

SCHEMATIC DIAGRAMS AND PARTS LIST



TELEPHONE ANALYZER

PARTS LIST 488-303-9-006E

SCHEMATIC SYMBOL	DESCRIPTION	B & K-PRECISION PART NUMBER
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RESISTORS

Unlisted resistors are $\pm 5\%$, 1/4 W. See schematic diagram for value.

R28 - 30	Not Used	
R32	Not Used	
R94 - 96	4.87 k Ω $\pm 1\%$, 1/4 W, Metal Film	015-141-4-871
R97, 98	2.32 k Ω $\pm 1\%$, 1/4 W, Metal Film	015-141-2-321
R104	Not Used	
R402	900 k Ω $\pm 1\%$, 1/2 W, Deposited Carbon	002-102-3-904
R403	100 k Ω $\pm 1\%$, 1/4 W, Metal Film	015-141-1-003
R408	10.0 k Ω $\pm 1\%$, 1/4 W, Metal Film	015-141-1-002
R409	4.02 k Ω $\pm 1\%$, 1/4 W, Metal Film	015-141-4-021
R411	900 k Ω $\pm 1\%$, 1/2 W, Deposited Carbon	002-102-3-904
R412	100 k Ω $\pm 1\%$, 1/4 W, Metal Film	015-141-1-003
R414	127 Ω $\pm 1\%$, 1/4 W, Metal Film	015-141-1-270
R415	499 Ω $\pm 1\%$, 1/4 W, Metal Film	015-141-4-990
R416	4.42 k Ω $\pm 1\%$, 1/4 W, Metal Film	015-141-4-421
R417	127 Ω $\pm 1\%$, 1/4 W, Metal Film	015-141-1-270
R421	18.7 k Ω $\pm 1\%$, 1/4 W, Metal Film	015-141-1-872
R422	24.9 k Ω $\pm 1\%$, 1/4 W, Metal Film	015-141-2-492
R423, 424	51 Ω $\pm 5\%$, 1/2 W, Deposited Carbon	002-102-8-510
R425, 426	3.01 k Ω $\pm 1\%$, 1/4 W, Metal Film	015-141-3-011
R427, 428	100 k Ω $\pm 1\%$, 1/4 W, Metal Film	015-141-1-003
R432	90.9 k Ω $\pm 1\%$, 1/4 W, Metal Film	015-141-9-092
R433	6.98 k Ω $\pm 1\%$, 1/4 W, Metal Film	015-141-6-981
R434	3.01 k Ω $\pm 1\%$, 1/4 W, Metal Film	015-141-3-011
R439	13.0 k Ω $\pm 1\%$, 1/4 W, Metal Film	015-141-1-302
R441	43 Ω $\pm 5\%$, 2 W, Deposited Carbon	002-002-8-430
R443, 444	51 Ω $\pm 5\%$, 1/2 W, Deposited Carbon	002-102-8-510
R601	10 k Ω $\pm 5\%$, 1 W, Deposited Carbon	002-001-8-103
R613	1.5 k Ω $\pm 5\%$, 3 W, Glass	003-003-5-152
R614	100 k Ω $\pm 5\%$, 1 W, Deposited Carbon	002-001-8-104
R675	1.5 k Ω $\pm 5\%$, 1/2 W, Deposited Carbon	002-102-8-152
R695	200 k Ω $\pm 5\%$, 1/2 W, Deposited Carbon	002-102-8-204
R697	100 k Ω $\pm 5\%$, 2 W, Deposited Carbon	002-002-8-104
R706	470 k Ω $\pm 5\%$, 1 W, Deposited Carbon	002-001-8-474
R710	20.0 k Ω $\pm 1\%$, 1/4 W, Metal Film	015-141-2-002
R711	12.4 k Ω $\pm 1\%$, 1/4 W, Metal Film	015-141-1-242
R712	20.0 k Ω $\pm 1\%$, 1/4 W, Metal Film	015-141-2-002
R713	6.04 k Ω $\pm 1\%$, 1/4 W, Metal Film	015-141-6-041
R714, 715	10.0 k Ω $\pm 1\%$, 1/4 W, Metal Film	015-141-1-002
R716, 717	301 k Ω $\pm 1\%$, 1/4 W, Metal Film	015-141-3-013
R719, 720	Not Used	
R722	1.5 k Ω $\pm 5\%$, 3 W, Glass	003-003-5-152

COMPOSITE
499-320-9-001E

**SCHEMATIC
SYMBOL**

DESCRIPTION

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RESISTORS (continued)

R726 - 728	Not Used	
R730	10 kΩ ±5%, 1/2 W, Deposited Carbon	002-102-8-103
VR1/S10	2 kΩ Potentiometer with Switch	008-494-9-001
VR2	5 kΩ Trimmer Pot	008-231-9-001
VR3/S9	2 kΩ Potentiometer with Switch	008-494-9-001
VR4, 5	5 kΩ Trimmer Pot	008-231-9-001
VR6/S7	10 kΩ Potentiometer with Switch	008-484-9-001
VR7	100 kΩ Trimmer Pot	008-228-9-001
VR8	250 kΩ Trimmer Pot	008-229-9-001
VR9	100 kΩ Trimmer Pot	008-228-9-001
VR10	5 kΩ Trimmer Pot	008-231-9-001
VR11	10 kΩ Trimmer Pot	010-022-9-007
VR12	5 kΩ Trimmer Pot	008-231-9-001
VR13	10 kΩ Potentiometer	008-485-9-001
VR401, 402	1 kΩ Trimmer Pot	008-247-9-001
VR403	1 kΩ Potentiometer	008-495-9-001
VR404	5 kΩ Trimmer Pot	008-231-9-001
VR405	30 kΩ Trimmer Pot	008-230-9-001
VR406/S414	50 kΩ Potentiometer with Switch	008-499-9-001
VR407	50 kΩ Trimmer Pot	008-387-9-001
VR408	500 Ω Trimmer Pot	008-314-9-001
VR409	30 kΩ Trimmer Pot	008-230-9-001
VR410	5 kΩ Trimmer Pot	008-231-9-001
VR411	10 kΩ Potentiometer	008-497-9-001
VR412	100 Ω Trimmer Pot	008-343-9-001
VR413	10 kΩ Trimmer Pot	010-022-9-007
VR601, 602	2.5 kΩ Trimmer Pot	008-236-9-001
VR603/S508	10 kΩ Potentiometer with Switch	008-504-9-001
VR604	10 kΩ Trimmer Pot	008-274-9-001

CAPACITORS

C1	0.005 μF ±20%, 500 V, Ceramic Disc	020-152-9-001
C2, 3	0.047 μF +80/-20%, 100 V, Monolithic	020-277-9-001
C4	4.7 μF ±20%, 25 V, Low Leakage Electrolytic	036-001-9-008
C5, 6	1 μF ±20%, 50 V, Low Leakage Electrolytic	036-001-9-005
C7	0.1 μF ±10%, 200 V, Polyester	025-020-9-001
C8, 9	470 μF, 25 V, Electrolytic	022-284-9-001
C10, 11	4.7 μF ±20%, 25 V, Low Leakage Electrolytic	036-001-9-008
C12, 13	0.1 μF ±20%, 16 V, Ceramic Disc	020-065-9-001
C14	1000 μF, 16 V, Electrolytic	022-283-9-001
C15	47 μF ±20%, 10 V, Low Leakage Electrolytic	036-001-9-019
C16	0.1 μF ±20%, 16 V, Ceramic Disc	020-065-9-001
C17	1.5 μF ±10%, 100 V, Polyester	025-101-9-001
C18	0.1 μF +80/-20%, 100 V, Monolithic Ceramic	020-298-9-001
C19, 20	0.015 μF ±5%, 400 V, Polyester	025-149-9-001
C21	0.1 μF +80/-20%, 100 V, Monolithic Ceramic	020-298-9-001
C22	0.001 μF ±10%, 500 V, Ceramic Disc	020-072-9-001
C23	0.1 μF +80/-20%, 100 V, Monolithic Ceramic	020-298-9-001
C24	47 μF ±20%, 10 V, Low Leakage Electrolytic	036-001-9-019
C25	100 μF +100/-10%, 25 V, Electrolytic	022-081-9-001
C26	0.047 μF +80/-20%, 100 V, Monolithic	020-277-9-001
C27	0.1 μF +80/-20%, 100 V, Monolithic Ceramic	020-298-9-001
C28, 29	4.7 pF ±1/4 pF, 1 kV, NP0, Ceramic Disc	031-056-9-001
C30	1.5 μF ±10%, 100 V, Polyester	025-101-9-001
C31	4.7 μF ±20%, 25 V, Low Leakage Electrolytic	036-001-9-008
C32	100 pF ±5%, 500 V, Silver Mica	023-003-9-001
C33	20 pF ±5%, 500 V N750, Ceramic Disc	020-183-9-001
C34	10 pF - 40 pF Trimmer	028-064-9-001
C35	0.1 μF +80/-20%, 100 V, Monolithic Ceramic	020-298-9-001
C36, 37	0.01 μF +80/-20%, 100 V, Ceramic Disc	020-263-9-001
C38	0.1 μF +80/-20%, 100 V, Monolithic Ceramic	020-298-9-001
C39, 40	0.005 μF ±20%, 500 V, Ceramic Disc	020-152-9-001
C41	Not Used	
C42, 43	0.1 μF +80/-20%, 100 V, Monolithic Ceramic	020-298-9-001

**SCHEMATIC
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DESCRIPTION

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CAPACITORS (continued)

