

NOTES:

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|-----|-----------------------------------|---------|----------|
| a2 | CHANGE C3 TO AN OMIT PART | 84B DWB | 10-18-99 |
| A1 | CHANGE C43, C44, C45, C46 TO 22pF | 64B DWB | 7-1-99 |
| A0 | PRODUCTION RELEASE | DWB | 6-18-99 |
| REV | DESCRIPTION | ECN # | DATE |

REVISION HISTORY

dbx Professional Products
 8760 South Sandy Parkway Sandy Utah 84070

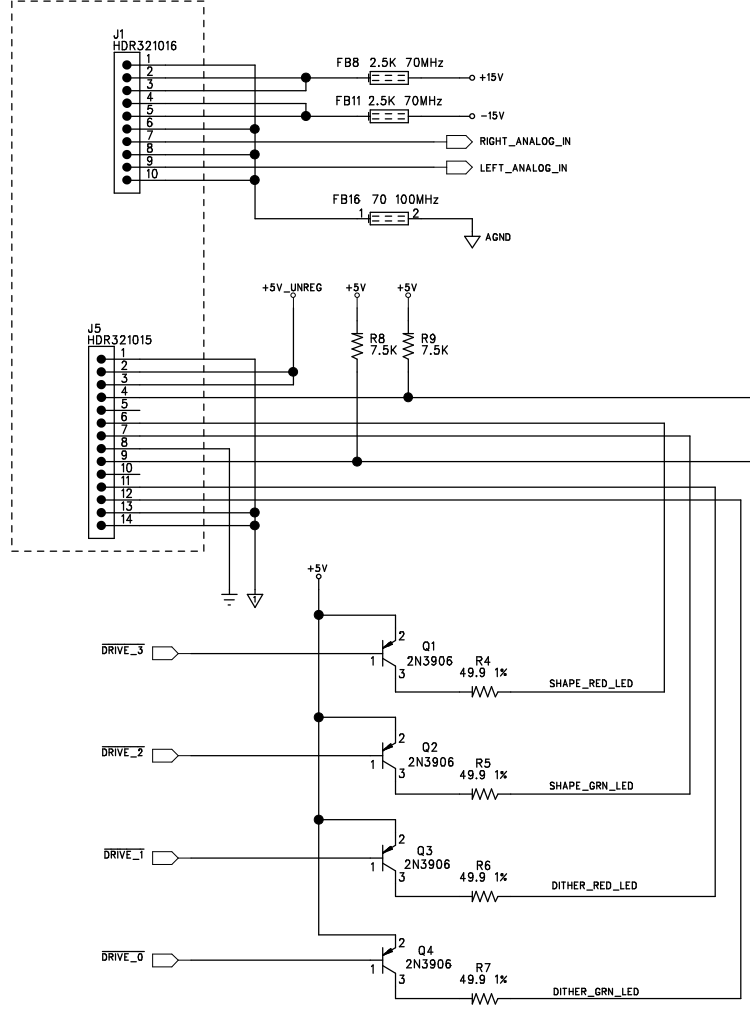
TITLE: dbx 504X PCB

| | | | |
|--------------------------|------------------|-------------------------|------------------|
| DESIGNER: DAVID BYBEE | DATE: 6-18-99 | ENGINEER: JON DUFFIN | DATE: 8-25-98 |
|--------------------------|------------------|-------------------------|------------------|

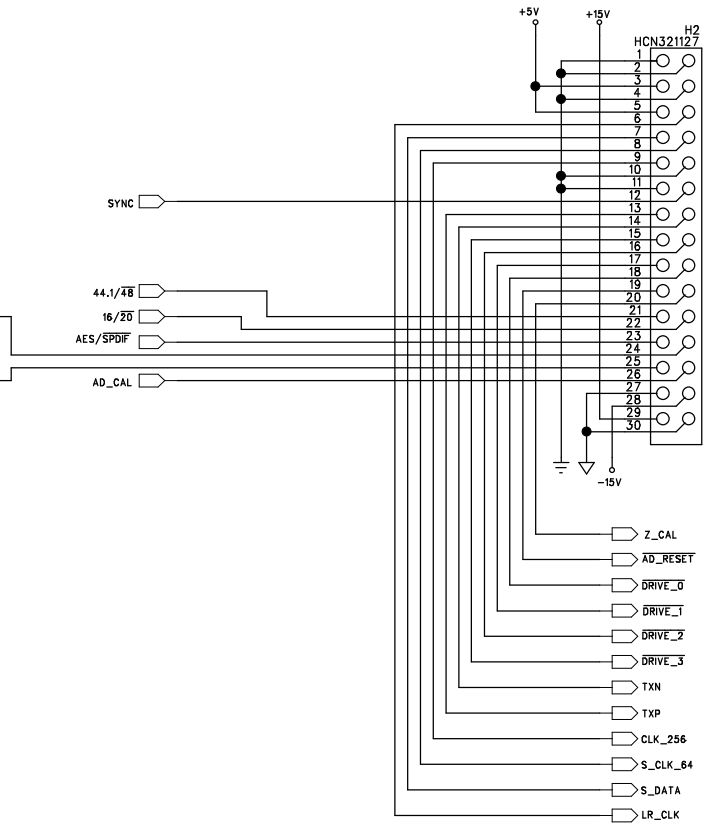
| | |
|---------------------------|------------|
| DRAWING NO: 05-5372-A2 | REV: A2 |
|---------------------------|------------|

