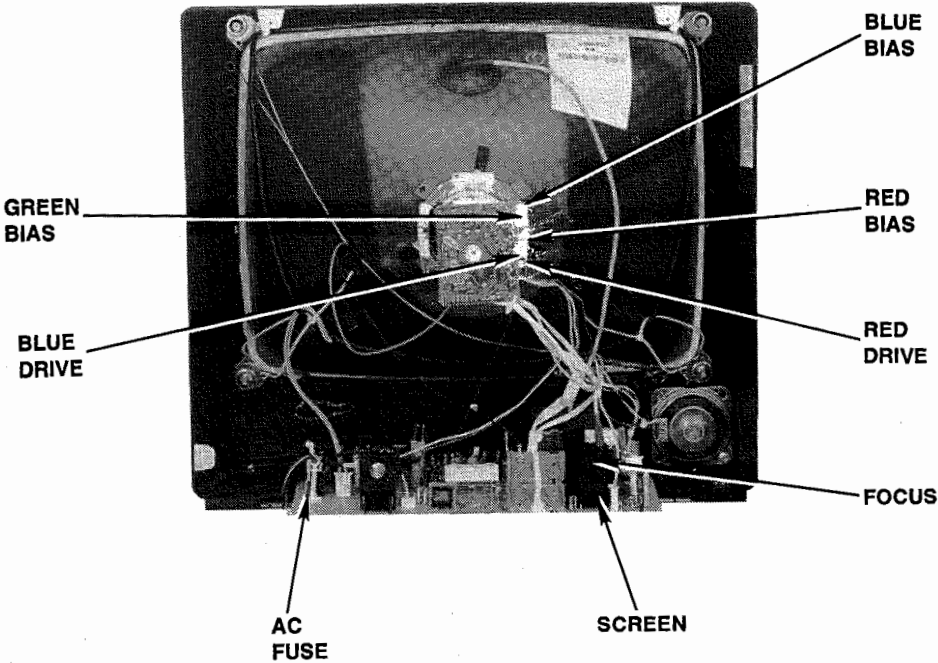


CABINET - REAR VIEW



| TEST JIG HOOKUP | | | | |
|-----------------|--------------------------|-------------------|-----|--------|
| Function | Chek-A-Color Adapter No. | PC Board Plug No. | Pin | Color |
| CRT | B239 | KX | 1 | Red |
| Yoke | D4137 | | 3 | Blue |
| Yoke Setting | YP3 | | 4 | Yellow |
| Comments | Focus Tap | | 5 | Green |

The listing of any available replacement part herein in no case constitutes a recommendation, warranty, or guarantee by Howard W. Sams & Company as to the quality and suitability of such replacement part. The numbers of the listed parts have been compiled from information furnished to Howard W. Sams & Company by the manufacturers of the specific type of replacement part listed.

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2647 Waterfront Parkway East Drive, Suite 300
Indianapolis, IN 46214-2012

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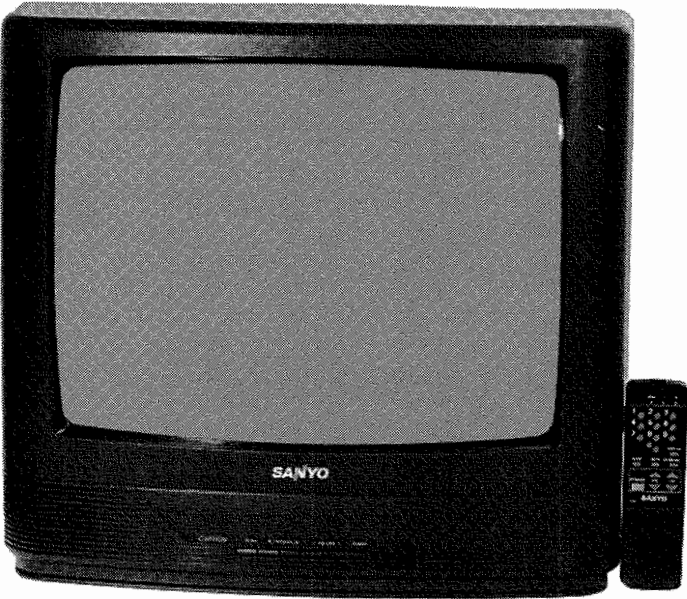
PHOTOFACT® Technical Service Data

SET 3288

MODEL AVM-1903 (CHASSIS G4S-19030)

SANYO

SANYO
Model AVM-1903 (Chassis G4S-19030)



Essential coverage
for servicing a television receiver...

- Schematics
- Component locations
- Parts list

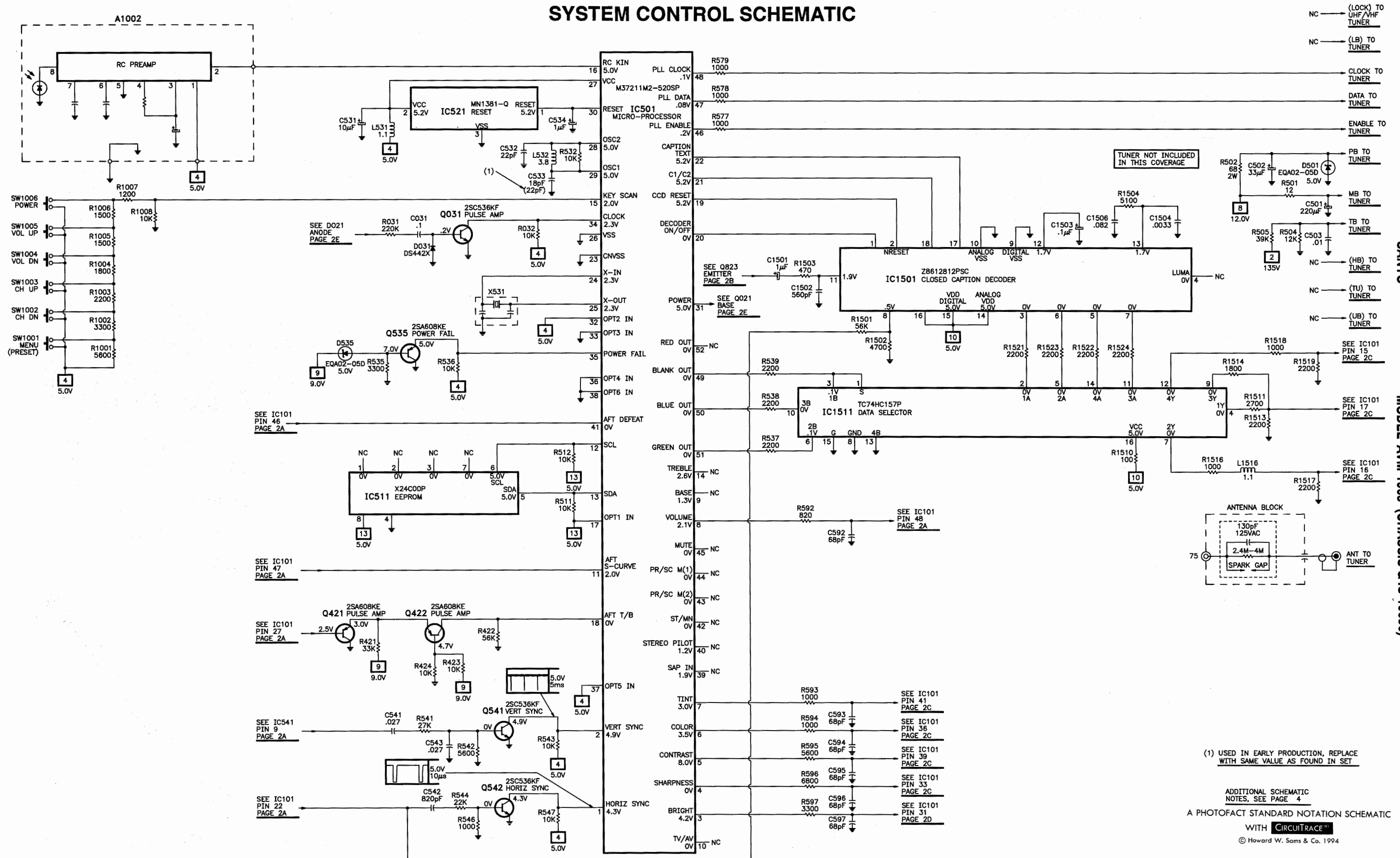
For Supplier Address,
See PHOTOFACT Annual Index