C44	62 pF ±5%, 500 V, NP0, Ceramic Disc	031-048-9-001
C45	470 pF ±10%, 500 V, Ceramic Disc	020-029-9-001
C46	4.7 μF ±20%, 25 V, Low Leakage Electrolytic	036-001-9-008
C47	100 pF ±10%, 500 V, Ceramic Disc	020-288-9-001
C48	0.1 μF +80/-20%, 100 V, Monolithic Ceramic	020-298-9-001
C49	0.022μF ±10%, 200 V, Polyester	025-208-9-001
C50	0.015 μF ±5%, 400 V, Polyester	025-149-9-001
C51	0.033 μF ±5%, 100 V, Polyester	025-150-9-001
C52	0.0022 μF ±5%, 100 V, Polyester	025-159-9-001
C53	0.033 μF ±5%, 100 V, Polyester	025-150-9-001
C54	0.015 μF ±5%, 400 V, Polyester	025-149-9-001
C55	100 pF ±10%, 500 V, Ceramic Disc	020-288-9-001
C56	0.1 μF +80/-20%, 100 V, Monolithic Ceramic	020-298-9-001
C57	10 μF ±20%, 35 V, Low Leakage Electrolytic	036-001-9-018
C58	10 μF ±20%, 16 V, Tantalum	027-010-9-001
C59	0.01 μF +80/-20 %, 100 V, Ceramic Disc	020-263-9-001
C60	47 μF ±20%, 10 V, Low Leakage Electrolytic	036-001-9-019
C401	0.1 μF ±20%, 100 V, Polyester	025-109-9-001
C402	0.001 μF ±20%, 1.4 kV DC, Ceramic Disc	020-145-9-001
C403	20 pF ±5%, 500 V N750, Ceramic Disc	020-183-9-001
C404	10 pF ±5%, 500 V, NP0, Ceramic Disc	031-004-9-001
C405	15 μF ±20%, 10V, Tantalum	027-009-9-001
C406	0.1 μF ±20%, 100 V, Polyester	025-109-9-001
C407, 408	0.33 μF ±10%, 100 V, Polyester	025-114-9-001
C409	470 μF, 25 V, Electrolytic	022-284-9-001
C410	0.1 μF +80/-20%, 100 V, Monolithic Ceramic	020-298-9-001
C411	10 μF, 25 V, Electrolytic	022-121-9-001
C412	33 μF, 25 V, Electrolytic	022-178-9-001
C413, 414	0.001 μF ±20%, 1.4 kV DC, Ceramic Disc	020-145-9-001
C415	0.01 μF +80%/-20%, 100 V, Ceramic Disc	020-101-9-001
C416	0.001 μF ±20%, 1.4 kV DC, Ceramic Disc	020-145-9-001
C417	0.022μF ±10%, 200 V, Polyester	025-208-9-001
C418	180 pF ±10%, 500 V, Ceramic Disc	020-020-9-001
C419	1 μF ±20%, 50 V, Low Leakage Electrolytic	036-001-9-005
C420	10 μF, 25 V, Electrolytic	022-121-9-001
C421	0.033 μF ±5%, 100 V, Polyester	025-150-9-001
C422	1 μF ±20%, 50 V, Low Leakage Electrolytic	036-001-9-005
C423, 424	33 μF, 25 V, Electrolytic	022-178-9-001
C425, 426	0.047 μF +80/-20%, 100 V, Monolithic	020-277-9-001
C427	0.01 μF +80%/-20%, 100 V, Ceramic Disc	020-101-9-001
C428	0.022μF ±10%, 200 V, Polyester	025-208-9-001
C429, 430	0.001 μF ±20%, 1.4 kV DC, Ceramic Disc	020-145-9-001
C431	0.01 μF ±20%, 500 V, Ceramic Disc	020-025-9-001
C601	0.47 μF ±10%, 100 V, Polyester	025-160-9-001
C602	100 pF ±10%, 500 V, Ceramic Disc	020-288-9-001
C603, 604	0.1 μF ±20%, 16 V, Ceramic Disc	020-065-9-001
C605	0.1 μF ±20%, 100 V, Polyester	025-109-9-001
C606, 607	2.2 μF ±20%, 63 V, Electrolytic	022-295-9-001
C608, 609	3.3 μF ±20%, 50 V, Low Leakage Electrolytic	036-001-9-007
C610	0.015 μF ±5%, 400 V, Polyester	025-149-9-001
C611	0.01 μF +80%/-20%, 100 V, Ceramic Disc	020-101-9-001
C612	47 μF ±20%, 10 V, Low Leakage Electrolytic	036-001-9-019
C613	0.022μF ±10%, 200 V, Polyester	025-208-9-001
C614	0.01 μF ±10%, 200 V, Polyester	025-027-9-001
C615	0.022μF ±10%, 200 V, Polyester	025-208-9-001
C616	0.01 μF ±10%, 200 V, Polyester	025-027-9-001
C617	0.47 μF ±10%, 100 V, Polyester	025-160-9-001
C618	1 μF ±20%, 50 V, Low Leakage Electrolytic	036-001-9-005
C619	0.1 μF ±20%, 100 V, Polyester	025-109-9-001
C620	0.047 μF +80/-20%, 100 V, Monolithic	020-277-9-001
C621	0.01 μF +80%/-20%, 100 V, Ceramic Disc	020-101-9-001
C622	0.047 μF ±20%, 100 V, Polyester	025-094-9-001
C623	0.1 μF ±20%, 100 V, Polyester	025-109-9-001
C624	47 μF ±20%, 10 V, Low Leakage Electrolytic	036-001-9-019

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DESCRIPTION

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CAPACITORS (continued)

C625	0.1 μ F \pm 20%, 100 V, Polyester	025-109-9-001
C626	0.047 μ F \pm 20%, 100 V, Polyester	025-094-9-001
C627	0.0047 μ F \pm 5%, 400 V, Polyester	025-152-9-001
C628	0.047 μ F \pm 20%, 100 V, Polyester	025-094-9-001
C629	0.47 μ F \pm 10%, 100 V, Polyester	025-160-9-001
C630, 631	0.01 μ F \pm 80%/-20%, 100 V, Ceramic Disc	020-101-9-001
C632	10 μ F \pm 50/-10%, 450 V, Electrolytic	021-076-9-001
C633	220 μ F \pm 20%, 100 V, Electrolytic	022-299-9-001
C634	10 μ F \pm 20%, 35 V, Low Leakage Electrolytic	036-001-9-018
C635	0.1 μ F \pm 20%, 16 V, Ceramic Disc	020-065-9-001
C636	1000 μ F, 16 V, Electrolytic	022-283-9-001
C637	3.3 μ F \pm 10%, 15 V, Tantalum	027-056-9-001
C638	0.01 μ F \pm 80%/-20%, 100 V, Ceramic Disc	020-101-9-001
C639	0.1 μ F \pm 20%, 100 V, Polyester	025-109-9-001
C640	0.01 μ F \pm 80%/-20%, 100 V, Ceramic Disc	020-101-9-001
C641	0.1 μ F \pm 20%, 100 V, Polyester	025-109-9-001
C642	0.047 μ F \pm 20%, 100 V, Polyester	025-094-9-001
C643	3.3 μ F \pm 20%, 50 V, Low Leakage Electrolytic	036-001-9-007
C644	10 μ F \pm 50/-10%, 450 V, Electrolytic	021-076-9-001
C645	47 μ F \pm 20%, 10 V, Low Leakage Electrolytic	036-001-9-019
C646	0.01 μ F \pm 80%/-20%, 100 V, Ceramic Disc	020-101-9-001
C647	0.001 μ F \pm 10%, 500 V, Ceramic Disc	020-072-9-001
C648	0.01 μ F \pm 80%/-20%, 100 V, Ceramic Disc	020-101-9-001
C649	680 pF \pm 20%, 100 V, Ceramic Disc	020-372-9-001
C650	0.047 μ F \pm 20%, 100 V, Polyester	025-094-9-001
C651	47 μ F \pm 20%, 10 V, Low Leakage Electrolytic	036-001-9-019
C652	0.47 μ F \pm 20%, 35 V, Tantalum	027-006-9-001
C653	0.1 μ F \pm 80/-20%, 100 V, Monolithic Ceramic	020-298-9-001
C654	0.1 μ F \pm 20%, 16 V, Ceramic Disc	020-065-9-001
C655	0.01 μ F \pm 80%/-20%, 100 V, Ceramic Disc	020-101-9-001
C656	10 μ F \pm 20%, 35 V, Low Leakage Electrolytic	036-001-9-018
C657, 658	0.1 μ F \pm 20%, 16 V, Ceramic Disc	020-065-9-001
C659	30 pF \pm 10%, 500 V, NP0, Ceramic Disc	031-014-9-001
C660	100 μ F \pm 50/-10%, 100 V, Electrolytic	022-294-9-001
C661	0.01 μ F \pm 80%/-20%, 100 V, Ceramic Disc	020-101-9-001
C662	0.1 μ F \pm 20%, 16 V, Ceramic Disc	020-065-9-001

TRANSFORMERS & INDUCTORS

T1	Power Transformer	065-191-9-001
T2	Power Transformer	065-196-9-001
L401, 402	1 mH \pm 20%, Inductor	041-154-9-001

DIODES

D1, D2	1N4148, Silicon	151-038-9-001
D3	Not Used	
D4	1N4148, Silicon	151-038-9-001
D5 - 10	1A, 600 V, Silicon	151-050-9-001
D11, 12	1N753A (6.2 V \pm 5%, 400 mW) Zener	152-071-9-001
D13 - 17	1N4148, Silicon	151-038-9-001
D18, 19	1N755A (7.5 V \pm 5%, 400 mW) Zener	152-063-9-001
D401 - 404	1N4148, Silicon	151-038-9-001
D405	1N4734A (5.6 V \pm 5%, 1 mW) Zener	152-036-9-001
D406	1N4148, Silicon	151-038-9-001
D407 - 412	1A, 600 V, Silicon	151-050-9-001
D413 - 416	1N270, Germanium	150-017-9-001
D501 - 503	LED, RED, (High Efficiency)	158-040-9-001
D601	1N749A (4.3 V \pm 5%, 400 mW) Zener	152-062-9-001
D602, 603	1N4148, Silicon	151-038-9-001
D604	1A, 600 V, Silicon	151-050-9-001
D605 - 629	1N4148, Silicon	151-038-9-001
D630 - 633	1N4007 (1A, 1000 V), Silicon	151-053-9-001
D634 - 637	1A, 600 V, Silicon	151-050-9-001
D638	1N4757A (51 V \pm 5%, 1 W) Zener	152-143-9-001
D639, 640	1A, 600 V, Silicon	151-050-9-001

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DIODES (continued)		
D641 - 644	1N4148, Silicon	151-038-9-001
D645	1N751A (5.1 V \pm 5%, 400 mW) Zener	152-112-9-001
D646	Not Used	
D647 - 649	1N4148, Silicon	151-038-9-001
D650	1A, 600 V, Silicon	151-050-9-001
D651 - 655	1N4148, Silicon	151-038-9-001
D656	Not Used	
D657	1N4148, Silicon	151-038-9-001
TRANSISTORS		
Q1	MPS6515, NPN	176-050-9-001
Q2	MPS2369, NPN	176-049-9-001
Q3	Not Used	
Q4	2N5950, FET	182-031-9-001
Q5	MPS3640, PNP	177-014-9-001
Q6	2N5818, NPN	176-051-9-001
Q401	2N3904, NPN	176-084-9-001
Q402	2N5818, NPN	176-051-9-001
Q601	MPS6519, PNP	177-015-9-001
Q602	MPS6515, NPN	176-050-9-001
Q603	2N5818, NPN	176-051-9-001
Q604	2N5550, NPN	176-033-9-001
Q605 - 608	MPS6515, NPN	176-050-9-001
Q609	2N5818, NPN	176-051-9-001
Q610	2N3906, PNP	177-035-9-001
Q611	MPS6515, NPN	176-050-9-001
Q612	TIP-30, PNP Power	173-013-9-001
Q613	MPS6515, NPN	176-050-9-001
Q614	MPS6519, PNP	177-015-9-001
Q615	MPS6515, NPN	176-050-9-001
Q616	D40N5, NPN Power	172-056-9-001
Q617	2N5818, NPN	176-051-9-001
Q618, 619	TIP-50, NPN Power	172-068-9-001
Q620	2N5818, NPN	176-051-9-001
Q621	MPS6515, NPN	176-050-9-001
Q622, 623	2N5550, NPN	176-033-9-001
Q624	2N5818, NPN	176-051-9-001
INTEGRATED CIRCUITS		
IC1	4017B	308-116-9-001
IC2	4013B	308-377-9-001
IC3	Programmed EPROM	308-329-9-001
IC4	4021B	308-326-9-001
IC5	4011B	308-114-9-001
IC6	4001B	308-290-9-001
IC7	74LS123	307-263-9-001
IC8	4518	308-146-9-001
IC9	4011B	308-114-9-001
IC10	4001B	308-290-9-001
IC11, 12	4511	308-061-9-001
IC13	7812	307-164-9-001
IC14	7912	307-165-9-001
IC15	7805	307-080-9-001
IC16, 17	1458	307-046-9-001
IC18, 19	358	307-134-9-001
IC20, 21	301	307-074-9-001
IC22	386	307-078-9-001
IC23	1496	307-091-9-001
IC24	9402	308-327-9-001
IC25	358	307-134-9-001
IC26	74LS90	307-103-9-001
IC401	301	307-074-9-001
IC402	741C	307-016-9-001
IC403	317	307-362-9-001

