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IF AMPLIFIERS
INSTRUCTION MANUAL

IF-212-300

ASTRO COMMUNICATION LABORATORY
9125 Gaither Road
Gaithersburg, Maryland

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Introduction:

This manual is a supplement to the standard Receiver Instruction Manual. It contains a parts list, and a schematic diagram of the IF Amplifier(s) modules supplied with your Receiver.

Additional information on these modules is contained in the standard Instruction Manual. This includes; Specifications, Section II; Theory of Operation, Section IV; Maintenance, Section V; and data required for parts procurement, Section VI.

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SYM OR ITEM	NOMENCLATURE OR DESCRIPTION	MFR	PART NO.	QTY REQ
C1	Capacitor, Fixed, Ceramic Dielectric 0.001 uf $\pm 20\%$ 1000 vdcw	MIL	CK60AW102M	3
C2	Capacitor, Fixed, Ceramic Dielectric 0.01 uf $+80-20\%$ 50 v	Sprague	19C214	23
C3	Same as C2			
C4	Same as C2			
C5	Same as C2			
C6	Capacitor, Fixed, Mica Dielectric 33 pf $\pm 5\%$ 500 vdcw	Elmenco	DM10-330J	4
C7 *	Capacitor, Fixed, Composition 0.18-pf $\pm 10\%$ 500 vdcw	QC	MC-0,18	1
C8	Same as C2			
C9	Same as C6	Elmenco	DM10-330J	1
C10	Capacitor, Fixed, Mica Dielectric 500 pf $\pm 5\%$ 500 vdcw	Elmenco	DM15-501J	1
C11	Same as C2			
C12	Same as C2			
C13	Same as C2			
C14	Same as C2			
C15	Same as C2			
C16	Same as C6			
C17	Capacitor, Fixed, Composition 0.43pf $\pm 10\%$ 500 vdcw	QC	MC-0.43	1
C18	Same as C6			
C19	Capacitor, Fixed, Mica Dielectric 390 pf $\pm 5\%$ 500 v dcw	Elmenco	DM10-391J	1
C20	Capacitor, Fixed, Mica Dielectric 18 pf $\pm 5\%$ 500 vdcw	Elmenco	DM10-180J	1
C21	Same as C2			
C22	Same as C2			
C23	Same as C2			
C24	Same as C1			

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

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SYM OR ITEM	NOMENCLATURE OR DESCRIPTION	MFR	PART NO.	QTY REQ
C25	Same as C2			
C26	Same as C2			
C27	Capacitor, Fixed, Composition 4.7 pf $\pm 10\%$ 500 VDCW	QC	MC-4.7	1
C28	Capacitor, Fixed, Ceramic, Dielectric NPO ± 60 ppm 8.2 pf $\pm .25$ pf	Erie	301-COH-829C	1
C29	Same as C2			
C30	Same as C2			
C31	Same as C2			
C32	Capacitor, Fxd, Mica Die 12 pf $\pm 5\%$ 500 vdcw	Elmenco	DM10-120J	1
C33	Same as C1			
C34	Same as C2			
C35	Same as C2			
C36	Capacitor, Fixed, Composition 1.5 pf $\pm 10\%$ 500 VDCW	QC	MC-1.5	2
C37	Same as C36			
C38	Capacitor, Fixed, Mica Dielectric 15 pf $\pm 5\%$ 500 vdcw	Elmenco	DM10-150J	2
C39	Same as C38			
C40	Capacitor, Fixed, Mica Dielectric 100 pf $\pm 5\%$ 500 VDCW	Elmenco	DM10-101J	2
C41	Same as C40			
C42	Same as C2			
C43	Same as C2			
C44	Same as C2			
CR1	Semiconductor Device, Diode	Sylvania	1N198A	3
CR2	Same as CR1			

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SYM OR ITEM	NOMENCLATURE OR DESCRIPTION	MFR	PART NO.	QTY REQ
CR3	Same as CR1			
L1	Inductance Standard, Variable	ACL	AC-257-2	4
L2	Same as L1			
L3	Same as L1			
L4	Same as L1			
L5	Inductance Standard, Fixed 5.6 mh	CTC	2960-37-2	1
L6	Inductance Standard, Variable	ACL	AC-257-3	4
L7	Inductance Standard, Fixed 12 mh	CTC	2960-41-2	3
L8	Same as L6			
L9	Same as L7			
L10	Same as L6			
L11	Same as L6			
L12	Same as L7			
Q1	Transistor	ACL	SA-395	10
Q2	Same as Q1			
Q3	Same as Q1			
Q4	Same as Q1			
Q5	Same as Q1			
Q6	Same as Q1			
Q7	Same as Q1			
Q8	Same as Q1			
Q9	Same as Q1			