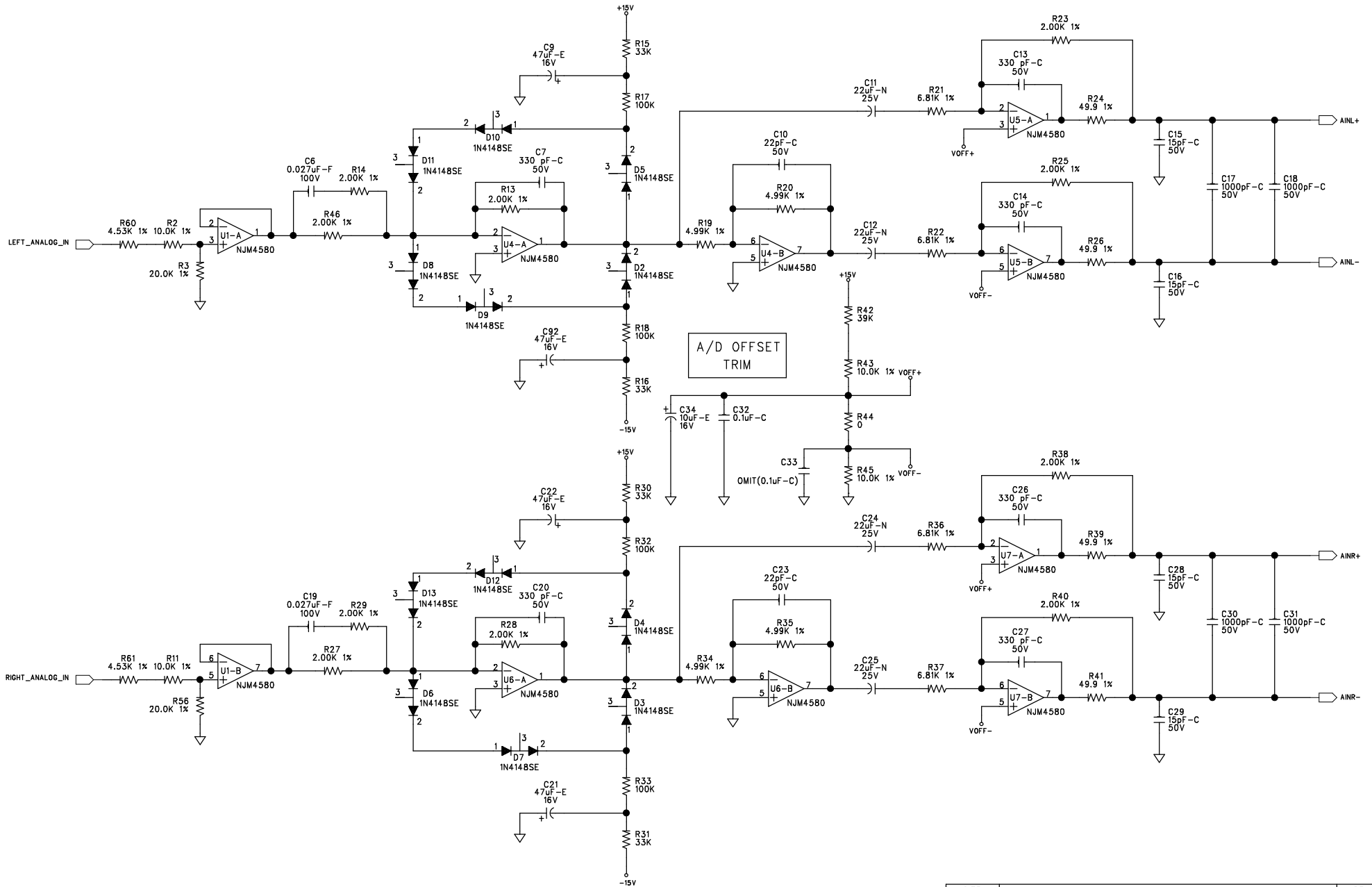
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|-----------------------------------|----------------------|---------------------------|-------------------------|-------------------------|
| SHEET 1 TITLE PAGE MAIN PCB | SHEET 2 INTERFACE | SHEET 3 TYPE IV ANALOG | SHEET 4 A/D | SHEET 5 INPUT/OUTPUT |
| SHEET 6 INTERFACE - DSP | SHEET 7 PROCESSOR | SHEET 8 SYNC CONTROL | SHEET 9 POWER SUPPLY | SHEET 10 POWER GATES |

