



UltraSeries

Digital Processor / Digital Mixer

SERVICE MANUAL



Models:

IQ-USM 810

Some models may be exported under the name *Amcron*®

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The information furnished in this manual does not include all of the details of design, production, or variations of the equipment. Nor does it cover every possible situation which may arise during installation, operation or maintenance. If you need special assistance beyond the scope of this manual, please contact the Crown Technical Support Group.

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CAUTION

TO PREVENT ELECTRIC SHOCK DO NOT REMOVE TOP OR BOTTOM COVERS. NO USER SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL. DISCONNECT POWER CORD BEFORE REMOVING REAR INPUT MODULE TO ACCESS GAIN SWITCH.

AVIS

À PRÉVENIR LE CHOC ÉLECTRIQUE N'ENLEVEZ PAS LES COUVERTURES. RIEN DES PARTIES UTILES À L'INTÉRIEUR. DÉBRANCHER LA BORNE AVANT D'OUVRIER LA MODULE EN ARRIÈRE.

WARNING

TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT EXPOSE THIS EQUIPMENT TO RAIN OR MOISTURE!



The lightning bolt triangle is used to alert the user to the risk of electric shock.



The exclamation point triangle is used to alert the user to important operating or maintenance instructions.

Revision History

<i>Revision Number</i>	<i>Date</i>	<i>Comments</i>
Rev. A	04-2000	Initial Printing

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1 Introduction

1.1 Introduction

This manual contains complete service information on the **Crown**® **IQ-USM 810** Digital Processor/Digital Mixer. It is designed to be used in conjunction with the Reference Manual; however, some important information is duplicated in this Service Manual in case the Reference Manual is not readily available.

NOTE: THE INFORMATION IN THIS MANUAL IS INTENDED FOR USE BY AN EXPERIENCED TECHNICIAN ONLY!

1.2 The IQ-USM 810

The Crown IQ-USM 810 is an 8x10 mixer/processor that provides unique dual input processing paths. As an **IQ**® component, it can be controlled by an **IQ System**®, and with its **distributed intelligence**™ capability, continue to operate even when an IQ System is not connected. The IQ-USM 810 can also act as a system interface to other IQ components.

The IQ-USM 810 features high-quality 24-bit A/D and D/A converters along with 240MIPS of full 32-bit floating point DSP for optimum dynamic range.

The dual input processing paths include a full complement of signal processing features, including advanced algorithms for gating, auto-leveling, filtering, compression and automixing.

A full 8x8 Matrix Mixer allows any combination of routing and mixing from any input to any output. The Matrix Mixer outputs are routed to the two Main Audio

Outputs and eight AUX Audio Outputs. The Main and AUX Audio Output sections further process the signal with individually adjustable signal delay and filters along with an Ambient-Leveler and a high performance Output Limiter for system protection.

A Multi-Function Control Port implements analog and digital I/O for control and monitor by simple potentiometer and switch wall controllers and indicator panels.

All of the IQ-USM 810 parameters are backed up via reliable FLASH memory. System configurations may be stored for recall from any of thirty-two system presets from the front panel control or via **IQ for Windows** software.

1.3 Warranty

Each Reference Manual contains basic policies as related to the customer. In addition, it should be stated that this service documentation is meant to be used only by properly trained personnel. Because most Crown products carry a 3-Year Full Warranty (including round trip shipping within the United States), all warranty service should be referred to the Crown Factory or Authorized Warranty Service Center. See the applicable Reference Manual for warranty details. To find the location of the nearest Authorized Warranty Service Center or to obtain instructions for receiving Crown Factory Service, please contact the Crown Technical Support Group (within North America), or your Crown/Amcron Importer (outside North America). If you are an Authorized Warranty Service Center and have questions regarding the warranty of a product, please contact the Crown Factory Service Manager or the Crown Technical Support Group.

Crown Customer Service

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Figure 1.1 IQ-USM 810 Front and Rear Views

2 Specifications

General

Front Panel Controls: Front-panel switches select IQ Address, Baud Rate, factory default preset (P00), and any of 32 user-defined presets (P01–P32).

Rear-Panel Controls: A 3-position selector switch (mic/line/phantom) and a calibrated gain control for each input.

Connectors: Crown Bus: RJ-45 for input/output, RJ-45 for daisy output, RS232: DB9F computer interface for both component and interface modes. Multi-function Port: DB37M for analog inputs, digital inputs, digital outputs, +5VDC, +10VDC and Ground. Audio Inputs and Outputs: 3-pin male removable barrier block connectors, Euro-style cable connector supplied. AC Power: IEC320 connector for AC power cord.

Display: A blue front-panel Enable indicator lights to show that the unit is plugged in and AC power is being supplied. An amber front-panel Data Signal Presence Indicator (DATA) flashes whenever commands addressed to the IQ-USM 810 are received. A green front-panel Interface indicator lights when the IQ-USM 810 is being used as system interface. A three-digit digital display indicates the IQ-USM 810's initialization sequence by displaying each processor's name as it comes online, indicates the presently selected preset, indicates the IQ address and baud rate while those parameters are being adjusted, indicates when a parameter has been stored in flash memory, and when any parameter is varied from its value within the currently selected preset. Ladder Display: A front panel, sixteen-segment LED display matrix can be set to three different operating modes: Level Meter, Input Gate Status, and Infinity Pattern.

Power Requirements: 100VAC to 240VAC, 35VA nominal.

Protection: if communication is lost, the unit will continue to function with the last commands received.

RS232 Data Communication

Baud Rate: Selectable to 19.2 K, 38.4 K, 57.6 K, or 115.2 K BAUD.

Data Format: Serial, binary, asynchronous; 1 start bit; 1 stop bit; 8 data bits; no parity.

Crown Bus Data Communication

Data Rate: 38.4 K BAUD.

Data Format: Serial, binary, asynchronous; 1 start bit;

1 stop bit; 8 data bits; no parity.

Crown Bus Interface Type: Optically isolated 20 mA current loop.

Operation: Half-duplex.

Transmission Distance: Variable from 200 to 3000 feet (61 to 914 meters), depending upon wire capacitance. Typically 1000 feet (305 meters) using shielded twisted-pair wire, #26 AWG or larger. Can be extended with an *IQ Repeater*.

Audio

Phantom Voltage: +24VDC at 10 mA.

Input Gain Range: +20 dB to –12 dB.

Digital Sampling: 24 bit, 48 kHz.

Input Impedance: 20 k ohms balanced, 10 k ohms unbalanced.

Dynamic Range: Greater than 100 dB (A-weighted, 20 Hz–20 KHz).

Frequency Response: ± 0.5 dB, 20 Hz–20 kHz.

Common Mode Rejection: 50 dB (typical).

Crosstalk: Greater than 80 dB at 10 kHz.

Total Harmonic Distortion: Less than 0.05% THD + N (1 kHz, 0 dBu).

Output Impedance: 100 ohms balanced, 50 ohms unbalanced.

Max Input Level: +32 dBu (line) or +7 dBu (mic).

Max Output Level: +20 dBu.

Control Port

Power Supply: +5VDC and +10VDC outputs are provided. The total output current is limited to 1A.

Outputs

Logic Low: less than 0.1V.

Logic High: 10V (via internal pull-up).

Output Current is limited to 10mA max per pin.

Inputs

Input Impedance: greater than 50 k ohms.

Logic Low: less than 0.5V.

Logic High: greater than 5V.

Analog Range: 0 to 10V (for inputs 9-16 only).

Max Input Voltage: 25V.

Mechanical

Weight: 13 pounds, 4 ounces (6.1 kg).

Dimensions: 19-inch (483-cm) standard rack mount width (EIA RS-310-B), 16-inch (40.6-cm) depth behind mounting surface, and 3.5-inches (8.9-cm) height.

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3 Circuit Theory

3.1 Overview

This section explains operation of the IQ-USM 810 circuitry. Please refer to the IQ-USM 810 Reference Manual and IQ for Windows help files for information about the IQ-USM 810 features and operation.

The IQ-USM 810 consists of a universal power supply and 5 PWAs (see Figure 3.1). Each PWA has a particular function and initial troubleshooting should focus on attempting to determine which PWA is causing the malfunction. The PWAs are not unit-dependent, so a known good working PWA or unit can be used to pinpoint which PWA is faulty.

3.2 Power Supply

The universal power supply used by the IQ-USM 810 resides underneath the System Controller at the back of the unit. It receives AC input from the IEC filter located on the back panel and supplies +15V, -15V, and +5VDC to the System Controller. There is a fuse located on the supply and should be checked if the power supply is suspected. **Replace fuse with the same rated type only.**



3.3 Input

The input Printed Wire Assembly (PWA) is located at the back of the unit on the bottom. It offers eight balanced input audio channels via 3 pin connectors. Figure 3.2 shows the block diagram of the input PWA. The PWA is composed of the following sections: Input Analog Processing, Clock Signals, A/D Conversion, and DC Voltages.

