

# Citation® 7.0

## THX Certified

### AV Controller



**harman/kardon**  
Power for the digital revolution®

# Features

## **Proprietary 6-Axis Steering® Technology**

Proprietary signal processing weaves six distinct sound points into a seamless enveloping sound field. The 6-Axis Steering Technology enhances performance in all controller listening modes - music and movie sources - and is Dolby™ Surround compatible. Versatile and satisfying, this mode helps minimize setting changes between source media.

## **A Jim Fosgate Design**

Continues Jim Fosgate's 20-year legacy of multichannel audio reproduction innovation. The 7.0's ultra-fast steering logic outperforms its digital and analog competitor, revealing the sonic subtleties of both surround encoded programs such as movies and conventional stereo music recordings.

## **On Screen Menu System**

Features a logical, intuitive menu system that provides ease of use and a sense of reassurance for non-technical users, while allowing expert users complete control over all system settings.

## **Illuminated Remote Control**

Frequently used buttons are internally illuminated so that they are easy to see and easy to use in the darkened environment of a home theater.

## **Audiophile Performance**

Controller circuitry carrying the front channel signals is entirely analog, preserving audio reference standards associated with "audiophile" quality performance.

## **Designed and Built in the USA**

All Citation Series products are designed, engineered and manufactured in the United States.

## **Full Five-Year Warranty**

All Citation products are warranted against defects in materials and workmanship to the original purchaser for five years when purchased from and professionally installed by an authorized Citation dealer.

## **THX Certified**

The 7.0 AV Controller meets or exceeds the THX standards for sonic performance and is compatible with other THX certified components.

# Technical Specifications

|                            |                                                                                                                                                                                                                                                                              |
|----------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>General Description</b> | Citation 7.0 Controller, THX® Certified                                                                                                                                                                                                                                      |
| <b>Inputs</b>              | <b>Audio/Video:</b> 8 RCA pairs/8 composite, NTSC video, or NTSC "S" video<br><b>Audio:</b> 1 stereo pair                                                                                                                                                                    |
| <b>Surround Modes</b>      | <b>Presets:</b> THX® Home Cinema, Dolby® Pro Logic,® 70 mm, 6-Axis, Rock, Jazz, Classical, Mono+<br><b>Programmable:</b> Up to 4 user-defined modes                                                                                                                          |
| <b>Outputs</b>             | <b>Audio:</b> 10 (Left, Right, Center, 3 Subwoofer, 2 Side, 2 Back)<br><b>Maximum level/Impedance:</b> 6V RMS, 500 Ohms<br><b>Video:</b> 2 composite, NTSC, 2 "S" video NTSC<br>PAL video capability available on export models<br><b>Level/Impedance:</b> 1 V p-p, 75 Ohms. |
| <b>Frequency response</b>  | <b>Main Front Channels:</b> 1 Hz - 100 kHz, +1, -3 dB, Ref. 1 kHz<br><b>Surround Channels:</b> 1 Hz - 18 kHz, +1, 3 dB, Ref. 1 kHz<br><b>Subwoofer:</b> 1 Hz - 80 Hz, +1, -6 dB, Ref. 31.5 Hz, 24 dB/octave rolloff                                                          |
| <b>S/N Ratio</b>           | 90 dB minimum, A weighted, Ref. 1 kHz maximum level                                                                                                                                                                                                                          |
| <b>Dimensions (HxWxD)</b>  | 5-1/4 x 17-1/2 x 14-1/2 inches<br>133 x 445 x 368 mm                                                                                                                                                                                                                         |
| <b>Weight</b>              | 18 lbs./ 8.3 kg                                                                                                                                                                                                                                                              |
| <b>Power Requirements</b>  | 120 VAC, 50-60 Hz; 50 watts, maximum                                                                                                                                                                                                                                         |
| <b>Additional Features</b> | On-screen menu control system, illuminated wireless remote, programmable trigger control relays, external IR port, RS-485 port, two-line blue fluorescent display                                                                                                            |