TO MAIN BOARD

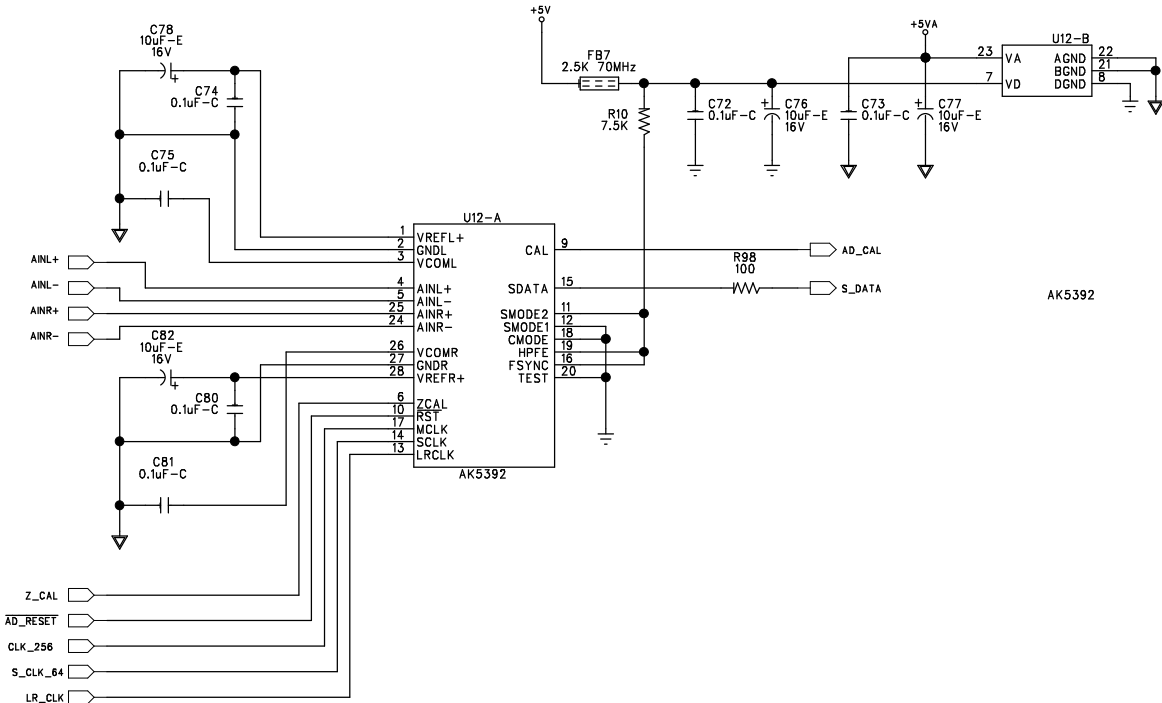


TO/FROM UPPER BOARD

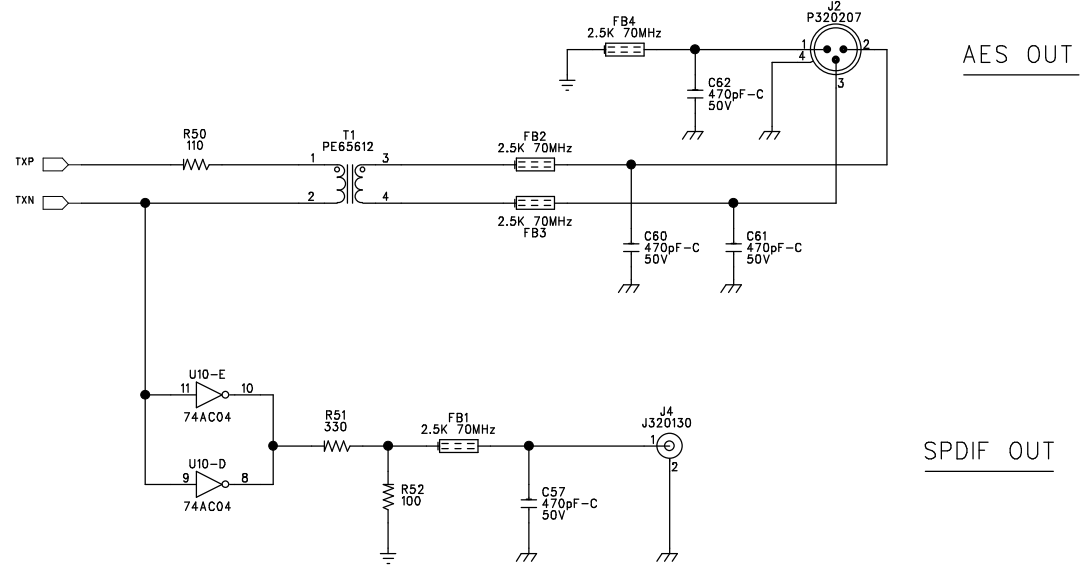
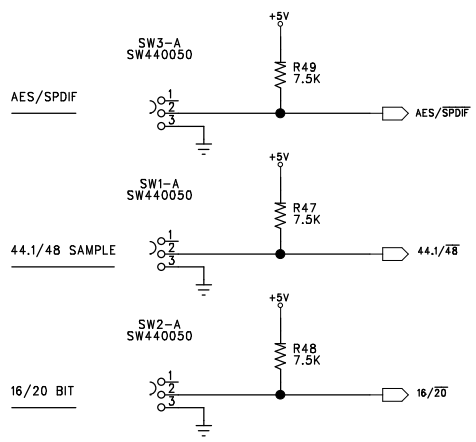
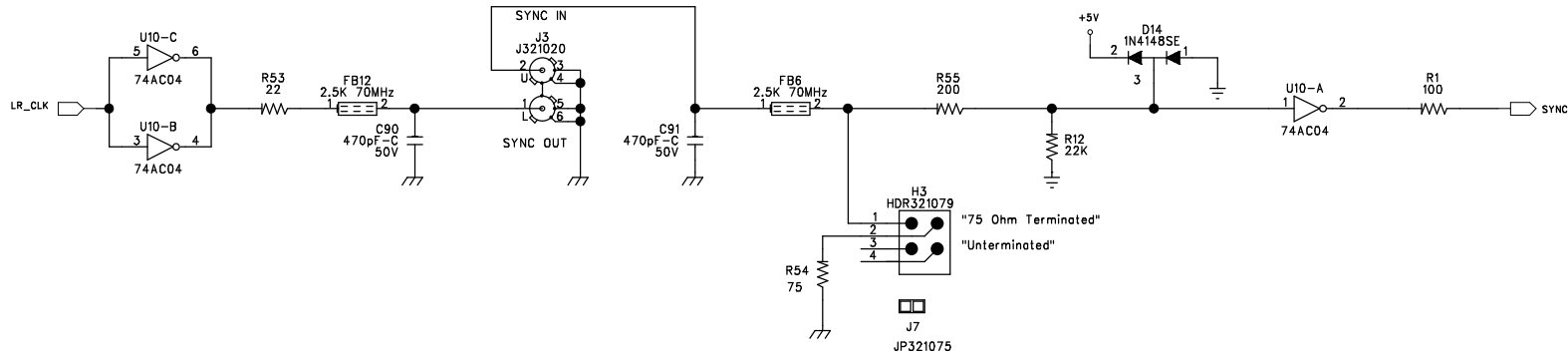
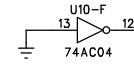




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|-------|---------------------------|----------------|----------------|
| SIZE: | dbx 504X OPTION LOWER PCB | REV: | A2 |
| DATE: | 10-18-99 | TYPE IV ANALOG | SHEET: 3 OF 10 |