SCHEMATIC SYMBOL	DESCRIPTION	B & K-PRECISION PART NUMBER
INTEGRATED CIRCUIITS (continued)		
IC404	741C	307-016-9-001
IC405	XR2206	307-365-9-001
IC601	4016B	308-355-9-001
IC602	TL061	307-354-9-001
IC603	4049B	308-177-9-001
IC604	555	307-065-9-001
IC605	4011B	308-114-9-001
IC606	4030B	308-430-9-001
IC607	4011B	308-114-9-001
IC608	555	307-065-9-001
IC609	4520B	308-317-9-001
IC610	4082B	308-316-9-001
IC611	4027B	308-319-9-001
IC612	4028B	308-320-9-001
IC613	4013B	308-377-9-001
IC614	4030B	308-430-9-001
IC615	4511	308-061-9-001
IC616	40105	308-325-9-001
IC617	SSI202	308-321-9-001
IC618	4520B	308-317-9-001
IC619	4538B	308-318-9-001
IC620,621	Not Used	
IC622	7805	307-080-9-001
IC623, 624	555	307-065-9-001
IC625	Not Used	
IC626	741C	307-016-9-001
IC627	TL-062	307-353-9-001
SWITCHES		
S1	Not Used	
S2 - 6	5-Station Pushbutton	088-124-9-001
S7/VR6	Refer to VR6	
S8	DPDT Toggle	085-008-9-001
S9/VR3	Refer to VR3	
S10/VR1	Refer to VR1	
S401 - 413	13-Station Pushbutton	088-125-9-001
S414/VR406	Refer to VR406	
S501, 502	DPDT Slide	084-091-9-001
S503 - 507	SPST Momentary Pushbutton	088-067-9-001
S508/VR603	Refer to VR603	
S601, 602	2-Station Pushbutton	088-126-9-001
QUARTZ CRYSTALS		
X1	4.55 MHz	132-043-9-001
X601	3.579545 MHz	132-041-9-001
METERS		
M1	Delta "F"/Modulation	320-131-9-001
M401	"LEVEL"	320-130-9-001
	Lamp (for meters), 12 V, 90 mA, Incandescent	400-099-9-001
MISCELLANEOUS		
DS501 - 503	Display, 7-Segment LED	238-010-9-001
	Display Window, Red	380-499-9-001
F1	Fuse, 3/8 A, 250 V, 3AG, Slow Blow	190-251-3-308
F2	Fuse, 1/4 A, 250 V, 3AG, Slow Blow	190-251-3-104
	Fuse Holder	742-017-9-802
	Washer, Neoprene (For Fuse Holder)	347-048-9-001
	1/2-24 Special Nut (Fuseholders)	653-014-9-001
J5	BNC Connector (Panel)	772-024-9-001
J401 - 403	BNC Connector (Panel)	772-024-9-001
J404	Modular Telephone Jack (6 Pos, 4 Cont)	773-130-9-001
J405	BNC Connector (Panel)	772-024-9-001
J406	Binding Post, Black	773-093-9-003

SCHEMATIC SYMBOL

J407
J408
J601, 602
J603, 604

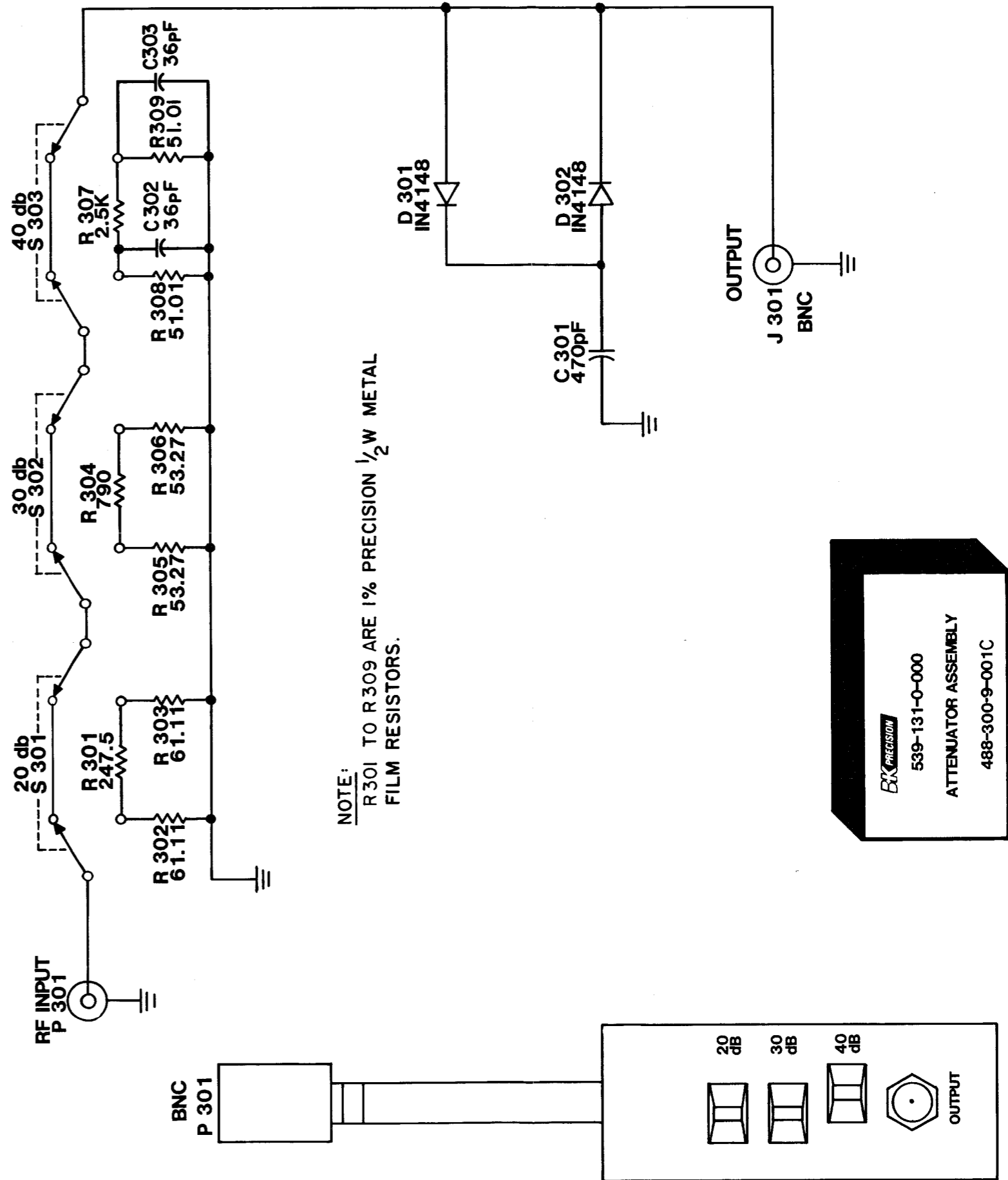
K601
P3 (1-8),
P3 (9-16)
P5
P6, 7 (1-15)
P7 (16-23)
P8
P9
P414
P415
P416
P417
P418
P610
P611 (1-13)
P611 (14-17)
P613
P619
P712

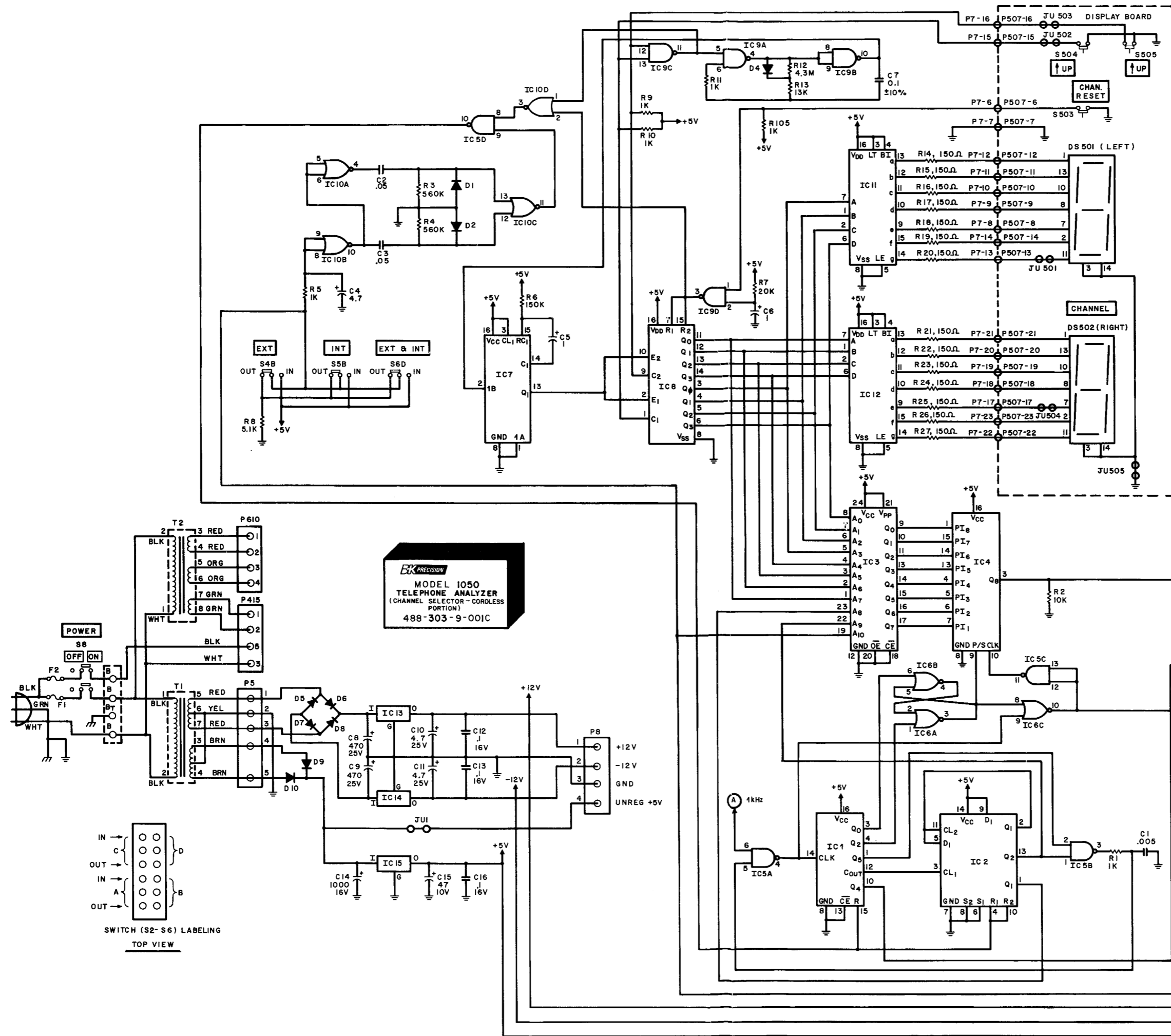
DESCRIPTION

MISCELLANEOUS (continued)