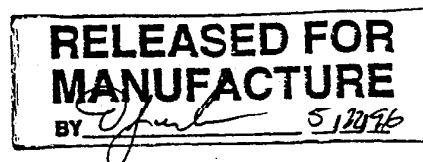
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CITATION 7.0  
MAIN BOARD REVC3  
PART LIST  
5/22/96



| ITEM / QTY | REF DES                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | PART #       | DESCRIPTION                        |
|------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|------------------------------------|
| 1 27       | CR2,D11,D14,D34,D37,D40,<br>D41,D42,D44,D45,D46,D47,<br>D48,D53,D54,D55,D56,D57,<br>D58,D59,D60,D63,D502<br>D503,D512,D513,D601                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 201-04148-00 | DIODE, SWITCHING, 1N4148           |
| 2 11       | C1,C103,C111,C112,C118,<br>C119,C121,C122,C128,C176,<br>C177                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 140-32347-00 | CAP, RAD AL EL, 47uF, 25V, 20%     |
| 3 166      | C2,C32,C33,C37,C38,C105,<br>C110,C113,C114,C117,C120,<br>C124,C127,C129,C130,C157,<br>C163,C164,C169,C172,C173,<br>C181,C182,C184,C234,C235,<br>C239,C240,C241,C242,C243,<br>C244,C245,C246,C247,C264,<br>C265,C266,C267,C268,C269,<br>C270,C271,C274,C276,C277,<br>C278,C279,C280,C281,C283,<br>C284,C285,C286,C287,C288,<br>C289,C291,C292,C293,C294,<br>C295,C296,C297,C298,C299,<br>C301,C302,C303,C304,C305,<br>C306,C307,C308,C309,C310,<br>C311,C312,C313,C314,C315,<br>C316,C317,C318,C319,C320,<br>C321,C322,C323,C324,C325,<br>C327,C328,C329,C330,C331,<br>C332,C333,C334,C335,C336,<br>C337,C338,C339,C340,C341,<br>C342,C343,C344,C345,C346,<br>C347,C348,C350,C351,C352,<br>C353,C354,C355,C356,C357,<br>C358,C359,C360,C361,C362,<br>C363,C364,C365,C366,C367,<br>C368,C369,C370,C377,C470,<br>C471,C483,C484,C485,C486,<br>C487,C488,C489,C496,C497,<br>C499,C506,C513,C514,C520,<br>C523,C525,C536,C537,C538,<br>C539,C540,C541,C542,C543,<br>C544,C545,C552,C553,C556 | 135-22410-00 | CAP, AX CER, 0.1uF, 50V, Z5U 20%   |
| 4 11       | C3,C4,C5,C6,C30,C31,C34,<br>C35,C509,C534,C535                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 143-13310-00 | CAP, RAD PEF, 0.01uF, 50V, 5%      |
| 5 1        | C7                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 141-22410-00 | CAP, RAD AL EL NP, 100uF, 16V, 20% |
| 6 22       | C13,C14,C93,C95,C97,C107,<br>C132,C137,C223,C394,C398,<br>C402,C409, C440,<br>C445,C447,C451,C452,C500,<br>C501,C502,C548                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 143-13510-00 | CAP, RAD PEF, 1.0uF, 50V, 5%       |
| 7 12       | C15,C17,C22,C23,C393,<br>C397,C401,C405,C408,C546,<br>C547,C555                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 143-13410-00 | CAP, RAD PEF, 0.10uF, 50V, 5%      |
| 8 7        | C16,C18,C29,C48,C49,<br>C528,C533                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 143-34322-00 | CAP, RAD PEF, 0.022uF, 100V, 10%   |
| 9 4        | C21,C24,C187,C188                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 145-30122-00 | CAP, RAD CER, 220pF, 100V, GP5%    |