HOWARD W. SAMS & COMPANY

MARCH 1994 SET 3288

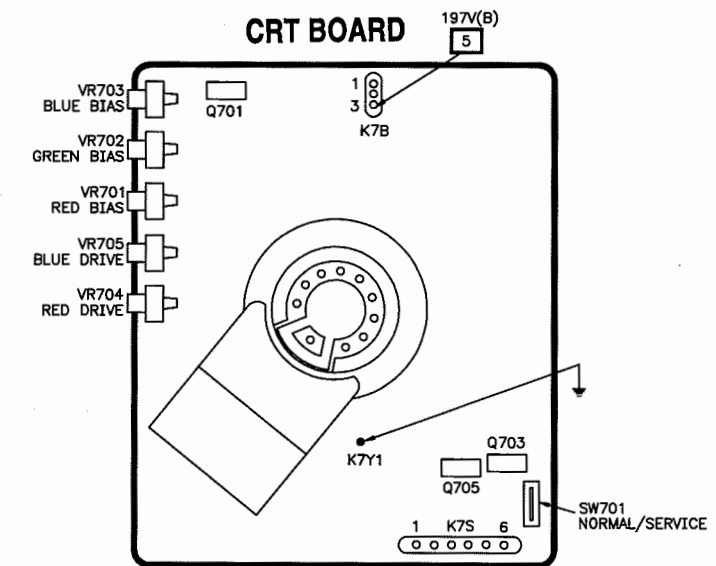
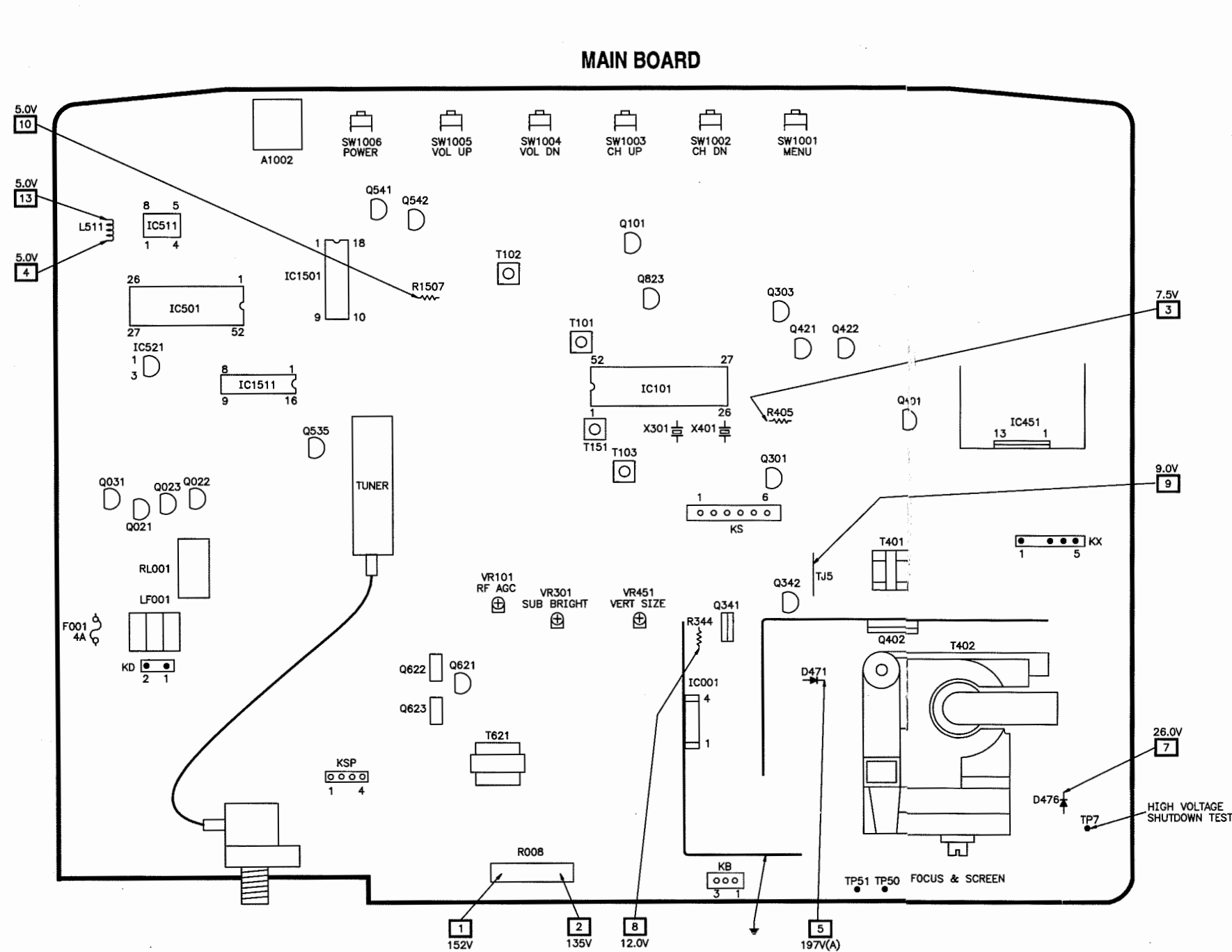
SYSTEM CONTROL SCHEMATIC



SANYO

MODEL AVM-1903 (CHASSIS G4S-19030)