Binding Post, Red	773-093-9-001
AC Receptacle	771-043-9-001
Modular Telephone Jack (6 Pos, 4 Cont)	773-130-9-001
Modular Telephone Jack (4 Pos, 4 Cont)	773-131-9-001
1/2-28 Hex Nut (Attenuator BNC)	694-220-5-304
Relay, SPDT	441-040-9-001
Small 8-Pin PCB Connector	
Small 7-Pin PCB Connector	757-061-9-001
Small 15-Pin PCB Connector	757-017-9-007
Small 8-Pin PCB Connector	757-026-9-001
Large 4-Pin PCB Connector	757-061-9-001
Small 5-Pin PCB Connector	757-017-9-004
Large 3-Pin PCB Connector	757-068-9-001
Large 5-Pin PCB Connector	757-017-9-003
Small 7-Pin PCB Connector	757-038-9-001
Large 3-Pin PCB Connector	757-017-9-003
Small 15-Pin PCB Connector	757-026-9-001
Large 4-Pin PCB Connector	757-017-9-004
Small 13-Pin PCB Connector	757-067-9-001
Small 4-Pin PCB Connector	757-059-9-001
Small 5-Pin, 6-Position PCB Connector	757-096-9-001
Small 2-Pin PCB Connector	757-090-9-001
Small 7-Pin PCB Connector	757-038-9-001
Spacer (Display PCB Mounting)	759-139-9-001
Speaker, 8 Ω	580-043-9-001
Clip, Speaker Mounting	741-167-9-001
Bracket, Meter Mounting	251-316-9-001
CC-53 Coupling Coil	523-701-9-001
Delta "F" Filter Assembly (For Individual Parts See Separate Listing)	539-133-0-000
RF Attenuator (Field Service Not Recommended)	539-131-0-000
Shielded RF Assembly (For Individual Parts See Separate Listing)	539-132-0-000
Rail Bracket, RF Shield Assembly Mounting	251-585-9-001
Bracket, PCB Mounting (Metering)	251-594-9-001
Bracket, Modular Jack PCB Mounting	251-595-9-001
Front Sub Panel Assembly (with studs)	523-609-9-001
Cover, Bottom	252-072-9-001
Cover, Top	253-154-9-001
Overlay, Front Panel	260-381-9-001
Case Side, Left	272-107-9-902D
Case Side, Right	272-108-9-902D
Power Cord	420-013-9-001
Bushing, Line Cord Strain Relief	380-001-9-001
Solder Shield (for S501, 502)	342-077-9-001
4-Lug Terminal Strip	345-018-9-001
Rubber Foot	381-002-9-001
Glamour Cap (Attenuator Switches)	384-008-9-001
Switch Button, Tan	384-072-9-017
Switch Button, Brown	384-072-9-021
Switch Button, Black	384-035-9-005
Knob, Small	751-283-9-001
Knob, Large	751-294-9-001
23-Conductor Ribbon Cable Assembly	428-052-9-001
7-Conductor Ribbon Cable Assembly	428-060-9-001
17-Conductor Ribbon Cable Assembly	428-061-9-001
5-Conductor Ribbon Cable Assembly	428-062-9-001
Heat Sink	747-083-9-001
24-Pin IC Socket (For IC3)	762-018-9-001
Instruction Manual	480-460-9-001
Double Faced Adhesive (Meter Mount)	824-027-9-001

B & K-PRECISION PART NUMBER

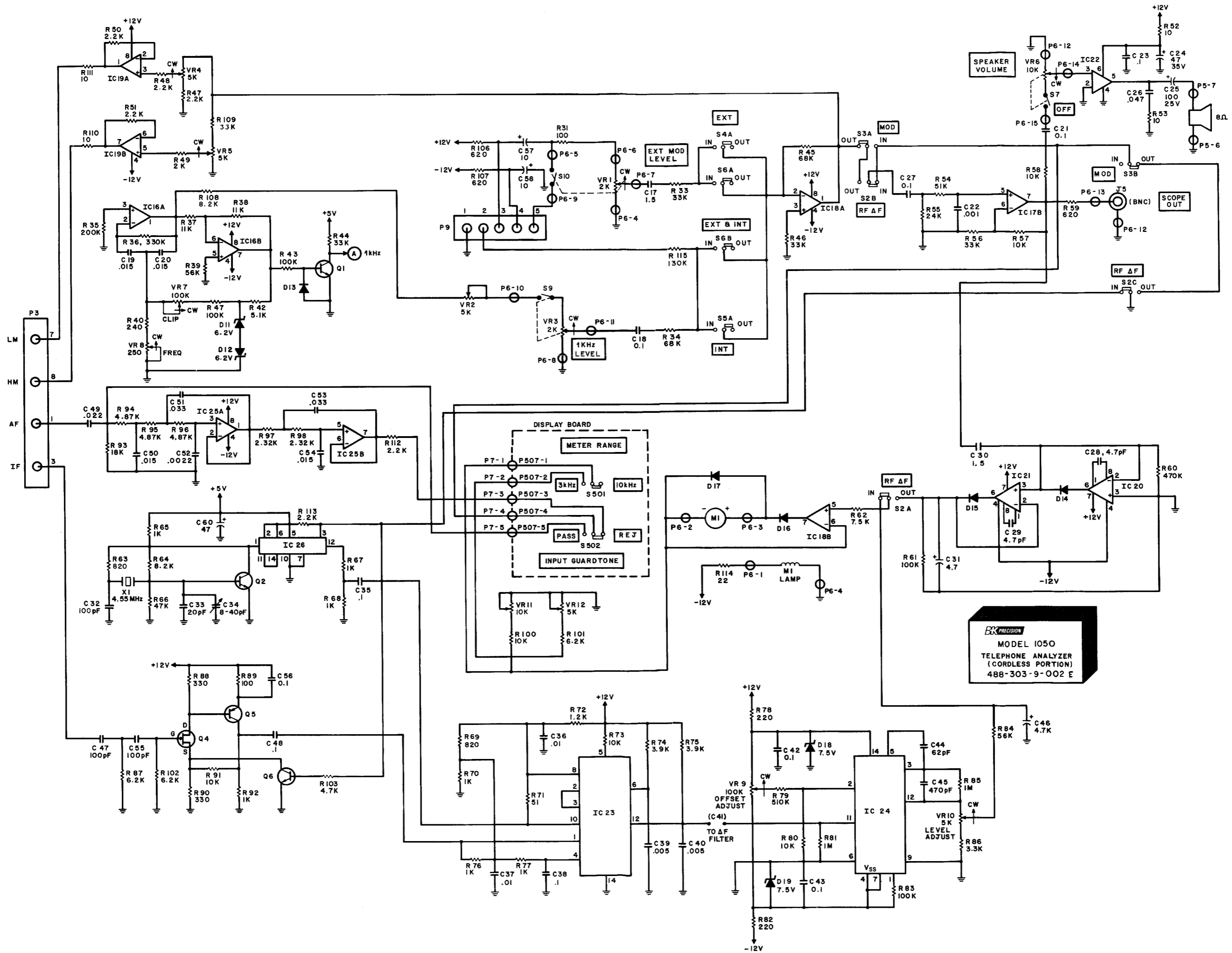




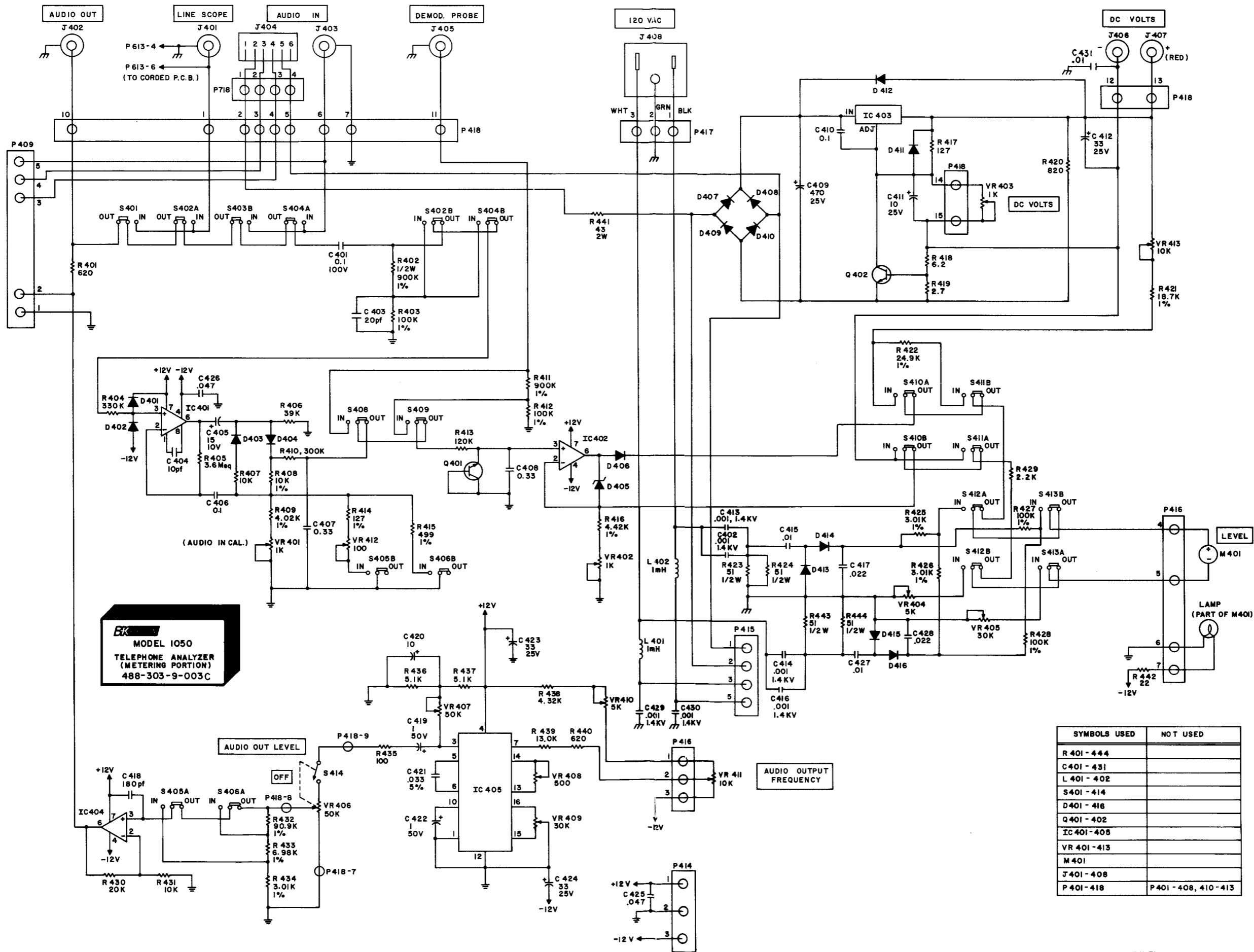
NOTES:

1. ALL RESISTORS ARE 1/4W, 5% UNLESS OTHERWISE NOTED.
2. ALL CAPACITORS ARE SHOWN IN MICROFARADS (μ F) UNLESS OTHERWISE NOTED.
3. TITLES IN RECTANGLES ARE FRONT PANEL CONTROLS.
4. MODEL SWITCHES SHOWN IN RF INPUT MODE, RFAF FUNCTION.
5. THIS SCHEMATIC SUBJECT TO CHANGE WITHOUT NOTICE.