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SYM OR ITEM	NOMENCLATURE OR DESCRIPTION	MFR	PART NO.	QTY REQ
Q10	Same as Q1			
R1	Resistor, Fixed, Composition 100 ohms $\pm 5\%$ 1/4 w	AB	CB1015	16
R2	Resistor, Fixed, Composition 68 ohms $\pm 5\%$ 1/4 w	AB	CB6805	2
R3	Same as R1			
R4	Resistor, Fixed, Composition 10 k ohm $\pm 5\%$ 1/4 w	AB	CB1035	7
R5	Same as R4			
R6	Same as R1			
R7	Resistor, Fixed, Composition 10 ohms $\pm 5\%$ 1/4 w	AB	CB1005	1
R8	Resistor, Fixed, Composition 680 ohm $\pm 5\%$ 1/4 w	AB	CB6815	2
R9	Resistor, Fixed, Composition 1 k ohm $\pm 5\%$ 1/4 w	AB	CB1025	2
R10	Same as R1			
R11	Not Used			
R12	Same as R1			
R13	Same as R2			
R14	Same as R4			
R15	Same as R4			
R16	Same as R1			
R17	Not Used			
R18	Same as R9			
R19	Resistor Fixed, Composition 220 ohms $\pm 5\%$ 1/4 w	AB	CB2215	2
R20	Same as R1			
R21	Not Used			
R22	Same as R1			

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

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SYM OR ITEM	NOMENCLATURE OR DESCRIPTION	MFR	PART NO.	QTY REQ
R23	Same as R1			
R24	Resistor, Fixed, Composition 33 K ohm $\pm 5\%$ 1/4W	AB	CB3335	1
R25	Same as R1			
R26	Same as R4			
R27	Same as R19			
R28	Same as R1			
R29	Same as R1			
R30	Resistor, Fixed, Composition 4.7 K ohm $\pm 5\%$ 1/4W	AB	CB4725	3
R31	Resistor, Fixed, Composition 22 K ohm $\pm 5\%$ 1/4W	AB	CB2235	2
R32	Same as R30			
R33	Same as R1			
R34	Resistor, Fixed, Composition 1.8 K ohm $\pm 5\%$ 1/4W	AB	CB1825	1
R35	Same as R4			
R36	Resistor, Fixed, Composition 560 ohm $\pm 5\%$ 1/4W	AB	CB5615	1
R37	Same as R30			
R38	Same as R31			
R39	Resistor, Fixed, Composition 22 k ohms $\pm 5\%$ 1/4 w	AB	CB2225	1
R40	Same as R1			
R41	Resistor, Fixed, Composition 20 K ohm $\pm 5\%$ 1/4W	AB	CB2035	1
R42	Same as R8			
R43	Resistor, Fixed, Composition 470 ohm $\pm 5\%$ 1/4W	AB	CB4715	1
R44	Not Used			
R45	Not Used			
R46	Resistor, Fixed, Composition 47K ohm $\pm 5\%$ 1/4W	AB	CB4735	2