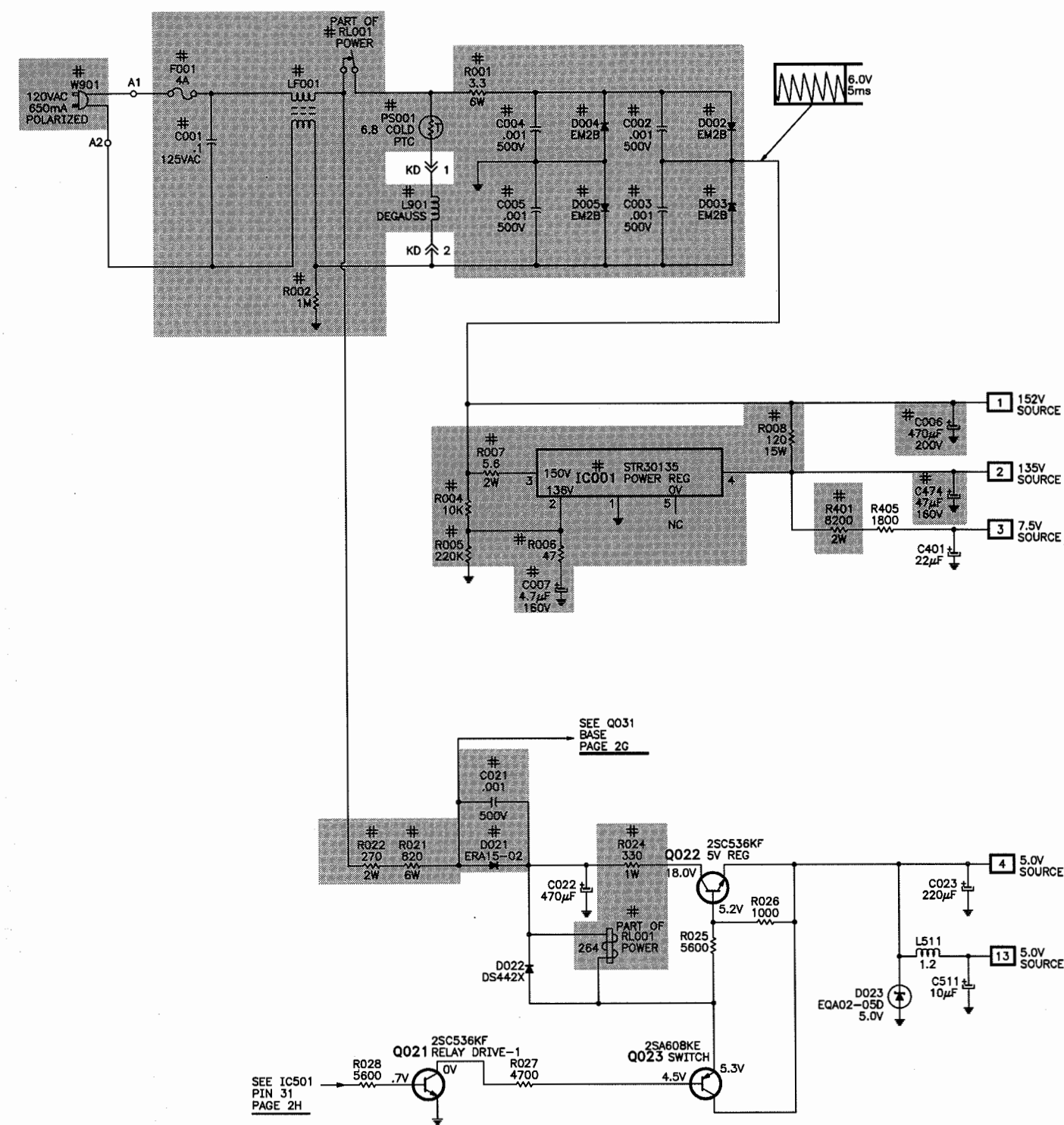
PLACEMENT CHART



HIGH VOLTAGE SHUTDOWN TEST

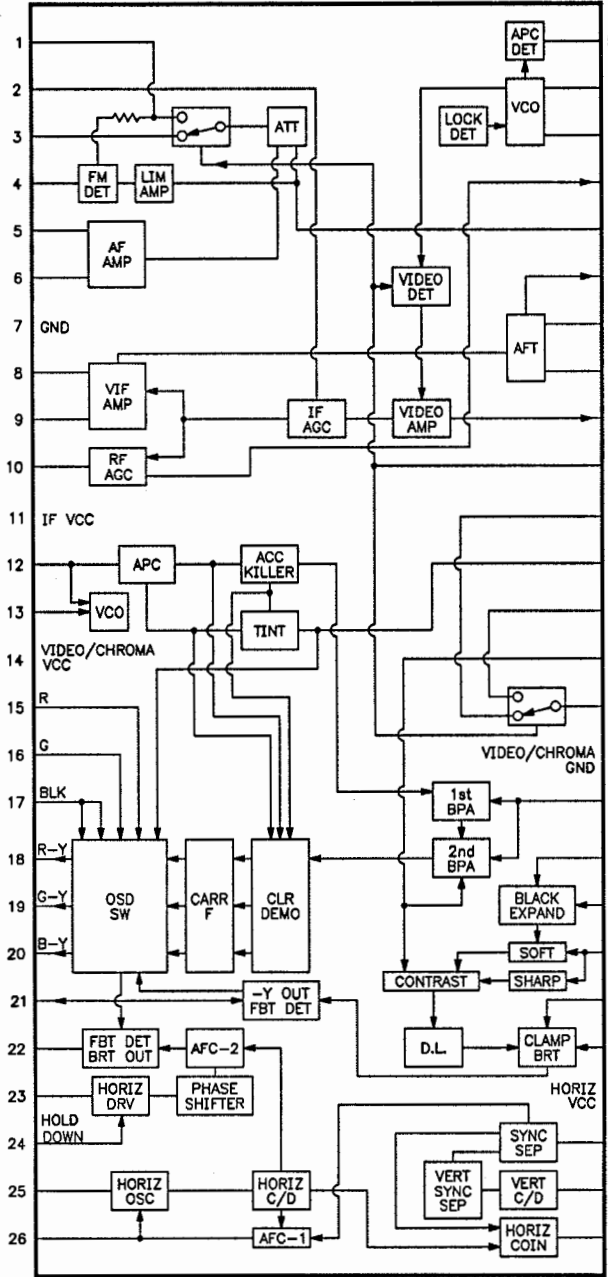
After servicing receiver, test the high voltage shutdown circuit for correct operation before returning receiver to customer. To test circuit, turn receiver on and connect 23.0V to TP7. Receiver should immediately lose raster and sound. If it does not the circuit needs repair. To restore operation, remove power for 30 seconds and turn back on.

AC POWER SUPPLY SCHEMATIC

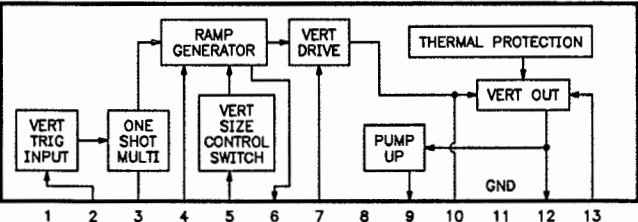


IC FUNCTIONS

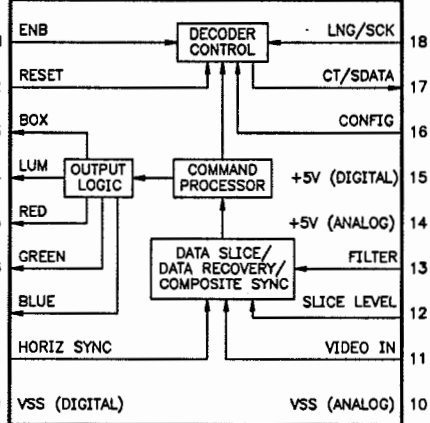
IC101
LA7673



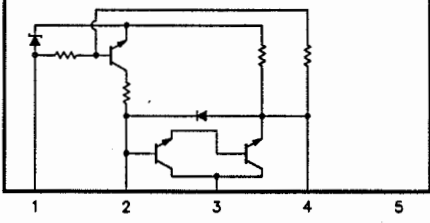
IC451
LA7837



IC1501
MC144143P1

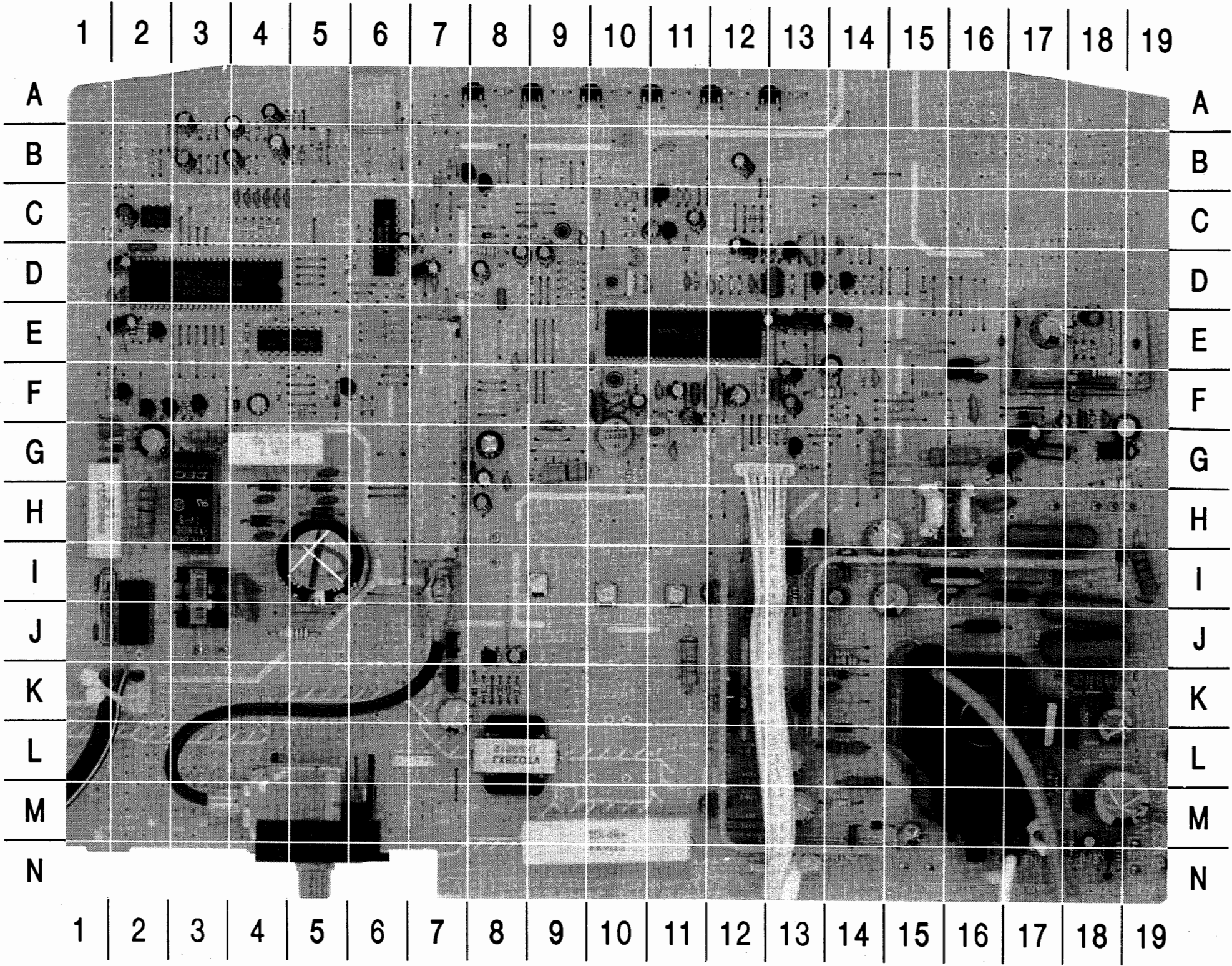


IC001
STR30135



ADDITIONAL SCHEMATIC
NOTES, SEE PAGE 4
A PHOTOFAC STANDARD NOTATION SCHEMATIC
WITH CIRCUITTRACE™
© Howard W. Sams & Co. 1994

MAIN BOARD



MAIN BOARD, GRIDTRACE
LOCATION GUIDE

| | | | |
|-------|------|-------|------|
| A1002 | A-6 | C421 | E-13 |
| C001 | J-2 | C428 | F-16 |
| C002 | G-5 | C432 | H-17 |
| C003 | H-5 | C433 | H-16 |
| C004 | H-4 | C434 | G-16 |
| C005 | H-4 | C436 | J-18 |
| C006 | I-5 | C437 | J-18 |
| C007 | L-13 | C451 | F-19 |
| C021 | G-1 | C452 | F-18 |
| C022 | G-2 | C453 | E-18 |
| C023 | F-4 | C456 | G-18 |
| C031 | G-1 | C457 | G-17 |
| C101 | F-11 | C458 | E-17 |
| C102 | G-11 | C461 | F-18 |
| C104 | F-10 | C464 | F-17 |
| C106 | H-8 | C466 | F-18 |
| C107 | D-10 | C471 | K-14 |
| C108 | C-9 | C472 | M-13 |
| C109 | C-9 | C474 | M-19 |
| C110 | D-8 | C476 | L-18 |
| C113 | D-9 | C477 | M-15 |
| C114 | E-8 | C479 | M-18 |
| C116 | C-11 | C483 | M-18 |
| C151 | F-10 | C484 | I-15 |
| C152 | E-10 | C501 | G-8 |
| C153 | D-10 | C502 | G-8 |
| C160 | F-10 | C503 | G-8 |
| C231 | B-4 | C511 | C-2 |
| C232 | D-8 | C531 | E-2 |
| C302 | D-12 | C532 | D-2 |
| C303 | D-11 | C533 | D-1 |
| C304 | C-14 | C534 | D-2 |
| C307 | C-11 | C541 | B-10 |
| C308 | D-12 | C542 | B-11 |
| C309 | D-12 | C543 | B-7 |
| C312 | E-13 | C551 | B-4 |
| C313 | E-14 | C552 | A-4 |
| C315 | B-12 | C553 | A-3 |
| C316 | B-3 | C554 | B-4 |
| C321 | F-11 | C592 | C-4 |
| C322 | F-11 | C593 | C-4 |
| C324 | F-14 | C594 | C-4 |
| C329 | F-14 | C595 | C-4 |
| C341 | H-14 | C596 | C-4 |
| C342 | I-14 | C597 | C-4 |
| C398 | F-12 | C621 | J-8 |
| C399 | F-11 | C622 | K-7 |
| C401 | F-13 | C1501 | D-8 |
| C402 | D-12 | C1502 | D-7 |
| C403 | D-13 | C1503 | D-7 |
| C404 | F-13 | C1504 | C-7 |
| C406 | F-13 | C1506 | C-7 |
| C407 | F-16 | C1508 | C-6 |
| C409 | E-16 | D002 | H-5 |
| C414 | E-14 | D003 | H-5 |

