				
L18	S/A L1				
L19	S/A L1				

BM272 WATKINS-JOHNSON CO., GAITHERSBURG, MD. DATE 11/04/87 PAGE 4

TYPE NUMBER 791770 REVISION E SCHEMATIC 43729

TITLE - INPUT PRESELECTOR FILTER

REF DESIG	DESCRIPTION	QTY/ EQPT	PART NUMBER	CODE IDENT	REF ASSY
L20	S/A L1				
R1	RES/FIXED/COMPO 15 OHMS 5PCT .5W	2	RCR20G150JS	81349	
R2	RES/FIXED/COMPO 27 OHMS 5PCT .5W	4	RCR20G270JS	81349	
R3	S/A R2				
R4	S/A R2				
R5	S/A R2				
R6	S/A R1				

BM272 WATKINS-JOHNSON CO., GAITHERSBURG, MD. DATE 11/04/87 PAGE 1

TYPE NUMBER 791771 REVISION E SCHEMATIC 43730

TITLE - INPUT PRESELECTOR FILTER

REF DESIG	DESCRIPTION	QTY/ EQPT	PART NUMBER	CODE IDENT	REF ASSY
CR1	DIODE DIODE	2	1N4446	80131	
CR2	DIODE VHF/UHF SW PIN DIODE CT 1.0 PF RS 0.6 OHM	8	5082-3188	28480	
CR3	S/A CR2				
CR4	S/A CR2				
CR5	S/A CR2				
CR6	S/A CR2				
CR7	S/A CR2				
CR8	S/A CR2				
CR9	S/A CR2				
CR10	S/A CR1				
C1	CAP/CER/DISC .1UF 20PCT 100V	6	8131M100-651-104M	59660	
C2	S/A C1				
C3	S/A C1				
C4	CAP/MICA/DIPPED 620PF 5PCT 300V	2	DM15-621J	72136	
C5	CAP/MICA/DIPPED 160PF 2PCT 500V	2	CM05FD161G03	81349	
C6	CAP/MICA/DIPPED 1300PF 2PCT 500V	1	CM06FD132G03	81349	
C7	S/A C5				

BM272 WATKINS-JOHNSON CO., GAITHERSBURG, MD. DATE 11/04/87 PAGE

TYPE NUMBER 791771 REVISION E SCHEMATIC 43730

TITLE - INPUT PRESELECTOR FILTER

REF DESIG	DESCRIPTION	QTY/ EQPT	PART NUMBER	CODE IDENT	REF AS:
C3	S/A C4				
C9	S/A C1				
C10	CAP/MICA/DIPPED 680PF 2PCT 300V	2	DM15-681G	72136	
C11	CAP/MICA/DIPPED 110PF 2PCT 500V	2	CM05FD111G03	81349	
C12	CAP/MICA/DIPPED 1200PF 2PCT 100V	1	DM15-122G	72136	
C13	S/A C11				
C14	S/A C10				
C15	S/A C1				
C16	S/A C1				
C17	CAP/ELEC/TANT 4.7UF 20PCT 35V	1	196D475X0035JE3	56289	
C18	CAP/CER/DISC 0.47UF 20PCT 100V	4	8131M100-651-474M	59660	
C19	S/A C18				
C20	S/A C18				
C21	S/A C18				
L1	COIL/FIXED 47UH 5PCT	10	1537-60 (90538-04)	99800	
L2	S/A L1				
L3	S/A L1				
L4	S/A L1				

BM272 WATKINS-JOHNSON CO., GAITHERSBURG, MD. DATE 11/04/87 PAGE 3

TYPE NUMBER 791771 REVISION E SCHEMATIC 43730

TITLE - INPUT PRESELECTOR FILTER

REF DESIG	DESCRIPTION	QTY/ EQPT	PART NUMBER	CODE IDENT	REF ASSY
L5	S/A L1				
L6	COIL VAR	2	34960-14	14632	
L7	COIL VAR	2	34960-22	14632	
L8	COIL VAR	3	34960-21	14032	
L9	S/A L7				
L10	S/A L6				
L11	S/A L8				
L12	COIL VAR	2	34960-15	14632	
L13	COIL VAR	1	34960-20	14632	
L14	S/A L12				
L15	S/A L8				
L16	S/A L1				
L17	S/A L1				
L18	S/A L1				
L19	S/A L1				
L20	S/A L1				
R1	RES/FIXED/COMPO 16 OHMS 5PCT .5W	2	RCR20G160JS	81349	
R2	RES/FIXED/COMPO 30 OHM 5PCT .5W	4	RCR20G300JS	81349	
R3	S/A R2				
R4	S/A R2				

BM272 WATKINS-JOHNSON CO., GAITHERSBURG, MD. DATE 11/04/07 PAGE 4

TYPE NUMBER 791771 REVISION E SCHEMATIC 43730

TITLE - INPUT PRESELECTOR FILTER

REF DESIG	DESCRIPTION	QTY/ EQPT	PART NUMBER	CODE IDENT	REF ASSY
--------------	-------------	--------------	-------------	---------------	-------------

R5	S/A R2				
----	--------	--	--	--	--

R6	S/A R1				
----	--------	--	--	--	--



BM272 WATKINS-JOHNSON CO., GAITHERSBURG, MD. DATE 11/04/87 PAGE 1

TYPE NUMBER 791772 REVISION D SCHEMATIC 43731

TITLE - INPUT PRESELECTION FILTER PRINT CKT ASSY

REF DESIG	DESCRIPTION	QTY/ EQPT	PART NUMBER	CODE IDENT	REF ASSY
CR1	DIODE DIODE	2	1N4446	80131	
CR2	DIODE VHF/UHF SW PIN DIODE CT 1.0 PF RS 0.6 OHM	8	5082-3188	28480	
CR3	S/A CR2				
CR4	S/A CR2				
CR5	S/A CR2				
CR6	S/A CR2				
CR7	S/A CR2				
CR8	S/A CR2				
CR9	S/A CR2				
CR10	S/A CR1				
C1	CAP/CER/DISC .1UF 20PCT 100V	6	8131M100-651-104M	59660	
C2	S/A C1				
C3	S/A C1				
C4	CAP/MICA/DIPPED 360PF 2PCT 500V	2	CM05FD361G03	81349	
C5	CAP/MICA/DIPPED 91PF 2PCT 500V	2	CM05FD910G03	81349	
C6	CAP/MICA/DIPPED 620PF 2PCT 300V	1	DM15-621G	72136	
C7	S/A C5				