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|------------|------------------------------------------------------------------------------------------------------------|--------------|-----------------------------------|
| 10 4       | C25,C26,C42,C47                                                                                            | 143-13368-00 | CAP, RAD PEF, 0.068uF, 50V, 5%    |
| 11 1       | C27                                                                                                        | 143-13433-00 | CAP, RAD PEF, 0.33uF, 50V, 5%     |
| 12 5       | C28,C39,C201,C202,C510                                                                                     | 143-24422-00 | CAP, RAD PEF, 0.22uF, 63V, 10%    |
| 13 5       | C36,C45,C50,C63,C64                                                                                        | 143-13315-00 | CAP, RAD PEF, 0.015uF, 50V, 5%    |
| 14 14      | C43,C44,C391,<br>C392,C395,C396,C399,C400,<br>C403,C404,C406,C407,C554,<br>C558                            | 143-13347-00 | CAP, RAD PEF, 0.047uF, 50V, 5%    |
| 15 8       | C87,C88, C90,C89,C91,C92<br>C109,C115                                                                      | 145-30110-00 | CAP, RAD CER, 100pF, 100V, GP5%   |
| 16 5       | C94,C96,C98,C193,C196                                                                                      | 143-13227-00 | CAP, RAD PEF, 0.0027uF, 50V, 5%   |
| 17 1       | C99                                                                                                        | 143-64468-00 | CAP, RAD PEF, 0.68uF, 250V, 10%   |
| 18 11      | C101,C102,C219,C220,C228,<br>C230,C232,C236,C300,C379,<br>C508                                             | 145-21025-00 | CAP, RAD CER, 25pF, 50V, NPO5%    |
| 19 9       | C104,C417,C450,C526,C527,<br>C531,C532,C549,C550                                                           | 145-30010-00 | CAP, RAD CER, 10pF, 100V, GP5%    |
| 20 1       | C106                                                                                                       | 140-22322-00 | CAP, RAD AL EL, 22uF, 16V, 20%    |
| 21 2       | C108,C116                                                                                                  | 145-30156-00 | CAP, RAD CER, 560pF, 100V, GP5%   |
| 22 19      | C131,C139,C178,C179,C190,<br>C224,C226,C411,C412,C413,<br>C414,C481,C482,C511,C518,<br>C519,C522,C524,C551 | 140-32422-00 | CAP, RAD AL EL, 220uF, 25V, 20%   |
| 23 3       | C133,C138,C221                                                                                             | 140-52310-00 | CAP, RAD AL EL, 10uF, 50V, 20%    |
| 24 2       | C141,C142                                                                                                  | 143-13256-00 | CAP, RAD PEF, 0.0056uF, 50V, 5%   |
| 25 1       | C168                                                                                                       | 145-30047-00 | CAP, RAD CER, 47pF, 100V, GP5%    |
| 26 1       | C183                                                                                                       | 142-11310-00 | CAP, RAD TAN, 10uF, 6.3V, 10%     |
| 27 2       | C191,C194                                                                                                  | 145-23124-00 | CAP, RAD CER, 240pF, 50V, Y5P10%  |
| 28 3       | C192,C195,C507                                                                                             | 143-13215-00 | CAP, RAD PEF, 0.0015uF, 50V, 5%   |
| 29 2       | C197,C198                                                                                                  | 145-30115-00 | CAP, RAD CER, 150pF, 100V, GP5%   |
| 30 2       | C199,C200                                                                                                  | 143-13268-00 | CAP, RAD PEF, 0.0068uF, 50V, 5%   |
| 31 2       | C215,C216                                                                                                  | 145-30147-00 | CAP, RAD CER, 470pF, 100V, GP5%   |
| 32 10      | C227,C229,C231,C233,C237,<br>C378,C464,C465,C529,C530                                                      | 143-13222-00 | CAP, RAD PEF, 0.0022uF, 50V, 5%   |
| 33 1       | C238                                                                                                       | 141-32310-00 | CAP, RAD AL EL NP, 10uF, 25V, 20% |
| 34 14      | C418,C434,C435,C436,C439,<br>C449,C453,C454,C455,C456,<br>C457,C458,C459,C460                              | 145-30168-00 | CAP, RAD CER, 680pF, 100V, GP5%   |

