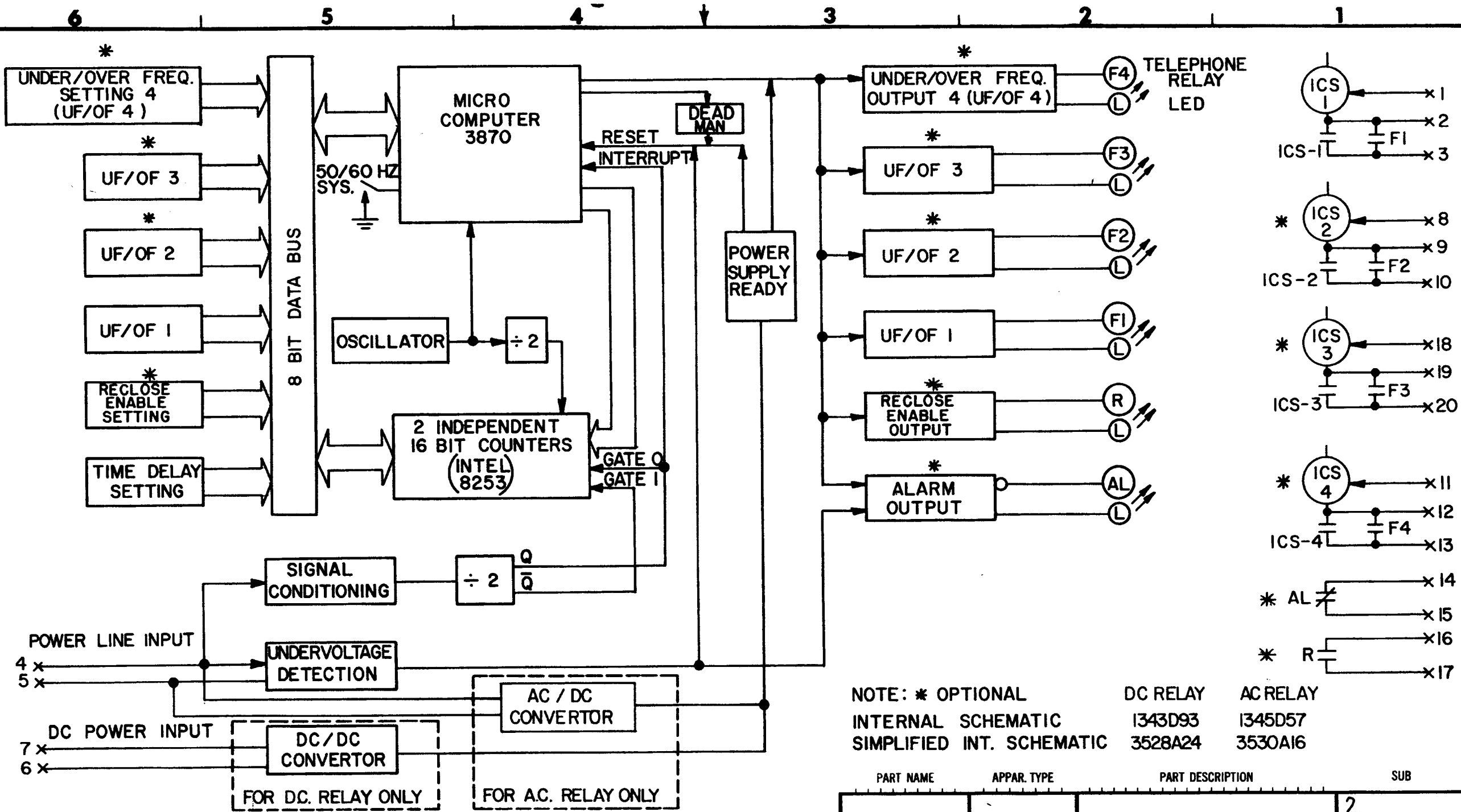
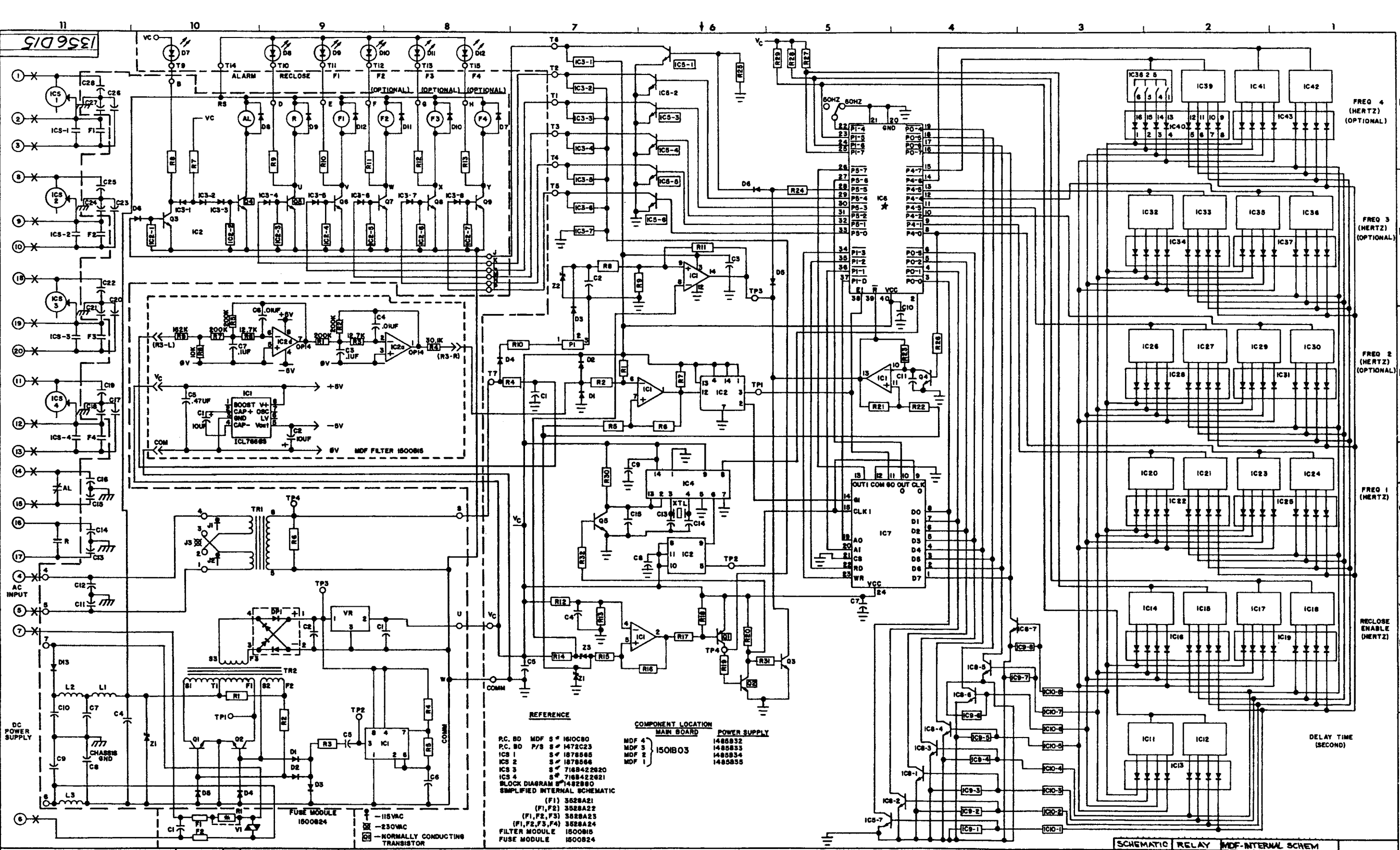






1356 D15

FREQ 4
(HERTZ)
(OPTIONAL)

FREQ 3
(HERTZ)
(OPTIONAL)

FREQ 2
(HERTZ)
(OPTIONAL)

FREQ 1
(HERTZ)

RECLOSE
ENABLE
(HERTZ)

DELAY TIME
(SECOND)