BM272 WATKINS-JOHNSON CO., GAITHERSBURG, MD. DATE 11/04/87 PAGE 2

TYPE NUMBER 791772 REVISION D SCHEMATIC 43731

TITLE - INPUT PRESELECTOR FILTER PRINT CKT ASSY

REF DESIG	DESCRIPTION	QTY/ EQPT	PART NUMBER	CODE IDENT	REF ASSY
C8	S/A C4				
C9	S/A C1				
C10	CAP/MICA/DIPPED 240PF 2PCT 500V	2	CM05FD241G03	81349	
C11	CAP/MICA/DIPPED 30PF 2PCT 500V	2	CM05ED300G03	81349	
C12	CAP/MICA/DIPPED 390PF 2PCT 500V	1	CM05FD391G03	81349	
C13	S/A C11				
C14	S/A C10				
C15	S/A C1				
C16	S/A C1				
C17	CAP/ELEC/TANT 4.7UF 20PCT 35V	1	196D475X0035JE3	56289	
C18	CAP/CER/DISC 0.47UF 20PCT 100V	4	8131M100-651-474M	59660	
C19	S/A C18				
C20	S/A C18				
C21	S/A C18				
C22	CAP/VAR/CERAMIC 9-35PF 350V N650	4	538-011D9-35	59660	
C23	S/A C22				
C24	S/A C22				
C25	S/A C22				

BM272 WATKINS-JOHNSON CO., GAITHERSBURG, MD. DATE 11/04/87 PAGE 3

TYPE NUMBER 791772 REVISION D SCHEMATIC 43731

TITLE - INPUT PRESELECTION FILTER PRINT CKT ASSY

REF DESIG	DESCRIPTION	QTY/ EQPT	PART NUMBER	CODE IDENT	REF ASSY
C26	CAP/MICA/DIPPED 27PF 2PCT 500V	1	CM05ED270G03	81349	
L1	COIL/FIXED 4.7UH 10PCT	10	1537-28 (18130-16)	99800	
L2	S/A L1				
L3	S/A L1				
L4	S/A L1				
L5	S/A L1				
L6	COIL/VARIABLE 0.297-0.363UH	2	558-7107-07	71279	
L7	COIL/FXD TOROIDAL	2	20681-213	14632	
L8	COIL/FIX AIR	1	1129-54	14632	
L9	S/A L7				
L10	S/A L6				
L11	COIL/VARIABLE 0.162-0.198UH	2	558-7107-04	71279	
L12	COIL/FXD TOROIDAL	2	20681-214	14632	
L13	COIL/FXD AIR	1	1129-55	14632	
L14	S/A L12				
L15	S/A L11				
L16	S/A L1				
L17	S/A L1				
L18	S/A L1				

BM272 WATKINS-JOHNSON CO., GAITHERSBURG, MD. DATE 11/04/87 PAGE 4

TYPE NUMBER 791772 REVISION D SCHEMATIC 43731

TITLE - INPUT PRESELECTOR FILTER PRINT CKT ASSY

REF DESIG	DESCRIPTION	QTY/ EQPT	PART NUMBER	CODE IDENT	REF ASSY
L19	S/A L1				
L20	S/A L1				
R1	RES/FIXED/COMPO 16 OHMS 5PCT .5W	2	RCR20G160JS	81349	
R2	RES/FIXED/COMPO 30 OHM 5PCT .5W	4	RCR20G300JS	81349	
R3	S/A R2				
R4	S/A R2				
R5	S/A R2				
R6	S/A R1				

BM272 WATKINS-JOHNSON CO., GAITHERSBURG, MD. DATE 11/04/87 PAGE 1

TYPE NUMBER 791821-2 REVISION C SCHEMATIC 43732

TITLE - INPUT PRESELECTOR DIGITAL CONTROL ASSY

REF DESIG	DESCRIPTION	QTY/ EQPT	PART NUMBER	CODE IDENT	REF ASSY
C1	CAP/ELEC/TANT 1UF 20PCT 35V	1	196D105X0035HE3	56289	
C2	CAP/CER/DISC .1UF 20PCT 100V	6	8131M100-651-104M	59660	
C3	S/A C2				
C4	S/A C2				
C5	S/A C2				
C6	S/A C2				
C7	S/A C2				
R1	RES/FIXED/FILM 10K 5PCT .25W	10	CF1/4-10K/J	09021	
R2	RES/FIXED/COMPO 22 OHMS 5PCT .5W	10	RCR20G220JS	81349	
R3	S/A R1				
R4	S/A R2				
R5	S/A R1				
R6	S/A R2				
R7	S/A R1				
R8	S/A R2				
R9	S/A R1				
R10	S/A R2				
R11	S/A R1				
R12	S/A R2				