SYMBOLS USED	NOT USED
R1 - R115	R104, 28, 29, 30, 32
C1 - C60	C41
X1	
D1 - D19	D3
Q1 - Q6	Q3
J1 - J5	J1
JU1	
PI - P9	PI, P2, P4
S1 - S10	S1



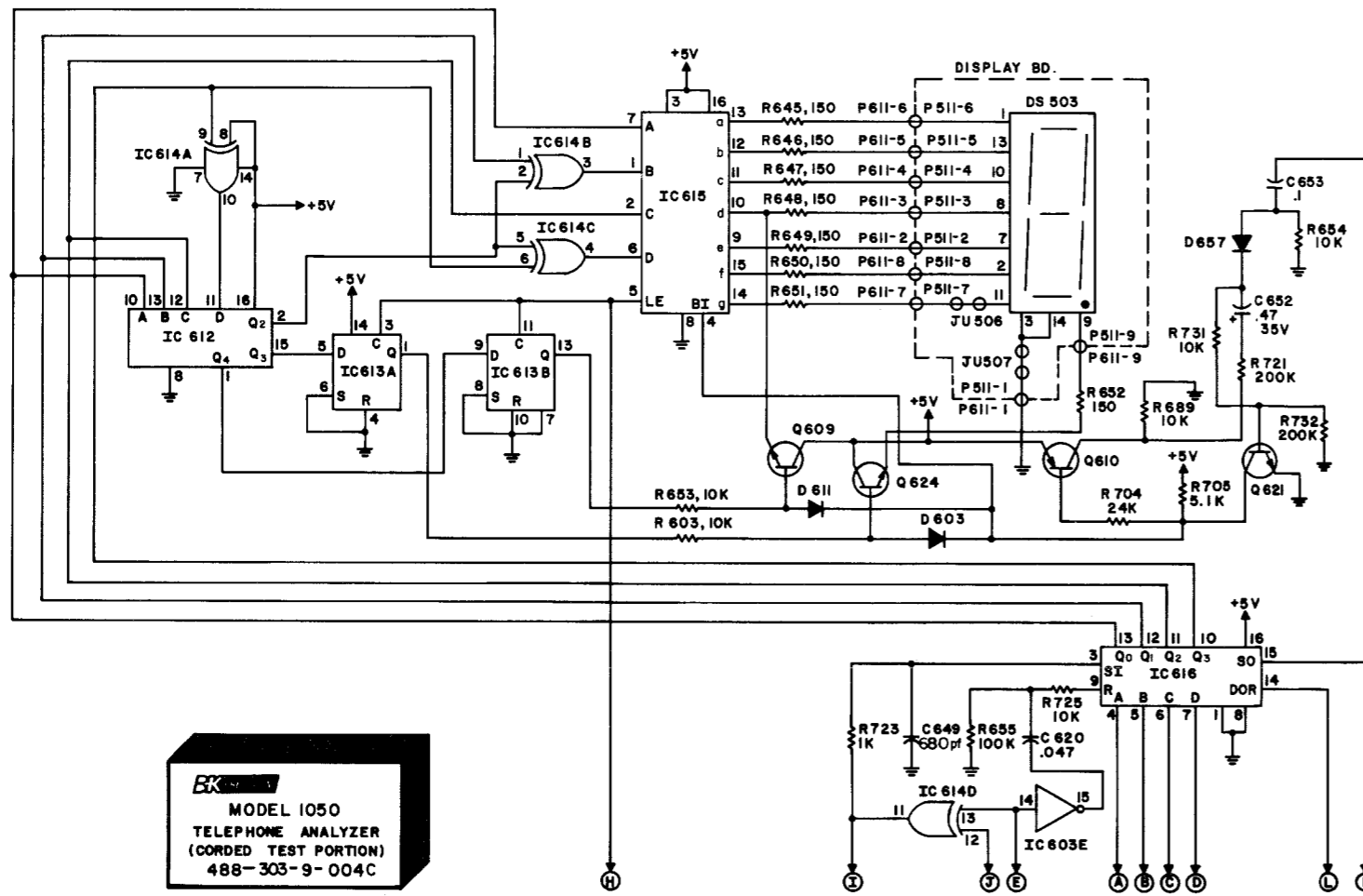
BR PRECISION
MODEL 1050
TELEPHONE ANALYZER
(CORDLESS PORTION)
488-303-9-002 E



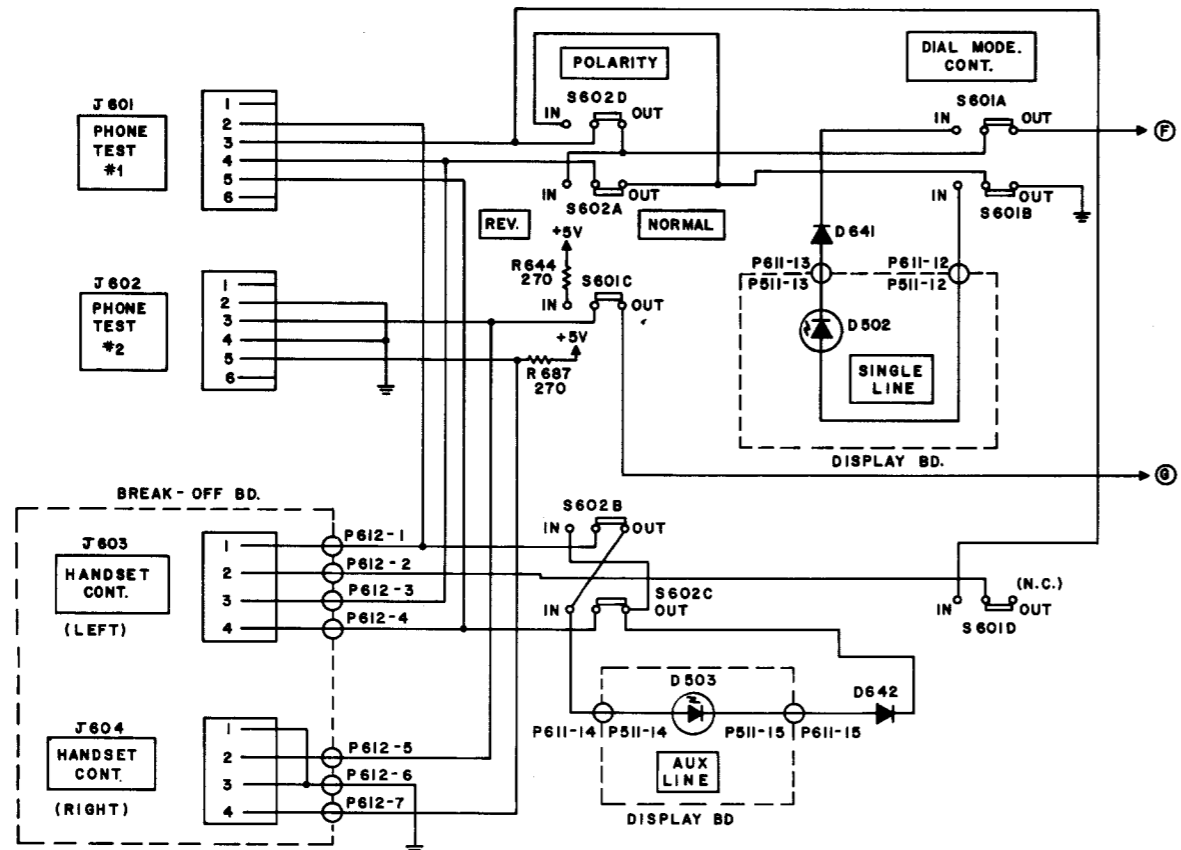
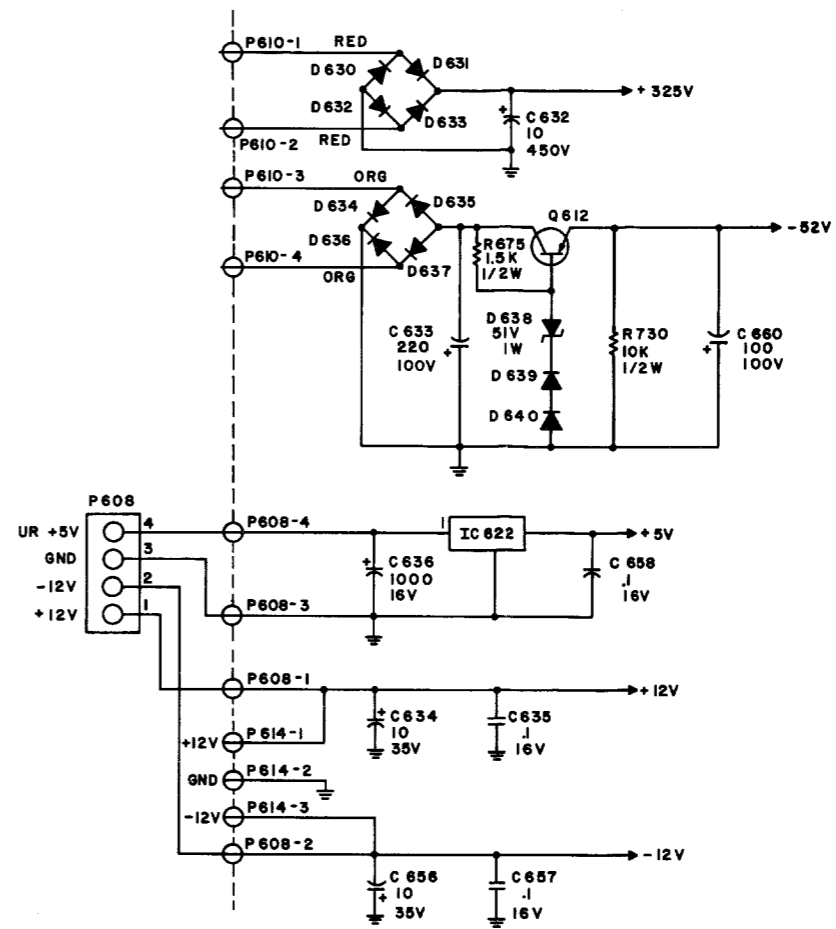
BK
MODEL 1050
 TELEPHONE ANALYZER
 (METERING PORTION)
 488-303-9-003C

SYMBOLS USED	NOT USED
R 401 - 444	
C 401 - 431	
L 401 - 402	
S 401 - 414	
D 401 - 416	
Q 401 - 402	
IC 401 - 405	
VR 401 - 413	
M 401	
J 401 - 408	
P 401 - 418	P 401 - 408, 410 - 413

ADDITIONAL SWITCH NOMENCLATURE												
S												
401	402	403	404	405	406	407	408	409	410	411	412	413
LINE AUDIO	AUDIO INPUT	AUDIO OUTPUT	DEMOD. PROBE	DCV OUT	LOAD							
I	IO	I	IO	30m	100m	I	I	IO	5	IO	I	IO