REFERENCE

P.C. 80 MDF S * 1610C80
P.C. 80 P/S S * 1472C23
ICS 1 S * 1878868
ICS 2 S * 1878868
ICS 3 S * 7168422820
ICS 4 S * 7168422821
BLOCK DIAGRAM #1482880
SIMPLIFIED INTERNAL SCHEMATIC
(F1) 3528A21
(F1,F2) 3528A22
(F1,F2,F3) 3528A23
(F1,F2,F3,F4) 3528A24
FILTER MODULE 1800B15
FUSE MODULE 1800B24

COMPONENT LOCATION

MDF 4
MDF 3
MDF 2
MDF 1

1501B03
1485832
1485833
1485834
1485835

MAIN BOARD 1610C79

COMPONENT		DESCRIPTION		STYLE NO.		COMPONENT		DESCRIPTION		STYLE NO.	
C1	CAPACITOR	100UF	100V	762A680H14	R11	RESISTOR	432.0K	50W	1%	848A822H04	
C2	CAPACITOR	0.22UF	100V	763A219H12	R12	RESISTOR	10.0K	50W	1%	848A820H45	
C3	CAPACITOR	100UF	100V	762A680H14	R13	RESISTOR	374.0K	50W	1%	848A820H04	
C4	CAPACITOR	100UF	100V	352A65H07	R14	RESISTOR	100K	50W	1%	848A820H45	
C5	CAPACITOR	10,000UF	20V	184A65H124	R15	RESISTOR	4990.0	50W	1%	848A820H16	
C6	CAPACITOR	100UF	100V	762A680H14	R16	RESISTOR	249K	25W	1%	848A820H46	
C7	CAPACITOR	100UF	100V	762A680H14	R17	RESISTOR	1000.0	50W	1%	848A819H48	
C8	CAPACITOR	100UF	100V	762A680H14	R18	RESISTOR	100K	50W	1%	848A820H46	
C9	CAPACITOR	100UF	100V	762A680H14	R19	RESISTOR	100K	50W	1%	848A820H45	
C10	CAPACITOR	100UF	100V	762A680H14	R20	RESISTOR	100K	50W	1%	848A820H45	
C11	CAPACITOR	1000UF	50V	849A437H08	R21	RESISTOR	51.1K	50W	1%	848A821H14	
CONT. BELOW						R22	RESISTOR	100K	50W	1%	848A820H45
D1	DIODE	IN645A		837A692H03	R23	RESISTOR	150.0K	50W	1%	848A821H59	
D2	DIODE	IN645A		837A692H03	R24	RESISTOR	1000.0	50W	1%	848A819H48	
D3	DIODE	IN645A		837A692H03	R25	RESISTOR	10.0K	50W	1%	848A820H46	
D4	DIODE	IN645A		837A692H03	R26	RESISTOR	10.0K	50W	1%	848A820H45	
D5	DIODE	IN645A		837A692H03	R27	RESISTOR	4990.0	50W	1%	848A820H16	
D6	DIODE	IN645A		837A692H03	R28	RESISTOR	4990.0	50W	1%	848A820H16	
D7	DIODE	IN645A		837A692H03	R29	RESISTOR	4990.0	50W	1%	848A820H16	
D8	DIODE	IN645A		837A692H03	R30	RESISTOR	20.0K	50W	1%	848A820H74	
D9	DIODE	IN645A		837A692H03	R31	RESISTOR	4.02K	50W	1%	848A820H07	
D10	DIODE	IN645A		837A692H03	R32	RESISTOR	4.02K	50W	1%	848A820H07	
C1	INT. CKT.	LM299AJ		3524A65H01	D7	LED	RED			3508A22H04	
C2	INT. CKT.	SN54107J		3513A25H02	D8	LED	YELLOW			3508A22H05	
C3	INT. CKT.	3168152		3524A66H04	D9	LED	RED			3508A22H04	
C4	INT. CKT.	SN5415624J		3524A66H01	D10	LED	RED			3508A22H04	
C5	INT. CKT.	CA3081		3524A67H01	D11	LED	RED			3508A22H04	
C6	INT. CKT.	3580247L		3524A67H01	D12	LED	RED			3508A22H04	
C7	INT. CKT.	3168153		3524A66H05							
C8	INT. CKT.	3168103		3524A66H02							
C9	INT. CKT.	2300026		3524A70H01							
C10	INT. CKT.	2300026		3524A70H01							
C11	INT. CKT.	FSA2619M		3524A69H01							
C12	INT. CKT.	2300026		3524A70H01							
C13	INT. CKT.	2300026		3524A70H01							
C14	INT. CKT.	FSA2619M		3524A69H01							
C15	INT. CKT.	2300026		3524A70H01							
C16	INT. CKT.	2300026		3524A70H01							
C17	INT. CKT.	FSA2619M		3524A69H01							
C18	INT. CKT.	2300026		3524A70H01							
C19	INT. CKT.	2300026		3524A70H01							
C20	INT. CKT.	FSA2619M		3524A69H01							
C21	INT. CKT.	2300026		3524A70H01							
C22	INT. CKT.	2300026		3524A70H01							
C23	INT. CKT.	FSA2619M		3524A69H01							
C24	INT. CKT.	2300026		3524A70H01							
C25	INT. CKT.	2300026		3524A70H01							
C26	INT. CKT.	FSA2619M		3524A69H01							
C27	INT. CKT.	2300026		3524A70H01							
C28	INT. CKT.	2300026		3524A70H01							
C29	INT. CKT.	FSA2619M		3524A69H01							
C30	INT. CKT.	2300026		3524A70H01							
C31	INT. CKT.	2300026		3524A70H01							
C32	INT. CKT.	FSA2619M		3524A69H01							
C33	INT. CKT.	2300026		3524A70H01							
C34	INT. CKT.	2300026		3524A70H01							
C35	INT. CKT.	FSA2619M		3524A69H01							
C36	INT. CKT.	2300026		3524A70H01							
C37	INT. CKT.	2300026		3524A70H01							
C38	INT. CKT.	FSA2619M		3524A69H01							
C39	INT. CKT.	2300026		3524A70H01							
C40	INT. CKT.	2300026		3524A70H01							
C41	INT. CKT.	FSA2619M		3524A69H01							
C42	INT. CKT.	2300026		3524A70H01							
C43	INT. CKT.	2300026		3524A70H01							
P1	POT.	20.0K	50W	3523A42H02							
Q1	TRANSISTOR	2N2907A		762A672H17							
Q2	TRANSISTOR	2N2222A		762A672H15							
Q3	TRANSISTOR	2N2222A		762A672H15							
Q4	TRANSISTOR	2N2222A		762A672H15							
Q5	TRANSISTOR	2N2222A		762A672H15							
Z1	ZENER	ICL8069DM30	1.23V	9649A34H01	IC1	INT CKT	VOLT. CONVERTER ICL7660				
Z2	ZENER	IN5235B	6.8V	862A288H07	IC2	INT CKT	OP-140Z				
Z3	ZENER	ICL8069DM30	1.23V	9649A34H01							
R1	RESISTOR	162K	50W	848A821H62							
R2	RESISTOR	30.1K	50W	848A820H81							
R3	RESISTOR	100.0	50W	848A818H15							
R4	RESISTOR	10.0K	50W	848A820H45							
R5	RESISTOR	150.0K	50W	848A821H59							
R6	RESISTOR	10.0K	50W	848A820H46							
R7	RESISTOR	150.0K	50W	848A821H59							
R8	RESISTOR	150.0K	50W	848A821H59							
R9	RESISTOR	150.0K	50W	848A820H16							
R10	RESISTOR	5.0K	50W	848A820H16							
						C1	CAPACITOR	0.05uF	500V	20%	
						R1	RESISTOR	20 OHM	3W	5% W	
						R1	BAIRE WIRE	ONE INCH LONG			
						F1	FUSE	0.5A	SLO-BLO		
						F2	FUSE	0.5A	SLO-BLO		
						V1	VARIATOR	175Vdc	MAX.		
						V1	VARIATOR	180Vdc	MAX.		
						V1	VARIATOR	320Vdc	MAX.		
						FUSE MODULE-1500B24G01-G					