3.3.1 Input Analog Processing

Each input channel has analog processing that provides filtering, line/mic switching, phantom power, optional input transformer isolation, and variable gain control. The balanced output of each analog channel is fed to a shared A/D converter.

All eight analog input channels are identical (Figure 3.3). The balanced analog input is RF filtered by FB100, FB101, C102, and C103. Capacitors C100 and C101 provide filtering to ensure that no noise from the unit goes out. R100-102 provide a 10 k ohm balanced input impedance in the line mode. Switch SW100 provides switching between Phantom, Line, and Mic modes.

- **Phantom:** SW100 shorts R103/C104 and R104/C105 to allow the phantom DC voltage (+24VDC) to be available on the input connector. In addition, no gain reduction is provided on the input path. R105 & R106 allows current limiting of the phantom voltage.

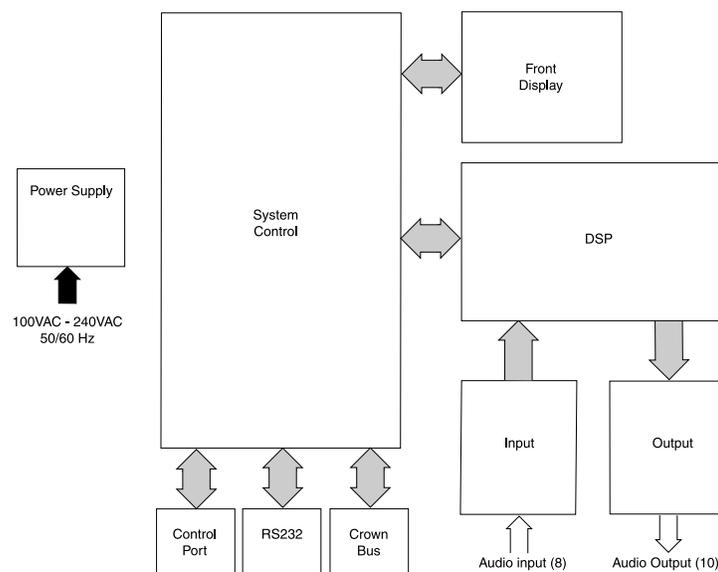


Figure 3.1 Overall Block Diagram

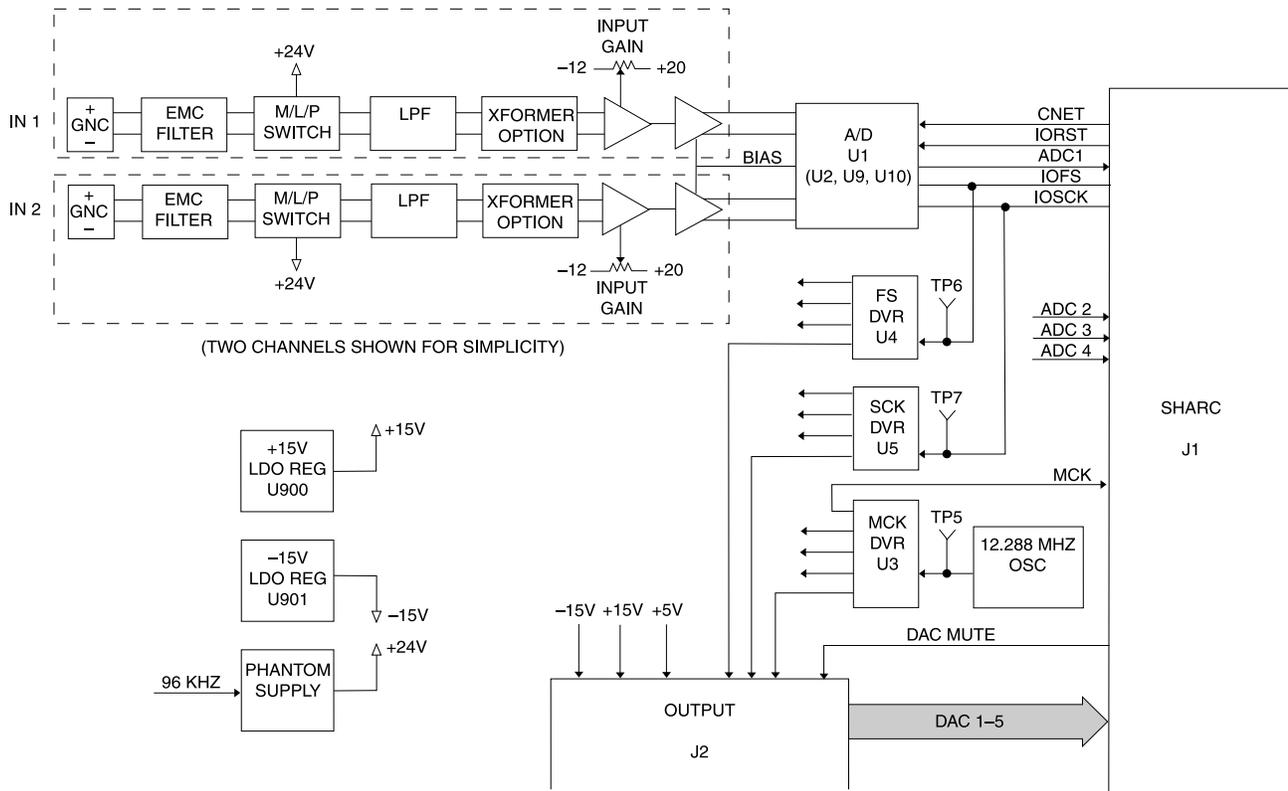


Figure 3.2 Input PWA Block Diagram

- **Line:** In Line mode, both the coupling capacitors (C104 & C105) and the series resistors (R103 & R104) are in the signal path. The capacitors block the phantom voltage from the input while the series resistors work as a voltage divider with R105 & R106 to provide a 17.7x (25 db) reduction in gain.
- **Mic:** The coupling capacitors are provided to block the phantom power, but the series resistors are shorted, allowing full gain through the input channel.

L100/C106 (L101/C107) provide an additional low-pass filter. C108 & C109 provide coupling to the variable gain preamp, except when the optional input isolation transformer (T100) is in place. Q100 and Q101 form a differential amplifier whose gain is adjusted by R111. U100B provides a filtered differential to single-ended conversion. U101C provides a gain reduction and biases the input signal to +2.2VDC. The output bias voltage of the A/D converter's pin 15 is fed to the op amp to bias the signal to the A/D's bias point. Lack of voltage at pin15 is an indication that the A/D converter is either in reset or is not being clocked.

3.3.2 Clock Signals

The master oscillator for the audio signals is Y1, which

generates a 12.288 MHz signal (256Fs). This clock is buffered by U3 and provides separate outputs to each of the A/D converters, the Output PWA for the DAC's, and to the SHARC PWA for distribution to the optional CobraNet™ (CNET) PWA.

U1 normally acts as the generator of the Serial Clock and the Frame Clock. Serial Clock provides the timing of the serial audio data, 3.032 MHz (64Fs), and Frame Clock is the actual sampling clock frequency, 48 kHz (Fs). U1 monitors the CNET line from the SHARC PWA immediately out of reset. If the pin is low, it acts as a master source and begins providing Serial Clock and Frame Clock to U4 & U5 for buffering and distribution. If U1 senses a high on the CNET pin out of reset, it operates in slave mode like the other A/D converters and waits for Serial and Frame Clocks from the CNET PWA.

3.3.3 A/D Conversion

Each A/D converter processes 2 input channels. Full scale input signals are 2.82Vp-p and are sampled at a 48-kHz rate with 24-bit resolution. The converters are reset by the DSP's by the IO_RST line with a low being reset. The converters provide an I²S 32-bit time-division multiplexed data audio stream. The most significant 24 bits are linear PCM (two's complement) audio data followed by 8 bits of converter peak hold data that is un-

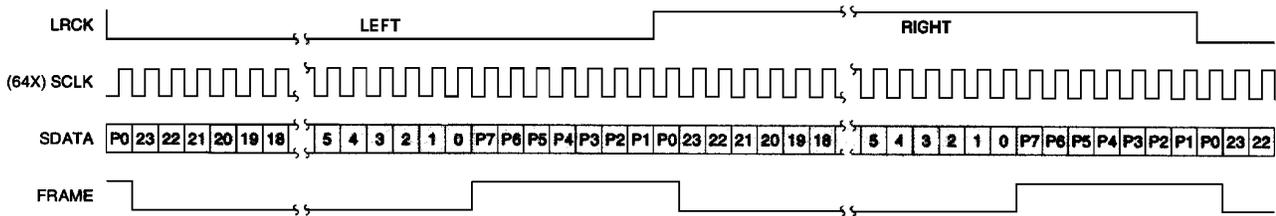


Figure 3.4 Audio Data and Clock Signals

used. This data is routed to the SHARC PWA for processing (ADC1-4). Figure 3.4 shows the audio data and its relationship to the clock signals.