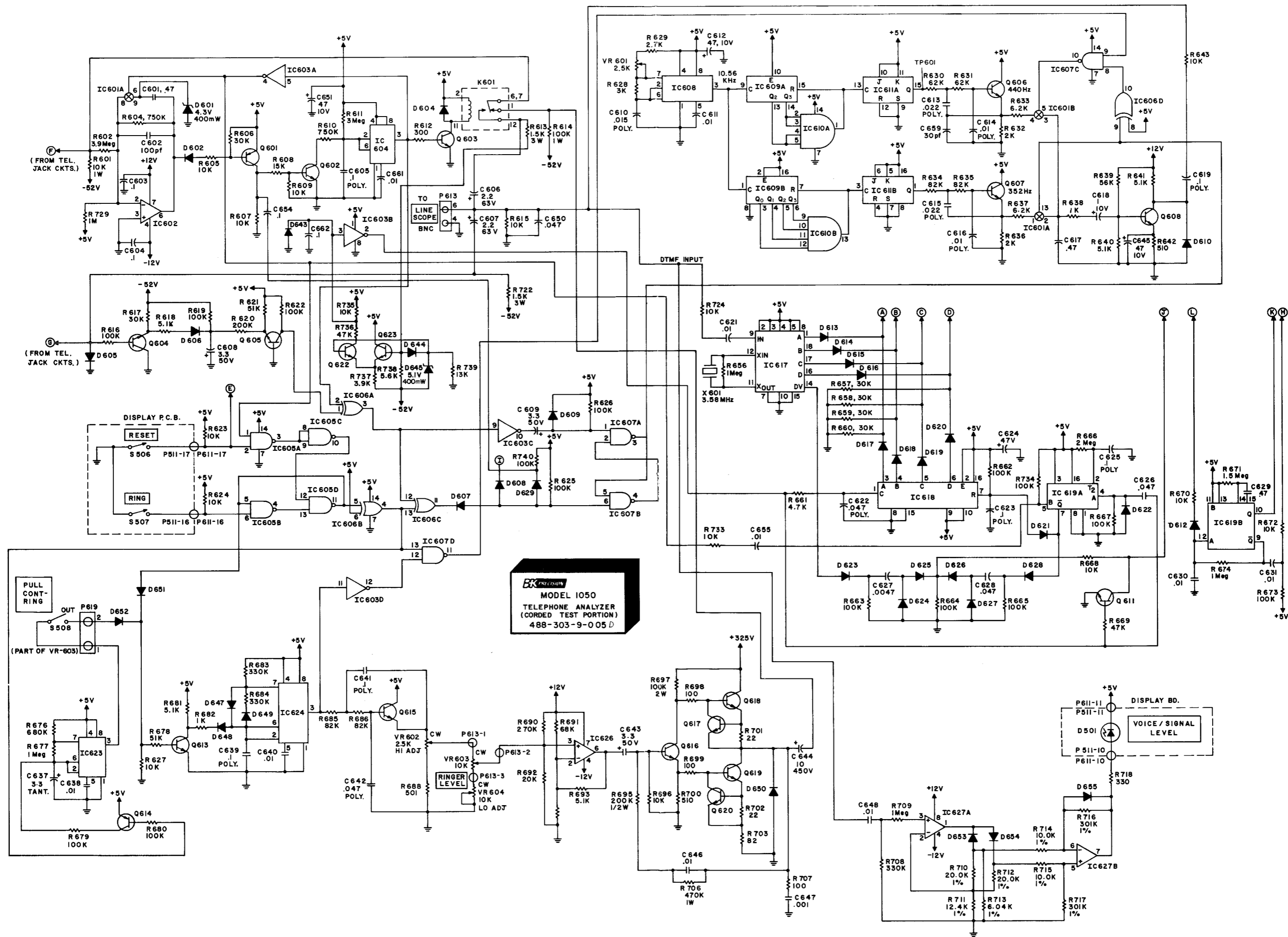


Model 1050
TELEPHONE ANALYZER
 (CORDED TEST PORTION)
 488-303-9-004C



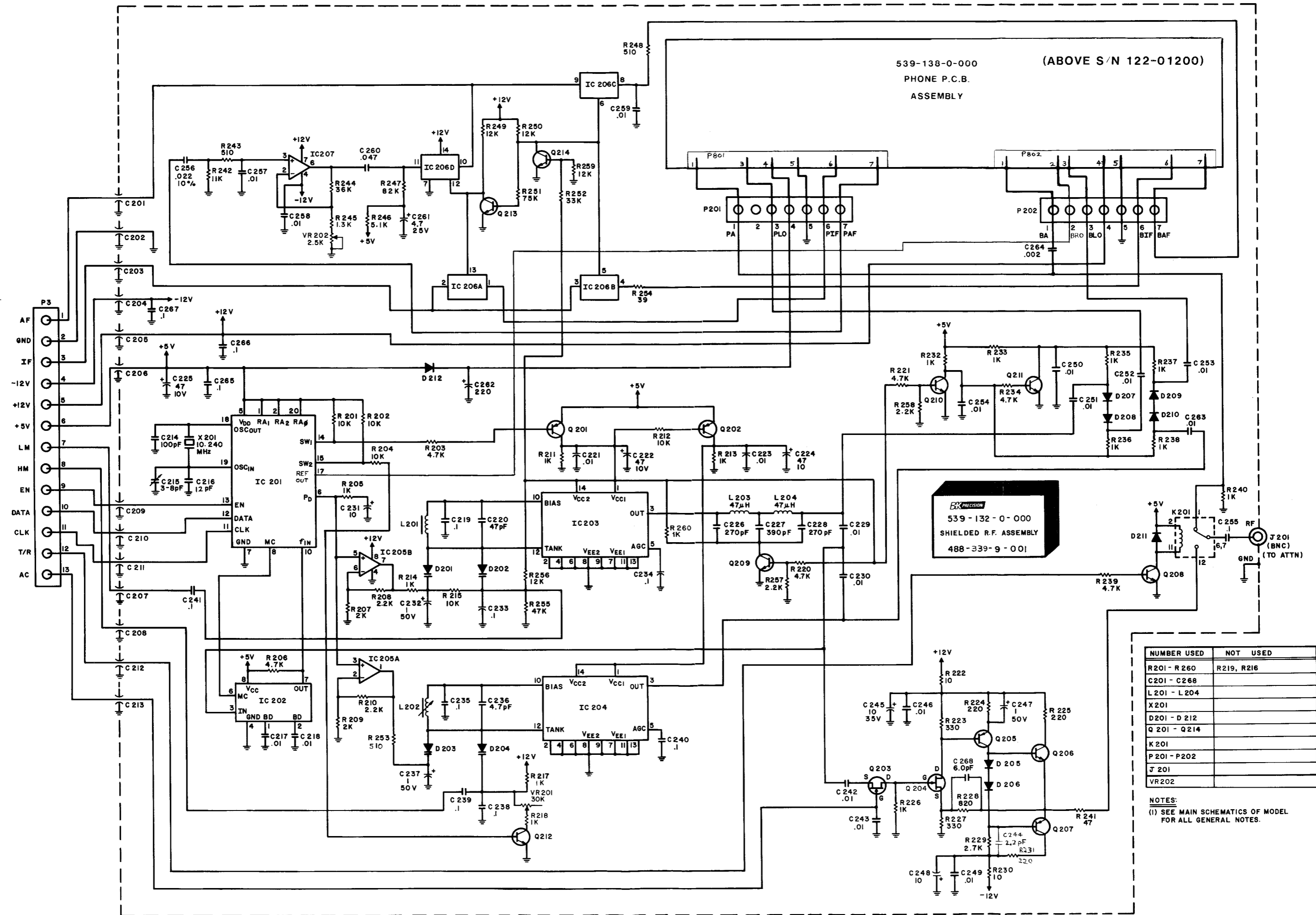
SYMBOLS USED	NOT USED
R 601 - 740	719, 720, 726, 727, 728.
C 601 - 662	
D 601 - 657	646, 656
Q 601 - 624	620, 621, 625
IC 601 - 627	
J 601 - 604	
S 501 - 508, 601 - 602	
X 601	
P 501 - 511, P 601 - 619	501 - 510, 601 - 607, 609, 615 - 618
DS 501 - 503	

- NOTES: (UNLESS OTHERWISE SPECIFIED)**
1. ALL RESISTORS ARE 1/4W, 5%, DEPOSITED CARBON.
 2. ALL RESISTORS SHOWN IN OHMS.
 3. ALL CAPACITORS ARE SHOWN IN MICROFARADS.
 4. TITLES IN RECTANGLES DENOTE PANEL NOMENCLATURE.
 5. IC 601 PIN 14 TO 5V, PIN 7 TO GROUND.
 6. THIS SCHEMATIC SUBJECT TO CHANGE WITHOUT NOTICE.



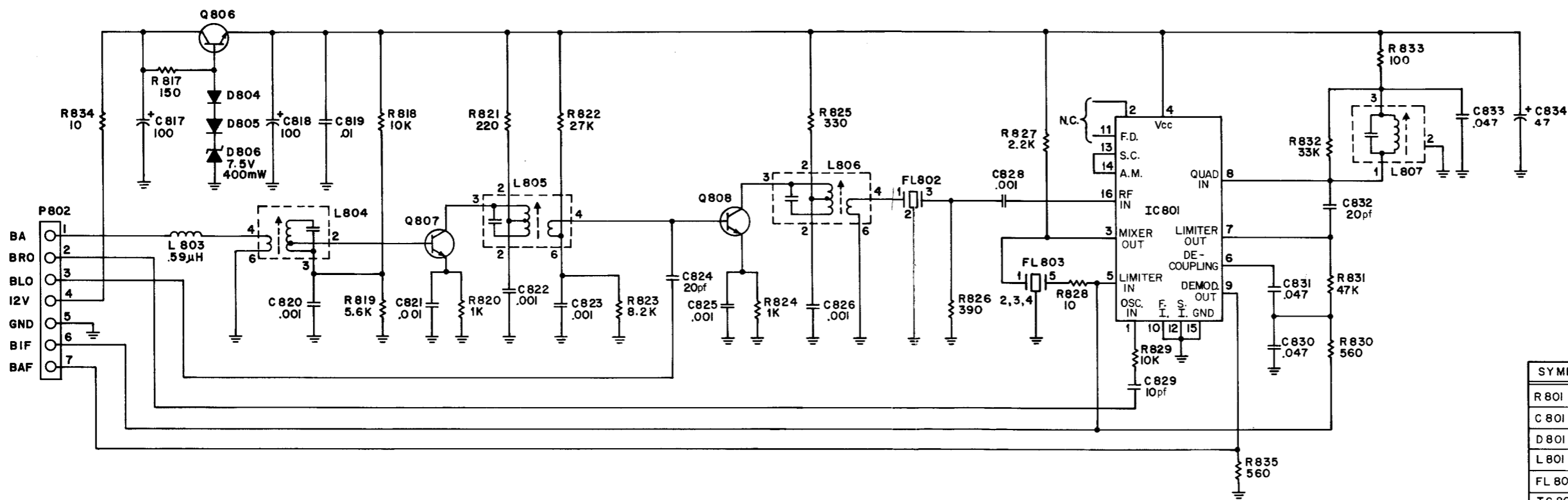
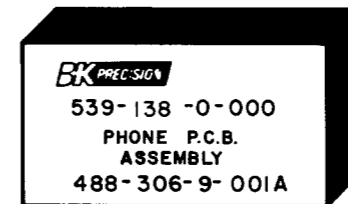
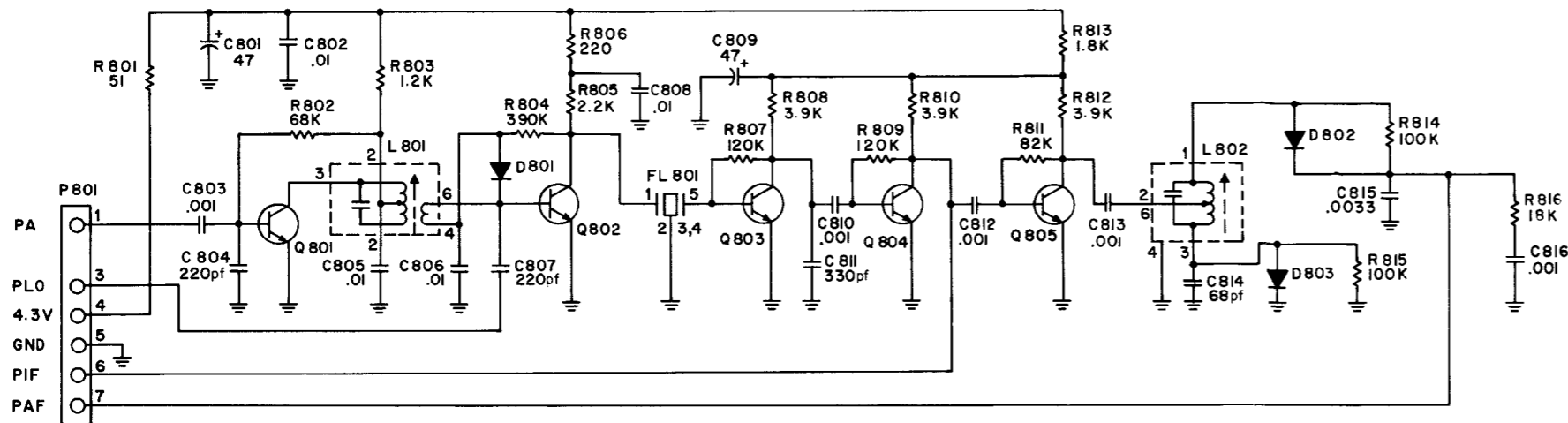
539-138-0-000
PHONE P.C.B.
ASSEMBLY