POWER SUPPLY BOARD I472C23

C1	CAPACITOR	10.000UF	35V	CJ1005JG98
C2	CAPACITOR	100.000UF	20V	CJ1006M026
C4	CAPACITOR	40.000UF	350V	CR40055T88
C5	CAPACITOR	.560UF	100V	CE5603ML93
C6	CAPACITOR	1.00UF	200V	CE1003KP25
C7	CAPACITOR	.010UF	3000V	CJ1002M380
C8	CAPACITOR	.010UF	3000V	CJ1002M380
C9	CAPACITOR	.010UF	3000V	CJ1002M380
C10	CAPACITOR	.010UF	3000V	CJ1002M380
C11	CAPACITOR	.010UF	3000V	CJ1002M380
C12	CAPACITOR	.010UF	3000V	CJ1002M380
C13	CAPACITOR	.010UF	3000V	CJ1002M380
C14	CAPACITOR	.010UF	3000V	CJ1002M380
C15	CAPACITOR	.010UF	3000V	CJ1002M380
C16	CAPACITOR	.010UF	3000V	CJ1002M380
C17	CAPACITOR	.010UF	3000V	CJ1002M380
C18	CAPACITOR	.010UF	3000V	CJ1002M380
C19	CAPACITOR	.010UF	3000V	CJ1002M380
C20	CAPACITOR	.010UF	3000V	CJ1002M380
C21	CAPACITOR	.010UF	3000V	CJ1002M380
C22	CAPACITOR	.010UF	3000V	CJ1002M380
C23	CAPACITOR	.010UF	3000V	CJ1002M380
C24	CAPACITOR	.010UF	3000V	CJ1002M380
C25	CAPACITOR	.010UF	3000V	CJ1002M380
C26	CAPACITOR	.010UF	3000V	CJ1002M380
C27	CAPACITOR	.010UF	3000V	CJ1002M380
C28	CAPACITOR	.010UF	3000V	CJ1002M380
D1	DIODE	IN645A		837A692H03
D2	DIODE	IN645A		837A692H03
D3	DIODE	IN645A		837A692H03
D4	DIODE	IN645A		837A692H03
D5	DIODE	IN645A		837A692H03
D6	DIODE	IN645A		837A692H03
D7	DIODE	IN482	500V	837A692H03
D8	DIODE	IN482	500V	188A342H16
D9	DIODE	IN482	500V	188A342H16
D10	DIODE	IN482	500V	188A342H16
D11	DIODE	IN482	500V	188A342H16
D12	DIODE	IN482	500V	188A342H16
D13	DIODE	IN4822	600V	188A342H11
IC1	INT CKT	SE355CV		7748956H01
IC2	INT CKT	3168IC3		3524A69H02
IC3	INT CKT	PSA2619M		3524A69H01
J1	JUMPER	0 OHM RESISTOR		952A478H01
J2	JUMPER	0 OHM RESISTOR		952A478H01
J3	JUMPER	0 OHM RESISTOR		952A478H01
J4	JUMPER	0 OHM RESISTOR		952A478H01
J5	JUMPER	0 OHM RESISTOR		952A478H01
J6	JUMPER	0 OHM RESISTOR		952A478H01
J7	JUMPER	0 OHM RESISTOR		952A478H01
Q1	TRANSISTOR	ST1701		3503A41H04
Q2	TRANSISTOR	ST1701		3503A41H04
Q3	TRANSISTOR	2N2222A		752A675H15
Q4	TRANSISTOR	2N4003		878A432H01
Q5	TRANSISTOR	2N4003		878A432H01
Q6	TRANSISTOR	2N4003		878A432H01
Q7	TRANSISTOR	2N4003		878A432H01
Q8	TRANSISTOR	2N4003		878A432H01
Q9	TRANSISTOR	2N4003		878A432H01
Q10	TRANSISTOR	2N4003		878A432H01
R1	RESISTOR	270.0K	1.00W	187A643H85
R2	RESISTOR	100.0K	1.00W	187A643H85
R3	RESISTOR	100.0K	1.00W	187A643H85
R4	RESISTOR	475.0	.50W	187A643H87
R5	RESISTOR	475.0K	1.00W	187A643H87
R6	RESISTOR	475.0	.50W	187A643H87
R7	RESISTOR	5000	.50W	187A643H87
R8	RESISTOR	5000	.50W	187A643H87
R9	RESISTOR	56200	.50W	187A643H87
R10	RESISTOR	10K	.50W	187A643H87
R11	RESISTOR	10K	.50W	187A643H87
R12	RESISTOR	51.0	.50W	187A643H87
R13	RESISTOR	267.0	.50W	187A643H87
R14	RESISTOR	100K	.50W	763A130H02
R15	RESISTOR	100K	.50W	763A130H02
R16	RESISTOR	100K	.50W	763A130H02
R17	RESISTOR	100K	.50W	763A130H02
R18	RESISTOR	100K	.50W	763A130H02
R19	RESISTOR	100K	.50W	763A130H02
R20	RESISTOR	39K	3.00W	763A127H13
R21	RESISTOR	39K	3.00W	763A127H13
R22	RESISTOR	39K	3.00W	763A127H13
R23	RESISTOR	39K	3.00W	763A127H13
R24	RESISTOR	39K	3.00W	763A127H13
R25	RESISTOR	39K	3.00W	763A127H13
R26	RESISTOR	220K	12.00W	763A098H10
R27	RESISTOR	220K	12.00W	763A098H10
R28	RESISTOR	220K	12.00W	763A098H10
R29	RESISTOR	220K	12.00W	763A098H10
R30	RESISTOR	220K	12.00W	763A098H10
R31	RESISTOR	220K	12.00W	763A098H10
R32	RESISTOR	220K	12.00W	763A098H10
R33	RESISTOR	220K	12.00W	763A098H10
R34	RESISTOR	220K	12.00W	763A098H10
R35	RESISTOR	220K	12.00W	763A098H10
R36	RESISTOR	220K	12.00W	763A098H10
R37	RESISTOR	220K	12.00W	763A098H10
R38	RESISTOR	220K	12.00W	763A098H10
R39	RESISTOR	220K	12.00W	763A098H10
R40	RESISTOR	220K	12.00W	763A098H10
R41	RESISTOR	220K	12.00W	763A098H10
R42	RESISTOR	220K	12.00W	763A098H10
R43	RESISTOR	220K	12.00W	763A098H10
R44	RESISTOR	220K	12.00W	763A098H10
R45	RESISTOR	220K	12.00W	763A098H10
R46	RESISTOR	220K	12.00W	763A098H10
R47	RESISTOR	220K	12.00W	763A098H10
R48	RESISTOR	220K	12.00W	763A098H10
R49	RESISTOR	220K	12.00W	763A098H10
R50	RESISTOR	220K	12.00W	763A098H10
R51	RESISTOR	220K	12.00W	763A098H10
R52	RESISTOR	220K	12.00W	763A098H10
R53	RESISTOR	220K	12.00W	763A098H10
R54	RESISTOR	220K	12.00W	763A098H10
R55	RESISTOR	220K	12.00W	763A098H10
R56	RESISTOR	220K	12.00W	763A098H10
R57	RESISTOR	220K	12.00W	763A098H10
R58	RESISTOR	220K	12.00W	763A098H10
R59	RESISTOR	220K	12.00W	763A098H10
R60	RESISTOR	220K	12.00W	763A098H10
R61	RESISTOR	220K	12.00W	763A098H10
R62	RESISTOR	220K	12.00W	763A098H10
R63	RESISTOR	220K	12.00W	763A098H10
R64	RESISTOR	220K	12.00W	763A098H10
R65	RESISTOR	220K	12.00W	763A098H10
R66	RESISTOR	220K	12.00W	763A098H10
R67	RESISTOR	220K	12.00W	763A098H10
R68	RESISTOR	220K	12.00W	763A098H10
R69	RESISTOR	220K	12.00W	763A098H10
R70	RESISTOR	220K	12.00W	763A098H10
R71	RESISTOR	220K	12.00W	763A098H10
R72	RESISTOR	220K	12.00W	763A098H10
R73	RESISTOR	220K	12.00W	763A098H10
R74	RESISTOR	220K	12.00W	763A098H10
R75	RESISTOR	220K	12.00W	763A098H10
R76	RESISTOR	220K	12.00W	763A098H10
R77	RESISTOR	220K	12.00W	763A098H10
R78	RESISTOR	220K	12.00W	763A098H10
R79	RESISTOR	220K	12.00W	763A098H10
R80	RESISTOR	220K	12.00W	763A098H10
R81	RESISTOR	220K	12.00W	763A098H10
R82	RESISTOR	220K	12.00W	763A098H10
R83	RESISTOR	220K	12.00W	763A098H10
R84	RESISTOR	220K	12.00W	763A098H10
R85	RESISTOR	220K	12.00W	763A098H10
R86	RESISTOR	220K	12.00W	763A098H10
R87	RESISTOR	220K	12.00W	763A098H10
R88	RESISTOR	220K	12.00W	763A098H10
R89	RESISTOR	220K	12.00W	763A098H10
R90	RESISTOR	220K	12.00W	763A098H10
R91	RESISTOR	220K	12.00W	763A098H10
R92	RESISTOR	220K	12.00W	763A098H10
R93	RESISTOR	220K	12.00W	763A098H10
R94	RESISTOR	220K	12.00W	763A098H10
R95	RESISTOR	220K	12.00W	763A098H10
R96	RESISTOR	220K	12.00W	763A098H10
R97	RESISTOR	220K	12.00W	763A098H10
R98	RESISTOR	220K	12.00W	763A098H10
R99	RESISTOR	220K	12.00W	763A098H10
R100	RESISTOR	220K	12.00W	763A098H10