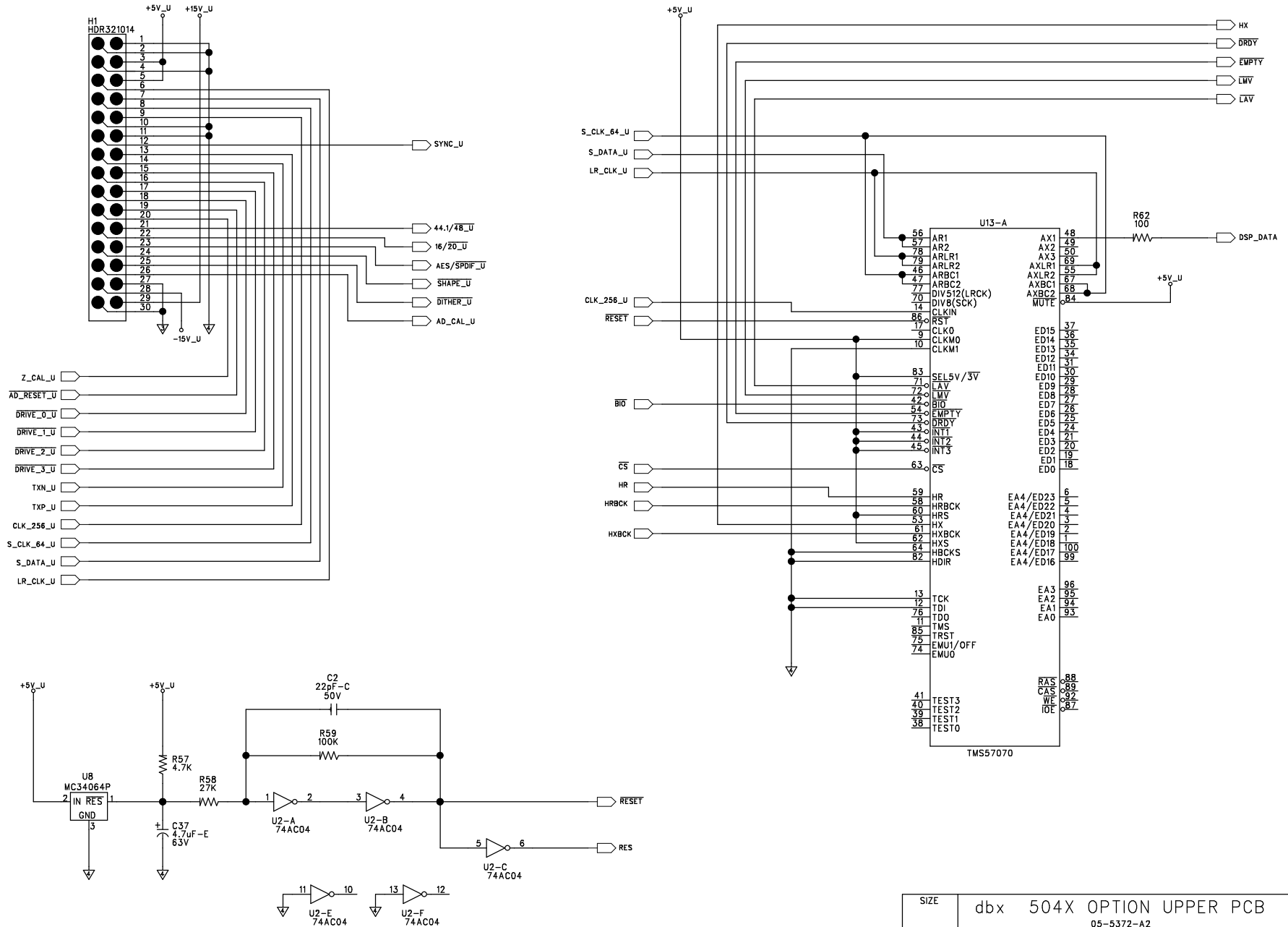


| | | | |
|-------|---------------------------|------|----------------|
| SIZE: | dbx 504X OPTION LOWER PCB | REV: | A2 |
| DATE: | 10-18-99 | A/D | SHEET: 4 OF 10 |

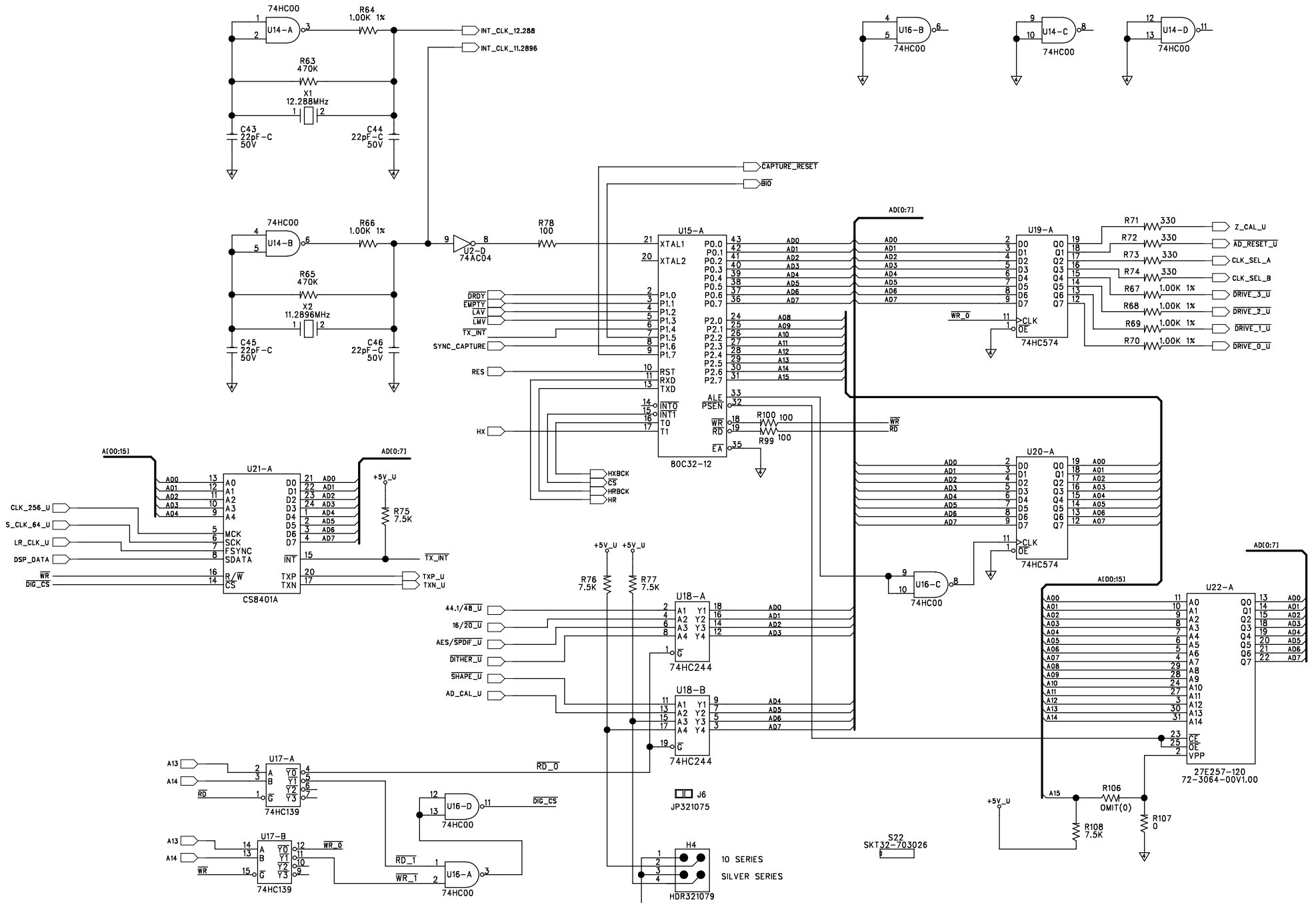


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|-------|---------------------------|--------------|----------------|
| SIZE: | dbx 504X OPTION LOWER PCB | REV: | A2 |
| DATE: | 10-18-99 | INPUT OUTPUT | SHEET: 5 OF 10 |