(ABOVE S/N 122-01200)

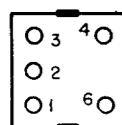


NUMBER USED	NOT USED
R201 - R260	R219, R216
C201 - C268	
L201 - L204	
X201	
D201 - D212	
Q201 - Q214	
K201	
P201 - P202	
J201	
VR202	

NOTES:
(1) SEE MAIN SCHEMATICS OF MODEL FOR ALL GENERAL NOTES.



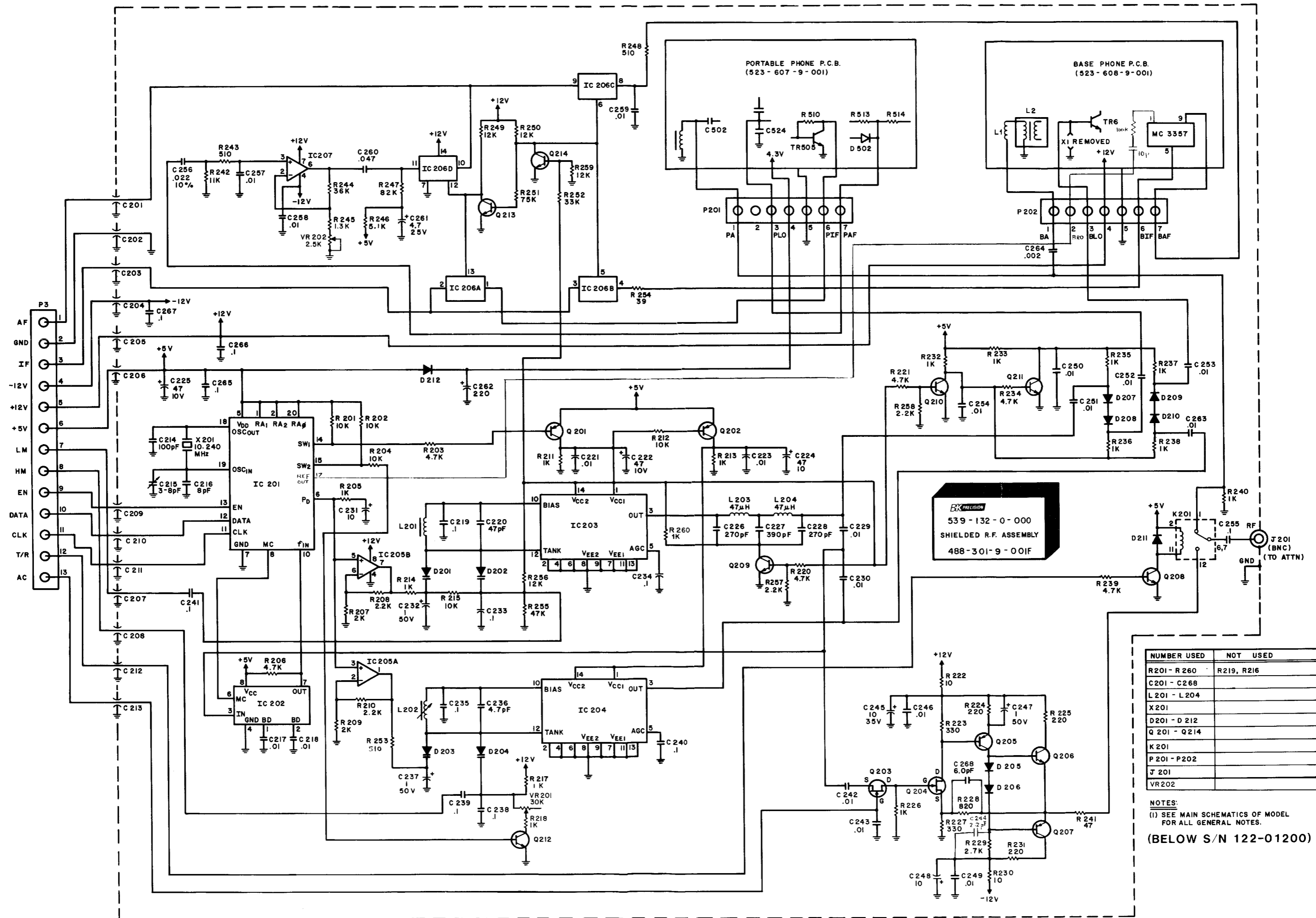
SYMBOLS USED	NOT USED
R 801 - R 835	C 827
C 801 - C 834	
D 801 - D 806	
L 801 - L 807	
FL 801 - FL 803	
IC 801	
Q 801 - Q 808	



ALL VARIABLE COILS
L 801, 2, 4, 5, 6, 7
BOTTOM VIEW.

NOTES:

1. ALL RESISTORS ARE 1/4W, 5% UNLESS OTHERWISE NOTED.
2. ALL CAPACITORS ARE SHOWN IN MICROFARADS (μ F) UNLESS OTHERWISE NOTED.
3. TITLES IN RECTANGLES ARE FRONT PANEL CONTROLS.
4. THIS SCHEMATIC SUBJECT TO CHANGE WITHOUT NOTICE.



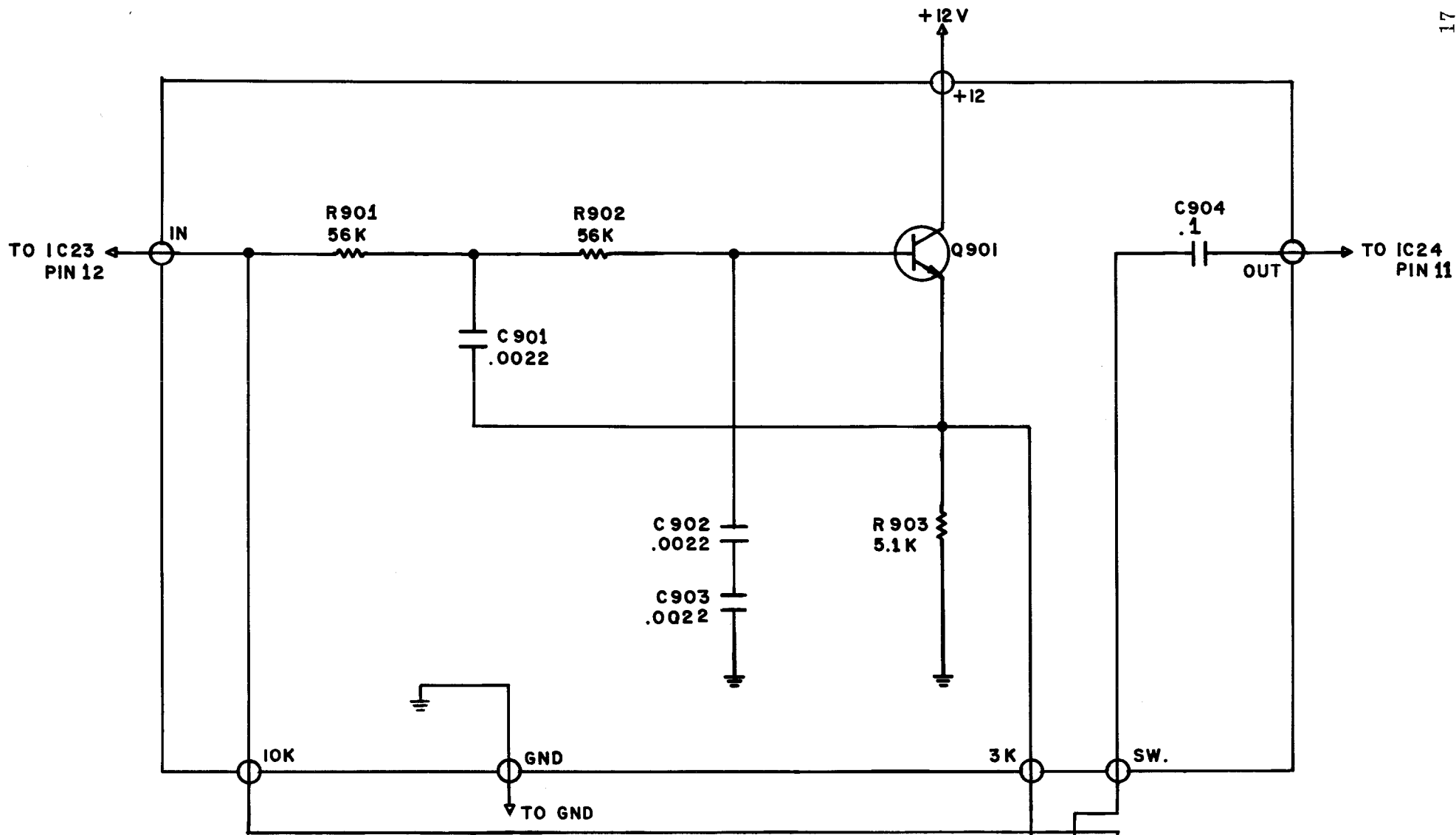
NUMBER USED	NOT USED
R201 - R260	R219, R216
C201 - C268	
L201 - L204	
X201	
D201 - D212	
Q201 - Q214	
K201	
P201 - P202	
J201	
VR202	

NOTES:
 (1) SEE MAIN SCHEMATICS OF MODEL
 FOR ALL GENERAL NOTES.
 (BELOW S/N 122-01200)