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|------------|---------------------------------------------------------------------------------------------------------|--------------|------------------------------------|
| 35 19      | C419,C420,C421,C422,C423,<br>C424,C425,C426,C427,C428,<br>C429,C430,C431,C432,C433,<br>C448,C89,C92,C98 | NOT USED     | OMIT                               |
| 36 3       | C461,C462,C463                                                                                          | 135-31210-00 | CAP, AX CER, 0.001uF, 100V, X7R10% |
| 37 4       | C472,C473,C478,C479                                                                                     | 142-11247-00 | CAP, RAD TAN, 4.7uF, 6.3V, 10%     |
| 38 3       | C512,C517,C521                                                                                          | 140-52547-00 | CAP, RAD AL EL, 4700uF, 50V, 20%   |
| 39 3       | D1,D2,D3                                                                                                | 206-03141-00 | DIODE, ARRAY, CA3141E              |
| 40 1       | D43                                                                                                     | 202-14742-00 | DIODE, ZENER, 12V, 1N4742A         |
| 41 4       | D49,D50,D51,D52                                                                                         | 202-05226-00 | DIODE, ZENER, 3.3V, 1N5226B        |
| 42 2       | D61,D62                                                                                                 | 202-14736-00 | DIODE, ZENER, 6.8V, 1N4736A        |
| 43 2       | D500,D501                                                                                               | 205-10068-00 | DIODE, TVS, 1500W, BI-DIR, 6.8V    |
| 44 4       | D504,D505,D506,D507                                                                                     | 200-25402-00 | DIODE, RECT, 1N5402                |
| 45 4       | D508,D509,D510,D511                                                                                     | 200-14003-00 | DIODE, RECT, 1N4003                |
| 46 2       | FC1,FC2                                                                                                 | 690-00501-00 | FUSE CLIP, 5mm PC MNT, 111-501     |
| 47 5       | FL1,FL2,FL3,FL4,FL5                                                                                     | 190-50310-00 | EMI FILTER, RAD, 10000pF           |
| 48 1       | F1                                                                                                      | 380-00060-00 | FUSE, 5X20MM, SB, 250V, 600mA      |
| 49 1       | H100                                                                                                    | 323-00004-00 | CONN, TERM BLK, PLG, PCRA, 4PIN    |
| 50 3       | H101,H102,H103                                                                                          | 320-00512-00 | CONN, WIRE TRAP, 2mm ST, 12 COND   |
| 51 4       | JP1,JP3                                                                                                 | 101-30000-00 | RES, AXIAL, 0, 5%, CF, 1/4W        |
| 52 7       | J1,J2,J3,J4,J5,J6,J7                                                                                    | 321-02001-00 | RCA JACK 14mm QUAD, R/W            |
| 53 1       | J8                                                                                                      | 321-11000-00 | PHONE JACK, 1/4", STEREO, SB       |
| 54 1       | J9                                                                                                      | 321-01001-00 | RCA JACK, DUAL, R/W                |
| 55 2       | J11,J12                                                                                                 | 320-50010-00 | CONN, HEADER, 2X10                 |
| 56 1       | J20                                                                                                     | 320-52002-00 | CONN, HEADER, 1X2                  |
| 57 4       | J21,J22,J23,J24                                                                                         | 321-20000-00 | PHONE JACK, 3.5mm, MONO, SB        |
| 58 1       | J25                                                                                                     | 320-52007-00 | CONN, HEADER, 1X7                  |
| 59 3       | K1,K3,K4                                                                                                | 308-00024-00 | RELAY, PC NPSS 2 FORM C, 24V       |
| 60 2       | L1,L2                                                                                                   | 190-00039-00 | FERRITE BEAD, AX, TYPE 39          |
| 61 6       | P1,P2,P3,P4,P5,P7                                                                                       | 111-01310-00 | TRIM POT, 9mm, HOR. CAR, 10K       |
| 62 4       | P8,P9,P10,P11                                                                                           | 111-00325-00 | TRIM POT, 9mm, HOR. CER, 25K       |
| 63 2       | QT1,QT2                                                                                                 | 324-01021-00 | CONN, QC PC MALE, 0.250"           |
| 64 7       | Q1,Q7,Q11,Q33,Q42,Q44,                                                                                  | 211-03906-00 | TRANS, PNP, 2N3906                 |