3.3.4 DC Voltages

The Input PWA receives +/-15V and +5V from the System Controller. +15V from P900 is filtered and then regulated by a low dropout regulator, U900. R900 & R901 set the output voltage of the regulator at +14.5V. The -15V is processed similarly by U901. The +5V is filtered separately for the digital portion of the PWA than the analog side.

The phantom power voltage is generated by U902. +15V from P900 drives L904 while Q900 acts as a switch to charge L904. R905 acts as a current sense and limits the output current of the phantom power by reducing the voltage at currents over 50 mA. R904 & R908 set the output voltage at about +26V. U902 is driven from a 96-kHz clock provided by U10. This ensures that the switching supply is synced to the sampling frequency of the converters (2Fs). During reset, U902 will run at a slightly lower frequency due to the lack of an input clock.

Each DAC takes a 2 channel I²S 32-bit time-division multiplexed data audio stream from the SHARC PWA and converts it at a 24-bit, 48-kHz rate (Figure 3.4). Like the A/D converter, the audio output of the DAC is biased positive by 2.2V and a full signal is 2.82Vp-p.

3.4.3 Output Analog Processing

All ten analog output channels are identical (Figure 3.6). The balanced output of the DAC drives a unity gain amplifier that also filters the audio signal. The single-ended output is fed to U101A which provides gain of either 1.2 (+10 dbu) or 3.9 (+20 dbu). Z100 is normally open, which provides a +20 dbu output for a full scale signal from the DAC. U101C provides a gain reduction of 2, then U101D inverts the signal and provides the other balanced output. An output impedance of 50 ohms is provided by the series resistors while the output ferrite bead provides RF filtering to ensure isolation. Optional isolation transformers are available on the Main outputs by removing the series resistors and placing the transformers.

3.4 Output

The Output PWA sits on top of the Input PWA and provides 10 audio outputs; Main A/B and AUX 1-8. The Output PWA receives all of its signals from the Input PWA via a 26-pin ribbon cable. Functionality can be divided into Clock Buffers, DAC Conversion, and Output Analog Processing. A block diagram of the Output PWA is shown in Figure 3.5.

3.4.1 Clock Buffers

Three clock buffers, U1-3, accept the Master (12.288 MHz), Serial (3.032 MHz), and Frame (48 kHz) clocks from the Input PWA and provide separate outputs to each of the five DAC's.

3.4.2 DAC Conversion

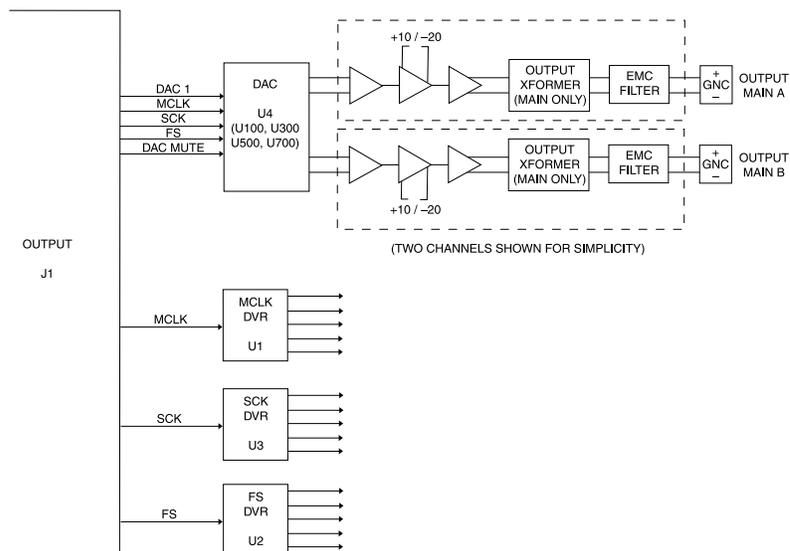


Figure 3.5 Output PWA Block Diagram

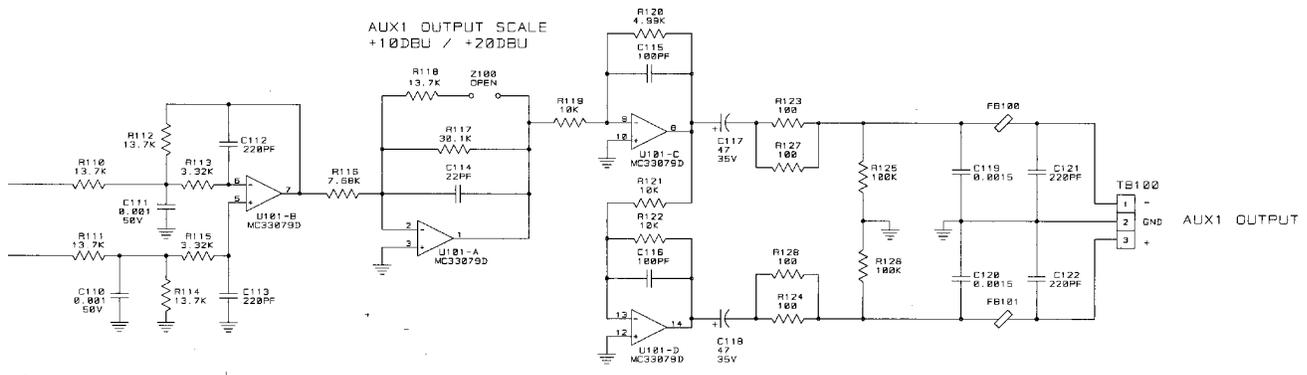


Figure 3.6 Output Analog Processing Circuitry (one channel)

3.5 SHARC Processing

The SHARC PWA sits in the center of the chassis and is the DSP engine that provides all of the signal processing for the unit. At the core of this processing is four Analog Devices ADSP-21065L SHARC 32-bit floating point DSP's running at an internal rate of 60 MHz. Full speed SDRAM interface is provided. Figure 3.8 shows the block diagram of the SHARC PWA. Features include a +3.3V Power Supply, Clocks, Reset, System Controller Interface, PLD's, Bus Arbitration, Bus Utilization, DSP Processing, and Audio Routing.

3.5.1 +3.3V Power Supply

The entire SHARC PWA utilizes +3.3V by taking the +5V from P1 and converts it to +3.3V using a 300-kHz switching supply IC, U29. Q2 & Q3 work with U29 to control the charging of L1. R200 current senses the supply for overload protection. C27 & C113 provide output filtering of the supply.

3.5.2 Clocks

Oscillator Y1 provides a 30-MHz clock to buffer U3 for distribution to all SHARC's, SRAM, and other circuitry.

3.5.3 Reset

U8 monitors both the +5V and +3.3V power supplies and places the SHARC's into reset if either supply droops. In addition, the System Controller uses U8 to reset the SHARC's using pulldown via D1. Switch S1 allows manual reset of the SHARC's for troubleshooting. Q1 monitors the reset line to the SHARC's and lights LED E5 when the SHARC's are not in reset. The active low $\overline{\text{RST}}$ line resets all four SHARC's and the PLD's (U9, U11, U23, U24, and U30).

3.5.4 System Controller Interface

Communications between the System Controller and SHARC processors occurs through a series of latches (U12-22) that provide address and data. PLD U23 re-

ceives commands from the System Controller (SH_A0-2, $\overline{\text{HCS}}$, HR/W) to load data and addresses into these latches. Once the data is in the latches, U23 communicates with Arbitrator PLD U24 ($\overline{\text{SYSBR}}$, $\overline{\text{SYSBG}}$, $\overline{\text{RD}}$, $\overline{\text{WR}}$) to request access to the SHARC bus.

There are no non-volatile memory resources on the SHARC PWA, so the System Controller stores the SHARC firmware and downloads it during boot. The System Controller boots each SHARC in succession by loading code into SRAM and into each SHARC via the Interface. Once all four SHARC have been booted, they are allowed to begin audio processing.

If the System Controller encounters any problems during the boot process, it will display an error code on the front panel display. These error codes are shown in the table in Figure 3.7:

E1	UART failed system controller power-on self test
E2	RAM failed system controller power-on self test
E3	Application code in flash failed CRC test
E4	Flash verify error
E5	Unrecoverable firmware error
E10	SHARC 0 interface hardware error (timeout, etc.)
E11	SHARC 1 interface hardware error (timeout, etc.)
E12	SHARC 2 interface hardware error (timeout, etc.)
E13	SHARC 3 interface hardware error (timeout, etc.)
E22	SHARC 0 software watchdog timeout
E23	SHARC 1 software watchdog timeout
E24	SHARC 2 software watchdog timeout
E25	SHARC 3 software watchdog timeout

Figure 3.7 System Controller Error Codes

Note: Errors 1-9 are for power-up self test and other miscellaneous errors. Errors 10-25 are errors related to the SHARC subsystem.