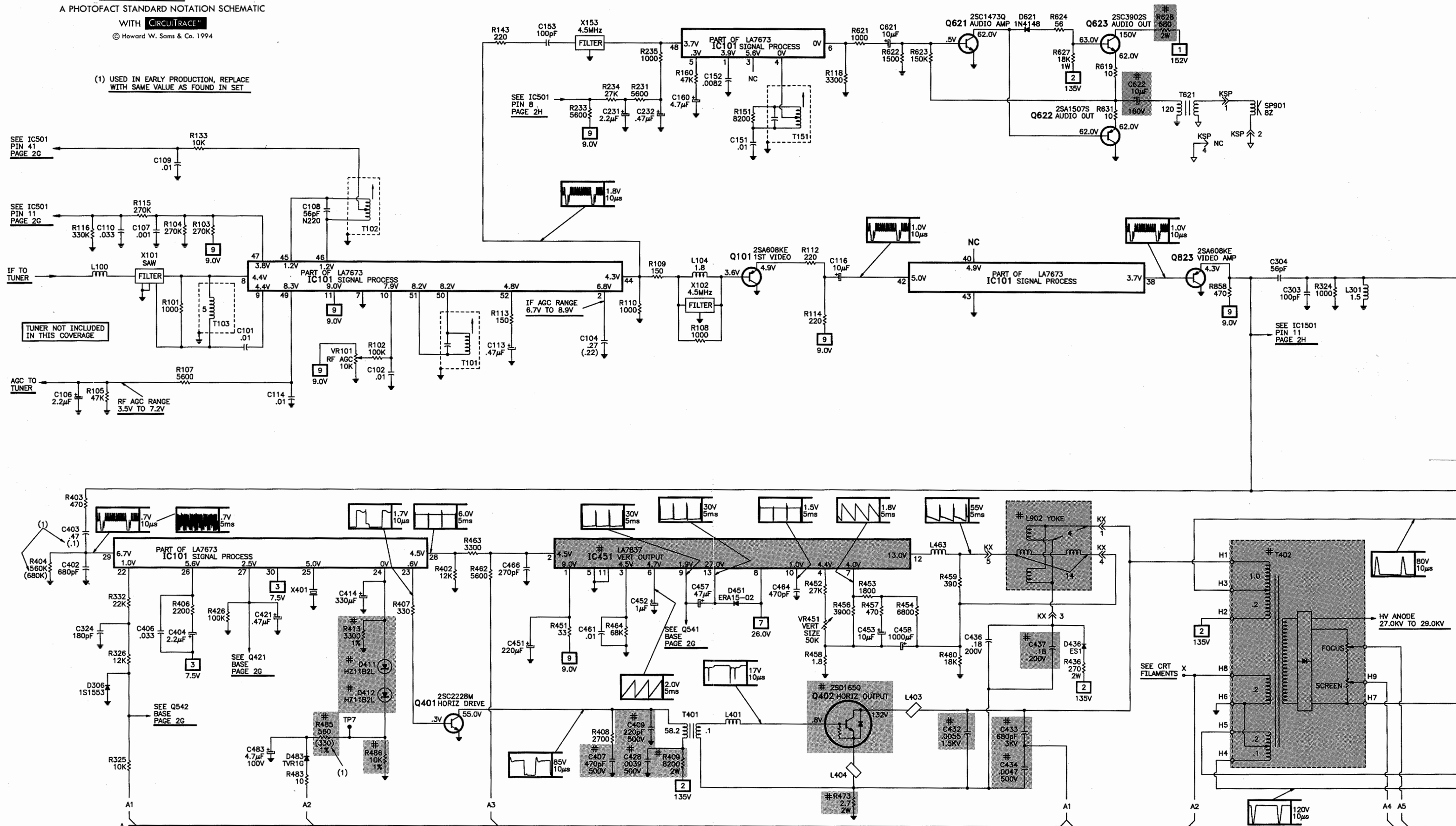
ADDITIONAL SCHEMATIC
NOTES, SEE PAGE 4

A PHOTOFACT STANDARD NOTATION SCHEMATIC

WITH CIRCUITRACE™

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(1) USED IN EARLY PRODUCTION, REPLACE WITH SAME VALUE AS FOUND IN SET



PARTS LIST

Important Parts Information

- The parts listed here are those not usually available from a well-stocked supply cabinet or bin.
- Where items may be replaced with equivalent parts, several alternates are shown from participating vendors.
- On the parts lists, safety items are marked with a # to remind you that only exact replacements are recommended for these items.
- When ordering parts, state the model number, part number, and description.

Obtaining Parts

Many of these parts are available from your local Sams authorized distributor or the manufacturer of the equipment. Call Sams for the name of your nearest distributor:

800-428-7267

Or consult the Sams *Annual Index* for the address of the original equipment manufacturer.

Participating Vendors

Information on test equipment and replacement parts is listed in these pages for the following participating vendors. Consult the Sams *Annual Index* for their current address.

- Custom Components Corporation (Chek-A-Color)
- NTE Electronics, Inc. (NTE)
- Philips ECG Company (ECG)
- PTS Electronics Corporation (PTS)
- Sencore, Inc.
- Thomson Consumer Electronics, Inc. (SK, TCE)

SEMICONDUCTORS

(Select the replacement that gives the best results.)

| Item No. | Type No. | Mfr. Part No. | NTE Part No. | ECG Part No. | TCE Part No. |
|-------------|-----------|---------------|--------------|--------------|--------------|
| # D002 Thru | | | | | |
| # D005 | EM2B | 407 005 7605 | NTE125 | ECG125 | SK3081 |
| | 1S1887A | 407 013 3200 | NTE552 | ECG552 | SK9000 |
| | GP15G | 408 008 8606 | NTE125 | ECG125 | SK3081 |
| # D021 | ERA15-02 | 407 005 8602 | NTE552 | ECG552 | SK9000 |
| | S5277B | 407 011 3004 | NTE552 | ECG552 | SK9000 |
| | MPG06D | 407 088 6502 | NTE552 | ECG552 | SK9000 |
| | 1N40021D | 408 009 9404 | NTE552 | ECG552 | SK9000 |
| D022 | DS442X | 407 005 4505 | NTE519 | ECG519 | SK3100 |
| | 1S1555 | 407 013 1206 | NTE177 | ECG177 | SK9091 |
| | 1S2076 | 407 013 4207 | NTE177 | ECG177 | SK9091 |
| | 1S2473 | 407 013 7109 | NTE177 | ECG177 | SK9091 |
| | 1N4148 | 408 008 2406 | NTE519 | ECG519 | SK3100 |
| D023 | EQA02-05D | 407 048 1103 | NTE5010A | ECG5010A | SK5A1 |
| | EQA02-05E | 407 048 1202 | NTE5010A | ECG5010A | SK5A1 |
| | RD5.1EB1 | 407 056 7906 | NTE5010A | ECG5010A | SK5A1 |
| | RD5.1EB2 | 407 056 8002 | NTE5010A | ECG5010A | SK5A1 |
| D031 | DS442X | 407 005 4505 | NTE519 | ECG519 | SK3100 |
| | 1S1555 | 407 013 1206 | NTE177 | ECG177 | SK9091 |
| | 1S2076 | 407 013 4207 | NTE177 | ECG177 | SK9091 |
| | 1S2473 | 407 013 7109 | NTE177 | ECG177 | SK9091 |
| | 1N4148 | 407 008 2406 | NTE519 | ECG519 | SK3100 |
| D303 | DS442X | 407 005 4505 | NTE519 | ECG519 | SK3100 |
| | 1S1555 | 407 013 1206 | NTE177 | ECG177 | SK9091 |
| | 1S2076 | 407 013 4207 | NTE177 | ECG177 | SK9091 |
| | 1S2473 | 407 013 7109 | NTE177 | ECG177 | SK9091 |
| | 1N4148 | 407 008 2406 | NTE519 | ECG519 | SK3100 |
| D306 | 1S1553 | 407 013 1008 | NTE177 | ECG177 | SK9091 |
| | 1S2076A | 407 013 4306 | NTE519 | ECG519 | SK3100 |
| | 1S2471 | 407 013 6508 | NTE519 | ECG519 | SK3100 |
| | 1N4148 | 407 008 2406 | NTE519 | ECG519 | SK3100 |
| D341 | EQA02-10A | 407 048 5606 | NTE5019A | ECG5019A | SK10A |
| # D411, 12 | HZ11B2L | 407 158 1307 | NTE5020A | ECG5020A | SK11A |
| D436 | ES1 | 407 007 6606 | NTE552 | ECG552 | SK9000 |
| | RMPG06G | 407 124 5506 | NTE552 | ECG552 | SK9000 |
| | ERA18-04 | 407 124 6404 | NTE552 | ECG552 | SK9000 |
| D451 | ERA15-02 | 407 005 8602 | NTE552 | ECG552 | SK9000 |
| | S5277B | 407 011 3004 | NTE552 | ECG552 | SK9000 |
| | MPG06D | 407 088 6502 | NTE552 | ECG552 | SK9000 |
| | 1N40021D | 408 009 9404 | NTE552 | ECG552 | SK9000 |
| # D471 | ES1 | 407 007 6606 | NTE552 | ECG552 | SK9000 |
| | RMPG06G | 407 124 5506 | NTE552 | ECG552 | SK9000 |
| | ERA18-04 | 407 124 6404 | NTE552 | ECG552 | SK9000 |
| D474 | EU2 | 407 007 7603 | NTE552 | ECG552 | SK9000 |
| D476 | ES1 | 407 007 6606 | NTE552 | ECG552 | SK9000 |
| | RMPG06G | 407 124 5506 | NTE552 | ECG552 | SK9000 |
| | ERA18-04 | 407 124 6404 | NTE552 | ECG552 | SK9000 |
| D478 | ERA15-02 | 407 005 8602 | NTE552 | ECG552 | SK9000 |
| | S5277B | 407 011 3004 | NTE552 | ECG552 | SK9000 |
| | MPG06D | 407 088 6502 | NTE552 | ECG552 | SK9000 |
| | 1N40021D | 408 009 9404 | NTE552 | ECG552 | SK9000 |
| D483 | TVR1G | 407 011 4407 | NTE552 | ECG552 | SK9000 |