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| ITEM / QTY | REF DES                                                                                                                                                                                                                                                                                                                                | PART #       | DESCRIPTION                   |
|------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|-------------------------------|
|            | Q47                                                                                                                                                                                                                                                                                                                                    |              |                               |
| 65 5       | Q3,Q4,Q5,Q6,Q39                                                                                                                                                                                                                                                                                                                        | 211-00056-00 | TRANS. PNP, MPSA56            |
| 66 10      | Q8,Q12,Q29,Q40,Q41,Q43,<br>Q45,Q46,Q48,Q49                                                                                                                                                                                                                                                                                             | 210-03904-00 | TRANS. NPN, 2N3904            |
| 67 5       | Q13,Q14,Q15,Q16,Q38                                                                                                                                                                                                                                                                                                                    | 210-00006-00 | TRANS. NPN, MPSA06            |
| 68 6       | RP1,RP2,RP3,RP4,RP5,RP6                                                                                                                                                                                                                                                                                                                | 110-04312-00 | RES. NET, BUSS SIP 7, 12K     |
| 69 4       | R1,R4,R822,R825                                                                                                                                                                                                                                                                                                                        | 101-32180-00 | RES. AX, 1.8K, 5%, CF, 1/4W   |
| 70 34      | R2,R3,R6,R8,R101,R226,<br>R543,R632,R742,R745,R748,<br>R774,R775,R777,R779,R780,<br>R789,R816,R819,R845,R852,<br>R857,R883,R884,R885,R886,<br>R921,R939,R951,R952,R967,<br>R968,R969,R970                                                                                                                                              | 100-31100-00 | RES. AX, 1.00K, 1%, MF, 1/4W  |
| 71 16      | R5,R68,R78,R87,R228,R229,<br>R230,R231,R232,R233,R234,<br>R235,R236,R237,R817,R818                                                                                                                                                                                                                                                     | 101-31300-00 | RES. AXIAL, 300, 5%, CF, 1/4W |
| 72 9       | R7,R135,R136,R314,R319,<br>R328,R339,R480,R739                                                                                                                                                                                                                                                                                         | 100-32133-00 | RES. AX, 13.3K, 1%, MF, 1/4W  |
| 73 14      | R9,R10,R69,R88,R89,R90,<br>R137,R140,R567,R569,R571,<br>R572,R956,R958                                                                                                                                                                                                                                                                 | 100-32121-00 | RES. AX, 12.1K, 1%, MF, 1/4W  |
| 74 2       | R11,R14                                                                                                                                                                                                                                                                                                                                | 100-33280-00 | RES. AX, 280K, 1%, MF, 1/4W   |
| 75 2       | R12,R15                                                                                                                                                                                                                                                                                                                                | 100-33140-00 | RES. AX, 140K, 1%, MF, 1/4W   |
| 76 67      | R13,R21,R22,R25,R26,R37,<br>R38,R39,R40,R41,R42,R43,<br>R44,R45,R46,R47,R48,R49,<br>R50,R51,R52,R53,R54,R55,<br>R56,R57,R58,R59,R60,R61,<br>R62,R63,R64,R65,R66,R67,<br>R70,R71,R72,R73,R74,R75,<br>R76,R77,R79,R80,R81,R82,<br>R83,R84,R85,R86,R120,<br>R122,R128,R131,R133,R145,<br>R183,R188,R460,R502,R706,<br>R707,R831,R838,R840 | 100-32499-00 | RES. AX, 49.9K, 1%, MF, 1/4W  |
| 77 4       | R16,R100,R670,R672                                                                                                                                                                                                                                                                                                                     | 100-31866-00 | RES. AX, 8.66K, 1%, MF, 1/4W  |
| 78 2       | R17,R19                                                                                                                                                                                                                                                                                                                                | 100-32287-00 | RES. AX, 28.7K, 1%, MF, 1/4W  |
| 79 9       | R18,R23,R186,R485,R834,<br>R890,R891,R892,R893                                                                                                                                                                                                                                                                                         | 101-31100-00 | RES. AX, 100, 5%, CF, 1/4W    |
| 80 7       | R20,R33,R470,R477,R479,<br>R517,R557                                                                                                                                                                                                                                                                                                   | 101-30100-00 | RES. AX, 10, 5%, CF, 1/4W     |
| 81 150     | R24,R27,R29,R32,R36,R91,<br>R92,R93,R97,R98,R99,R123,<br>R129,R130,R134,R138,R139,<br>R148,R149,R150,R151,R162                                                                                                                                                                                                                         | 100-32100-00 | RES. AX, 10.0K, 1%, MF, 1/4W  |