COMPONENT	DESCRIPTION		STYLE NO.
Z1	ZENER	15KE200 200.0V	878A619H01(125 VDC)
Z2	ZENER	IN3048B 150.0V	188A303H01
Z3	ZENER	IN3048B 180.0V	188A303H01
Z1	ZENER	1.5KE300A 300.0V	878A619H07(250 VDC)
TP1	TEST POINT		849A242H01
TP2	TEST POINT		849A242H01
TP3	TEST POINT		849A242H01
TP4	TEST POINT		849A242H01
F1	TEL. RELAY	48V	407C733H06
F2	TEL. RELAY	48V	407C733H06
F3	TEL. RELAY	48V	407C733H06
F4	TEL. RELAY	48V	407C733H06
AL	TEL. RELAY	48V	407C733H06
R	TEL. RELAY	48V	407C733H06
F1	TEL. RELAY	125V	407C733H07
F2	TEL. RELAY	125V	407C733H07
F3	TEL. RELAY	125V	407C733H07
F4	TEL. RELAY	125V	407C733H07
AL	TEL. RELAY	125V	407C733H07
R	TEL. RELAY	125V	407C733H07
F1	TEL. RELAY	250V	407C733H08
F2	TEL. RELAY	250V	407C733H08
F3	TEL. RELAY	250V	407C733H08
F4	TEL. RELAY	250V	407C733H08
AL	TEL. RELAY	250V	407C733H08
R	TEL. RELAY	250V	407C733H08
TR1	TRANSF.		479B894H01
TR2	TRANSF.	48V	480B08002
TR3	TRANSF.	125V	480B08002
TR2	TRANSF.	250V	480B08003
L1	CHOKE		3516A94H01
L2	CHOKE		3500A27H01
L3	CHOKE		3500A27H01
VR	VOLT. REG.	LAS15A05	775B891H01
DP1	RECTIFIER	VM48	3511A90H01

* NOTE -
WHEN USING μ P 146SC38G03, ADD RESISTOR 848A820H16
AS PER FIG. A BELOW.

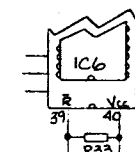
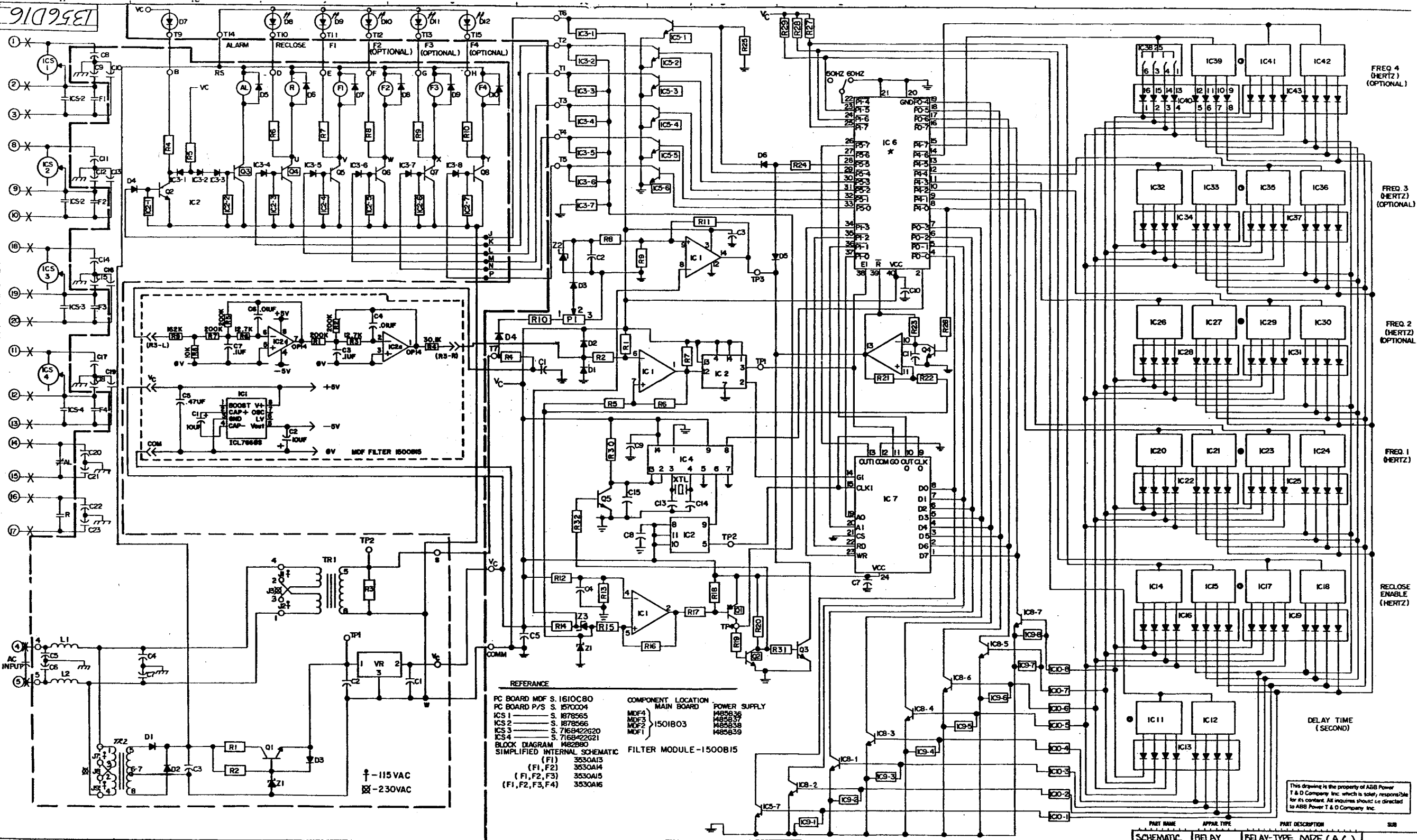