BM272 WATKINS-JOHNSON CO., GAITHERSBURG, MD. DATE 11/04/87 PAGE 2

TYPE NUMBER 791821-2 REVISION C SCHEMATIC 43732

TITLE - INPUT PRESELECTOR DIGITAL CONTROL ASSY

REF DESIG	DESCRIPTION	QTY/ EQPT	PART NUMBER	CODE IDENT	REF ASSY
R13	S/A R1				
R14	S/A R2				
R15	S/A R1				
R16	S/A R2				
R17	S/A R1				
R18	S/A R2				
R19	S/A R1				
R20	S/A R2				
U1	IC BCD TO DECIMAL CONVERTER	1	MM74C42N	27014	
U2	IC DUAL CMOS "OR" PERIPHERAL DRIVER	5	DS3633N	27014	
U3	S/A U2				
U4	S/A U2				
U5	S/A U2				
U6	S/A U2				

BM272 WATKINS-JOHNSON CO., GAITHERSBURG, MD. DATE 11/04/87 PAGE 1

TYPE NUMBER 796016 REVISION C SCHEMATIC 480020

TITLE - 5-750KHZ/.75-1.1MHZ FILTER PC ASSY

REF DESIG	DESCRIPTION	QTY/ EQPT	PART NUMBER	CODE IDENT	REF ASSY
CR1	DIODE VHF/UHF SW PIN DIODE CT 1.0 PF RS 0.6 OHM	6	5082-3188	28480	
CR2	S/A CR1				
CR3	S/A CR1				
CR4	S/A CR1				
CR5	S/A CR1				
CR6	S/A CR1				
C1	CAP/ELEC/TANT 2.2UF 20PCT 35V	3	196D225X0035JE3	56289	
C2	CAP/CER/DISC 0.47UF 20PCT 100V	4	8131M100-651-474M	59660	
C3	S/A C2				
C4	CAP/MICA/DIPPED 4700PF 2PCT 500V	2	CM06FD472G03	81349	
C5	CAP/MICA/DIPPED 820PF 2PCT 300V	2	DM15-821G	72136	
C6	CAP/MICA/DIPPED 1000PF 2PCT 100V	2	DM15-102G	72136	
C7	CAP/MICA/DIPPED 300PF 2PCT 500V	2	CM05FD301G03	81349	
C8	CAP/POLYES/FOIL .01UF 2PCT 100V	1	PE51-.010-100-2	27735	

BM272 WATKINS-JOHNSON CO., GAITHERSBURG, MD. DATE 11/04/87 PAGE 2

TYPE NUMBER 796016 REVISION C SCHEMATIC 480020

TITLE - 5-750KHZ/.75-1.1MHZ FILTER PC ASSY

REF DESIG	DESCRIPTION	QTY/ EQPT	PART NUMBER	CODE IDENT	REF ASSY
C9	CAP/MICA/DIPPED 1500PF 2PCT 500VTH DRIVER (DPDT PMOS)ASE TYPE HC-6/U-25/UODE .050THK	1	CM06FD152G03	81349	
C10	S/A C6				
C11	S/A C7				
C12	S/A C5				
C13	S/A C4				
C14	S/A C2				
C15	S/A C2				
C16	S/A C1				
C17	CAP/ELEC/TANT 4.7UF 20PCT 35V	1	196D475X0035JE3	56289	
C18	CAP/MICA/DIPPED 4300PF 2PCT 500V	2	CM06FD432G03	81349	
C19	CAP/MICA/DIPPED 7500PF 2PCT 100V	1	DM19-752G	72136	
C20	S/A C18				
C21	S/A C1				
L1	COIL/FIXED 4.7MH 10PCT	3	553-3635-45	71279	
L2	COIL/FIXED 1.0MH 10PCT	4	553-3635-37	71279	
L3	S/A L2				



BM272 WATKINS-JOHNSON CO., GAITHERSBURG, MD. DATE 11/04/87 PAGE 3

TYPE NUMBER 796016 REVISION C SCHEMATIC 480020

TITLE - 5-750KHZ/.75-1.1MHZ FILTER PC ASSY

REF DESIG	DESCRIPTION	QTY/ EQPT	PART NUMBER	CODE IDENT	REF ASSY
L4	COIL VARIABLE	2	34960-9	14632	
L5	COIL VARIABLE	2	34960-6	14632	
L6	COIL VARIABLE	1	34960-1	14632	
L7	S/A L5				
L8	S/A L4				
L9	S/A L2				
L10	S/A L2				
L11	S/A L1				
L12	COIL VARIABLE	2	34960-5	14632	
L13	S/A L12				
L14	S/A L1				
R1	RES/FIXED/COMPO 15 OHMS 5PCT .5W	2	RCR20G150JS	81349	
R2	S/A R1				