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| ITEM / QTY | REF | DES                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | PART #       | DESCRIPTION                  |
|------------|-----|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|------------------------------|
|            |     | R163,R176,R177,R216,R217,<br>R218,R219,R220,R221,R266,<br>R273,R274,R275,R276,R277,<br>R285,R288,R290,R292,R294,<br>R315,R320,R324,R325,R326,<br>R329,R336,R337,R338,R341,<br>R343,R362,R363,R364,R365,<br>R369,R373,R377,R383,R391,<br>R402,R413,R424,R425,R435,<br>R446,R453,R459,R486,R489,<br>R499,R512,R544,R548,R601,<br>R609,R630,R633,R635,R677,<br>R681,R686,R687,R690,R726,<br>R727,R729,R730,R731,R733,<br>R736,R766,R773,R788,R805,<br>R830,R841,R842,R843,R844,<br>R849,R851,R853,R854,R855,<br>R856,R858,R865,R874,R875,<br>R876,R877,R878,R880,R882,<br>R899,R903,R904,R905,R906,<br>R907,R908,R909,R910,R911,<br>R912,R913,R916,R917,R918,<br>R919,R920,R923,R924,R927,<br>R928,R929,R930,R931,R932,<br>R933,R934,R935,R953,R954,<br>R972,R973,R976 |              |                              |
| 82         | 13  | R28,R389,R400,R411,R422,<br>R433,R444,R450,R452,R859,<br>R908,R989,R990                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 100-31200-00 | RES, AX, 2.00K, 1%, MF, 1/4W |
| 83         | 12  | R30,R35,R744,R747,R763,<br>R764,R767,R768,R771,R772,<br>R784,R785                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 100-32590-00 | RES, AX, 59.0K, 1%, MF, 1/4W |
| 84         | 3   | R31,R116,R117                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 100-31150-00 | RES, AX, 1.50K, 1%, MF, 1/4W |
| 85         | 4   | R34,R871,R872,R922                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 100-33301-00 | RES, AX, 301K, 1%, MF, 1/4W  |
| 86         | 6   | R103,R345,R346,R378,R379,<br>R382                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 100-31280-00 | RES, AX, 2.80K, 1%, MF, 1/4W |
| 87         | 8   | R109,R110,R448,R451,R455,<br>R461,R484,R492                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 100-34100-00 | RES, AX, 1M, 1%, MF, 1/4W    |
| 88         | 2   | R112,R113                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 100-32267-00 | RES, AX, 26.7K, 1%, MF, 1/4W |
| 89         | 3   | R115,R182,R846                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 100-33110-00 | RES, AX, 110K, 1%, MF, 1/4W  |
| 90         | 17  | R118,R119,R353,R354,R457,<br>R700,R873,R881,R889,R902,<br>R940,R941,R942,R980,R981,<br>R982,R987                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 100-33100-00 | RES, AX, 100K, 1%, MF, 1/4W  |
| 91         | 4   | R124,R125,R126,R127                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 100-32200-00 | RES, AX, 20.0K, 1%, MF, 1/4W |
| 92         | 1   | R141                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 100-32147-00 | RES, AX, 14.7K, 1%, MF, 1/4W |
| 93         | 9   | R142,R263,R264,R270,R271,<br>R281,R282,R394,R405                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 100-32243-00 | RES, AX, 24.3K, 1%, MF, 1/4W |
| 94         | 1   | R143                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 100-32698-00 | RES, AX, 69.8K, 1%, MF, 1/4W |