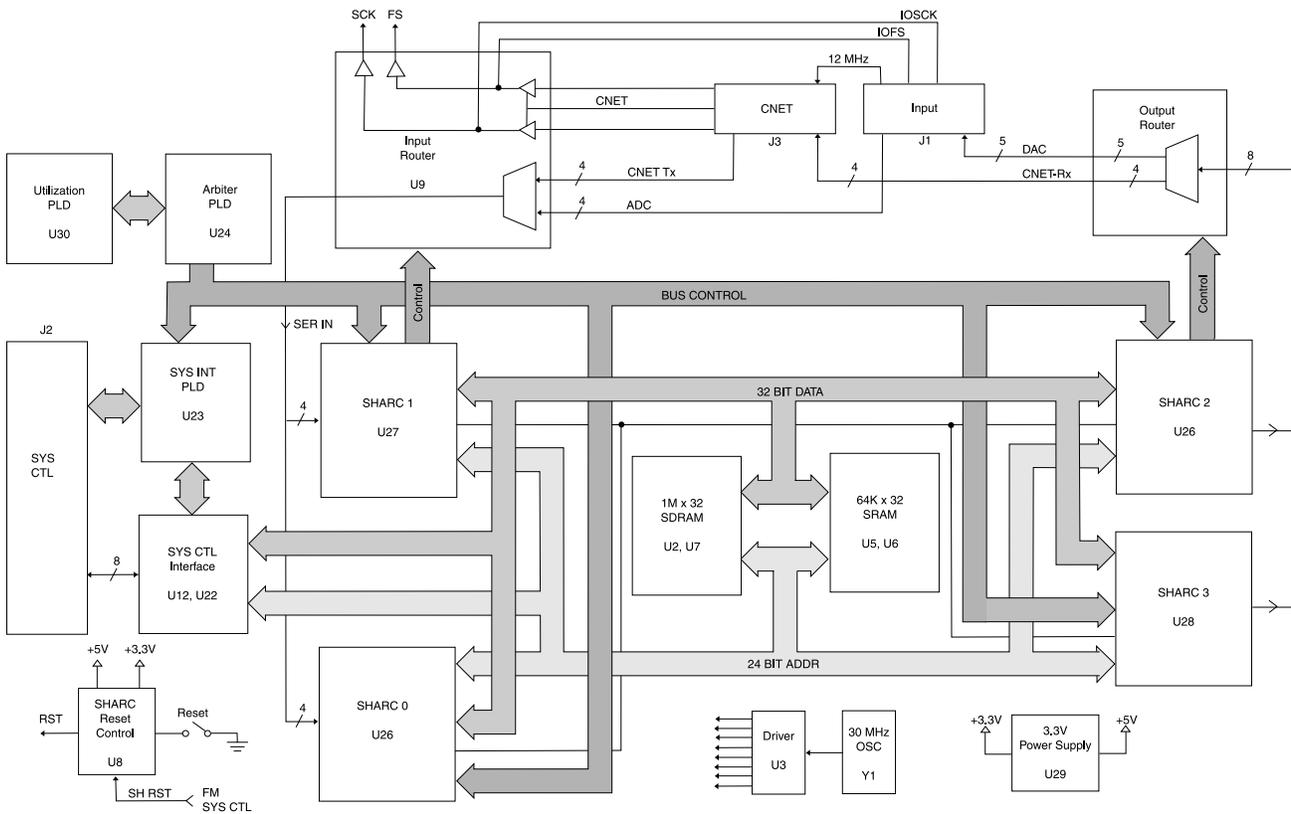


Figure 3.8 SHARC PWA Block Diagram

The System Controller will display the error code, then begin the boot process again. By watching the boot process on the front display, the error code can be read at the end of the boot process before the next boot begins.

3.5.5 PLDs

There are five Programmable Logic Devices (PLD) on the SHARC PWA (U9, U11, U23, U24, and U30). These IC's are programmed on the PWA and can be reprogrammed. They have common control and clock lines (ETCK, ETMS) and are daisy-chained by having each output (TDO) tied to the next PLD's input (TDI). P3 allows connection to the external PLD programmer.

3.5.6 Bus Arbitration

The 32-bit data and 24-bit address busses of the SHARC PWA are shared between the System Controller and the four SHARC processors. Shared SRAM memory (U5-6) is also available to all processors. The Arbitrer PLD, U24, polices which has access to the bus through the use of control signals such as bus requests (\HBR, \SYSBR, \BR0-3), bus grants (\HBG, \SYSBG, \BG0-3), and SHARC chip selects (\CS0-3). It regulates which and when each processor has control of the bus to ensure there is no contention.

3.5.7 Bus Utilization

The Arbitrer PLD also works with the Bus Utilization PLD, U30, to monitor each SHARC processor and determine how much of the available SHARC bus bandwidth each is using. The Arbitrer tells the Utilization PLD on an individual bus cycle basis when each SHARC is on the bus (UTILINO-5) and this information is fed to the individual SHARC's pulse width modulation inputs (UTILIOUT0-3) for calculation of bus access time. This information is then reported to the System Controller when requested.

3.5.8 DSP Processing

As stated, the four SHARC processors (U25-28) are the core of the DSP engine. These processors are 208-pin Plastic Quad Flat Packs (PQFP) and the pinout is shown in Figure 3.9.

Each SHARC has a specific task in the audio processing chain. SHARC 0 (U25) processes the input audio for channels 1-4, while SHARC 1 (U27) is tasked with the input audio processing for channels 5-8. Two channel serial audio data from the Input Router, U9, is sent to the appropriate SHARC's serial port along with audio clock signals Serial Clock (SCK) and Frame Clock (FS). The input audio is stored by the SHARC until 16 samples are accumulated, then this audio "brick" is processed.