FIG. A

1356D16



91095EL

MAIN BOARD 1610C79

COMPONENT	DESCRIPTION	STYLE NO.
C1	CAPACITOR	100UF 100V 762A680H4
C2	CAPACITOR	0.22UF 100V 763A219H2
C3	CAPACITOR	100UF 100V 762A680H4
C4	CAPACITOR	1.0 UF 100V 352A655H07
C5	CAPACITOR	10.00UF 20V 184A651H24
C6	CAPACITOR	100UF 100V 762A680H4
C7	CAPACITOR	100UF 100V 762A680H4
C8	CAPACITOR	100UF 100V 762A680H4
C9	CAPACITOR	100UF 100V 762A680H4
C10	CAPACITOR	100UF 100V 762A680H4
C11	CAPACITOR	1.000UF 50V 848A437H08
CONT. BELOW		
D1	DIODE	1N645A 837A692H03
D2	DIODE	1N645A 837A692H03
D3	DIODE	1N645A 837A692H03
D4	DIODE	1N645A 837A692H03
D5	DIODE	1N645A 837A692H03
D6	DIODE	1N645A 837A692H03
IC1	INT. CKT.	LM239AJ 352A465H01
IC2	INT. CKT.	SN54107J 3513A05H02
IC3	INT. CKT.	316152 352A465H01
IC4	INT. CKT.	SN54ALS24J 352A465H01
IC5	INT. CKT.	CA3081 352A467H01
IC6	INT. CKT.	S830247L 146C334H02
IC7	INT. CKT.	8253 1479871H01
IC8	INT. CKT.	CA3081 352A467H01
IC9	INT. CKT.	316153 352A465H01
IC10	INT. CKT.	316103 352A465H02
IC11	INT. CKT.	2300026 352A470H01
IC12	INT. CKT.	2300026 352A470H01
IC13	INT. CKT.	FSA2619M 352A469H01
IC14	INT. CKT.	2300026 352A470H01
IC15	INT. CKT.	2300026 352A470H01
IC16	INT. CKT.	FSA2619M 352A469H01
IC17	INT. CKT.	2300026 352A470H01
IC18	INT. CKT.	2300026 352A470H01
IC19	INT. CKT.	FSA2619M 352A469H01
IC20	INT. CKT.	2300026 352A470H01
IC21	INT. CKT.	2300026 352A470H01
IC22	INT. CKT.	FSA2619M 352A469H01
IC23	INT. CKT.	2300026 352A470H01
IC24	INT. CKT.	2300026 352A470H01
IC25	INT. CKT.	FSA2619M 352A469H01
IC26	INT. CKT.	2300026 352A470H01
IC27	INT. CKT.	2300026 352A470H01
IC28	INT. CKT.	FSA2619M 352A469H01
IC29	INT. CKT.	2300026 352A470H01
IC30	INT. CKT.	2300026 352A470H01
IC31	INT. CKT.	FSA2619M 352A469H01
IC32	INT. CKT.	2300026 352A470H01
IC33	INT. CKT.	2300026 352A470H01
IC34	INT. CKT.	FSA2619M 352A469H01
IC35	INT. CKT.	2300026 352A470H01
IC36	INT. CKT.	2300026 352A470H01
IC37	INT. CKT.	FSA2619M 352A469H01
IC38	INT. CKT.	2300026 352A470H01
IC39	INT. CKT.	2300026 352A470H01
IC40	INT. CKT.	FSA2619M 352A469H01
IC41	INT. CKT.	2300026 352A470H01
IC42	INT. CKT.	2300026 352A470H01
IC43	INT. CKT.	FSA2619M 352A469H01
P1	POT.	20.0K 50W 3523A42H02
Q1	TRANSISTOR	2N2907A 762A672H17
Q2	TRANSISTOR	2N2222A 762A672H15
Q3	TRANSISTOR	2N2222A 762A672H15
Q4	TRANSISTOR	2N2222A 762A672H15
Q5	TRANSISTOR	2N2222A 762A672H15
Z1	ZENER	1CL80690M50 1.23V 9648A34H01
Z2	ZENER	IN5235B 6.8V 862A288H07
Z3	ZENER	1CL80690M50 1.23V 9648A34H01
R1	RESISTOR	62.0K 50W 1% 848A821H62
R2	RESISTOR	30.1K 50W 1% 848A821H62
R3	RESISTOR	30.1K 50W 1% 848A821H62
R4	RESISTOR	100.0 50W 1% 848A821H62
R5	RESISTOR	10.0K 50W 1% 848A821H62
R6	RESISTOR	150.0K 50W 1% 848A821H62
R7	RESISTOR	10.0K 50W 1% 848A821H62
R8	RESISTOR	150.0K 50W 1% 848A821H62
R9	RESISTOR	150.0K 50W 1% 848A821H62
R10	RESISTOR	5.0K 50W 1% 848A821H62

POWER SUPPLY BOARD 1570C04

COMPONENT	DESCRIPTION	STYLE NO.
C1	CAPACITOR	100.00UF 35V CJ1006MCC4
C2	CAPACITOR	100.00UF 35V CJ1006MCC4
C3	CAPACITOR	250.00UF 50V CR2506SHH1
C4	CAPACITOR	0.01UF 3000V C01002M380
C5	CAPACITOR	0.01UF 3000V C01002M380
C6	CAPACITOR	0.01UF 3000V C01002M380
C7	CAPACITOR	0.01UF 3000V C01002M380
C8	CAPACITOR	0.01UF 3000V C01002M380
C9	CAPACITOR	0.01UF 3000V C01002M380
C10	CAPACITOR	0.01UF 3000V C01002M380
C11	CAPACITOR	0.01UF 3000V C01002M380
C12	CAPACITOR	0.01UF 3000V C01002M380
C13	CAPACITOR	0.01UF 3000V C01002M380
C14	CAPACITOR	0.01UF 3000V C01002M380
C15	CAPACITOR	0.01UF 3000V C01002M380
C16	CAPACITOR	0.01UF 3000V C01002M380
C17	CAPACITOR	0.01UF 3000V C01002M380
C18	CAPACITOR	0.01UF 3000V C01002M380
C19	CAPACITOR	0.01UF 3000V C01002M380
C20	CAPACITOR	0.01UF 3000V C01002M380
C21	CAPACITOR	0.01UF 3000V C01002M380
C22	CAPACITOR	0.01UF 3000V C01002M380
C23	CAPACITOR	0.01UF 3000V C01002M380
D1	DIODE	1N4818 188A342H06
D2	DIODE	1N4818 188A342H06
D3	DIODE	1N4818 188A342H06
D4	DIODE	1N4818 188A342H06
D5	DIODE	1N4818 188A342H06
D6	DIODE	1N4818 188A342H06
D7	DIODE	1N4818 188A342H06
D8	DIODE	1N4818 188A342H06
D9	DIODE	1N4818 188A342H06
D10	DIODE	1N4818 188A342H06
IC1	INT. CKT.	FSA2619 352A469H01
IC2	INT. CKT.	352A469H01
J1	JUMPER	0.00M 862A478H01
J2	JUMPER	0.00M 862A478H01
J3	JUMPER	0.00M 862A478H01
J4	JUMPER	0.00M 862A478H01
J5	JUMPER	0.00M 862A478H01
J6	JUMPER	0.00M 862A478H01
J7	JUMPER	0.00M 862A478H01
J8	JUMPER	0.00M 862A478H01
J9	JUMPER	0.00M 862A478H01
J10	JUMPER	0.00M 862A478H01
J11	JUMPER	0.00M 862A478H01
J12	JUMPER	0.00M 862A478H01
J13	JUMPER	0.00M 862A478H01
J14	JUMPER	0.00M 862A478H01
J15	JUMPER	0.00M 862A478H01
J16	JUMPER	0.00M 862A478H01
J17	JUMPER	0.00M 862A478H01
J18	JUMPER	0.00M 862A478H01
J19	JUMPER	0.00M 862A478H01
J20	JUMPER	0.00M 862A478H01
Q1	TRANSISTOR	2N3055 187A673H08
Q2	TRANSISTOR	2N2222A 762A672H15
Q3	TRANSISTOR	2N4063 878A432H01
Q4	TRANSISTOR	2N4063 878A432H01
Q5	TRANSISTOR	2N4063 878A432H01
Q6	TRANSISTOR	2N4063 878A432H01
Q7	TRANSISTOR	2N4063 878A432H01
Q8	TRANSISTOR	2N4063 878A432H01
Q9	TRANSISTOR	2N4063 878A432H01
Q10	TRANSISTOR	2N4063 878A432H01
R1	RESISTOR	10.0K 5.00W 3% 629A923H15
R2	RESISTOR	500.0 5.00W 5% 762A672H15
R3	RESISTOR	10.0K 1.00W 5% 187A673H08
R4	RESISTOR	274.0 50W 1% 848A821H62
R5	RESISTOR	51.0 50W 1% 848A821H62
R6	RESISTOR	2.0K 3.00W 1% 763A271H03
R7	RESISTOR	2.0K 3.00W 1% 763A271H03
R8	RESISTOR	2.0K 3.00W 1% 763A271H03
R9	RESISTOR	2.0K 3.00W 1% 763A271H03
R10	RESISTOR	2.0K 3.00W 1% 763A271H03
Z1	ZENER	IN2977B 629A798H02
TR1	TRANSF.	479894H01
TR2	TRANSF.	479894H02
L1	CHOKE	3500A27H01
L2	CHOKE	3500A27H01
VR	VOLT. REG.	LAS15A05 775889H01
TP1	TEST POINT	848A242H01
TP2	TEST POINT	848A242H01
F1	TEL. RELAY	407C733H05
F2	TEL. RELAY	407C733H05
F3	TEL. RELAY	407C733H05
F4	TEL. RELAY	407C733H05
F5	TEL. RELAY	407C733H05
F6	TEL. RELAY	407C733H05
F7	TEL. RELAY	407C733H05
F8	TEL. RELAY	407C733H05
F9	TEL. RELAY	407C733H05
F10	TEL. RELAY	407C733H05