For SAFETY use only equivalent replacement part.

SEMICONDUCTORS continued

(Select the replacement that gives the best results.)

| Item No. | Type No. | Mfr. Part No. | NTE Part No. | ECG Part No. | TCE Part No. |
|----------|-----------------|---------------|--------------|--------------|--------------|
| D501 | EQA02-05D | 407 048 1103 | NTE5010A | ECG5010A | SK5A1 |
| | EQA023-05E | 407 048 1202 | - | - | - |
| | RD5.1EB1 | 407 056 7906 | NTE5010A | ECG5010A | SK5A1 |
| | RD5.1EB2 | 407 056 8002 | NTE5010A | ECG5010A | SK5A1 |
| D535 | EQA02-05D | 407 048 1103 | NTE5010A | ECG5010A | SK5A1 |
| | EQA02-05E | 407 048 1202 | NTE5010A | ECG5010A | SK5A1 |
| | RD5.1EB1 | 407 056 7906 | NTE5010A | ECG5010A | SK5A1 |
| | RD5.1EB2 | 407 056 8002 | NTE5010A | ECG5010A | SK5A1 |
| D555 | DS442X | 407 005 4505 | NTE519 | ECG519 | SK3100 |
| | 1S1555 | 407 013 1206 | NTE177 | ECG177 | SK9091 |
| | 1S2076 | 407 013 4207 | NTE177 | ECG177 | SK9091 |
| | 1S2473 | 407 013 7109 | NTE177 | ECG177 | SK9091 |
| | 1N4148 | 407 008 2406 | NTE519 | ECG519 | SK3100 |
| D621 | DS442X | 407 005 4505 | NTE519 | ECG519 | SK3100 |
| | 1S1555 | 407 013 1206 | NTE177 | ECG177 | SK9091 |
| | 1S2076 | 407 013 4207 | NTE177 | ECG177 | SK9091 |
| | 1S2473 | 407 013 7109 | NTE177 | ECG177 | SK9091 |
| | 1N4148 | 408 008 2406 | NTE519 | ECG519 | SK3100 |
| D1501 | EQA02-05D | 407 048 1103 | NTE5010A | ECG5010A | SK5A1 |
| | EQA02-05E | 407 048 1202 | - | - | - |
| | RD5.1EB1 | 407 056 7906 | NTE5010A | ECG5010A | SK5A1 |
| | RD5.1EB2 | 407 056 8002 | NTE5010A | ECG5010A | SK5A1 |
| # IC001 | STR30135 | 409 047 8602 | NTE1778 | ECG1778 | SK9871 |
| IC101 | LA7673 | 409 274 3302 | - | - | - |
| # IC451 | LA7837 | 409 173 2703 | - | - | - |
| IC501 | M37211M2-520SP | 410 165 3202 | - | - | - |
| IC511 | X24C00P | 409 289 3403 | - | - | - |
| IC521 | MN1381-Q | 409 301 2803 | - | - | - |
| IC1501 | MC144143P1 | 409 306 9708 | - | - | - |
| | Z8612812PSC | 409 291 3309 | - | - | - |
| IC1511 | MC74HC157AN | 409 301 9604 | - | - | - |
| | TC74HC157P | 409 052 4408 | - | - | - |
| Q021, 22 | 2SC536KF | - | NTE85 | ECG85 | SK3245 |
| | 2SC1740-Q | 405 011 7305 | NTE85 | ECG85 | SK3122 |
| | 2SC1740-R | 405 011 7404 | NTE85 | ECG85 | SK3122 |
| | 2SC1740-S | 405 011 7503 | NTE85 | ECG85 | SK3122 |
| | 2SC1815-GR | 405 012 2002 | NTE85 | ECG85 | SK3124A |
| | 2SC1815-O | 405 012 2101 | NTE85 | ECG85 | SK3124A |
| | 2SC1815-Y | 405 012 2309 | NTE85 | ECG85 | SK3124A |
| | 2SC536-E-NP | 405 019 1909 | NTE85 | ECG85 | SK3245 |
| | 2SC536-F-NP | 405 019 2708 | NTE85 | ECG85 | SK3245 |
| | 2SC536-G-NP | 405 019 3804 | NTE85 | ECG85 | SK3245 |
| | 2SC945A-PA | 405 020 7501 | NTE85 | ECG85 | SK3124A |
| | 2SC945A-QA | 405 020 7709 | NTE85 | ECG85 | SK3124A |
| | 2SC945A-RA | 405 020 7907 | NTE85 | ECG85 | SK3124A |
| Q023 | 2SA608KE | - | NTE290A | ECG290A | SK3114A |
| | 2SA1015-O(SAN) | 405 001 7407 | NTE290A | ECG290A | SK9132 |
| | 2SA1015-Y(SAN) | 405 001 7605 | NTE290A | ECG290A | SK9132 |
| | 2SA564A-Q(CU) | 405 004 3109 | NTE290A | ECG290A | SK3932 |
| | 2SA564A-R(CU) | 405 004 3208 | NTE290A | ECG290A | SK3932 |
| | 2SA608-E-CTV-NP | 405 004 4205 | NTE290A | ECG290A | SK3114A |
| | 2SA608-F-CTV-NP | 405 004 4809 | NTE290A | ECG290A | SK3114A |

For SAFETY use only equivalent replacement part.

PARTS LIST continued

SEMICONDUCTORS continued

(Select the replacement that gives the best results.)

| Item No. | Type No. | Mfr. Part No. | NTE Part No. | ECG Part No. | TCE Part No. |
|--------------|---------------------|---------------|--------------|--------------|--------------|
| Q623 | 2SC3902S | - | NTE373 | ECG373 | SK9041 |
| | 2SC3902-S-CTV-YA | 405 114 7103 | NTE373* | ECG373* | SK9041* |
| | 2SC3902-T-CTV-YA | 405 114 7301 | NTE373* | ECG373* | SK9041* |
| Q701, 03, 05 | 2SC3621-O(LB-SAN-2) | 406 000 2905 | NTE373 | ECG373 | SK9041 |
| | 2SC3621-R(LB-SAN-2) | 406 000 3100 | NTE373 | ECG373 | SK9041 |
| | 2SC2621D | - | NTE157 | ECG157 | SK3747 |
| | 2SC2621-D-RA | 405 041 6507 | NTE157 | ECG157 | SK3747 |
| | 2SC2621-E-RA | 405 041 6705 | NTE157 | ECG157 | SK3747 |
| | 2SC2621-C-RA | 405 066 4304 | NTE157 | ECG157 | SK3747 |
| | 2SC2568(1)-K | 405 014 8408 | NTE157 | ECG157 | SK3747 |
| | 2SC2568(1)-L | 405 014 8507 | NTE157 | ECG157 | SK3747 |
| | 2SC2568(1)-M | 405 014 8606 | NTE157 | ECG157 | SK3747 |
| | 2SC3620(LB-SAN-1) | 406 000 3605 | NTE157 | ECG157 | SK3747 |
| Q823 | 2SA608KE | - | NTE290A | ECG290A | SK3114A |
| | 2SA1015-O(SAN) | 405 001 7407 | NTE290A | ECG290A | SK9132 |
| | 2SA1015-Y(SAN) | 405 001 7605 | NTE290A | ECG290A | SK9132 |
| | 2SA564A-Q(CU) | 405 004 3109 | NTE290A | ECG290A | SK3932 |
| | 2SA564A-R(CU) | 405 004 3208 | NTE290A | ECG290A | SK3932 |
| | 2SA608-E-CTV-NP | 405 004 4205 | NTE290A | ECG290A | SK3114A |
| | 2SA608-F-CTV-NP | 405 004 4809 | NTE290A | ECG290A | SK3114A |
| | 2SA933-Q | 405 006 1103 | NTE290A | ECG290A | SK9132 |
| | 2SA933-R | 405 006 1202 | NTE290A | ECG290A | SK9132 |
| | 2SA1015-GR(SAN) | 406 000 6804 | NTE290A | ECG290A | SK9132 |
| | | | | | |

* Lead configuration may vary from original.