SCHEMATIC SYMBOL	DESCRIPTION	B & K-PRECISION PART NUMBER
PCB ASSEMBLY, CORDLESS PHONE 539-138-0-000		
All resistors are 1/4 W, ±5% deposited carbon See schematic diagram for value		
CAPACITORS		
C801	47 µF ±20%, 10 V Electrolytic	036-001-9-019
C802	0.01 µF +80/-20%, 25 V Ceramic Disc	020-139-9-001
C803	0.001 µF ±10%, 500 V Ceramic Disc	020-155-9-001
C804	220 pF ±10%, 500 V Ceramic Disc	020-015-9-001
C805, 806	0.01 µF +80/-20%, 25 V Ceramic Disc	020-139-9-001
C807	220 pF ±10%, 500 V Ceramic Disc	020-015-9-001
C808	0.01 µF +80/-20%, 25 V Ceramic Disc	020-139-9-001
C809	47 µF ±20%, 10 V Electrolytic	036-001-9-019
C810	0.001 µF ±10%, 500 V Ceramic Disc	020-155-9-001
C811	330 pF ±10%, 500 V Ceramic Disc	020-151-9-001
C812, 813	0.001 µF ±10%, 500 V Ceramic Disc	020-155-9-001
C814	68 pF ±5%, 500 V Silver Mica	023-066-9-001
C815	0.0033 µF ±20%, 100 V Polyester	025-105-9-001
C816	0.001 µF ±10%, 500 V Ceramic Disc	020-155-9-001
C817, 818	100 µF, 25 V Electrolytic	022-081-9-001
C819	0.01 µF +80/-20%, 25 V Ceramic Disc	020-139-9-001
C820-823	0.001 µF ±10%, 500 V Ceramic Disc	020-155-9-001
C824	20 pF ±10%, 500 V, NP0 Ceramic Disc	031-010-9-001
C825-828	0.001 µF ±10%, 500 V Ceramic Disc	020-155-9-001
C829	10 pF ±5%, 500 V, NP0 Ceramic Disc	031-004-9-001
C830, 831	0.047 µF ±10%, 100 V Polyester	025-096-9-001
C832	20 pF ±10%, 500 V, NP0 Ceramic Disc	031-010-9-001
C833	0.047 µF ±10%, 100 V Polyester	025-096-9-001
C834	47 µF ±20%, 10 V Electrolytic	036-001-9-019
INDUCTORS		
L801	Coil, Variable (with built-in cap)	047-005-9-014
L802	Coil, Variable (with built-in cap)	047-005-9-015
L803	Coil, fixed	047-005-9-005
L804	Coil, Variable (with built-in cap)	047-005-9-002
L805	Coil, Variable (with built-in cap)	047-005-9-003
L806	Coil, Variable (with built-in cap)	047-005-9-004
L807	Coil, Variable (with built-in cap)	047-005-9-001
FILTERS		
FL801	Ceramic, 455 kHz	140-034-9-001
FL802	Ceramic, 10.7 MHz	140-036-9-001
FL803	Ceramic, 455 kHz	140-034-9-001
DIODES AND TRANSISTORS		
D801-805	1N4148 Silicon Diode	151-038-9-001
D806	1N755A (7.5 V, 5%, 400 mW) Zener Diode	152-063-9-001
Q801, 802	MPS2369 NPN Transistor	176-049-9-001
Q803-805	2N5210 NPN Transistor	176-083-9-001
Q806	2N5818 NPN Transistor	176-051-9-001
Q807, 808	MPS2369 NPN Transistor	176-049-9-001
INTEGRATED CIRCUITS		
IC801	IC, 3357	307-381-9-001
MISCELLANEOUS		
P801, 802	Polarizer Pin	380-298-9-001
P801, 802	Crimp Contact	765-008-9-001
P801, 802	7-Pin Connector Housing	779-016-9-007

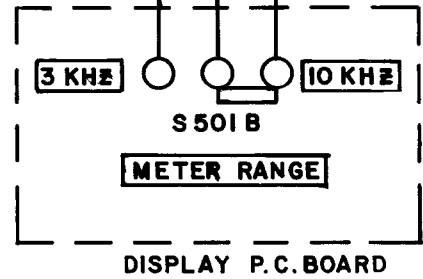
SCHEMATIC SYMBOL	DESCRIPTION	B & K-PRECISION PART NUMBER
TRANSISTORS		
Q201, 202	PN5142 PNP	177-017-9-001
Q203, 204	2N5950 FET	182-031-9-001
Q205	MPS3640 PNP	177-014-9-001
Q206	MPS2369 NPN	176-049-9-001
Q207	MPS3640 PNP	177-014-9-001
Q208 - 212	2N5818 NPN	176-051-9-001
Q213, 214	MPS6515 NPN	176-050-9-001
INTEGRATED CIRCUITS		
IC201	MC145156	308-328-9-001
IC202	MC3393	307-358-9-001
IC203, 204	MC1648	307-357-9-001
IC205	358	307-134-9-001
IC206	4016B	308-355-9-001
IC207	741C	307-016-9-001
MISCELLANEOUS		
X201	10.240 MHz Quartz Crystal	132-042-9-001
	Cover, Sub-Chassis	253-124-9-001
	Cover, R.F. Shield Holes	253-126-9-001
	Shield, Internal	256-193-9-001
	Sub Chassis	258-069-9-001
K201	Relay, SPDT	441-040-9-001
J201	BNC Connector	772-024-9-001
	Flat Washer (for J201)	725-040-3-124
	Lock Washer/Lug (for J201)	740-014-9-001
P201, 202	7-Position, 6 Pin PCB Connector	757-040-9-001
	Spacer, Large PCB Mounting	759-172-9-001
	Spacer, Shield To Large PCB	759-174-9-001
	Spacer, Mount Small and Medium PCB	759-178-9-001
	PCB Assembly, Cordless Phone, Single Board Version (for Serial No. 122-01200 and higher)	539-138-0-000
	PCB Assembly, Cordless Phone, Dual Board Version (for Serial No. below 122-01200)	
	Portable Phone Board (requires some modifications)	523-607-9-001
	PCB Assembly, Base Phone (requires some modifications)	523-608-9-001
DELTA "F" FILTER ASSEMBLY (539-133-0-000)		
RESISTORS		
Resistors are 1/4 W, ±5%. See schematic diagram for value.		
CAPACITORS		
C901 - 903	0.0022 µF ±10%, 200 V, Polyester	025-159-9-001
C904	0.1 µF +80/-20%, 100 V, Monolythic	020-298-9-001
TRANSISTOR		
Q901	MPS6515, NPN Silicon	176-050-9-001

SCHEMATIC SYMBOL	DESCRIPTION	B & K-PRECISION PART NUMBER
SHIELDED R.F. ASSEMBLY 539-132-0-000		
RESISTORS		
All resistors are 1/4W, ±5%, deposited carbon. See schematic diagram for value.		
VR201	30 kΩ Trimmer Pot	008-230-9-001
VR202	2.5 kΩ Trimmer Pot	008-269-9-001
CAPACITORS		
C201 - 213	470 pF Feed Thru	033-114-9-001
C214	100 pF ±5%, 500 V Silver Mica	023-003-9-001
C215	3 - 8 pF, Trimmer	028-062-9-001
C216	12 pF ±5%, 500 V Silver Mica	023-072-9-001
C217, 218	0.01 µF +80/-20%, 25 V Ceramic Disc	020-139-9-001
C219	0.1 µF +80/-20%, 100 V Monolithic Ceramic	020-298-9-001
C220	47 pF ±10%, 500 V Ceramic Disc	020-267-9-001
C221	0.01 µF +80/-20%, 25 V Ceramic Disc	020-139-9-001
C222	47 µF ±20%, 10V Low Leakage Electrolytic	036-001-9-019
C223	0.01 µF +80/-20%, 25 V Ceramic Disc	020-139-9-001
C224, 225	47 µF ±20%, 10V Low Leakage Electrolytic	036-001-9-019
C226	270 pF ±10%, 500 V Ceramic Disc	020-137-9-001
C227	390 pF ±5%, 500 V Ceramic Disc	020-279-9-001
C228	270 pF ±10%, 500 V Ceramic Disc	020-137-9-001
C229, 230	0.01 µF +80/-20%, 25 V Ceramic Disc	020-139-9-001
C231	10 µF ±20%, 35 V Low Leakage Electrolytic	036-001-9-018
C232	1 µF ±20%, 50 V Low Leakage Electrolytic	036-001-9-005
C233	0.1 µF ±20%, 100 V Monolithic Ceramic	020-362-9-001
C234, 235	0.1 µF +80/-20%, 100 V Monolithic Ceramic	020-298-9-001
C236	4.7 pF ±1/4 pF, 1 kV, NP0, Ceramic Disc	031-056-9-001
C237	1 µF ±20%, 50 V Low Leakage Electrolytic	036-001-9-005
C238, 239	0.1 µF ±20%, 100 V Monolithic Ceramic	020-362-9-001
C240	0.1 µF +80/-20%, 100 V Monolithic Ceramic	020-298-9-001
C241	0.1 µF ±20%, 100 V Monolithic Ceramic	020-362-9-001
C242, 243	0.01 µF +80/-20%, 25 V Ceramic Disc	020-139-9-001
C244	2.2 pF ±10%, 500 V, NP0 Ceramic Disc	031-013-9-001
C245	10 µF ±20%, 35 V Low Leakage Electrolytic	036-001-9-018
C246	0.01 µF +80/-20%, 25 V Ceramic Disc	020-139-9-001
C247	1 µF ±20%, 50 V Low Leakage Electrolytic	036-001-9-005
C248	10 µF ±20%, 35 V Low Leakage Electrolytic	036-001-9-018
C249 - 254	0.01 µF +80/-20%, 25 V Ceramic Disc	020-139-9-001
C255	0.1 µF +80/-20%, 100 V Monolithic Ceramic	020-298-9-001
C256	0.022 µF ±10%, 200 V Polyester	025-208-9-001
C257 - 259	0.01 µF +80/-20%, 25 V Ceramic Disc	020-139-9-001
C260	0.047 µF ±20%, 100 V Polyester	025-094-9-001
C261	4.7 µF ±20%, 25 V Low Leakage Electrolytic	036-001-9-008
C262	220 µF, 10 V Electrolytic	022-285-9-001
C263	0.01 µF +80/-20%, 25 V Ceramic Disc	020-139-9-001
C264	0.002 µF ±20%, 500 V Ceramic Disc	020-026-9-001
C265 - 267	0.1 µF +80/-20%, 100 V Monolithic Ceramic	020-298-9-001
C268	6 pF ±5%, 500 V, NP0, Ceramic Disc	031-040-9-001
INDUCTORS		
L201	35 µH ±10%, R.F. Choke	041-110-9-001
L202	0.235 - 0.400 µH, Variable Coil	044-017-9-001
L203, 204	47 µH ±10%, R.F. Choke	041-130-9-001
DIODES		
D201	MV840 Varactor	154-012-9-001
D202 - 204	MV209 Varactor	154-002-9-001
D205 - 210	1N4148 Silicon	151-038-9-001
D211, 212	1A, 600 V Silicon	151-050-9-001



SYMBOLS USED	NOT USED
R901- 903	
C901 - 904	
Q 901	

BK PRECISION
 Δ F FILTER CIRCUIT
 (COMMON SUB-ASS'Y 539-133-0-000)
 488-304-0-001B



DISPLAY P.C. BOARD