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

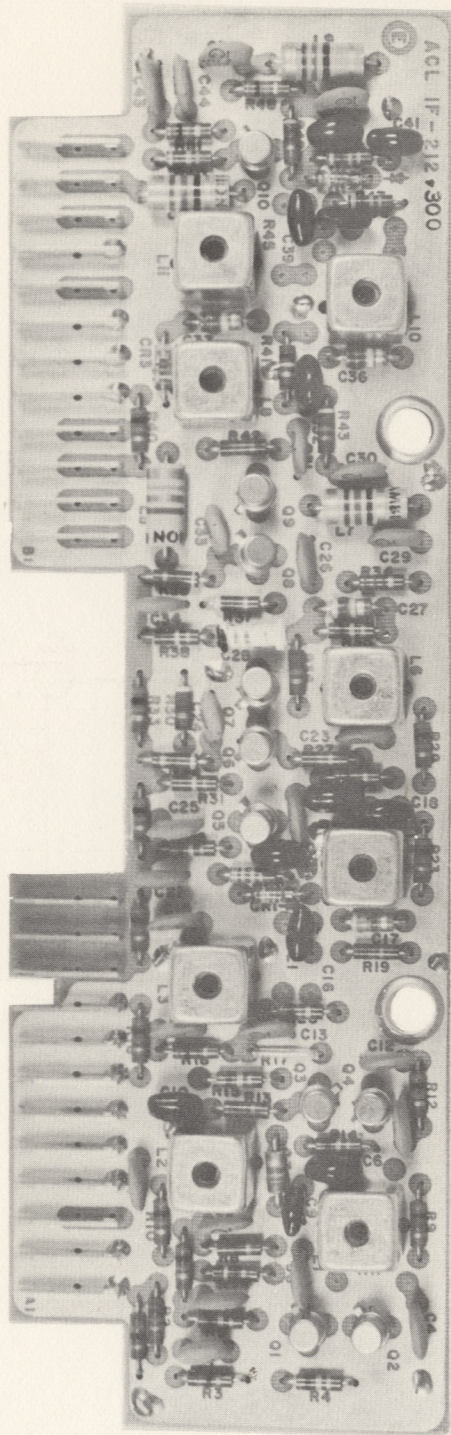
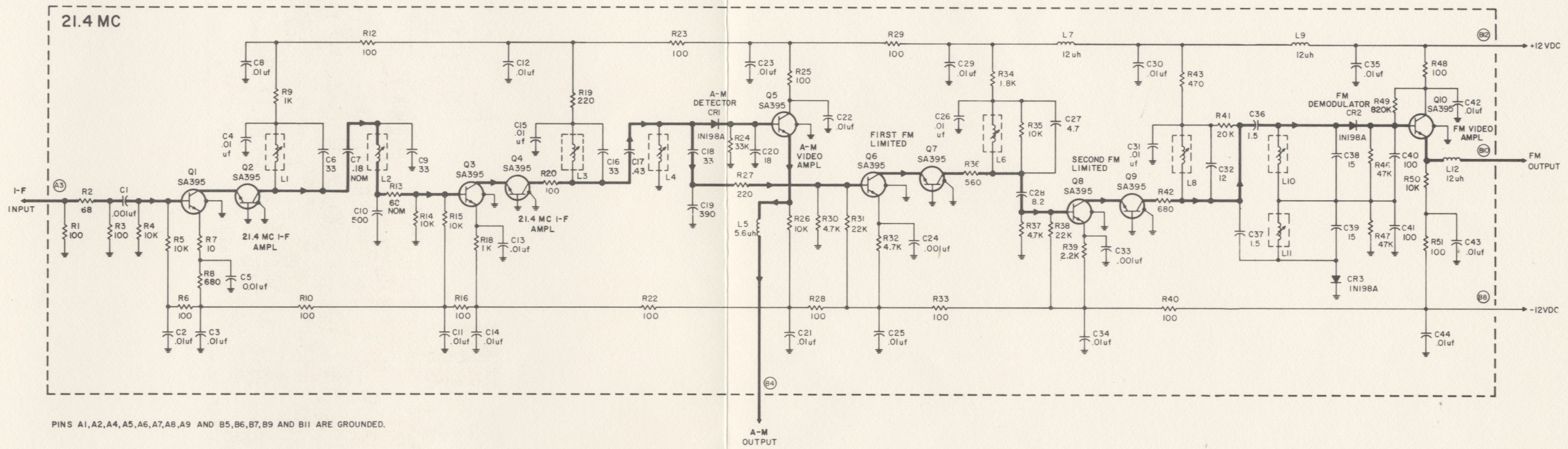


Figure 7-1A. Typical Wideband IF Amplifier, IF-212-300.

UNLESS OTHERWISE SPECIFIED:
 ALL RESISTOR VALUES ARE IN OHMS, 1/4 W, 5%
 ALL CAPACITOR VALUES ARE IN pf.
 NOM - NOMINAL INSTALLED VALUE, ACTUAL VALUE
 TBD BY TEST.



PINS A1, A2, A4, A5, A6, A7, A8, A9 AND B5, B6, B7, B9 AND B11 ARE GROUNDED.

300KC BANDWIDTH IF AMPLIFIER IF-212-300

Figure 7-1B. IF Amplifier, IF-212-300, Schematic.