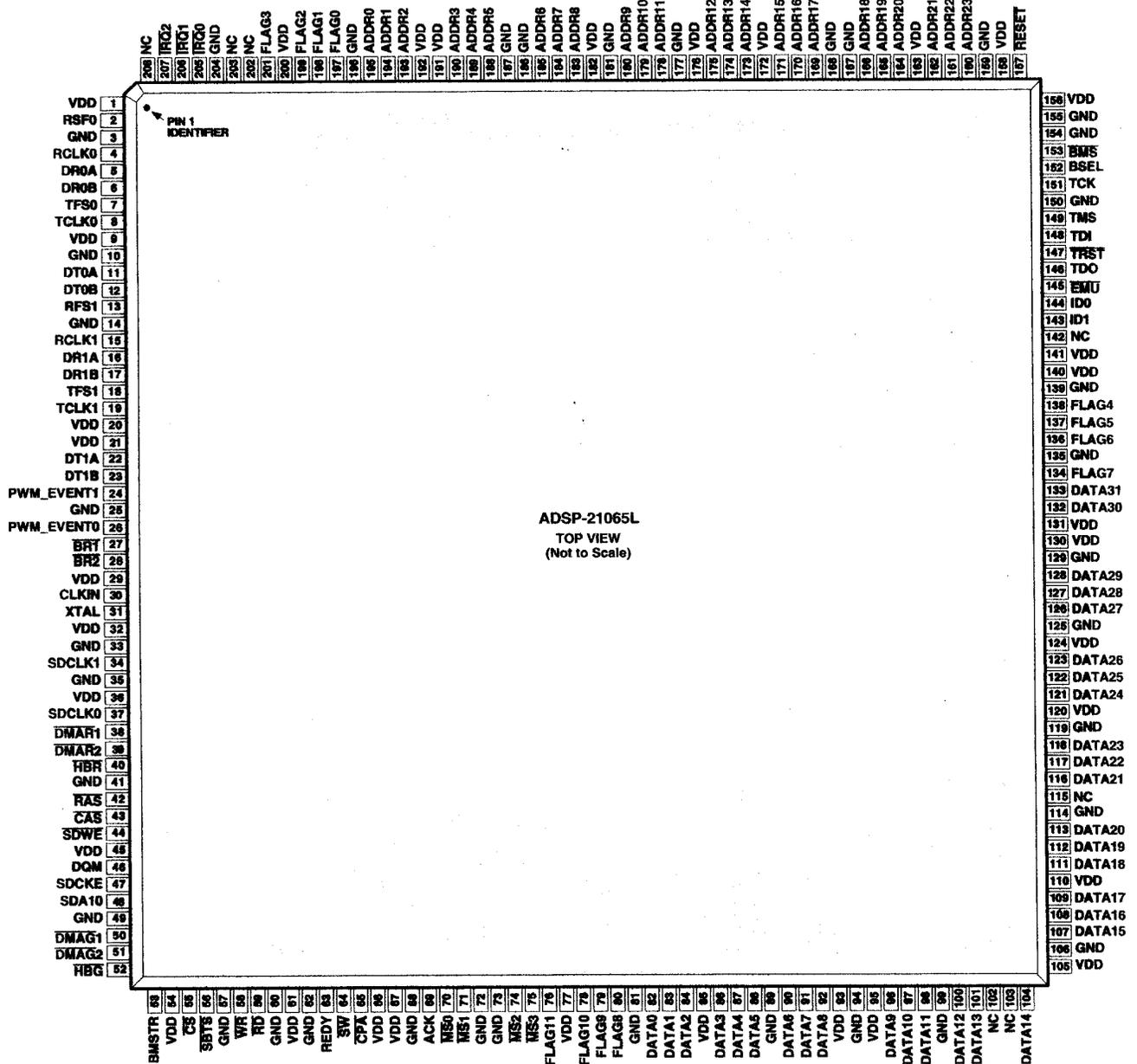


Figure 3.9 SHARC Pinout

The time allotted for the SHARC to process this audio data is 330us (16 samples x 48-kHz). At that point the next audio brick has been collected and is ready for processing. The processed output audio brick is then deposited into SRAM (U5, U6). The audio bricks are then taken by the Output SHARC's for mixing and output processing. SHARC 2 (U26) processes Main A and Outputs 1-4 while SHARC 3 (U28) is responsible for Main B and Outputs 5-8. If additional delay is required, the bricks are allowed to remain in SDRAM before processing. The minimum delay through the audio processing is as follows:

- A/D Conversion 667us
- 5x "brick" delay 1667us
- DAC Conversion 520us
- Total Delay 2854us

This delay is constant and not dependent upon the particular processing being done.

SDRAM provides a high speed synchronous memory resource. Only the four SHARC processors have access to SDRAM and they are responsible for the access and maintenance of it. Each SHARC monitors the

bus and accesses SDRAM when it is available. The SHARC blocks access to the bus through the use of the \backslash SDLOCK pin during SDRAM transfers. SDRAM is utilized only for audio delay processing and has no firmware. If audio is available at the input SHARC's, but is not being seen by the output SHARC's, a good place to begin troubleshooting would be with SDRAM.

The System Controller periodically accesses the SHARC's to query about meter data. As discussed, the System Controller utilizes the Interface to ask and receive this data.

3.5.9 Audio Routing

Serial audio from the Input PWA is sent to the SHARC PWA for processing. ADC1-4 is fed to PLD U9 for routing to the input SHARC's, U25 & U27. Serial digital audio from the optional CobraNet PWA is also available as CNET_TX1-4. The Input Router sends the appropriate serial audio data to the input SHARC's as directed by the System Controller via SHARC 1. A serial control link (IN_MOSI, IN_SPICK) tells the Input Router which of the serial digital inputs are to be sent to each SHARC's serial ports.

The Input Router is also responsible for buffering the audio clocks. By sensing the CNET input from the CNET PWA, the Input Router can tell if the CNET PWA is con-

nected. If CNET is available, the CNET PWA is responsible to provide the Serial and Frame Clocks. The PLD accepts the CNET audio clocks and routes them to the SHARC's and Input PWA. If the CNET PWA is not connected, the audio clocks from the Input PWA are accepted and routed to the SHARC's.

The Output Router, U11, is responsible for sending the serial audio outputs of the output SHARC's to the appropriate place. Five output lines, DAC1-5, allow 10 audio channels to be sent to the Output PWA for DAC conversion. In addition, four output lines, CNET_RX1-4, allow 8 audio channels to be directed to the optional CNET PWA for inclusion onto the CNET system. The Output Router is programmed by SHARC 2 via OUT_MOSI & OUT_SPICK.

3.6 System Controller

The System Controller PWA sits on the one side of the chassis and is supported over the power supply. It is responsible for the coordination and communication with the outside world, non-volatile memory storage of all code, and various other functions. The System Controller's tasks includes Control Processing, RS232, Crown Bus loop, Real-Time Clock, Front Panel, and Control Port. Figure 3.10 shows a block diagram for the System Controller PWA.

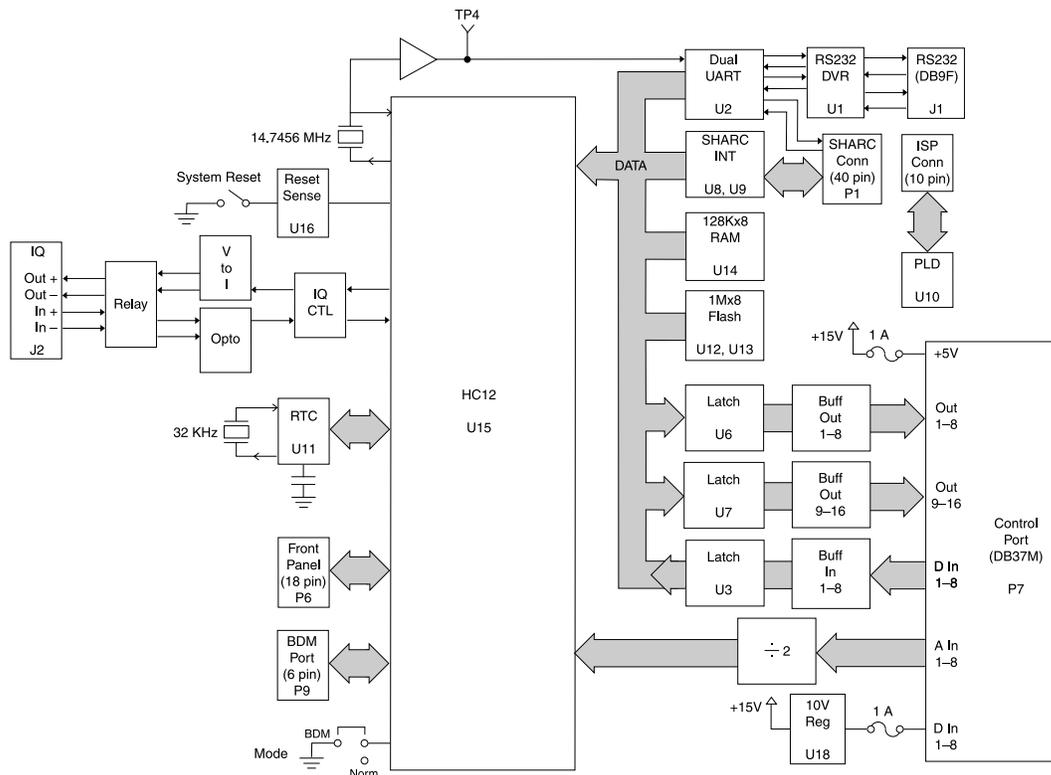


Figure 3.10 System Controller Block Diagram

3.6.1 Control Processing

The brain of the System Controller PWA is the Motorola 68HC12 microcontroller, U15. The 112pin QFP pinout is shown in Figure 3.11.

The HC12 has a Background Debug Mode (BDM) connection that allows access to the internal workings of the microcontroller. By connecting a pod to P9 and placing the HC12 in BDM mode, the HC12 can be accessed. This function is not used in normal operation or troubleshooting, and the BDM jumper should be left in the NORM position.

The HC12 provides all of the processing for the control of the IQ-USM 810. U16 provides sensing of the +5V power supply and brings the HC12 out of reset once the supply is stable. Switch S1 allows resetting of the controller externally. Q17 monitors the reset line and LED E1 is lit whenever the processor is not in reset.

Crystal Y2 provides the 14.7456-MHz clock for the

HC12. The clock is buffered by U5D and is provided to dual UART U2 for baud rate creation.

When the HC12 comes out of reset, it looks to the flash memory (U13) and begins its boot process. Due to the slow response of flash memory, normal code processing is carried out in SRAM. The HC12 copies its firmware out of flash memory into SRAM (U14) and once complete, jumps to SRAM and begins code processing. The HC12 initializes the dual UART and looks for a break on the RS232 input. If a break is detected, it activates its loader routine and waits for 'S' records from the RS232 port to be downloaded to flash memory. This process allows external programming of firmware revisions.

If no break is detected, the HC12 begins loading the SHARC firmware from flash memory into SHARC memory via the System Controller Interface. U8 and U9 provide buffering to the SHARC PWA via P1.