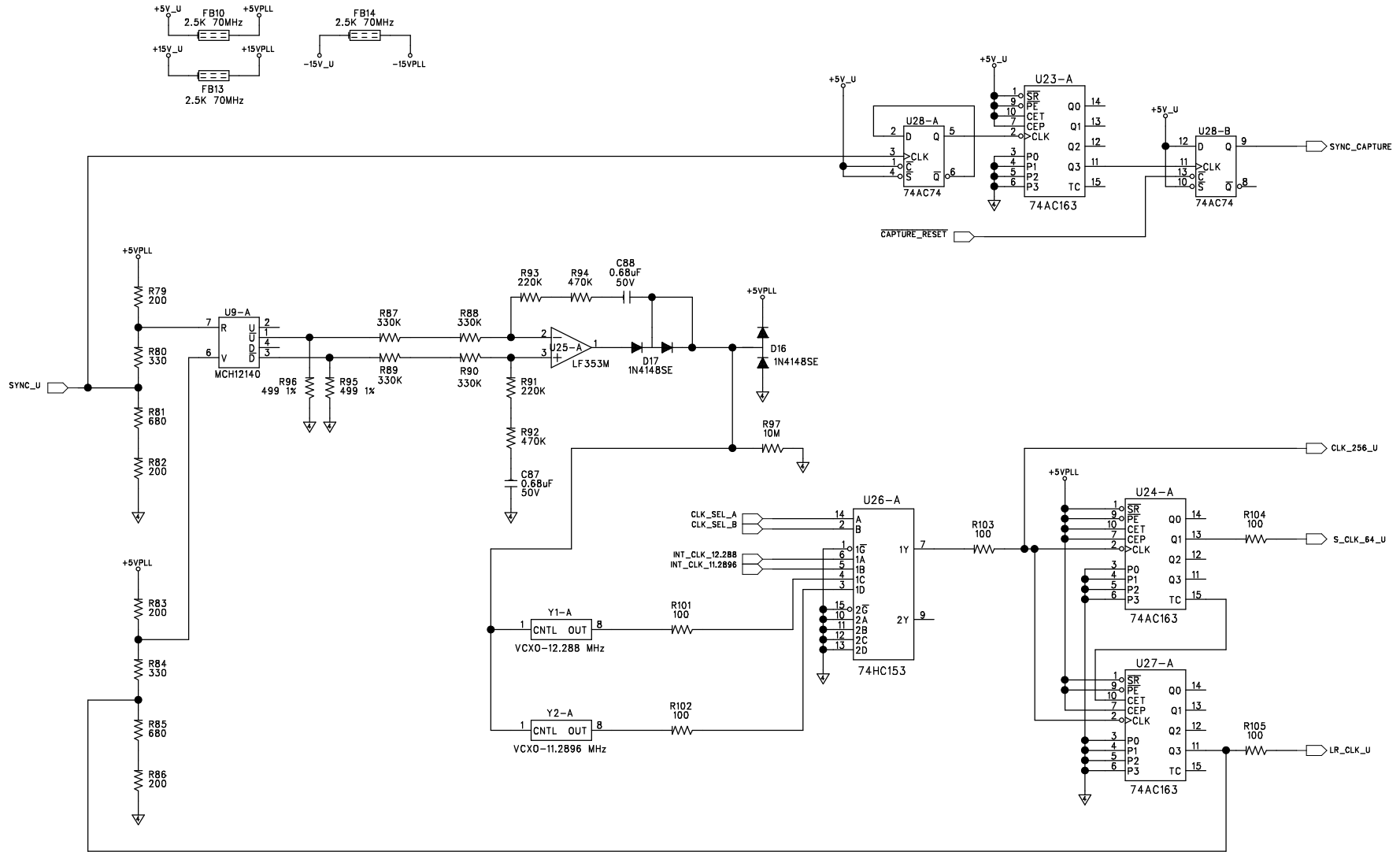
TO/FROM LOWER PCB



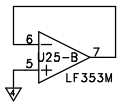
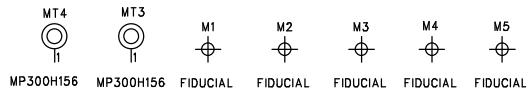
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|-------|---------------------------|-----------------|----------------|
| SIZE | dbx 504X OPTION UPPER PCB | REV: | A2 |
| | 05-5372-A2 | | |
| DATE: | 10-18-99 | INTERFACE - DSP | SHEET: 6 OF 10 |

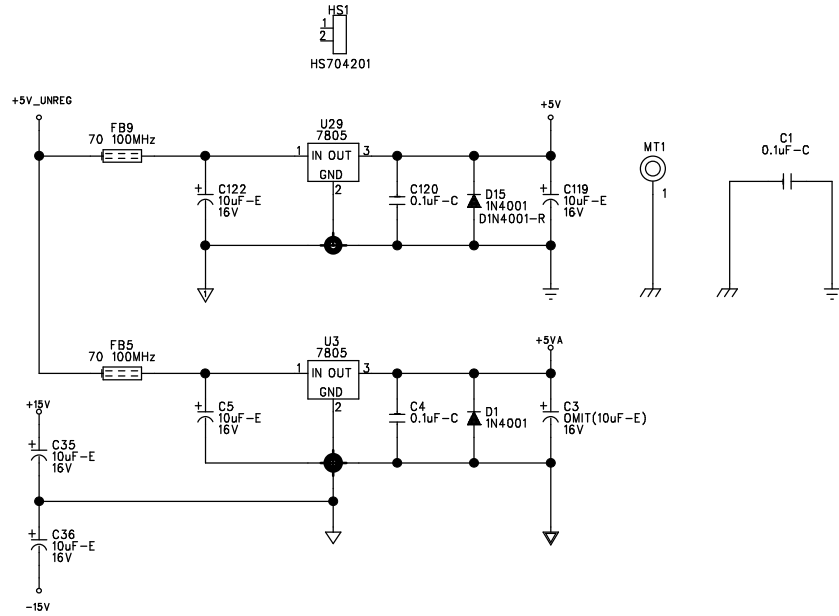












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|-------|---------------------------|-----------|----------------|
| SIZE: | dbx 504X OPTION UPPER PCB | REV: | A2 |
| DATE: | 10-18-99 | PROCESSOR | SHEET: 7 OF 10 |