FILTER MODULE-1500B15G01

C1	CAPACITOR	10.0uF 20V 20% TANTALUM	184A661H24
C2	CAPACITOR	10.0uF 20V 20% TANTALUM	184A661H24
C3	CAPACITOR	0.1uF 500V 2% METAL MYLAR	3526A65H10
C4	CAPACITOR	0.01uF 200V 5%	3502A65H13
C5	CAPACITOR	0.47uF 50V 20%	762A680H04
C6	CAPACITOR	0.01uF 200V 5%	3502A65H13
C7	CAPACITOR	0.1uF 500V 2% METAL MYLAR	3526A65H10
R1	RESISTOR	200K .25W 1% METAL FILM	3532A38H30
R2	RESISTOR	200K .25W 1% METAL FILM	3532A38H30
R3	RESISTOR	12.7K .25W 1% METAL FILM	3535A37H11
R4	RESISTOR	30.1K .25W 1% METAL FILM	3535A37H11
R5	RESISTOR	200K .25W 1% METAL FILM	3532A38H30
R6	RESISTOR	12.7K .25W 1% METAL FILM	3535A37H11
R7	RESISTOR	200K .25W 1% METAL FILM	3532A38H30
R8	RESISTOR	10K .25W 1% METAL FILM	3535A37H11
R9	RESISTOR	162K .25W 1% METAL FILM	3532A38H21
IC1	INT. CKT.	VOLT. CONVERTER ICL7660	9649A49H01
IC2	INT. CKT.	OP-140Z	9642A94H01

NOTE:
WHEN USING 1465C25G03, ADD RESISTOR 848A820H16
AS PER FIG. A BELOW.

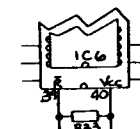
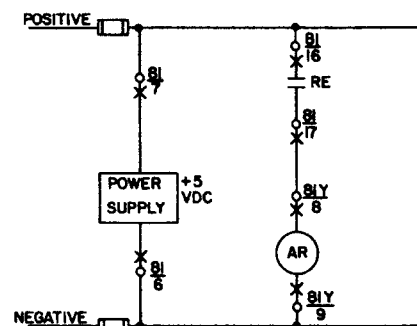
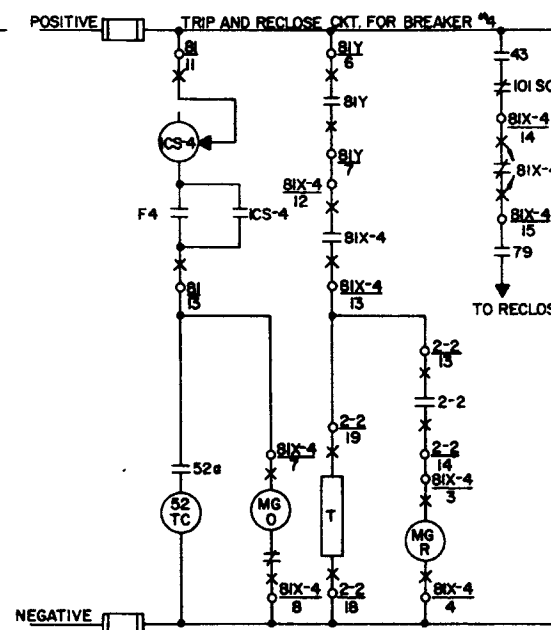