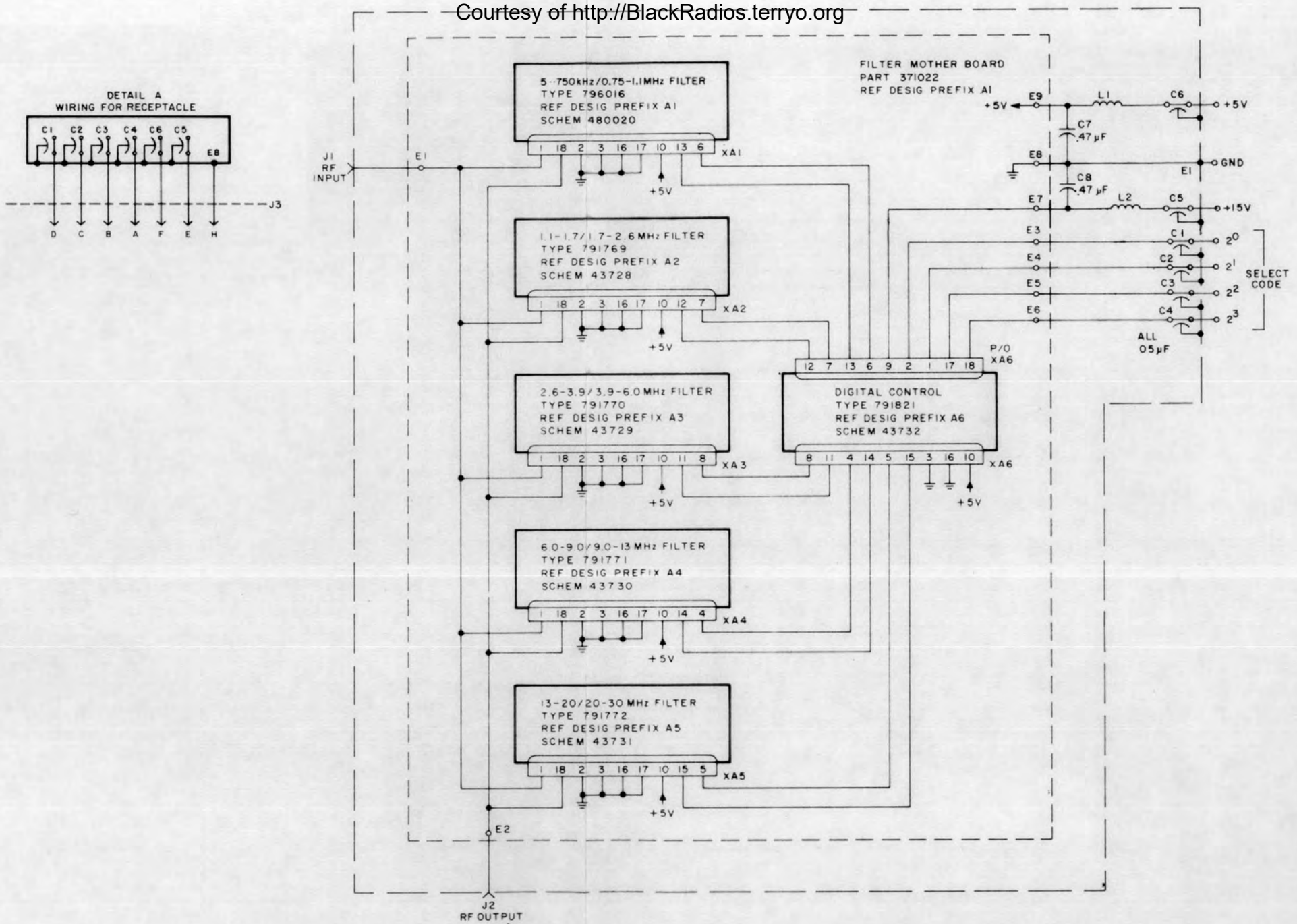
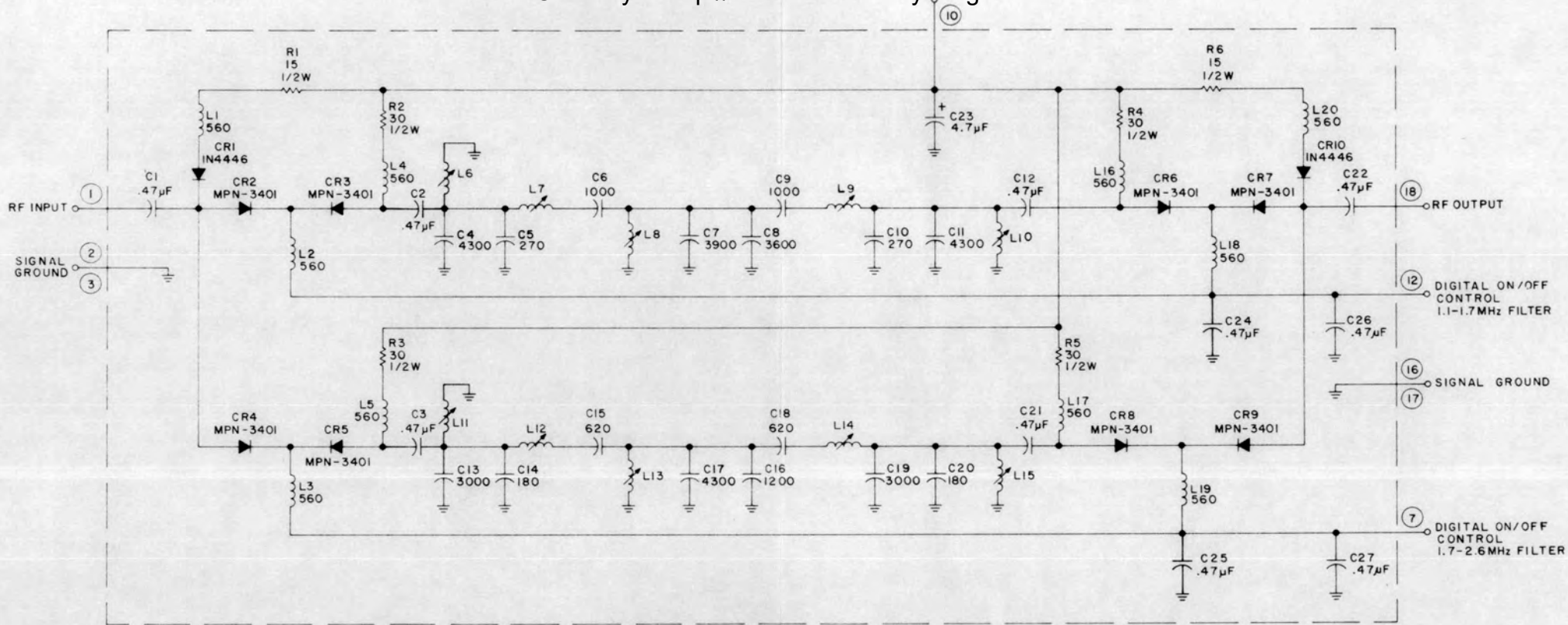