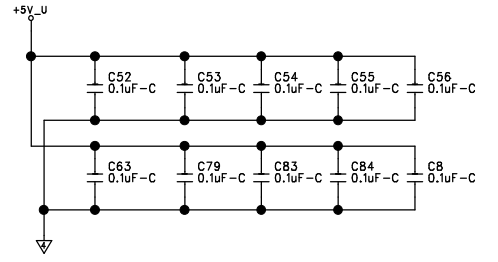
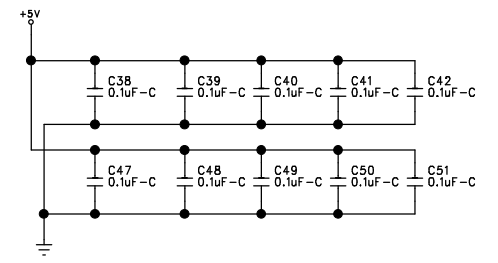
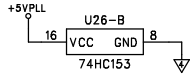
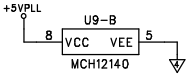
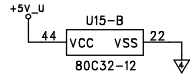
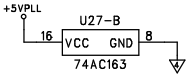
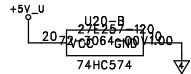
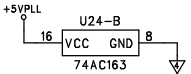
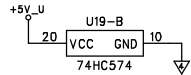
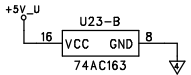
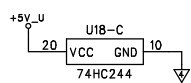
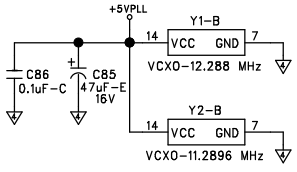
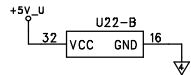
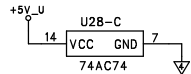
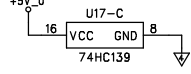
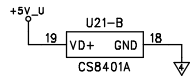
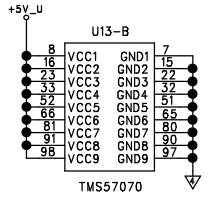
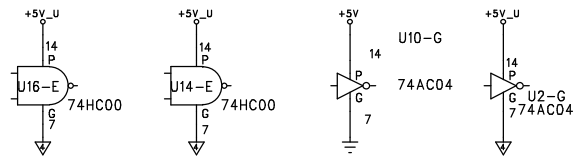
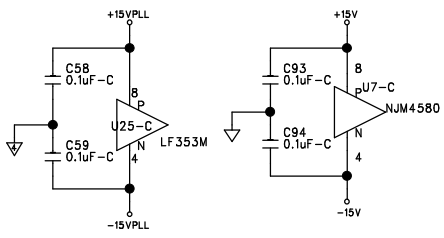
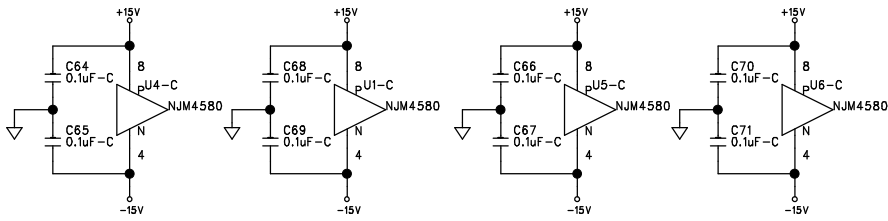
| B | A | CLK_256 |
|---|---|-------------------------------------|
| 0 | 0 | INT. 12.288 MHz |
| 0 | 1 | INT. 11.2896 MHz |
| 1 | 0 | 12.288 MHz (GEN FROM EXT 48 KHz) |
| 1 | 1 | 11.2896 MHz (GEN FROM EXT 44.1 KHz) |





- MT2  11
- M6  MH156
- M7  MH156
- BRK1  ○○○○
- BRK2  ○○○○
- BRK3  ○○○○
- PCB1  80-5372-A
- SC1  SC340125
- SC2  SC340125
- SC3  SC340125

| | | |
|----------------|---|--------------|
| SIZE: | dbx 504X OPTION LOWER PCB 05-5372-A2 | REV: A2 |
| DATE: | 10-18-99 | POWER SUPPLY |
| SHEET: 9 OF 10 | | |



| | | | |
|-------|----------------------|-------------|-----------------|
| SIZE: | dbx 504X OPTION CARD | REV: | A2 |
| DATE: | 10-18-99 | POWER GATES | SHEET: 10 OF 10 |

05-5372 504X DIGITAL INTERFACE BOARD

Harman Music Group - Bill Of Materials for 055372A2.sch on Mon Oct 18 10:57:20 1999