FIG. A



PART NAME	APPAR. TYPE	PART DESCRIPTION
SCHEMATIC	RELAY	MDF FREQUENCY RELAY



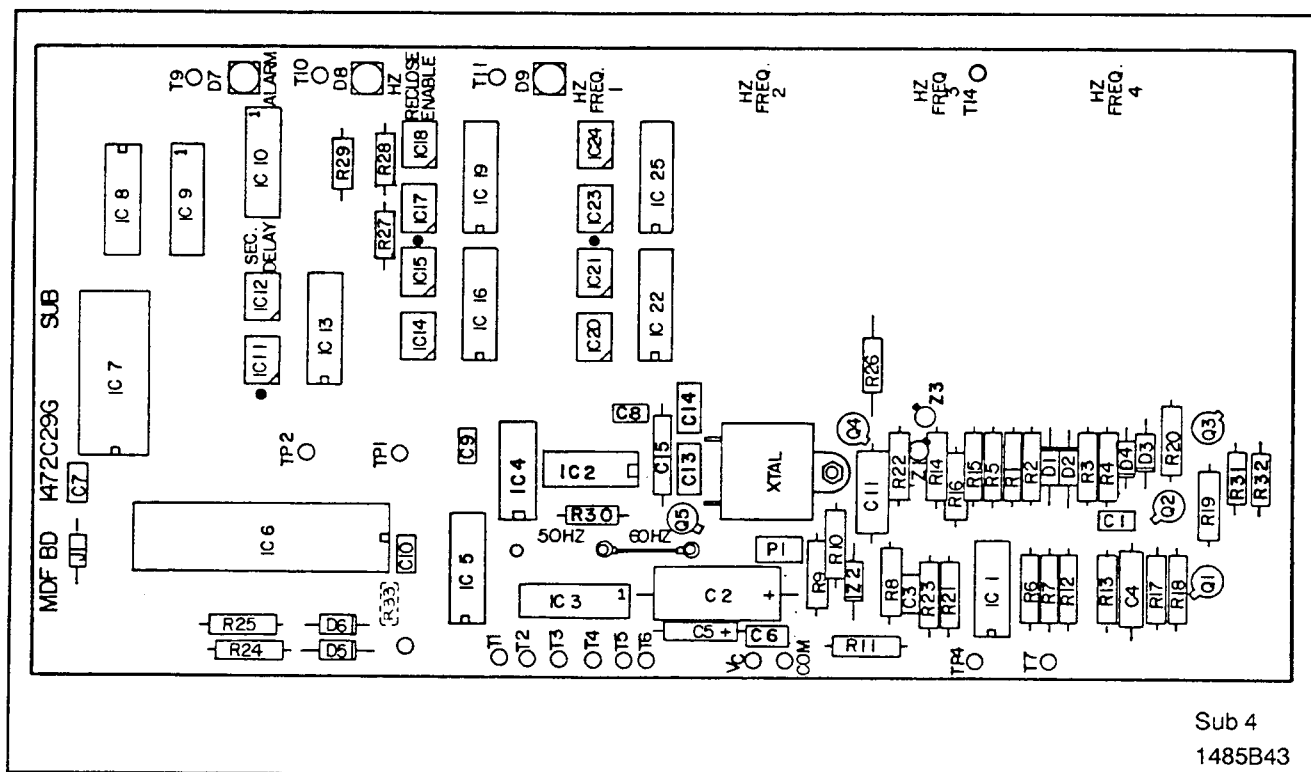


Figure 14. Component Location of MDF Board - One Frequency Setting

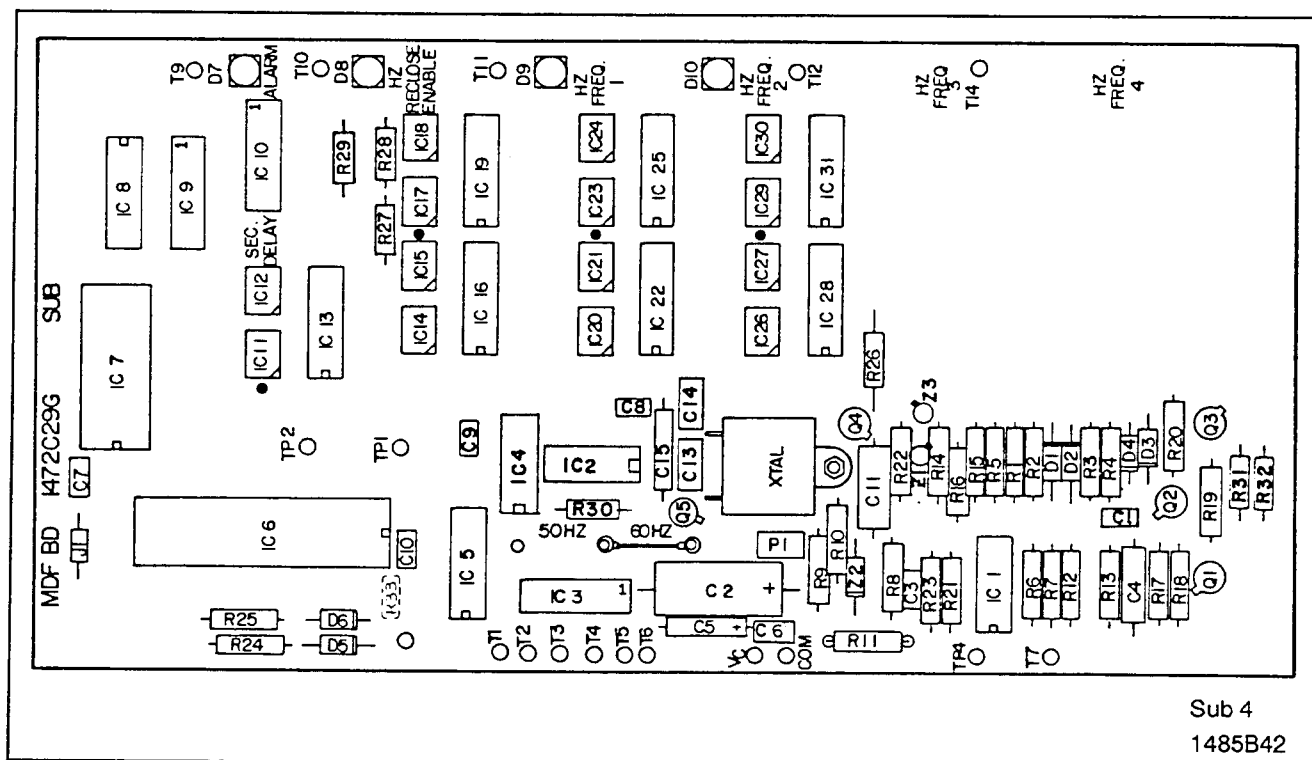


Figure 15. Component Location of MDF Board - Two Frequency Setting

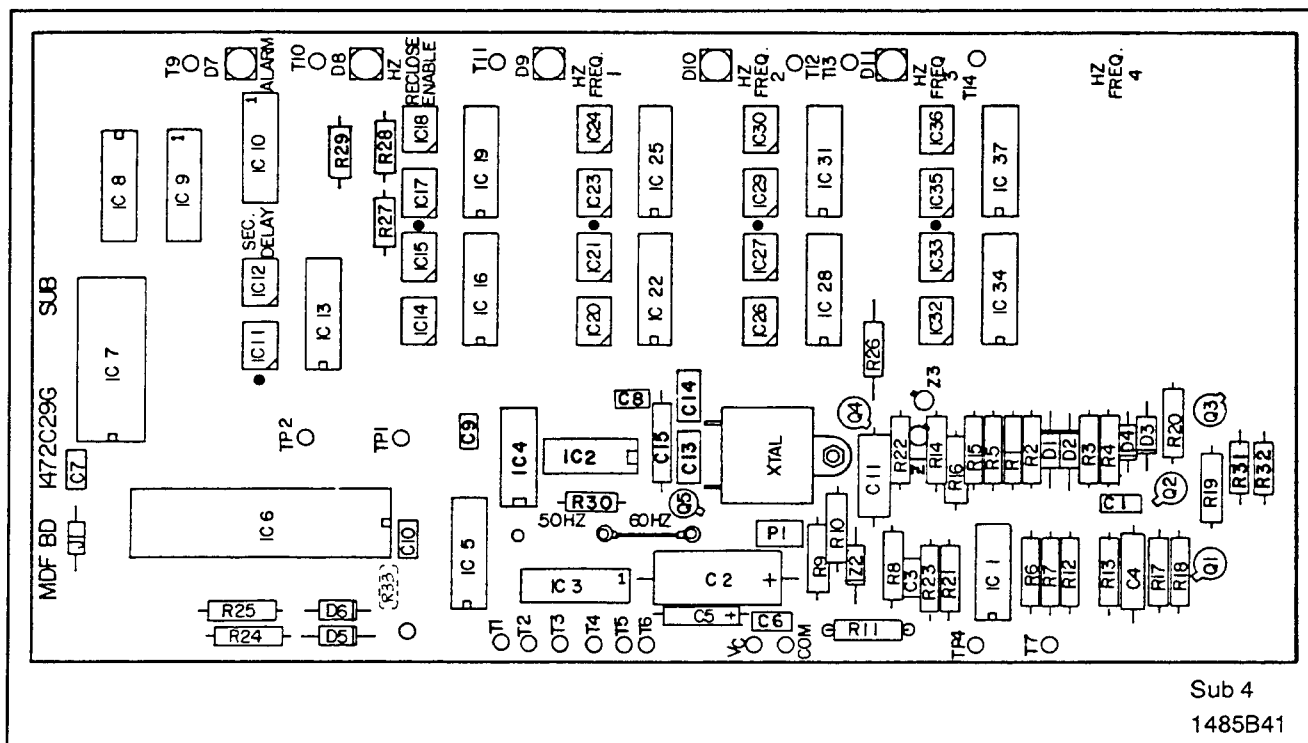


Figure 16. Component Location of MDF Board - Three Frequency Settings