CITATION 7.0  
MAIN BOARD REVC3  
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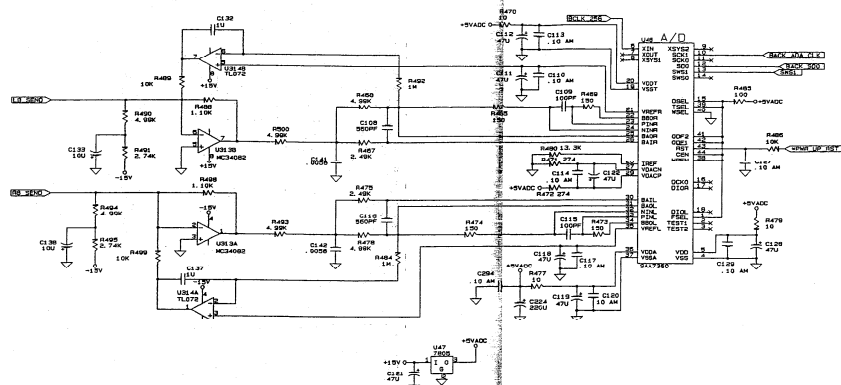
| ITEM / QTY | REF DES                                                                                                                                                    | PART #       | DESCRIPTION                  |
|------------|------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|------------------------------|
| 95 4       | R144,R464,R837,R839                                                                                                                                        | 101-33470-00 | RES. AX. 47K, 5%, CF, 1/4W   |
| 96 2       | R152,R154                                                                                                                                                  | 100-31332-00 | RES. AX. 3.32K, 1%, MF, 1/4W |
| 97 8       | R156,R157,R159,R170,R171,<br>R173,R174,R175                                                                                                                | 101-30220-00 | RES. AX. 22.5%, CF, 1/4W     |
| 98 12      | R160,R161,R178,R179,R465,<br>R466,R469,R473,R474,R476,<br>R481,R483                                                                                        | 101-31150-00 | RES. AX. 150.5%, CF, 1/4W    |
| 99 4       | R164,R167,R272,R986                                                                                                                                        | 100-31301-00 | RES. AX. 3.01K, 1%, MF, 1/4W |
| 100 24     | R165,R166,R168,<br>R223,R224,R225,R227,R255,<br>R257,R259,R560,R561,R749,<br>K151,K156,K161,R765,R770,<br>R787,R794,R800,R806,R925,<br>R966                | 101-35330-00 | RES. AX. 3.3M, 5%, CF, 1/4W  |
| 101 5      | R180,R181,R254,R256,R258                                                                                                                                   | 100-32221-00 | RES. AX. 22.1K, 1%, MF, 1/4W |
| 102 2      | R184,R833                                                                                                                                                  | 100-31121-00 | RES. AX. 1.21K, 1%, MF, 1/4W |
| 103 10     | R189,R190,R191,R192,R193,R205,<br>R206,R207,R208,209                                                                                                       | 100-32649-00 | RES. AX. 64.9K, 1%, MF, 1/4W |
| 104 27     | R214,R286,R293,R296,R396,<br>R397,R407,R408,R418,R419,<br>R429,R430,R440,R441,R613,<br>R614,R684,R689,R728,R732,<br>R737,R832,R898,R901,R937,<br>R938,R979 | 100-32249-00 | RES. AX. 24.9K, 1%, MF, 1/4W |
| 105 9      | R248,R249,R250,R591,R697,<br>R699,R705,R960,R961                                                                                                           | 100-31475-00 | RES. AX. 4.75K, 1%, MF, 1/4W |
| 106 3      | R251,R252,R253                                                                                                                                             | 101-33750-00 | RES. AX. 75K, 5%, CF, 1/4W   |
| 107 3      | R260,R261,R262                                                                                                                                             | 100-33182-00 | RES. AX. 182K, 1%, MF, 1/4W  |
| 108 1      | R267                                                                                                                                                       | 100-31402-00 | RES. AX. 4.02K, 1%, MF, 1/4W |
| 109 8      | R268,R269,R299,R300,R301,<br>R302,R674,R675                                                                                                                | 100-32143-00 | RES. AX. 14.3K, 1%, MF, 1/4W |
| 110 2      | R278,R367                                                                                                                                                  | 100-31536-00 | RES. AX. 5.36K, 1%, MF, 1/4W |
| 111 2      | R280,R366                                                                                                                                                  | 100-31221-00 | RES. AX. 2.21K, 1%, MF, 1/4W |
| 112 2      | R284,R289                                                                                                                                                  | 100-31976-00 | RES. AX. 9.76K, 1%, MF, 1/4W |
| 113 8      | R287,R291,R295,R678,R682,<br>R975,R977,R978                                                                                                                | 100-32165-00 | RES. AX. 16.5K, 1%, MF, 1/4W |
| 114 2      | R297,R298                                                                                                                                                  | 100-32549-00 | RES. AX. 54.9K, 1%, MF, 1/4W |
| 115 4      | R313,R327,R671,R673                                                                                                                                        | 100-31806-00 | RES. AX. 8.06K, 1%, MF, 1/4W |
| 116 14     | R316,R318,R322,R323,R330,<br>R331,R333,R335,R395,R406,<br>R417,R428,R439,R612                                                                              | 100-32392-00 | RES. AX. 39.2K, 1%, MF, 1/4W |