| Qty | Reference | HMG# | Description | Audit | Schematic Part | PCB DECAL |
|-----|--|------------|--|--------|----------------|-----------|
| 1 | PCB1 | 80-5372-A | PCB, 80-5372-A, 504X OPTION MAIN PCB | PT1046 | 80XXXXXY | PCBNUL |
| 3 | BRK1-3 | NON-PART | NON-PART, PCB ONLY, BREAKOFF PART | PT1481 | BRKOFF | BRKOFF |
| 2 | C6 C19 | 56-0033 | CAP, 0.027uF, FILM, 100V, 5%, RFEF200, AMMO | PT1282 | C0.027UF100JR | RFEF200 |
| 43 | C1 C4 C8 C32 C38-42 C47-56 C58-59 C63-75 C79-81 C83-84 C86 C93-94 C120 | 62-3139 | CAP, 0.1uF, CER, 50V, 20%, 0805, T&R | PT1087 | C0.1UC50MS | 0805 |
| 1 | C33 | OMIT | OMIT, CAP, 0.1uF, CER, 50V, 20%, 0805, T&R (62-3139) | PT1345 | C0.1UC50MSO | 0805 |
| 2 | C87-88 | 56-0017 | CAP, 0.68uF, FILM, 50V, 5%, RFEH200, AMMO | PT1360 | C0.68UF50JR | RFEH200 |
| 4 | C17-18 C30-31 | 62-3136 | CAP, 1000pF, CER, 50V, 20%, 0805, T&R | PT1109 | C1000PC50MS | 0805 |
| 10 | C5 C34-36 C76-78 C82 C119 C122 | 60-0049-01 | CAP, 10uF, ELEC, 16V, 20%, RED200P, AMMO | PT1080 | C10UE16MR | RED200P |
| 1 | C3 | OMIT | OMIT, CAP, 10uF, ELEC, 16V, 20%, RED200P, AMMO, (60-0049-01) | PT1759 | C10UE16MRO | RED200P |
| 4 | C15-16 C28-29 | 62-3128 | CAP, 15pF, CER, 50V, 5%, 0805, T&R | PT1106 | C15PC50JS | 0805 |
| 7 | C2 C10 C23 C43-46 | 62-3134 | CAP, 22pF, CER, 50V, 5%, 0805, T&R | PT1107 | C22PC50JS | 0805 |
| 4 | C11-12 C24-25 | 60-0402 | CAP, 22uF, ELEC, NON-POL, 25V, 20%, REG200, AMMO | PT1084 | C22UN25MR | REG200 |
| 6 | C7 C13-14 C20 C26-27 | 62-3131 | CAP, 330pF, CER, 50V, 10%, 0805, T&R | PT1284 | C330PC50KS | 0805 |
| 1 | C37 | 60-0404 | CAP, 4.7uF, ELEC, 63V, 20%, REE200P, AMMO | PT1105 | C4.7UE63MR | REE200P |
| 6 | C57 C60-62 C90-91 | 62-3133 | CAP, 470pF, CER, 50V, 10%, 0805, T&R | PT1086 | C470PC50KS | 0805 |
| 5 | C9 C21-22 C85 C92 | 60-0054-01 | CAP, 47uF, ELEC, 16V, 20%, REE200P, AMMO | PT1108 | C47UE16MR | REE200P |
| 2 | D1 D15 | 70-0000 | DIO, 1N4001, 50V, 1 AMP, RDB200, AMMO | PT1003 | D1N4001-R | RDB200 |
| 15 | D2-14 D16-17 | 70-0113 | DIO, MMBD4148SE, DUAL DIODE, 75V, 600mA, SOT-23, T&R | PT1326 | D1N4148SE-S | SOT-23 |
| 5 | M1-5 | NON-PART | FIDUCIAL, TARGET FOR AUTO INSERTION | PT1271 | FIDUCIAL | FIDUCIAL |
| 1 | H2 | 32-1127 | HCN, CONN, 30 PIN FEMALE, VERT MOUNT | PT1305 | HCN321127 | HC152F |
| 1 | H1 | 32-1014 | HDR, 30 PIN, SHROUDED, VERT MOUNT | PT1093 | HDR321014 | HC152S |
| 1 | J5 | 32-1015 | HDR, 14 PIN, VERTICAL, 2MM, LOCKING, SHROUDED | PT1265 | HDR321015 | HC14079L |
| 1 | J1 | 32-1016 | HDR, 10 PIN, VERTICAL, 2MM, LOCKING, SHROUDED | PT1266 | HDR321016 | HC10079L |
| 2 | H3-4 | 32-1079 | HDR, 4 PIN, DUAL ROW, .1 SPC | PT1414 | HDR321079 | HC22 |
| 1 | HS1 | 70-4201 | HEATSINK, TO-220, VERT | PT1346 | HS704201 | HS704201 |
| 1 | J4 | 32-0130 | CON, JACK, RCA PHONO, SNGL RA, SCRE MNT, GOLD, BLK INS | PT1606 | J320130 | RCA-RT-1 |
| 1 | J3 | 32-1020 | CON, JACK, BNC, DUAL, VERTICAL PC MOUNT, RT ANGLE | PT1520 | J321020 | J321020 |
| 2 | J6-7 | 32-1075 | JUMPER, MINI, .100 SPC | PT1415 | JP321075 | PCBNUL |
| 3 | FB5 FB9 FB16 | 26-0215 | IND, FERRITE BEAD, 70 OHM @ 100MHz, RIC200, AMMO | PT1262 | LFB260215 | RIC200 |
| 12 | FB1-4 FB6-8 FB10-14 | 26-0217 | IND, FERRITE BEAD, 2.5K OHM @ 70MHz, 0805, T&R | PT1261 | LFB260217 | 0805 |
| 1 | AGND3 | NON-PART | NON-PART, MECCA GND/PWR TIE POINT, 3 POS | PT1303 | MECCA3 | MECCA3 |
| 1 | AGND2 | NON-PART | NON-PART, MECCA GND/PWR TIE POINT, 4 POS | PT1043 | MECCA4 | MECCA4 |
| 2 | M6-7 | NON-PART | NON-PART, MOUNTING HOLE, 0.156" NON-PLATED, #6 | PT1044 | MH156 | MH156 |
| 4 | MT1-4 | NON-PART | NON-PART, MECHANICAL PLATED HOLE, 300 PAD, 156 HOLE, #6 | PT1045 | MP300H156 | MP300H156 |
| 1 | J2 | 32-0207 | CON, PLUG, XLR, CHASSIS PCB MOUNT, HORIZONTAL, B SERIES | PT1217 | P320207 | XLRM-1 |
| 4 | Q1-4 | 70-1059 | XSTR, 2N3906, PNP, SOT-23, T&R | PT1057 | Q2N3906-S | SOT-23 |
| 2 | R44 R107 | 50-1531 | RES, 0 OHM, 5%, 1/10W, 0805, T&R | PT1099 | R0-C5-0805 | 0805 |
| 1 | R106 | OMIT | RES, RES, 0 OHM, 5%, 1/10W, 0805, T&R (50-1531) | PT1006 | R0-C5-0805O | 0805 |
| 6 | R64 R66-70 | 52-4505 | RES, 1.00K OHM, 1%, 1/10W, 0805, T&R | PT1037 | R1.00KC1-0805 | 0805 |
| 4 | R2 R11 R43 R45 | 52-4500 | RES, 10.0K OHM, 1%, 1/10W, 0805, T&R | PT1034 | R10.0KC1-0805 | 0805 |
| 12 | R1 R52 R62 R78 R98-105 | 50-1515 | RES, 100 OHM, 5%, 1/10W, 0805, T&R | PT1018 | R100-C5-0805 | 0805 |
| 5 | R17-18 R32-33 R59 | 50-1504 | RES, 100K OHM, 5%, 1/10W, 0805, T&R | PT1096 | R100KC5-0805 | 0805 |
| 1 | R97 | 50-1539 | RES, 10M OHM, 5%, 1/10W, 0805, T&R | PT1032 | R10MC5-0805 | 0805 |
| 1 | R50 | 50-1533 | RES, 110 OHM, 5%, 1/10W, 0805, T&R | PT1100 | R110-C5-0805 | 0805 |
| 10 | R13-14 R23 R25 R27-29 R38 R40 R46 | 52-4506 | RES, 2.00K OHM, 1%, 1/10W, 0805, T&R | PT1038 | R2.00KC1-0805 | 0805 |
| 2 | R3 R56 | 52-4501 | RES, 20.0K OHM, 1%, 1/10W, 0805, T&R | PT1035 | R20.0KC1-0805 | 0805 |
| 5 | R55 R79 R82-83 R86 | 50-1510 | RES, 200 OHM, 5%, 1/10W, 0805, T&R | PT1013 | R200-C5-0805 | 0805 |
| 1 | R53 | 50-1532 | RES, 22 OHM, 5%, 1/10W, 0805, T&R | PT1030 | R22-C5-0805 | 0805 |
| 2 | R91 R93 | 50-1514 | RES, 220K OHM, 5%, 1/10W, 0805, T&R | PT1017 | R220KC5-0805 | 0805 |
| 1 | R12 | 50-1522 | RES, 22K OHM, 5%, 1/10W, 0805, T&R | PT1126 | R22KC5-0805 | 0805 |
| 1 | R58 | 50-1527 | RES, 27K OHM, 5%, 1/10W, 0805, T&R | PT1027 | R27KC5-0805 | 0805 |
| 7 | R51 R71-74 R80 R84 | 50-1517 | RES, 330 OHM, 5%, 1/10W, 0805, T&R | PT1020 | R330-C5-0805 | 0805 |