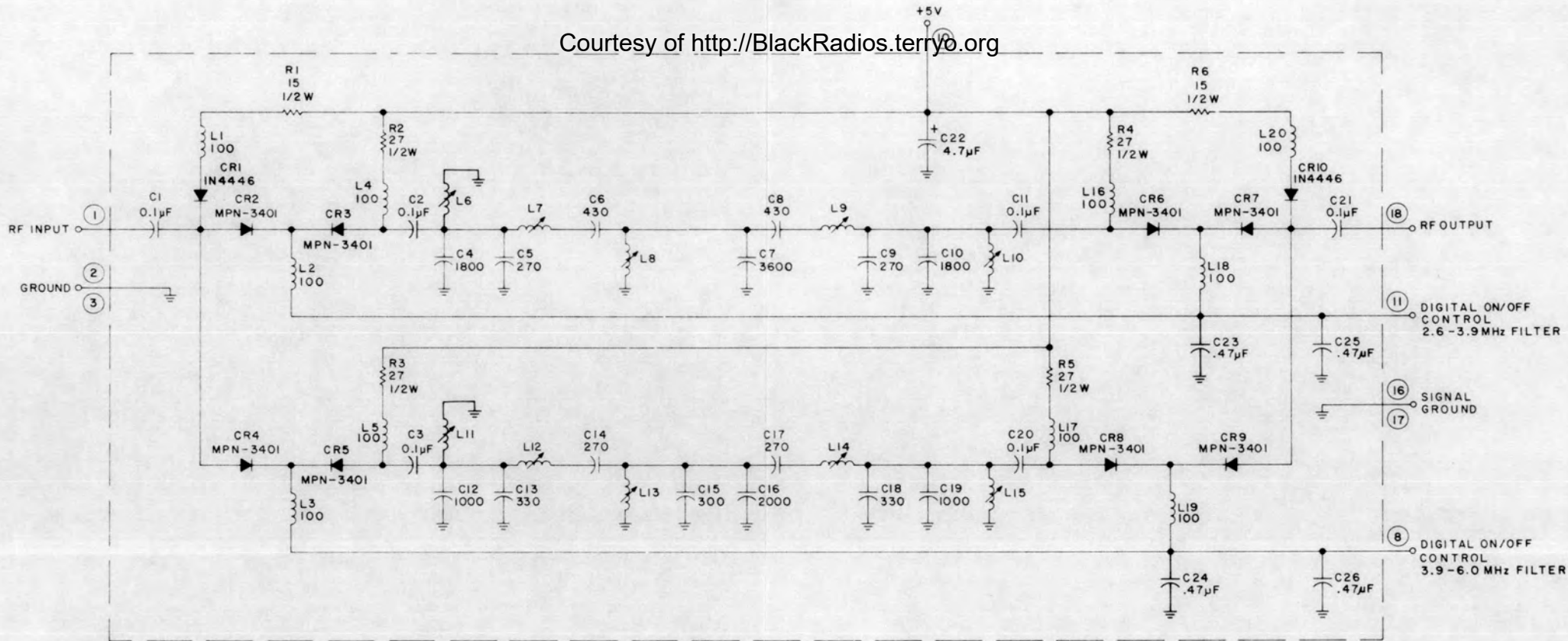
Figure 1-1. Type 794385-1 Preselector Module (A1), Schematic Diagram 470781



NOTES:  
 1. UNLESS OTHERWISE SPECIFIED:  
 a) RESISTANCE IS IN OHMS, ± 5%, 1/4W  
 b) CAPACITANCE IS pF.  
 c) INDUCTANCE IS µH.

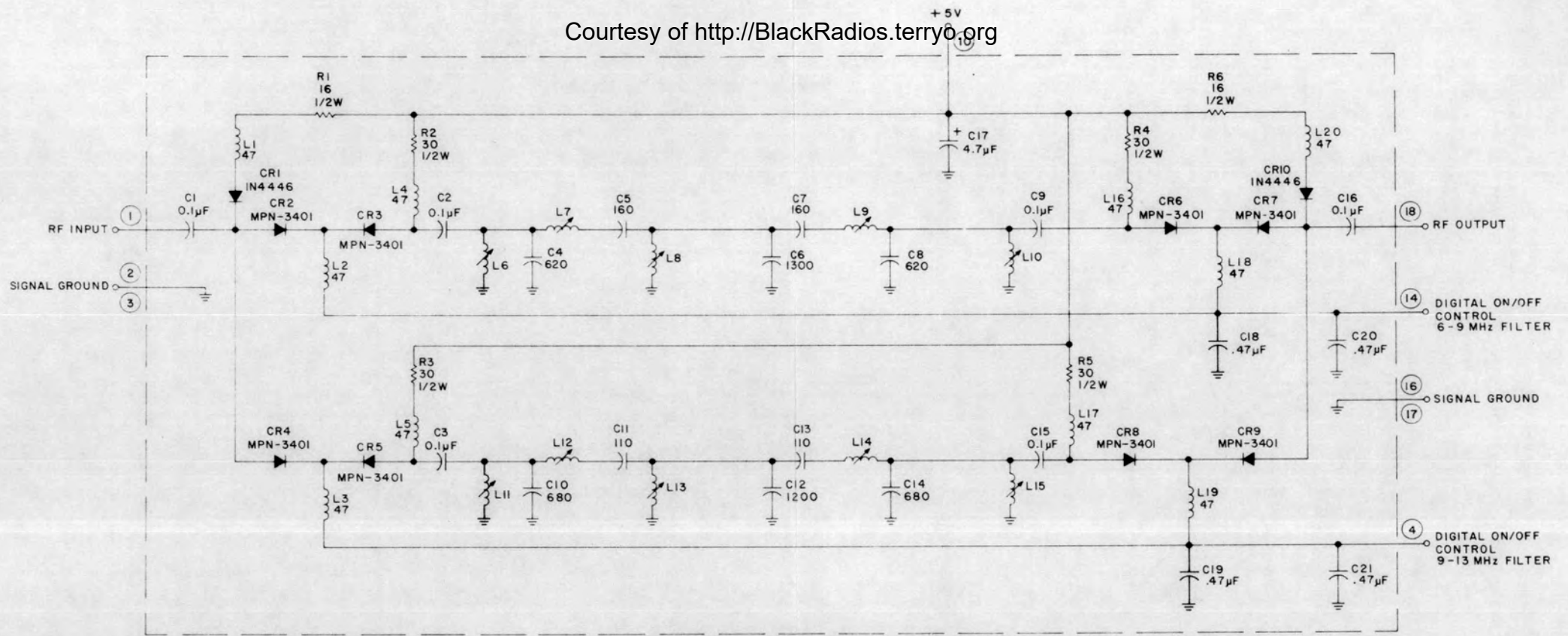
Figure 1-2. Type 791769 Input Filter (A1A2), Schematic Diagram 43728