CAPACITORS & ELECTROLYTICS

| Item No. | Rating | Mfr. Part No. | Item No. | Rating | Mfr. Part No. |
|----------|----------------|---------------|----------|--------------------|---------------|
| # C001 | .1 125VAC 20% | 404 007 8708 | # C432 | .0055 1.5KV 3% | 404 058 2809 |
| | .1 125VAC 20% | 404 047 3503 | # C433 | 680pF 3KV 10% | 403 165 6700 |
| # C002 | .001 500V 10% | 403 075 7101 | | 680pF 3KV 10% | 403 185 9408 |
| # C003 | .001 500V 10% | 403 075 7101 | # C434 | .0047 500V 10% | 403 076 4000 |
| # C004 | .001 500V 10% | 403 075 7101 | # C437 | .18 200V 5% | 403 082 7804 |
| # C005 | .001 500V 10% | 403 075 7101 | # C471 | 470pF 500V 10% | 403 076 3607 |
| # C006 | 470µF 200V 20% | 404 049 4805 | # C472 | 10µF 250V 20% | 403 055 7206 |
| # C007 | 4.7µF 160V 20% | 403 103 0005 | # C474 | 47µF 160V +50%-10% | 404 001 3709 |
| # C021 | .001 500V 10% | 403 075 7101 | # C477 | 2.2µF 100V 20% | 404 056 5109 |
| C108 | 56pF N220 5% | 403 028 2009 | # C479 | 470pF 500V 10% | 403 076 3607 |
| # C407 | 470pF 500V 10% | 403 076 3607 | # C622 | 10µF 160V 20% | 403 055 1006 |
| # C409 | 220pF 500V 10% | 403 076 0200 | # C708 | .001 2KV +100%-0% | 403 077 2708 |
| # C428 | .0039 500V 10% | 403 076 3102 | | .001 2KV +100%-0% | 403 175 3409 |

For SAFETY use only equivalent replacement part.

CONTROLS & RESISTORS

| Item No. | Function/Rating | Mfr. Part No. | NTE Part No. |
|----------|-------------------------|---------------|--------------|
| # PS001 | 6.8 Cold PTC | 408 000 3203 | - |
| | 6.8 Cold PTC | 408 003 6409 | - |
| # R001 | 3.3 10% 6W Wirewound | 402 057 8006 | - |
| | 3.3 10% 6W Wirewound | 402 058 4403 | - |
| # R002 | 1M 5% 1/2W | 401 007 2903 | HW510 |
| # R004 | 10K 5% 1/4W | 401 021 7009 | QW310 |
| # R005 | 220K 5% 1/4W | 401 016 5803 | QW422 |
| # R006 | 47 5% 1/2W Nonflammable | 401 010 2600 | HW047 |
| # R007 | 5.6 5% 2W | 401 068 6209 | 2W5D6 |
| # R008 | 120 5% 15W | 402 057 1304 | - |
| # R021 | 820 10% 6W Wirewound | 402 057 4107 | - |
| | 820 10% 6W Wirewound | 402 057 4206 | - |
| # R022 | 270 5% 2W | 401 067 0000 | 2W127 |
| # R024 | 330 5% 1W | 401 061 2505 | 1W133 |
| # R344 | 10 5% 1W | 401 058 1108 | 1W010 |
| # R401 | 8200 5% 2W | 401 069 8202 | 2W282 |
| # R409 | 8200 5% 2W | 401 069 8202 | 2W282 |
| # R413 | 3300 1% 1/6W | 401 053 2605 | - |
| R471 | 68 5% 1/2W Nonflammable | 401 011 1206 | HW068 |
| # R473 | 2.7 5% 2W | 401 066 3705 | 2W2D7 |
| R476 | 1 5% 1/2W Nonflammable | 401 006 7701 | HW1D0 |
| # R485 | 560 1% 1/6W | - | - |
| | 330 1% 1/6W | 401 053 2506 | - |
| R483 | 10 5% 1/4W Nonflammable | 401 012 3506 | QW010 |
| # R486 | 10K 1% 1/6W | 401 052 6802 | - |
| # R490 | 1 5% 1W | 401 057 8009 | 1W1D0 |
| R501 | 12 5% 1/4W Nonflammable | 401 013 3307 | QW012 |
| R555 | 6800 1% 1/6W | 401 053 4708 | - |
| R557 | 15K 1% 1/6W | 401 052 9308 | - |
| # R628 | 68 5% 2W | 401 069 2804 | 2W068 |
| # R711 | 12K 5% 2W | 401 065 4604 | 2W312 |
| # R712 | 12K 5% 2W | 401 065 4604 | 2W312 |
| # R713 | 12K 5% 2W | 401 065 4604 | 2W312 |
| VR101 | 10K RF AGC | 610 019 2584 | - |
| | 10K RF AGC | 610 019 3901 | - |
| VR301 | 20K Sub Brightness | 610 019 2591 | - |
| | 20K Sub Brightness | 610 019 3918 | - |
| VR451 | 50K Vertical Size | 610 019 2607 | - |
| | 50K Vertical Size | 610 019 3932 | - |
| VR701 | 10K Red Bias | 610 020 9053 | - |
| | 10K Red Bias | 610 020 9077 | - |
| | 10K Red Bias | 610 020 9084 | - |
| VR702 | 10K Green Bias | 610 020 9053 | - |
| | 10K Green Bias | 610 020 9077 | - |
| | 10K Green Bias | 610 020 9084 | - |
| VR703 | 10K Blue Bias | 610 020 9053 | - |
| | 10K Blue Bias | 610 020 9077 | - |
| | 10K Blue Bias | 610 020 9084 | - |
| VR704 | 200 Red Drive | 610 020 8599 | - |
| | 200 Red Drive | 610 020 8612 | - |
| | 200 Red Drive | 610 020 8629 | - |
| VR705 | 200 Blue Drive | 610 020 8599 | - |
| | 200 Blue Drive | 610 020 8612 | - |
| | 200 Blue Drive | 610 020 8629 | - |

For SAFETY use only equivalent replacement part.

COILS & TRANSFORMERS

| Item No. | Function/Rating | Mfr. Part No. | On-Unit No. |
|----------|-----------------------|---------------|-------------|
| L100 | Filter | 610 032 9355 | - |
| L104 | 15µH | 610 031 3958 | - |
| L301 | 10µH | 610 031 3873 | - |
| L305 | LC Block | 610 237 9952 | - |
| L401 | Filter | 610 032 5852 | - |
| | Filter | 610 032 5869 | - |
| L403 | Ferrite Bead | 610 031 9998 | - |
| L404 | Ferrite Bead | 610 031 9998 | - |
| L463 | Filter | 610 032 4367 | - |
| | Filter | 610 032 4381 | - |
| | Filter | 610 032 4404 | - |
| L511 | 5.6µH | 610 031 4214 | - |
| L531 | 5.6µH | 610 031 4214 | - |
| L532 | 33µH | 610 031 4139 | - |
| L571 | 100µH | 610 031 3897 | - |
| # L901 | Degaussing | 645 002 9097 | - |
| | Degaussing | 645 002 9103 | - |
| # L902 | Yoke 90° Horiz 3mH | 610 238 2846 | L70273MRA |
| | Vert 30mH | 610 238 2853 | - |
| L1516 | 5.6µH | 610 031 4214 | - |
| # LF001 | Line Choke | 610 031 5938 | - |
| | Line Choke | 610 031 6089 | - |
| | Line Choke | 610 031 6096 | - |
| | Line Choke | 610 031 6119 | - |
| | Line Choke | 610 031 6126 | - |
| | Line Choke | 610 223 1212 | - |
| T101 | VIF Detector | 645 000 5206 | - |
| T102 | AFT Centering | 610 037 6564 | - |
| T103 | Picture Matching | 645 000 5237 | - |
| T151 | SIF Detector | 610 037 7615 | - |
| T401 | Horizontal Drive | 610 000 7901 | A5050A |
| | Horizontal Drive | 610 000 7918 | - |
| # T402 | Horizontal Output (1) | 645 000 2786 | L40A01100 |
| T621 | Sound Output | 610 055 6751 | IKS9212 |
| | Sound Output | 610 055 6904 | - |
| | Sound Output | 610 216 2899 | - |
| | Sound Output | 610 238 5731 | - |

For SAFETY use only equivalent replacement part.
(1) Focus and screen controls are part of T402.



Created with pride by the
employees of Howard W. Sams
& Company.