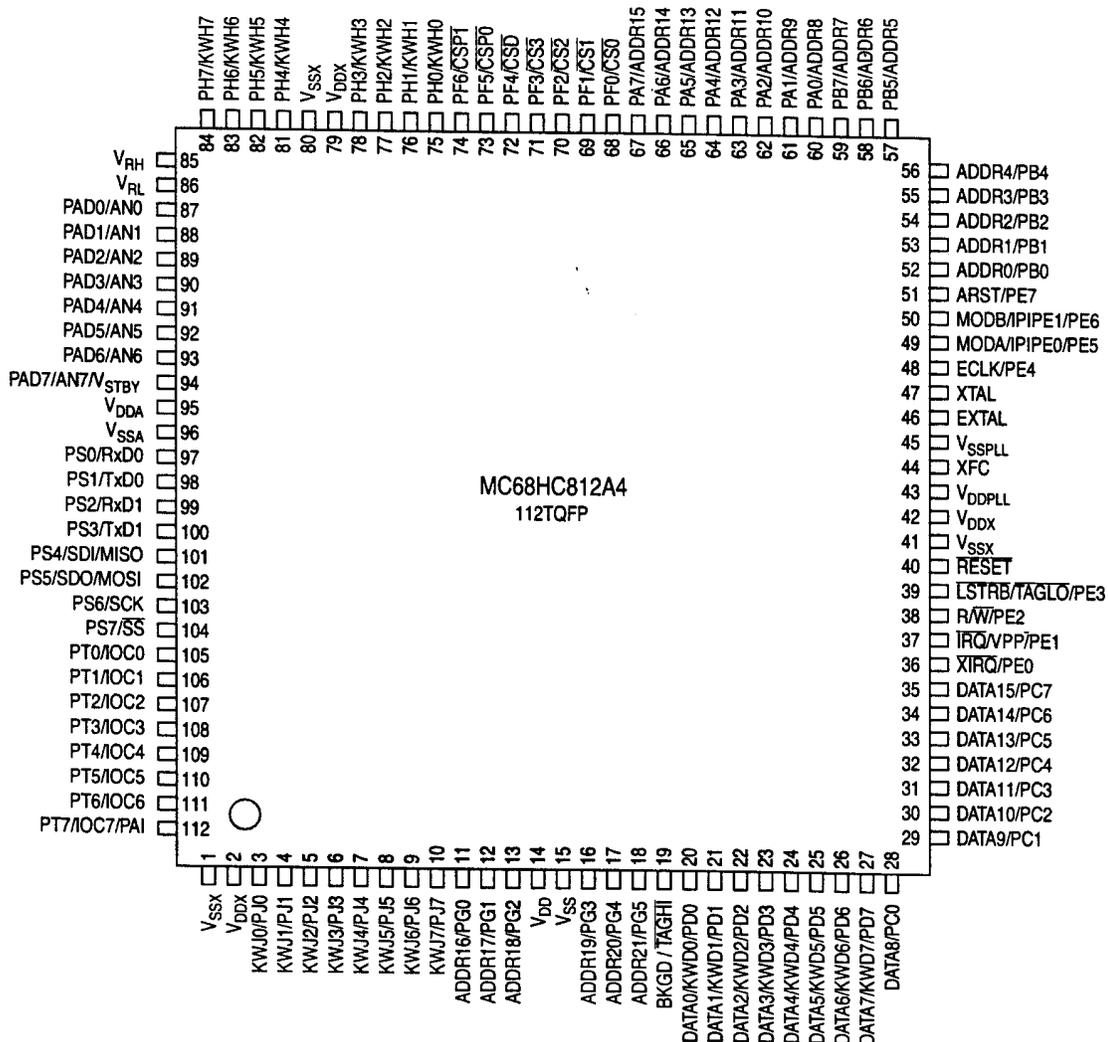


Figure 3.11 68HC12 microcontroller Pinout

The HC12 firmware uses a real time operating system (RTOS) to make efficient use of the HC12's processing capability. Various tasks are given priorities, and the RTOS supervises what task has control of the processor at any particular time.

3.6.2 RS232

As mentioned, the RS232 port is used to load firmware into flash memory. UART U2 provides the serial port interface to the HC12. The baud rate is programmed by the HC12 as directed by the front panel (19.2 k to 115 kbps) and the clock is generated from the 14-MHz clock. The 8-bit parallel interface to the UART is controlled by the U_RD (read), U_CS (chip select), and FLSH_WE (write) lines. Internal registers control various functions such as baud rate, fifo usage, etc. The serial I/O of the UART is buffered by RS232 Tx/Rx driver U1. This buffer takes the +5V and creates the +/-12V needed for RS232 levels. These signals are available on the DB9F connector, J1, which is available on the back panel of the chassis.

The other half of dual UART U2 is used as a serial interface to the optional CNET PWA. It connects to the CNET PWA via SHARC connector P1.

3.6.3 Crown Bus Loop

The HC12 has two serial ports and one of them is used for the interface to the Crown Bus loop hardware. This is a fixed 38.4-kbps baud rate and uses a dual RJ45 connector J2 to the back panel. In normal operation, data detected at the input of the Crown Bus loop hardware is sent back out via U19A & B, U20B, and U21A. When the HC12 wants to communicate, MSTR0 is pulled high and the TX0 goes out to the Crown Bus loop. R142 provides 20 mA of current to the OUT+ line during normal operation. Communication occurs by interrupting the OUT- path via D4 and U21A.

The input of the Crown Bus loop is buffered by optoisolator U17 which senses the 20-mA current and sends the signals to the HC12 (RX0) and directs it back out the Crown Bus loop via U19A.

Relay K1 provides paths to the I/O circuitry while the IQ-USM 810 is powered. When the unit is turned off, the relay allows the Crown Bus loop to pass through the unit to prevent Crown Bus loop communication from being interrupted.

3.6.4 Real Time Clock

U11 is a Real Time Clock (RTC) IC that provides timing to the HC12 for scheduling of real time events. U11 has an internal oscillator provided by 32-kHz crystal Y1. The HC12 communicates with the RTC via a serial interface composed of RTCLK (serial clk), RTC (data), and

RTC_CS (chip select) and periodically queries the RTC to get or set the time.

Capacitor C25 is a 1F supercap that allows the RTC to continue to keep time after the unit is powered down. The RTC senses the loss of power and automatically switches to the capacitor to provide power. The capacitor can keep the RTC running for up to 45 days without external power. While the unit is powered, the RTC trickle charges the capacitor.

3.6.5 Front Panel

The HC12 interfaces the Front Display PWA via P6. The three front panel switches are sensed by the HC12 and display of the front panel LED's are controlled via a serial interface; SCK, MOSI, MISO, and LED_CS. Two display IC's on the Front Display PWA interface both the discrete LED's and the triple 7-segment display.

3.6.6 Control Port

The control port interface allows external signals or events to control objects within the box. Additionally, outputs allow signaling of object status to the outside. The DB37M connector P7 provides back panel access. +5V, +10V, and GND is also provided via the connector. Regulator U18 takes the +15V and provides +10V out. The external power is protected by resettable fuses limited to 1 A.

The HC12 interfaces the output buffers through latches U6 and U7. These 16 outputs drive NPN transistors that provide 10V @ 10 mA to the outside. Ferrite beads and transient voltage suppressors (TVS) protect the output circuits.

The digital inputs are buffered by NPN transistors that allow current drive of the inputs. Voltages up to +25VDC can be used to drive these inputs. The transistor buffers drive a latch that the HC12 polls to collect the input status. U4 is used by the HC12 to address the particular I/O latch it wishes to query.

The analog inputs allow a 0 to +10VDC input to be digitized by the HC12's eight 8-bit A/D converters. A voltage divider ensures that the HC12's inputs will not be overdriven.

3.7 Front Display

The Front Display PWA has the three front panel switches, triple 7-segment display, Input Status LED's, Enable, Data, and Interface LED's. The three switches are sensed and processed directly by the HC12 on the System Controller PWA. The two IC's, U1 & U2, control all of the front panel LED's by switching the LED's at a 20%, 1-kHz rate. The serial control from the HC12 tells the IC's which LED's to light.

4 Maintenance

4.1 General Information

This chapter provides test procedures to be used to verify operation of this IQ component. Minimum specifications for proof of performance are given with each procedure. Procedures are in suggested format and the exact test need not be performed; however, the test conditions and results must be verified for proof of performance. These tests, though meant for verification and alignment, may also be very helpful in troubleshooting. For best results, the tests should be performed in order.

4.2 Definitions

- **IQ Ucode Protocol:** The Protocol used by IQ2 products for communication on the Crown IQ Bus.
- **DA:** IQ Ucode Device Address. A part of the Ucode string that identifies it as pertaining to a particular device. The DA for the IQ-USM 810 is set by the front panel controls. At first power up the IQ-USM 810 defaults to address \$01.
- **DT:** IQ Ucode Device Type Identifier. A part of an Ucode string that identifies it as pertaining to a particular type of Ucode component. The DT for the IQ-USM 810 is \$19.
- **AK:** IQ Message Acknowledgment. This byte is present in all Ucode device to host messages. It indicates if the last host to device message was correctly formatted.

- **CT:** IQ Message data byte count. A part of the IQ string that indicates the number of bytes in its message portion. Note: This byte is automatically inserted when using IQ Util in enhanced mode.
- **CS:** Ucode Message Checksum. The last byte of a Ucode string containing the check sum of the entire message. Note: This byte is automatically inserted when using IQ Util in enhanced mode.