05-5372 504X DIGITAL INTERFACE BOARD

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| 4 | R87-90 | 50-1519 | RES, 330K OHM, 5%, 1/10W, 0805, T&R | PT1022 | R330KC5-0805 | 0805 |
| 4 | R15-16 R30-31 | 50-1512 | RES, 33K OHM, 5%, 1/10W, 0805, T&R | PT1015 | R33KC5-0805 | 0805 |
| 1 | R42 | 50-1528 | RES, 39K OHM, 5%, 1/10W, 0805, T&R | PT1028 | R39KC5-0805 | 0805 |
| 2 | R60-61 | 52-4510 | RES, 4.53K OHM, 1%, 1/10W, 0805, T&R | PT1130 | R4.53KC1-0805 | 0805 |
| 1 | R57 | 50-1509 | RES, 4.7K OHM, 5%, 1/10W, 0805, T&R | PT1012 | R4.7KC5-0805 | 0805 |
| 4 | R19-20 R34-35 | 52-4511 | RES, 4.99K OHM, 1%, 1/10W, 0805, T&R | PT1041 | R4.99KC1-0805 | 0805 |
| 4 | R63 R65 R92 R94 | 50-1523 | RES, 470K OHM, 5%, 1/10W, 0805, T&R | PT1025 | R470KC5-0805 | 0805 |
| 8 | R4-7 R24 R26 R39 R41 | 52-4502 | RES, 49.9 OHM, 1%, 1/10W, 0805, T&R | PT1036 | R49.9-C1-0805 | 0805 |
| 2 | R95-96 | 52-4504 | RES, 499 OHM, 1%, 1/10W, 0805, T&R | PT1102 | R499-C1-0805 | 0805 |
| 4 | R21-22 R36-37 | 52-4515 | RES, 6.81K OHM, 1%, 1/10W, 0805, T&R | PT1281 | R6.81KC1-0805 | 0805 |
| 2 | R81 R85 | 50-1511 | RES, 680 OHM, 5%, 1/10W, 0805, T&R | PT1014 | R680-C5-0805 | 0805 |
| 10 | R8-10 R47-49 R75-77 R108 | 50-1521 | RES, 7.5K OHM, 5%, 1/10W, 0805, T&R | PT1024 | R7.5KC5-0805 | 0805 |
| 1 | R54 | 50-1535 | RES, 75 OHM, 5%, 1/10W, 0805, T&R | PT1101 | R75-C5-0805 | 0805 |
| 3 | SC1-3 | 34-0125 | SWITCH CAP, BLACK, ROUND | PT1354 | SC340125 | SC340125-FPE |
| 1 | S22 | 70-3026 | SOCKET, PLCC 32, PLCC/R-32SKT | PT1419 | SKT32-703026 | PLCC/R-32SKT |
| 3 | SW1-3 | 44-0050 | SWITCH, DPDT, MINI IN-OUT, 6 PIN, E-SWITCH | PT1256 | SW440050 | SW440050 |
| 1 | T1 | 26-0263 | TRANSFORMER, DIGITAL AUDIO DATA TRANSMISSION | PT1263 | TR260263 | XFR-2 |
| 2 | U3 U29 | 70-4014 | V-REG, 7805, +5V, 1.5 AMP, TO-220 | PT1591 | U7805 | TO220(IGO)-V |
| 2 | U2 U10 | 72-5426 | IC, 74AC04, HEX INVERTER, SO14, T&R | PT1325 | U74AC04-S | SO14 |
| 3 | U23-24 U27 | 72-1459 | IC, 74AC163, SYNC PRESETTABLE 4BIT BIN. CNTR, SO16, T&R | PT1347 | U74AC163-S | SO16 |
| 1 | U28 | 72-5425 | IC, 74AC74, DUAL FLIP-FLOP, D-TYPE, SMT SO14 | PT1247 | U74AC74-S | SO14 |
| 2 | U14 U16 | 72-5418 | IC, 74HC00, QUAD 2-INPUT NAND, SO14, T&R | PT1348 | U74HC00-S | SO14 |
| 1 | U17 | 72-5420 | IC, 74HC139, DUAL 2 TO 4 LINE DECODER, SO16, T&R | PT1349 | U74HC139-S | SO16 |
| 1 | U26 | 72-1430 | IC, 74HC153, DUAL 4-LINE TO 1-LINE DATA SEL./MUX, SO16, T&R | PT1350 | U74HC153-S | SO16 |
| 1 | U18 | 72-1111 | IC, 74HC244, OCTAL BUFFER LINE DRIVER W/3-STATE OUTPUTS, SO20W, T&R | PT1351 | U74HC244-S | SO20W |
| 2 | U19-20 | 72-1263 | IC, 74HC574, FLIP-FLOP, EDGE TRIGGERED, OCTAL, SO20W, T&R | PT1352 | U74HC574-S | SO20W |
| 1 | U15 | 72-3162 | IC, 80C32-12, 8 BIT MICROCONTROLLER, PLCC44 | PT1579 | U80C32-12-P | PLCC-44 |
| 1 | U12 | 72-1464 | IC, AK5392, DUAL 24BIT ADC, SO28W | PT1555 | UAK5392-S | SO28W |
| 1 | U21 | 72-3019 | IC, CS8401A, DIGITAL AUDIO TRANSMITTER, SO24W | PT1410 | UCS8401A-S | SO24W |
| 1 | U25 | 72-4032 | IC, LP353M, DUAL,WIDE BANDWIDTH JFET INPUT OPAMP, SO8 | PT1252 | ULF353M-S | SO8 |
| 1 | U8 | 70-5004 | IC, MC34064, UNDERVOLTAGE SENSING CIRCUIT, TO-226AA | PT1110 | UMC34064P | TO226AA(RIG)-V |
| 1 | U9 | 72-3187 | IC, MCH12140, PHASE-FREQUENCY DETECTOR, SO8 | PT1563 | UMCH12140-S | SO8 |
| 5 | U1 U4-7 | 72-1480 | IC, NJM4580, DUAL OP-AMP, SO8 | PT1374 | UNJM4580-S | SO8 |
| 1 | U22 | 72-3064-00V1.00 | IC, 27E257, 32K X 8, 120nS, EEPROM, dbx TYPE IV OPTION, V1.00 | PT1486 | UP723064 | PLCC/R-32 |
| 1 | U13 | 72-3042 | IC, TMS57070FFT, DSP, QFP100-14X20 | PT1117 | UTMS57070-Q | QFP100-14X20 |
| 1 | X2 | 76-0318 | XTAL, 11.2896MHZ, METAL CAN, STANDARD PACKAGE | PT1330 | Y11.2896M760318 | XTALV |
| 1 | Y2 | 76-0341 | VCXO, 11.2896MHZ, METAL CAN, 4 PIN, .300 X .600 LEAD SPC., DIP14-4 | PT1488 | Y11.2896M760341 | OSC4300600 |
| 1 | X1 | 76-0319 | XTAL, 12.288MHZ, METAL CAN, STANDARD PACKAGE | PT1331 | Y12.288M760319 | XTALV |
| 1 | Y1 | 76-0340 | VCXO, 12.288MHZ, METAL CAN, 4 PIN, .300 X .600 LEAD SPC., DIP14-4 | PT1487 | Y12.288M760340 | OSC4300600 |