J. Barker, B. Bryant,
B. Buchanan, T. Clensy,
D. Cobb, G. Farrell, B. Fink,
M. Herkless, J. Kocha,
J. Limp, F. Malek, B. Medaris,
R. Raus, B. Skinner, J. Young

| SEMICONDUCTORS continued | | | | | |
|---|-----------------|---------------|--------------|--------------|--------------|
| (Select the replacement that gives the best results.) | | | | | |
| Item No. | Type No. | Mfr. Part No. | NTE Part No. | ECG Part No. | TCE Part No. |
| Q023 continued | 2SA933-Q | 405 006 1103 | NTE290A | ECG290A | SK9132 |
| | 2SA933-R | 405 006 1202 | NTE290A | ECG290A | SK9132 |
| | 2SA1015-GR(SAN) | 406 000 6804 | NTE290A | ECG290A | SK9132 |
| Q031 | 2SC536KF | - | NTE85 | ECG85 | SK3245 |
| | 2SC1740-Q | 405 011 7305 | NTE85 | ECG85 | SK3122 |
| | 2SC1740-R | 405 011 7404 | NTE85 | ECG85 | SK3122 |
| | 2SC1740-S | 405 011 7503 | NTE85 | ECG85 | SK3122 |
| | 2SC1815-GR | 405 012 2002 | NTE85 | ECG85 | SK3124A |
| | 2SC1815-O | 405 012 2101 | NTE85 | ECG85 | SK3124A |
| | 2SC1815-Y | 405 012 2309 | NTE85 | ECG85 | SK3124A |
| | 2SC536-E-NP | 405 019 1909 | NTE85 | ECG85 | SK3245 |
| | 2SC536-F-NP | 405 019 2708 | NTE85 | ECG85 | SK3245 |
| | 2SC536-G-NP | 405 019 3804 | NTE85 | ECG85 | SK3245 |
| | 2SC945A-PA | 405 020 7501 | NTE85 | ECG85 | SK3124A |
| | 2SC945A-QA | 405 020 7709 | NTE85 | ECG85 | SK3124A |
| | 2SC945A-RA | 405 020 7907 | NTE85 | ECG85 | SK3124A |
| | 2SA608KE | - | NTE290A | ECG290A | SK3114A |
| | 2SA1015-O(SAN) | 405 001 7407 | NTE290A | ECG290A | SK9132 |
| Q101 | 2SA1015-Y(SAN) | 405 001 7605 | NTE290A | ECG290A | SK9132 |
| | 2SA564A-Q(CU) | 405 004 3109 | NTE290A | ECG290A | SK3932 |
| | 2SA564A-R(CU) | 405 004 3208 | NTE290A | ECG290A | SK3932 |
| | 2SA608-E-CTV-NP | 405 004 4205 | NTE290A | ECG290A | SK3114A |
| | 2SA608-F-CTV-NP | 405 004 4809 | NTE290A | ECG290A | SK3114A |
| | 2SA933-Q | 405 006 1103 | NTE290A | ECG290A | SK9132 |
| | 2SA933-R | 405 006 1202 | NTE290A | ECG290A | SK9132 |
| | 2SA1015-GR(SAN) | 406 000 6804 | NTE290A | ECG290A | SK9132 |
| | 2SA608KE | - | NTE290A | ECG290A | SK3114A |
| | 2SA1015-O(SAN) | 405 001 7407 | NTE290A | ECG290A | SK9132 |
| | 2SA1015-Y(SAN) | 405 001 7605 | NTE290A | ECG290A | SK9132 |
| | 2SA564A-Q(CU) | 405 004 3109 | NTE290A | ECG290A | SK3932 |
| | 2SA564A-R(CU) | 405 004 3208 | NTE290A | ECG290A | SK3932 |
| | 2SA608-E-CTV-NP | 405 004 4205 | NTE290A | ECG290A | SK3114A |
| | 2SA608-F-CTV-NP | 405 004 4809 | NTE290A | ECG290A | SK3114A |
| Q301 | 2SA933-Q | 405 006 1103 | NTE290A | ECG290A | SK9132 |
| | 2SA933-R | 405 006 1202 | NTE290A | ECG290A | SK9132 |
| | 2SA1015-GR(SAN) | 406 000 6804 | NTE290A | ECG290A | SK9132 |
| | 2SA608KE | - | NTE290A | ECG290A | SK3114A |
| | 2SA1015-O(SAN) | 405 001 7407 | NTE290A | ECG290A | SK9132 |
| | 2SA1015-Y(SAN) | 405 001 7605 | NTE290A | ECG290A | SK9132 |
| | 2SA564A-Q(CU) | 405 004 3109 | NTE290A | ECG290A | SK3932 |
| | 2SA564A-R(CU) | 405 004 3208 | NTE290A | ECG290A | SK3932 |
| | 2SA608-E-CTV-NP | 405 004 4205 | NTE290A | ECG290A | SK3114A |
| | 2SA608-F-CTV-NP | 405 004 4809 | NTE290A | ECG290A | SK3114A |
| | 2SA933-Q | 405 006 1103 | NTE290A | ECG290A | SK9132 |
| | 2SA933-R | 405 006 1202 | NTE290A | ECG290A | SK9132 |
| | 2SA1015-GR(SAN) | 406 000 6804 | NTE290A | ECG290A | SK9132 |
| | 2SC536KF | - | NTE85 | ECG85 | SK3245 |
| | 2SC1740-Q | 405 011 7305 | NTE85 | ECG85 | SK3122 |
| Q303 | 2SC1740-R | 405 011 7404 | NTE85 | ECG85 | SK3122 |
| | 2SC1740-S | 405 011 7503 | NTE85 | ECG85 | SK3122 |
| | 2SC1815-GR | 405 012 2002 | NTE85 | ECG85 | SK3124A |
| | 2SC1815-O | 405 012 2101 | NTE85 | ECG85 | SK3124A |
| | 2SC1815-Y | 405 012 2309 | NTE85 | ECG85 | SK3124A |
| | 2SC536-E-NP | 405 019 1909 | NTE85 | ECG85 | SK3245 |
| | 2SC536-F-NP | 405 019 2708 | NTE85 | ECG85 | SK3245 |
| | 2SC536-G-NP | 405 019 3804 | NTE85 | ECG85 | SK3245 |
| | 2SC945A-PA | 405 020 7501 | NTE85 | ECG85 | SK3124A |
| | 2SC945A-QA | 405 020 7709 | NTE85 | ECG85 | SK3124A |
| | 2SC945A-RA | 405 020 7907 | NTE85 | ECG85 | SK3124A |
| | 2SD1913R | - | NTE152 | ECG152 | SK3893 |
| | 2SD1913-Q-RA | 405 059 9804 | NTE152 | ECG152 | SK3893 |
| | 2SD1913-R-RA | 405 059 9903 | NTE152 | ECG152 | SK3893 |

| SEMICONDUCTORS continued | | | | | |
|---|---------------------|---------------|--------------|--------------|--------------|
| (Select the replacement that gives the best results.) | | | | | |
| Item No. | Type No. | Mfr. Part No. | NTE Part No. | ECG Part No. | TCE Part No. |
| Q342 | 2SD400E | - | NTE382 | ECG382 | SK3849 |
| | 2SD400-E-MP | 405 023 5009 | NTE382 | ECG382 | SK3849 |
| | 2SD400-F-MP | 405 023 5306 | NTE382 | ECG382 | SK3849 |
| Q401 | 2SC2228M | 405 040 6102 | NTE399 | ECG399 | SK3866A |
| | 2SC2229-M(SAN-1) | 406 000 5302 | NTE399 | ECG399 | SK3244 |
| | 2SD1650 | - | NTE2302 | ECG2302 | SK9422 |
| # Q402 | 2SD1650-CTV-YB | 405 022 6700 | NTE2302 | ECG2302 | SK9422 |
| Q421, 22 | 2SA608KE | - | NTE290A | ECG290A | SK3114A |
| | 2SA1015-O(SAN) | 405 001 7407 | NTE290A | ECG290A | SK9132 |
| | 2SA1015-Y(SAN) | 405 001 7605 | NTE290A | ECG290A | SK9132 |
| | 2SA564A-Q(CU) | 405 004 3109 | NTE290A | ECG290A | SK3932 |
| | 2SA564A-R(CU) | 405 004 3208 | NTE290A | ECG290A | SK3932 |
| | 2SA608-E-CTV-NP | 405 004 4205 | NTE290A | ECG290A | SK3114A |
| | 2SA608-F-CTV-NP | 405 004 4809 | NTE290A | ECG290A | SK3114A |
| | 2SA933-Q | 405 006 1103 | NTE290A | ECG290A | SK9132 |
| | 2SA933-R | 405 006 1202 | NTE290A | ECG290A | SK9132 |
| | 2SA1015-GR(SAN) | 406 000 6804 | NTE290A | ECG290A | SK9132 |
| | 2SA608KE | - | NTE290A | ECG290A | SK3114A |
| | 2SA1015-O(SAN) | 405 001 7407 | NTE290A | ECG290A | SK9132 |
| | 2SA1015-Y(SAN) | 405 001 7605 | NTE290A | ECG290A | SK9132 |
| | 2SA564A-Q(CU) | 405 004 3109 | NTE290A | ECG290A | SK3932 |
| | 2SA564A-R(CU) | 405 004 3208 | NTE290A | ECG290A | SK3932 |
| Q535 | 2SA608-E-CTV-NP | 405 004 4205 | NTE290A | ECG290A | SK3114A |
| | 2SA608-F-CTV-NP | 405 004 4809 | NTE290A | ECG290A | SK3114A |
| | 2SA933-Q | 405 006 1103 | NTE290A | ECG290A | SK9132 |
| | 2SA933-R | 405 006 1202 | NTE290A | ECG290A | SK9132 |
| | 2SA1015-GR(SAN) | 406 000 6804 | NTE290A | ECG290A | SK9132 |
| | 2SC536KF | - | NTE85 | ECG85 | SK3245 |
| Q541, 42 | 2SC1740-Q | 405 011 7305 | NTE85 | ECG85 | SK3122 |
| | 2SC1740-R | 405 011 7404 | NTE85 | ECG85 | SK3122 |
| | 2SC1740-S | 405 011 7503 | NTE85 | ECG85 | SK3122 |
| | 2SC1815-GR | 405 012 2002 | NTE85 | ECG85 | SK3124A |
| | 2SC1815-O | 405 012 2101 | NTE85 | ECG85 | SK3124A |
| | 2SC1815-Y | 405 012 2309 | NTE85 | ECG85 | SK3124A |
| | 2SC536-E-NP | 405 019 1909 | NTE85 | ECG85 | SK3245 |
| | 2SC536-F-NP | 405 019 2708 | NTE85 | ECG85 | SK3245 |
| | 2SC536-G-NP | 405 019 3804 | NTE85 | ECG85 | SK3245 |
| | 2SC945A-PA | 405 020 7501 | NTE85 | ECG85 | SK3124A |
| | 2SC945A-QA | 405 020 7709 | NTE85 | ECG85 | SK3124A |
| | 2SC945A-RA | 405 020 7907 | NTE85 | ECG85 | SK3124A |
| | 2SC1473Q | - | NTE399 | ECG399 | SK9352 |
| | 2SC1473NC-Q | 405 010 6606 | NTE399 | ECG399 | SK9352 |
| | 2SC1473NC-R | 405 010 6705 | NTE399 | ECG399 | SK9352 |
| Q621 | 2SA1507S | - | NTE374 | ECG374 | SK9042 |
| Q622 | 2SA1408-O(LB-SAN-2) | 406 000 3308 | NTE374 | ECG374 | SK9042 |
| | 2SA1408-R(LB-SAN-2) | 406 000 3506 | NTE374 | ECG374 | SK9042 |
| | 2SA1507-S-CTV-YA | 405 114 6700 | NTE374* | ECG374* | SK9042* |
| | 2SA1507-T-CTV-YA | 405 114 6908 | NTE374* | ECG374* | SK9042* |
| # For SAFETY use only equivalent replacement part. | | | | | |
| * Lead configuration may vary from original. | | | | | |