Courtesy of <http://BlackRadios.terryo.org>



NOTES:  
 1. UNLESS OTHERWISE SPECIFIED:  
 a) RESISTANCE IS IN OHMS,  $\pm 5\%$ , 1/4 W  
 b) CAPACITANCE IS pF.  
 c) INDUCTANCE IS  $\mu$ H.

Figure 1-3. Type 791770 Input Filter (A1A3), Schematic Diagram 43729

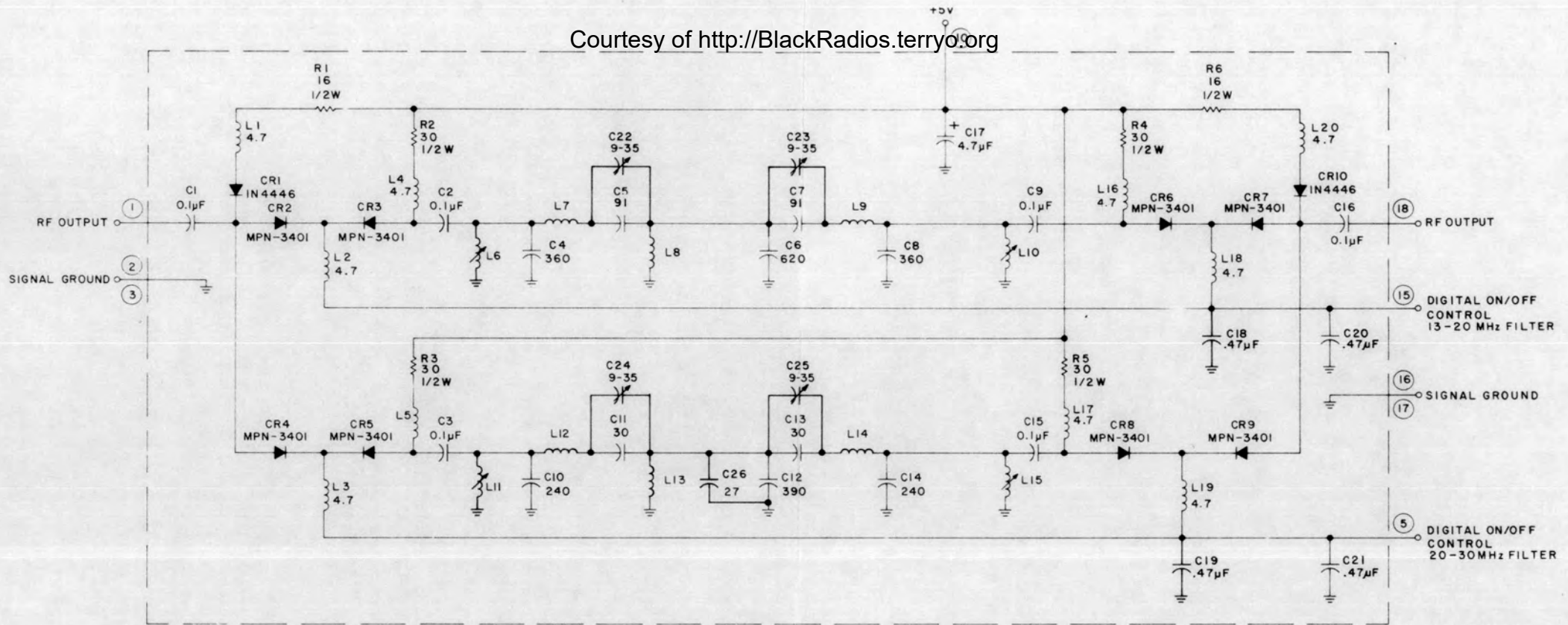


NOTES:

1. UNLESS OTHERWISE SPECIFIED:
  - a) RESISTANCE IS IN OHMS, ± 5%, 1/4 W
  - b) CAPACITANCE IS pF.
  - c) INDUCTANCE IS μH.

Figure 1-4. Type 791771 Input Filter (A1A4), Schematic Diagram 43730

Courtesy of <http://BlackRadios.terry0.org>



NOTES:

- I. UNLESS OTHERWISE SPECIFIED:
  - a) RESISTANCE IS IN OHMS,  $\pm 5\%$ , 1/4W
  - b) CAPACITANCE IS pF.
  - c) INDUCTANCE IS  $\mu$ H.

Figure 1-5. Type 791772 Input Filter (A1A5), Schematic Diagram 43731

NOTES:

1. UNLESS OTHERWISE SPECIFIED:
  - a) RESISTANCE IS IN OHMS,  $\pm 5\%$ , 1/4W.
  - b) CAPACITANCE IS IN  $\mu\text{F}$ .
2. ENCIRCLE NUMBERS ARE MODULE PINS.
3. DIFFERENCE BETWEEN TYPES IS SHOWN IN TABLE I.