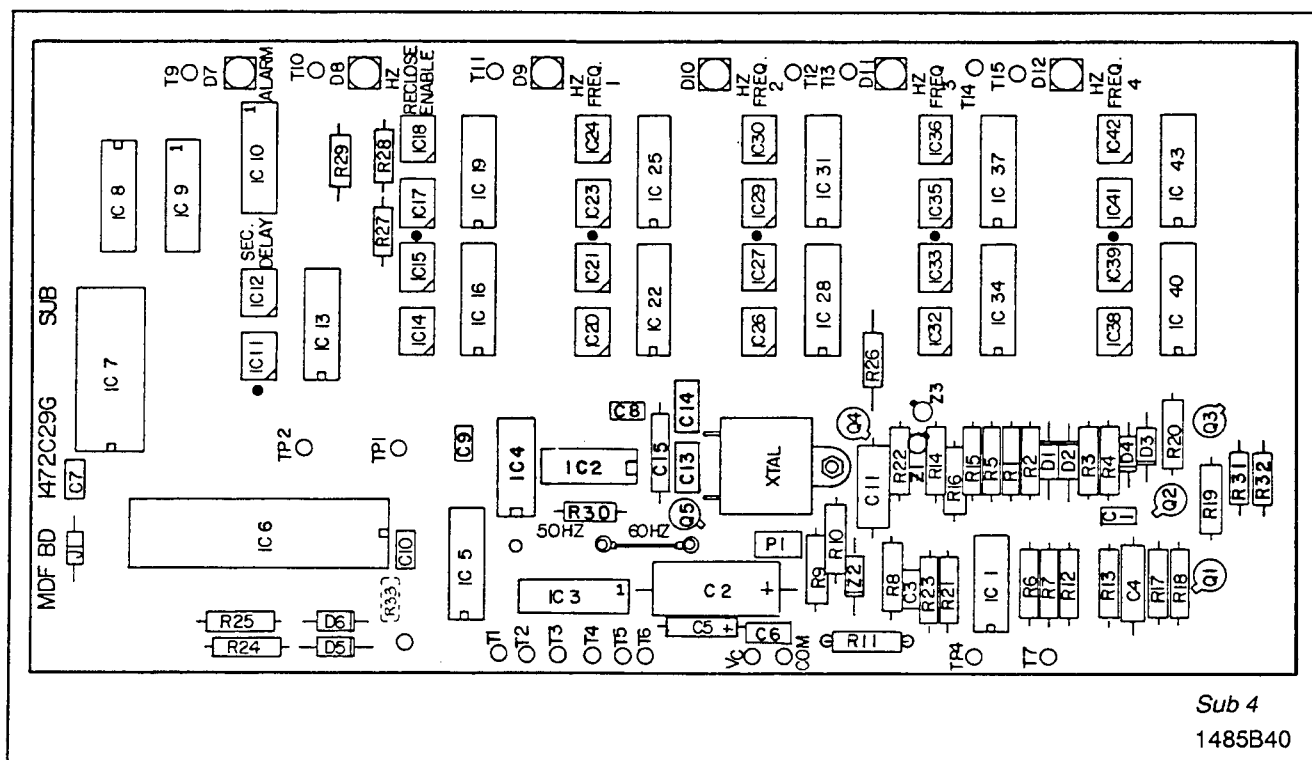


Figure 17. Component Location of MDF Board - Four Frequency Settings

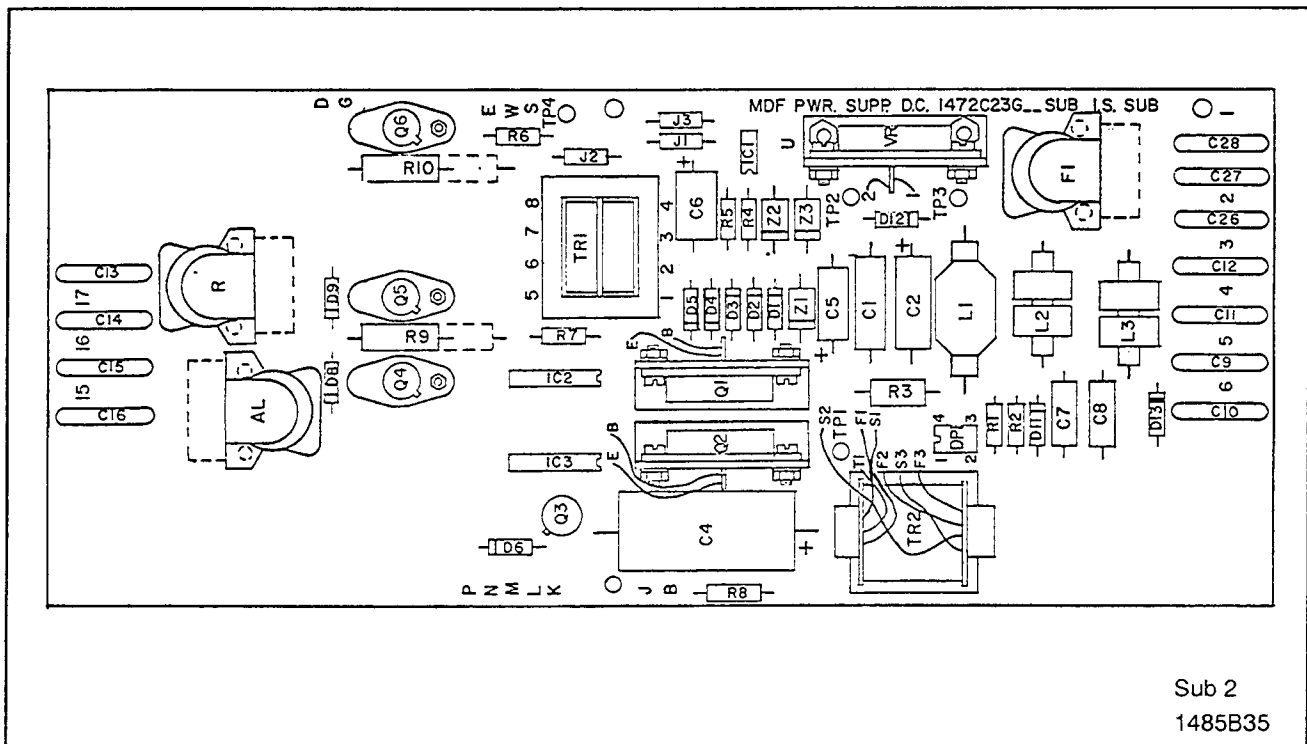


Figure 18. Component Location of Power Supply Board (dc) - One Frequency Setting

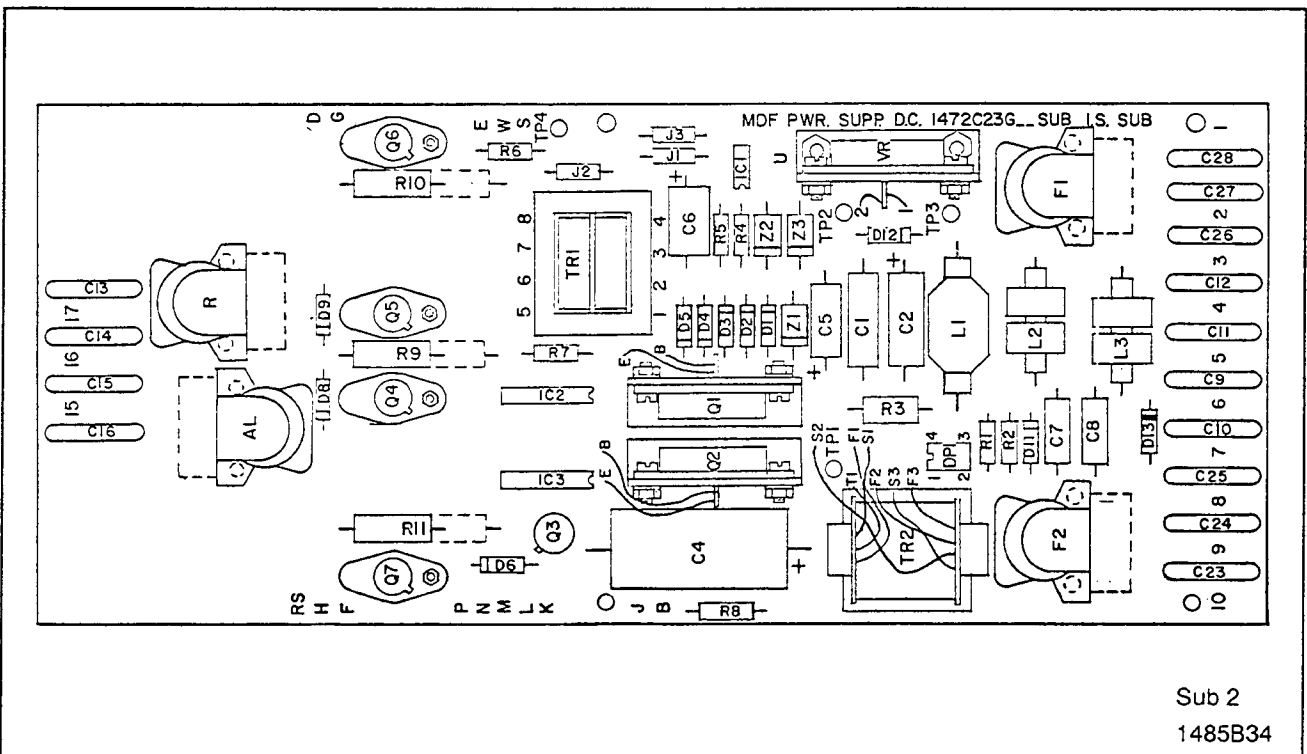


Figure 19. Component Location of Supply Board (dc) - Two Frequency Settings