4.3 Required Test Equipment

Audio sine-wave generator (Output amplitude accuracy better than ± 0.5 dB)

Oscilloscope

Audio THD+N analyzer

True RMS AC voltmeter

DC voltmeter

Audio multiplexer (balanced) or other means of switching the audio generator to the eight mixer inputs.

Audio multiplexer (balanced) or other means of switching the ten mixer outputs to the Audio analyzer and RMS voltmeter.

PC running applicable IQ Ucode compatible software

Crown IQ Interface ***IQ-INT II*** or equivalent

Crown IQ standard 2000' test cables

Method of generating TTL Control Port inputs.

Method of generating analog Control Port inputs.

Method of measuring the Control Port outputs.

Method of measuring the phantom power outputs.



WARNING

Circuitry is ESD sensitive. When servicing the IQ component, the technician must have approved ESD protection. Proper grounding straps and test equipment are required. Failure to use proper protection will result in component failure.

4.4 IQ Message String Syntax

4.4.1 Host to Device Messages

The following syntax is used for host to device messages:

Send: XX XXXX XX XX; Description

XX: A byte of the message explicitly given in hexadecimal.

XX: A byte of the message as defined by the two-letter codes in Section 4.2.

Description: A short phrase to indicate the function of the message string. The description is added for reference only. It is not sent as part of the Ucode message.

4.4.2 Device to Host Messages

The following syntax is used for device to host messages.

Return String: XX XX XX XX XX

XX: A byte of the message explicitly given in hexadecimal.

XX: A byte of the message as defined by the two-letter codes in Section 4.2.

XX: A byte of the returned message that requires range testing in accordance to the associated test.

4.5 Standard Initial Conditions

The following tests assume this setup unless stated otherwise.

Unit under test built and programmed as documented, less top cover and labels.

Preset 32 loaded

Inputs set to line mode.

Input potentiometers set to 0 dB.

Unit under test powered by 120VAC

Unit under test connected to test computer via the RS232 connector with constant IQ communication at 115.2 K baud.

Output Impedance of Audio Sine-wave Source: 50 W balanced.

Audio Output Load: ≥ 10 kW balanced.

4.6 Test Procedures

4.6.1 LOAD PRESET 32

Note: Preset 32 is the factory default test preset. This preset sets the audio paths straight through (no gain, filters, or processing) to their respective AUX outputs. Main outputs A and B are driven from inputs 1 and 2 respectively.

Procedure:

Send the select preset 32 command:

Send: DA DT CT B2 7F 09 20 CS; Select preset 32

Send the load preset command:

Send: DA DT CT B4 7F 09 01 CS; Load preset

Note: The load preset command must be sent within approximately 2 seconds of the select preset command.

Note: Preset 32 may also be selected using the front panel controls.

1) Use the “^” and “v” buttons to select preset 32. (Display shows P32.)

2) Press “SEL” button.

4.6.2 OUTPUT NOISE

Spec: LINE mode: ≤ -75 dBu and ≥ -80 dBu, 22 Hz to 22 kHz bandwidth.

Note: The test and printed specifications do not match. The printed specifications are for an "A" weighted 20-Hz to 22-kHz bandwidth. Production tests do not use "A" weighted filtering.

Initial Conditions: Inputs terminated at ≤ 50 W balanced. Bandwidth = 22 Hz to 22 kHz.

Procedure: Verify each main and AUX output meets spec.

4.6.3 FREQUENCY RESPONSE

Spec: +0.1, -0.6 dB from 20 Hz to 20 kHz.

Initial Conditions: Normalized to a reference of a 1 kHz, 0 dBu signal.

Procedure:

Verify each main and AUX output meets spec with one of the following methods:

A 10+ point, logarithmically spaced, sweep.

Testing at these frequencies: 20 Hz, 100 Hz, 500 Hz, 1 kHz, 5 Hz, 10 kHz, and 20 kHz.

4.6.4 HARMONIC DISTORTION

Spec: < 0.030 % and > 0.001 % THD+N, with a 22 Hz to 22 kHz bandwidth.

Initial Conditions: Input signal: 1 kHz, 0 dBu.

Procedure: Verify each main and AUX output meets spec.

4.6.5 COMMON MODE REJECTION

Spec: > 40 dB at 60 Hz in line mode, 22 Hz to 22 kHz bandwidth.

Procedure:

Input a 60 Hz +18 dBu balanced signal.

Monitor the associated AUX output with a 22 Hz to 22 kHz bandwidth and set the reference.

Change the input to common mode (same frequency and amplitude)

Verify the associated AUX output is attenuated at least 40 dB below reference with a 22 Hz to 22 kHz bandwidth.

4.6.6 HEAD ROOM / INPUT CLIP LEVEL

Spec: < 1 % THD+N, with a +19.9 dBu input signal.

Initial Conditions: Input signal: 1 KHz, +19.9 dBu.

Procedure: Verify each main and AUX output meets spec.

4.6.7 INPUT POTENTIOMETER

Spec: ± 2 dB at the -12, and +20 dB settings.

Initial Conditions: Input signal: 1 kHz, 0 dBu in to all inputs.

Procedure: Verify each input potentiometer by performing the following:

Set all potentiometers full counter clockwise.

Verify each AUX output is -13 ±2 dBu.

Set potentiometer full clockwise.

Verify each AUX output is +20.5 ±2 dBu.

Return potentiometer to the zero setting.

4.6.8 PHANTOM SUPPLY

Spec: 25.75 ±1VDC unloaded, between each signal pins (+, -) and chassis ground.

Initial Conditions: Remove all input signals and impedences. Set all inputs to phantom mode.

Procedure: For each input, Verify the DC voltage on the "+" and "-" pins referenced to chassis ground pin on all audio inputs.

4.6.9 CONTROL PORT OUTPUT VOLTAGE PINS

Spec: Pins at rated voltage ±10%.

Procedure:

Verify voltage between pins 9 and 10 of the control port is 5 ±0.25VDC.

Verify voltage between pins 29 and 28 of the control port is 10 ±0.5VDC.

4.6.10 CONTROL PORT LOGIC INPUTS

Spec: TTL level inputs are detected on the control port inputs.

Procedure:

Inject a TTL high on the odd numbered control port logic inputs (IN1, IN3, IN5, and IN7) and leave the even numbered inputs open.

Use the following commands to read the control port inputs and verify the odd numbered inputs return \$01 and the even inputs return \$00:

Send: DA DT CT 80 50 0A CS; Get Control Port Digital Input 1

Return String: DA DT AK CT 80 50 0C IN1 CS

Send: DA DT CT C0 50 0A CS; Get Control Port Digital Input 2

Return String: DA DT AK CT C0 50 0C IN2 CS

Send: DA DT CT 80 51 0A CS; Get Control Port Digital Input 3

Return String: DA DT AK CT 80 51 0C IN3 CS

Send: DA DT CT C0 51 0A CS; Get Control Port Digital Input 4

Return String: DA DT AK CT C0 51 0C IN4 CS

Send: DA DT CT 80 52 0A CS; Get Control Port Digital Input 5

Return String: DA DT AK CT 80 52 0C IN5 CS

Send: DA DT CT C0 52 0A CS; Get Control Port Digital Input 6

Return String: DA DT AK CT C0 52 0C IN6 CS

Send: DA DT CT 80 53 0A CS; Get Control Port Digital Input 7

Return String: DA DT AK CT 80 53 0C IN7 CS

Send: DA DT CT C0 53 0A CS; Get Control Port Digital Input 8

Return String: DA DT AK CT C0 53 0C IN8 CS

Inject a TTL high on the even numbered control port logic inputs (IN2, IN4, IN6, and IN8) and leave the odd numbered inputs open.

Use the above commands to read the control port inputs and verify the even numbered inputs return \$01 and the odd inputs return \$00.

4.6.11 CONTROL PORT LOGIC OUTPUTS

Spec: Control Port Logical Outputs individually switch between On and Off.

Procedure:

Use the following commands to set the odd control port logical outputs and the even outputs off:

Send: DA DT CT 80 58 09 01 CS; Set Control Port Digital Output 1 On.

Send: DA DT CT C0 58 09 00 CS; Set Control Port Digital Output 2 Off.

Send: DA DT CT 80 59 09 01 CS; Set Control Port Digital Output 3 On.

Send: DA DT CT C0 59 09 00 CS; Set Control Port Digital Output 4 Off.

Send: DA DT CT 80 5A 09 01 CS; Set Control Port Digital Output 5 On.

Send: DA DT CT C0 5A 09 00 CS; Set Control Port Digital Output 6 Off.

Send: DA DT CT 80 5B 09 01 CS; Set Control Port Digital Output 7 On.

Send: DA DT CT C0 5B 09 00 CS; Set Control Port Digi-

tal Output 8 Off.

Send: DA DT CT 80 5C 09 01 CS; Set Control Port Digital Output 9 On.