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| ITEM / QTY | REF DES                                                                       | PART #       | DESCRIPTION                  |
|------------|-------------------------------------------------------------------------------|--------------|------------------------------|
| 117 1      | R317                                                                          | 100-31681-00 | RES, AX, 6.81K, 1%, MF, 1/4W |
| 118 3      | R321,R334,R926                                                                | 100-32150-00 | RES, AX, 15.0K, 1%, MF, 1/4W |
| 119 2      | R332,R676                                                                     | 100-31549-00 | RES, AX, 5.49K, 1%, MF, 1/4W |
| 120 2      | R340,R342                                                                     | 100-32909-00 | RES, AX, 90.9K, 1%, MF, 1/4W |
| 121 3      | R349,R350,R351                                                                | 100-32953-00 | RES, AX, 95.3K, 1%, MF, 1/4W |
| 122 1      | R356                                                                          | 100-33178-00 | RES, AX, 178K, 1%, MF, 1/4W  |
| 123 2      | R357,R358                                                                     | 100-33215-00 | RES, AX, 215K, 1%, MF, 1/4W  |
| 124 2      | R368,R734                                                                     | 100-31340-00 | RES, AX, 3.40K, 1%, MF, 1/4W |
| 125 2      | R380,R735                                                                     | 100-31698-00 | RES, AX, 6.98K, 1%, MF, 1/4W |
| 126 7      | R387,R398,R409,R420,R431,<br>R442,R850                                        | 101-30470-00 | RES, AX, 47, 5%, CF, 1/4W    |
| 127 7      | R388,R399,R410,R421,R432,<br>R443,R847                                        | 100-33221-00 | RES, AX, 221K, 1%, MF, 1/4W  |
| 128 12     | R390,R393,R401,R404,R412,<br>R415,R423,R426,R434,R437,<br>R445,R610           | 101-31200-00 | RES, AX, 200, 5%, CF, 1/4W   |
| 129 6      | R392,R403,R436,R698,R704,<br>R955                                             | 100-33150-00 | RES, AX, 150K, 1%, MF, 1/4W  |
| 130 4      | R416,R427,R438,R611                                                           | 100-32215-00 | RES, AX, 21.5K, 1%, MF, 1/4W |
| 131 5      | R454,R458,R462,R463,R950                                                      | 100-33200-00 | RES, AX, 200K, 1%, MF, 1/4W  |
| 132 8      | R456,R694,R695,R701,R702,<br>R703,R738,R740                                   | 100-30499-00 | RES, AX, 499, 1%, MF, 1/4W   |
| 133 2      | R467,R475                                                                     | 100-31249-00 | RES, AX, 2.49K, 1%, MF, 1/4W |
| 134 14     | R468,R478,R490,R493,R494,<br>R500,R914,R915,R936,R943,<br>R944,R945,R971,R985 | 100-31499-00 | RES, AX, 4.99K, 1%, MF, 1/4W |
| 135 2      | R471,R472                                                                     | 100-30274-00 | RES, AX, 274, 1%, MF, 1/4W   |
| 136 2      | R488,R498                                                                     | 100-31110-00 | RES, AX, 1.10K, 1%, MF, 1/4W |
| 137 4      | R491,R495,R568,R570                                                           | 100-31274-00 | RES, AX, 2.74K, 1%, MF, 1/4W |
| 138 4      | R558,R559,R565,R566                                                           | 100-31825-00 | RES, AX, 8.25K, 1%, MF, 1/4W |
| 139 1      | R590                                                                          | 101-34470-00 | RES, AX, 470K, 5%, CF, 1/4W  |
| 140 1      | R592                                                                          | 101-33330-00 | RES, AX, 33K, 5%, CF, 1/4W   |
| 141        |                                                                               |              |                              |
| 142 2      | R685,R688                                                                     | 100-32866-00 | RES, AX, 86.6K, 1%, MF, 1/4W |
| 143 1      | R715                                                                          | 110-06310-00 | RES, NET, BUSS SIP 9, 10K    |
| 144 5      | R750,R769,R786,R799,R811                                                      | 100-32294-00 | RES, AX, 29.4K, 1%, MF, 1/4W |

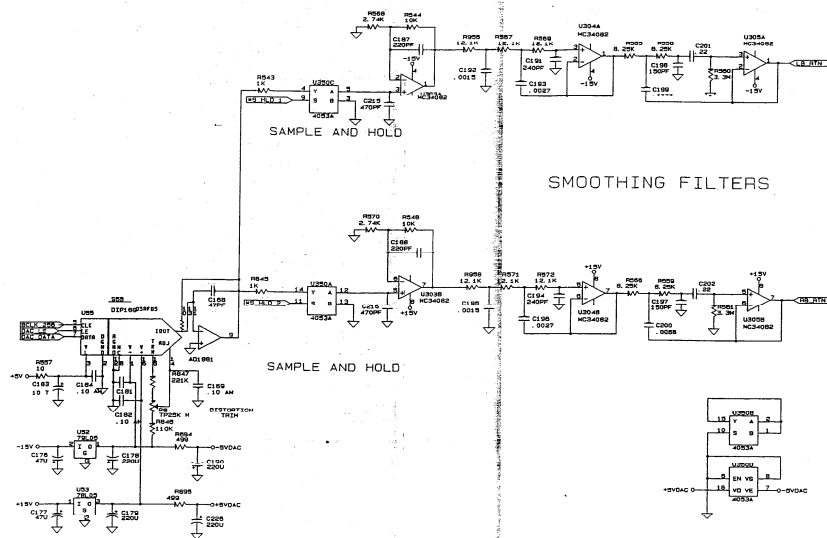


## ANALOG TO DIGITAL CONVERTER



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|---------------------|-----------------|---------------|
| CITATION            |                 |               |
| Hayward, California |                 |               |
| Size                | Document Number | REV           |
| C                   | C7HBC303, SCH   | C3            |
| Date:               | APR 11 26, 1995 | Sheet 3 of 11 |

# DIGITAL TO ANALOG CONVERTER



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| CITATION            |                |       |         |
| Wayward, California |                |       |         |
| Size Document       | Number         |       | REV     |
| C                   | C/PAC/04. BLM  |       | C3      |
| Date:               | April 26, 1995 | Sheet | 4 of 11 |