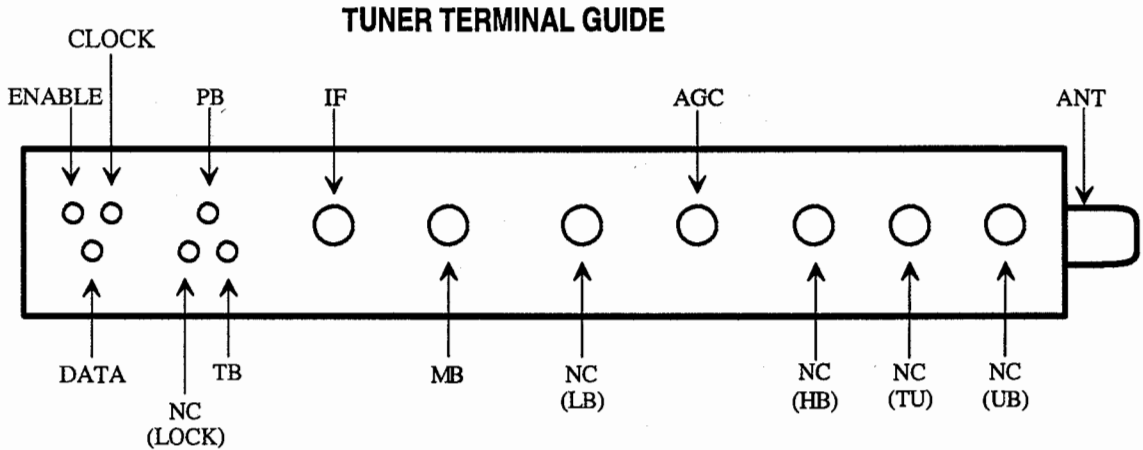
| MISCELLANEOUS | | | |
|---------------|---------------|---------------|----------------------------|
| Item No. | Description | Mfr. Part No. | Notes |
| A1002 | Preamplifier | 610 224 5806 | Remote |
| # F001 | Fuse | 423 007 1601 | 4Amps, 125VAC, Fast Acting |
| | Fuse | 423 007 1809 | 4Amps, 125VAC, Fast Acting |
| | Fuse | 423 018 8101 | 4Amps, 125VAC, Fast Acting |
| # Q901 | CRT | 413 007 3507 | A48AAB36X |
| # RL001 | Relay | 610 009 5540 | Power |
| | Relay | 610 009 5649 | Power |
| | Relay | 610 215 6355 | Power |
| | Relay | 610 215 6362 | Power |
| | Relay | 645 000 4155 | Power |
| SP901 | Speaker | 610 055 6614 | 8 Ohms, VS012BCA |
| SW701 | Switch | 610 011 4227 | Service/Normal |
| SW1001 | Switch | 610 011 2698 | Menu |
| SW1002 | Switch | 610 011 2698 | Channel Down |
| SW1003 | Switch | 610 011 2698 | Channel Up |
| SW1004 | Switch | 610 011 2698 | Volume Down |
| SW1005 | Switch | 610 011 2698 | Volume Up |
| SW1006 | Switch | 610 011 2698 | Power |
| # W901 | Line Cord | 610 222 9660 | AC, Polarized |
| # W902 | Connector | 610 240 8775 | Grounding |
| | Connector | 610 240 9659 | Grounding |
| X101 | Filter | 422 000 9409 | SAW |
| X102 | Filter | 610 015 3059 | 4.5MHz |
| | Filter | 610 015 3066 | 4.5MHz |
| X153 | Filter | 610 015 2946 | 4.5MHz |
| X301 | Crystal | 610 012 0655 | 3.58MHz |
| | Crystal | 610 211 6441 | 3.58MHz |
| X401 | Crystal | 610 012 2970 | - |
| | Crystal | 610 012 2857 | - |
| X531 | Antenna | 610 216 4886 | Rod |
| | Antenna | 610 216 4916 | Rod |
| | Antenna Block | 645 002 7864 | - |
| | Fuse Clip | 610 012 4356 | For F001 (2 Used) |
| | Fuse Clip | 610 212 8543 | For F001 (2 Used) |
| | PC Board (1) | 610 248 3628 | CRT |
| | PC Board (1) | 610 245 4536 | Main |
| | PC Board (1) | 610 244 3868 | Remote Transmitter |
| | Socket | 610 010 4181 | CRT |
| | Transmitter | 645 000 1291 | Remote |
| # | Tuner (1) | 645 000 0843 | UHF/VHF, MSB20MS114 |

For SAFETY use only equivalent replacement part.
(1) Contact PTS Electronics Corporation for replacement; order by manufacturer's part number.

| CABINET PARTS | |
|----------------------|---------------|
| Item | Mfr. Part No. |
| Cabinet Front | 610 245 8428 |
| Cabinet Rear | 610 245 3188 |
| | 610 245 7612 |
| Pushbutton Assembly | 610 245 3522 |
| Remote Battery Cover | 610 230 0307 |

| TUNER VOLTAGE CHART | | | | | | | |
|---------------------|--------------|---------------|----------|--------|--------------|---------------|----------|
| Pin | VHF Low Band | VHF High Band | UHF Band | Pin | VHF Low Band | VHF High Band | UHF Band |
| AGC | 5.3V | 5.3V | 7.2V | PB | 5.1V | 5.1V | 5.1V |
| MB | 11.9V | 11.9V | 11.9V | Clock | .1V | .1V | .1V |
| IF | 0V | 0V | 0V | Data | .1V | .1V | 0V |
| TB | 20.8V | 21.7V | 22.3V | Enable | .2V | .2V | .2V |

NOTE: Voltages taken with signal.
Voltages not taken on NC (no connect) pins.
VHF Low Band voltages taken on channel 2.
VHF High Band voltages taken on channel 7.
UHF Band voltages taken on channel 14.



SCHEMATIC NOTES

For SAFETY use only equivalent replacement part, see parts list.

✕ Circuitry not used in some sets.

--- Circuitry used in some versions.

⏏ Ground

⏏ Chassis ground

⏏ Common tie point

△ Taken from common tie point

11 Schematic Circuittrace

A — Cabling: Heavy lines reduce use of multiple lines.

Waveforms and voltages are taken from ground, unless noted otherwise.
Waveforms taken with triggered scope and keyed rainbow generator. Waveform voltage is peak to peak. Timebase is per division. Waveforms shown at 10 divisions.
Supply voltages maintained as seen at input.
Voltages measured with digital meter and no signal.
Controls adjusted for normal operation.
Capacitors are 50 volts or less, 5% or greater unless noted.
Electrolytic capacitors are 50 volts or less, 20% or greater unless noted.
Resistors are 1/2W or less, 5% or greater unless noted.
Value in () used in some versions.
Measurements with switching as shown, unless noted.
Rated voltage shown on Zener Diodes.