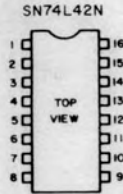
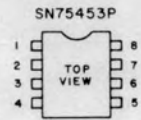


TABLE I

TYPE	R2, R4, R18, R20	R6, R8, R10, R12, R14, R16	U1	U2-U6
791821-1	12 1/2W	10 1/2W	SN74L42N	SN75453P
791821-2	22 1/2W	22 1/2W	MN174C42N	DS3633N

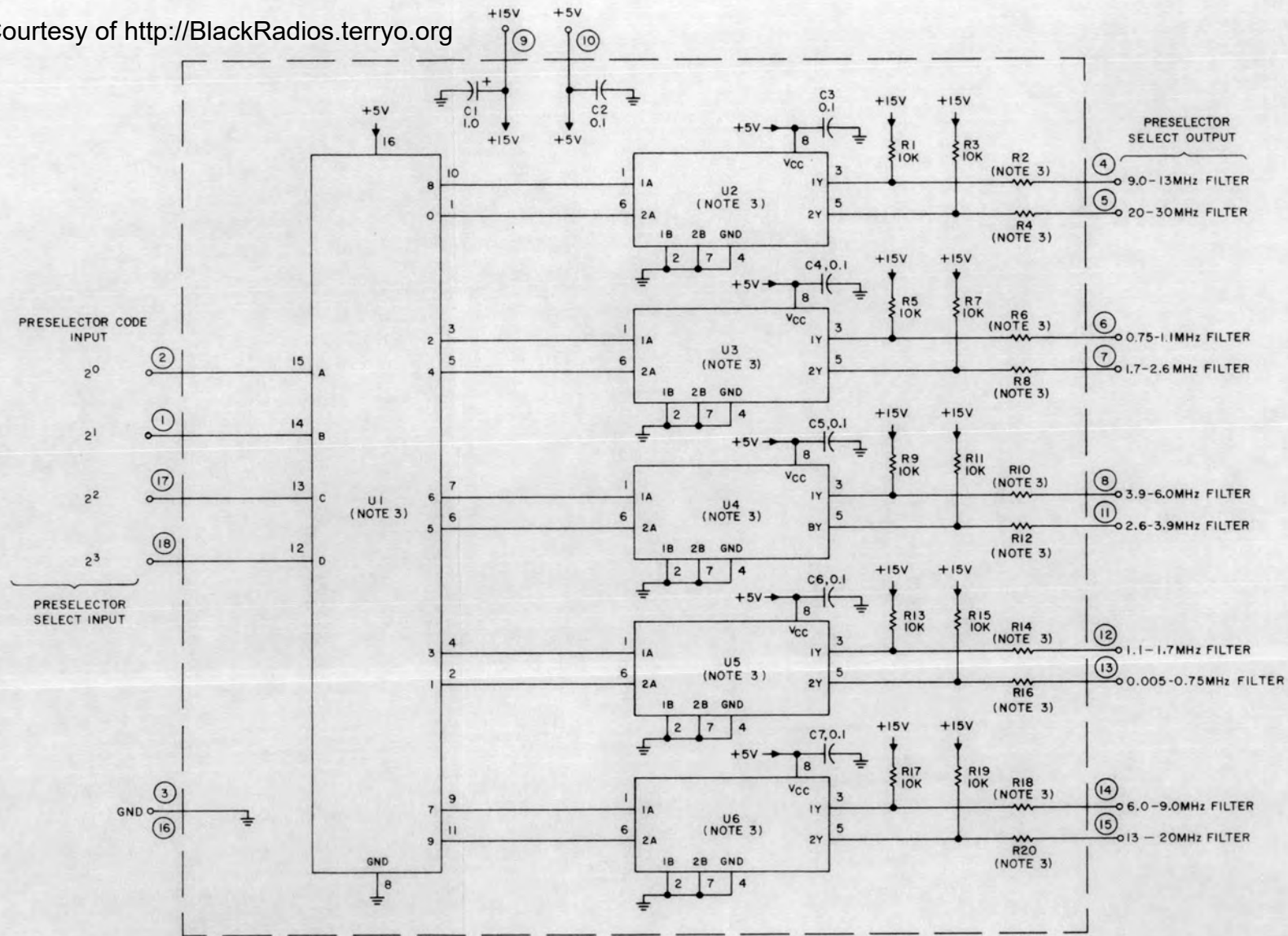
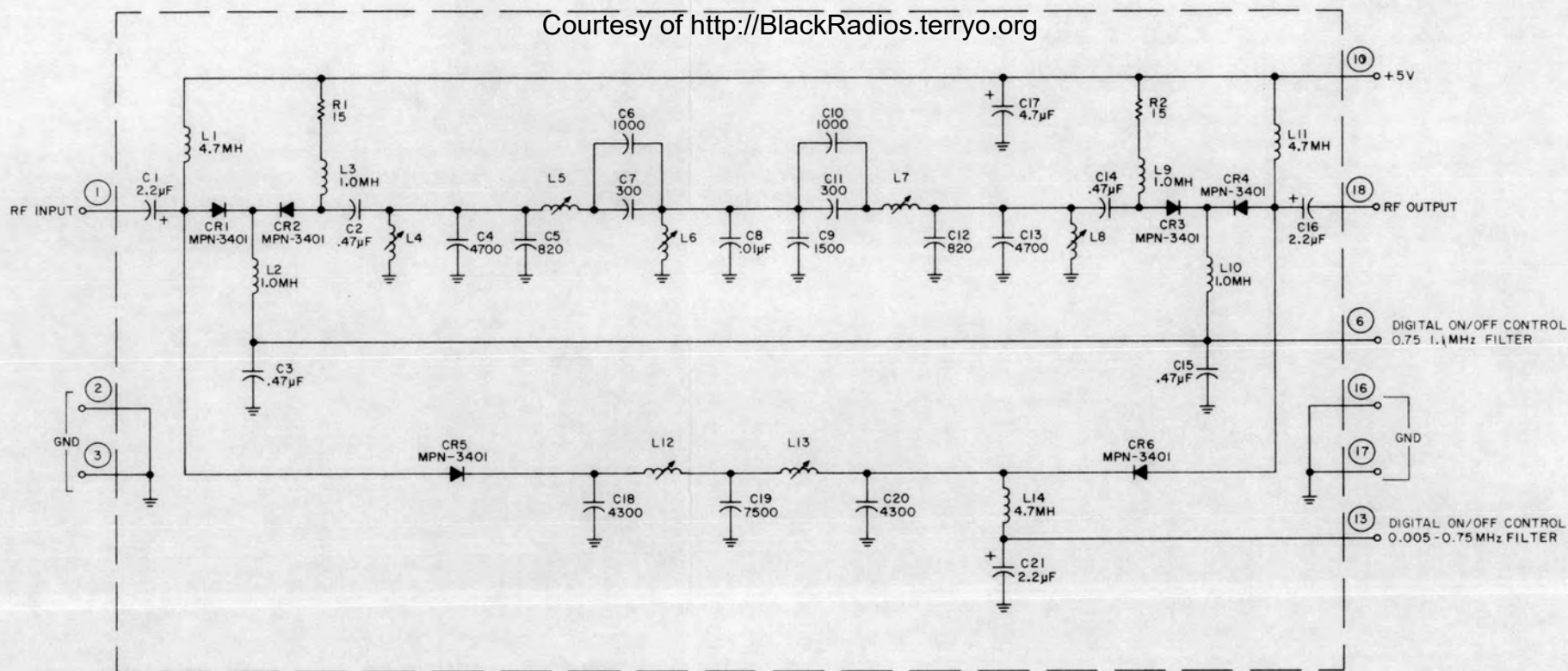


Figure 1-6. Type 791821-2 Input Preselector Digital Control (A1A6), Schematic Diagram 43732

Courtesy of <http://BlackRadios.terryo.org>



NOTES:

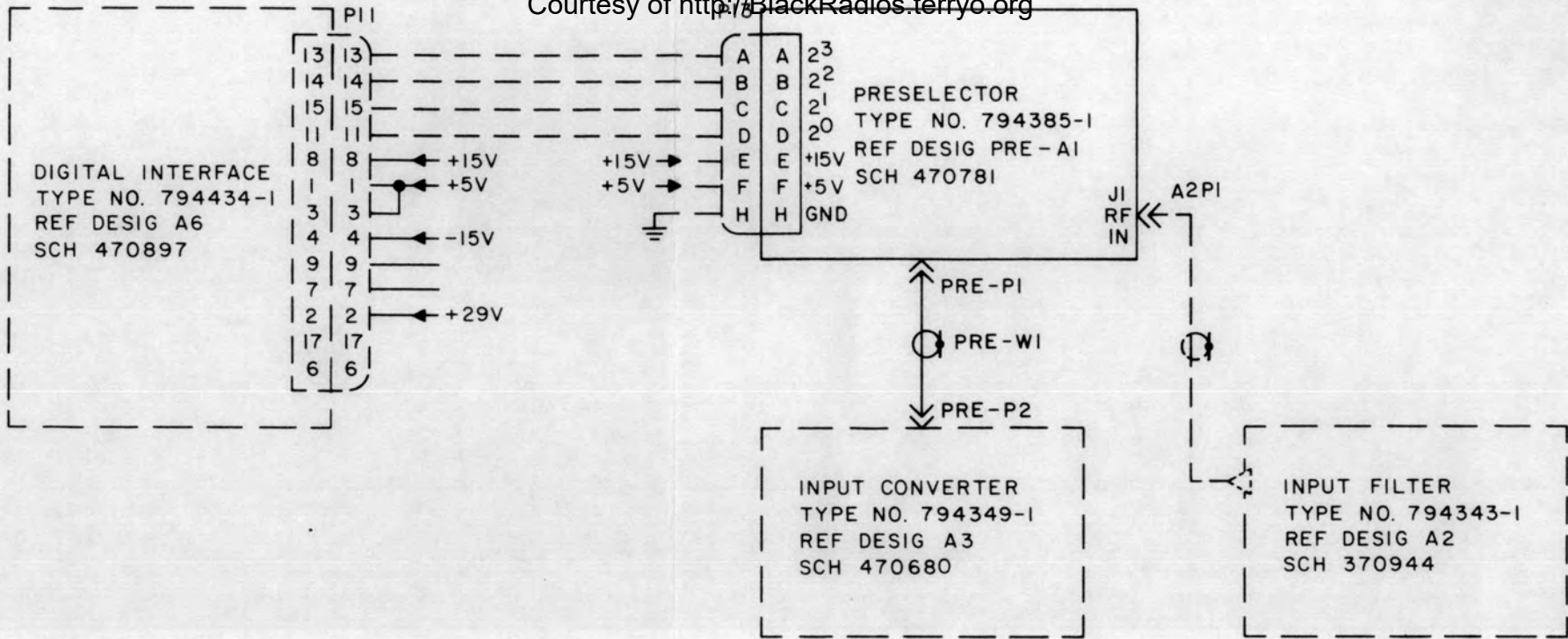
1. UNLESS OTHERWISE SPECIFIED:

- a) RESISTANCE IS IN OHMS,  $\pm 5\%$ , 1/4W.
- b) CAPACITANCE IS IN  $\mu\text{F}$ .

Figure 1-7. Type 796016 5-750 kHz/0.75-1.1 MHz Filter (A1A7), Schematic Diagram 480020



Courtesy of <http://BlackRadios.terry.org>



NOTE:

I. DOTTED BOX REPRESENT EXISTING MODULES.

Figure 1-8. WJ-8626-4/PRE Preselector Main Chassis, Schematic Diagram 371238