Send: DA DT CT C0 5C 09 00 CS; Set Control Port Digital Output 10 Off.

Send: DA DT CT 80 5D 09 01 CS; Set Control Port Digital Output 11 On.

Send: DA DT CT C0 5D 09 00 CS; Set Control Port Digital Output 12 Off.

Send: DA DT CT 80 5E 09 01 CS; Set Control Port Digital Output 13 On

Send: DA DT CT C0 5E 09 00 CS; Set Control Port Digital Output 14 Off.

Send: DA DT CT 80 5F 09 01 CS; Set Control Port Digital Output 15 On.

Send: DA DT CT C0 5F 09 00 CS; Set Control Port Digital Output 16 Off.

Verify the odd control port outputs are on (> 3 volts) and the even control port outputs are off (<1 volts).

Use the following commands to set the even control port logical outputs on and the odd outputs off:

Send: DA DT CT 80 58 09 00 CS; Set Control Port Digital Output 1 Off.

Send: DA DT CT C0 58 09 01 CS; Set Control Port Digital Output 2 On.

Send: DA DT CT 80 59 09 00 CS; Set Control Port Digital Output 3 Off.

Send: DA DT CT C0 59 09 01 CS; Set Control Port Digital Output 4 On.

Send: DA DT CT 80 5A 09 00 CS; Set Control Port Digital Output 5 Off.

Send: DA DT CT C0 5A 09 01 CS; Set Control Port Digital Output 6 On.

Send: DA DT CT 80 5B 09 00 CS; Set Control Port Digital Output 7 Off.

Send: DA DT CT C0 5B 09 01 CS; Set Control Port Digital Output 8 On.

Send: DA DT CT 80 5C 09 00 CS; Set Control Port Digital Output 9 Off.

Send: DA DT CT C0 5C 09 01 CS; Set Control Port Digital Output 10 On.

Send: DA DT CT 80 5D 09 00 CS; Set Control Port Digital Output 11 Off.

Send: DA DT CT C0 5D 09 01 CS; Set Control Port Digital Output 12 On.

Send: DA DT CT 80 5E 09 00 CS; Set Control Port Digital Output 13 Off

Send: DA DT CT C0 5E 09 01 CS; Set Control Port Digital Output 14 On.

Send: DA DT CT 80 5F 09 00 CS; Set Control Port Digital Output 15 Off.

Send: DA DT CT C0 5F 09 01 CS; Set Control Port Digital Output 16 On.

Verify the even control port outputs are on (> 3 volts) and the odd control port outputs are off (<1 volts).

Use the following commands to set the even control port logical outputs off:

Send: DA DT CT C0 58 09 00 CS; Set Control Port Digital Output 2 Off.

Send: DA DT CT C0 59 09 00 CS; Set Control Port Digital Output 4 Off.

Send: DA DT CT C0 5A 09 00 CS; Set Control Port Digital Output 6 Off.

Send: DA DT CT C0 5B 09 00 CS; Set Control Port Digital Output 8 Off.

Send: DA DT CT C0 5C 09 00 CS; Set Control Port Digital Output 10 Off.

Send: DA DT CT C0 5D 09 00 CS; Set Control Port Digital Output 12 Off.

Send: DA DT CT C0 5E 09 00 CS; Set Control Port Digital Output 14 Off.

Send: DA DT CT C0 5F 09 00 CS; Set Control Port Digital Output 16 Off.

4.6.12 CONTROL PORT ANALOG INPUTS

Spec: Each input measures 0, 5, and 10 VDC within 10%.

Procedure:

Inject 10 VDC into the odd Control Port Analog Inputs. Inject 5 VDC into the even Control Port Analog Inputs.

Use the following commands to verify the odd analog inputs are between \$FF and \$E6:

DA DT CT 81 54 0A CS; Get Control Port Analog Input 9
Return String: DA DT AK CT 81 54 0C IN9 CS

Send: DA DT CT 81 55 0A CS; Get Control Port Analog Input 11

Return String: DA DT AK CT 81 55 0C IN11 CS

Send: DA DT CT 81 56 0A CS; Get Control Port Analog Input 13

Return String: DA DT AK CT 81 56 0C IN13 CS

Send: DA DT CT 81 57 0A CS; Get Control Port Analog Input 15

Return String: DA DT AK CT 81 57 0C IN15 CS

5.13.4. Use the following commands to verify the even analog inputs are between \$98 and \$66:

Send: DA DT CT C1 54 0A CS; Get Control Port Analog Input 10

Return String: DA DT AK CT C1 54 0C IN10 CS

Send: DA DT CT C1 55 0A CS; Get Control Port Analog Input 12

Return String: DA DT AK CT C1 55 0C IN12 CS

Send: DA DT CT C1 56 0A CS; Get Control Port Analog Input 14

Return String: DA DT AK CT C1 56 0C IN14 CS

Send: DA DT CT C1 57 0A CS; Get Control Port Analog Input 16

Return String: DA DT AK CT C1 57 0C IN16 CS

Open drive to all Control Port Analog Inputs.

Use the following commands to verify all the analog inputs are between \$19 and \$00:

Send: DA DT CT 81 54 0A CS; Get Control Port Analog Input 9

Return String: DA DT AK CT 81 54 0C IN9 CS

Send: DA DT CT C1 54 0A CS; Get Control Port Analog Input 10

Return String: DA DT AK CT C1 54 0C IN10 CS

Send: DA DT CT 81 55 0A CS; Get Control Port Analog Input 11

Return String: DA DT AK CT 81 55 0C IN11 CS

Send: DA DT CT C1 55 0A CS; Get Control Port Analog Input 12

Return String: DA DT AK CT C1 55 0C IN12 CS

Send: DA DT CT 81 56 0A CS; Get Control Port Analog Input 13

Return String: DA DT AK CT 81 56 0C IN13 CS

Send: DA DT CT C1 56 0A CS; Get Control Port Analog Input 14

Return String: DA DT AK CT C1 56 0C IN14 CS

Send: DA DT CT 81 57 0A CS; Get Control Port Analog Input 15

Return String: DA DT AK CT 81 57 0C IN15 CS

Send: DA DT CT C1 57 0A CS; Get Control Port Analog Input 16

Return String: DA DT AK CT C1 57 0C IN16 CS

4.6.13 DISPLAY TEST

Spec: All LEDs and LED segments individually light.

Procedure:

Start the display test mode:

Send: DA DT CT 80 06 09 03 CS; Select test display mode.

Verify display lights all LEDs according to the test pattern. (See Section 4.9 for test pattern)

Stop the display test mode:

Send: DA DT CT 80 06 09 02 CS; Select test display mode.

4.6.14 PUSHBUTTON TEST

Spec: Pushbuttons operational.

Procedure:

Use one of the following two methods to test the three front panel pushbuttons:

Method 1 (Manual Verification)

Hold in the "SEL" button and verify the IQ-USM 810 display cycles between the three display modes (preset, address, and baud rate).

Use the "SEL" button to select the preset mode

Press the "^" button and verify the preset display increases its number.

Press the "v" button and verify the preset display decreases its number.

Method 2 (Auto Verification)

Use the following IQ command to continually poll the switch status object:

Send: DA DT CT C1 05 0A CS; Return button status

Return String: DA DT AK CT C1 05 0C BTN CS

Press the "SEL" button and verify the object returns \$01.

Press the "^" button and verify the object returns \$02.

Press the "v" button and verify the object returns \$04.

4.6.15 REAL TIME CLOCK

Spec: The RTC can be set, can be read, keeps time, and power backup is operational.

Note: The real time clock Ucode object uses a four-byte time code. The code is the number of seconds from 12:00AM on January 1, 1970. The data bytes are returned least significant first.

Example: For 3:34:14 PM on July 21, 1999:

1999-1970 = 29 years =	914,544,000 seconds
29 years / 4 = 8 leap year days =	691,200 seconds
July 1 = (31+28+31+30+31+30) =	
181 days =	15,638,400 seconds
21st = 21 days =	1,814,400 seconds
PM = 12 hours =	43,200 seconds
3:34:14 =	12,854 seconds
Time from 12:00 AM Jan. 1, 1970 =	932,744,054 seconds

932,744,054 converted to hex = \$37988B76

\$37988B76 broken into bytes, LSB first = \$76 \$8B \$98 \$37.

Note: The real time clock is powered from a 1 mF capacitor (C25) when the unit is unpowered. This capacitor must be charged above 2.2 volts for the real time clock to operate without unit power. Normal charging time is 14 minutes. To fast charge the capacitor short TP7 and TP8 for at least 4.2 minutes. Remove jumper prior to a power cycle to prevent discharging the capacitor.

Procedure:

Set the clock to the current time with the clock write command.

Send: DA DT CT 80 03 09 CK4 CK3 CK2 CK1 CS; Set real time clock

Where CK1, CK2, CK3, and CK4 are the four bytes of the time code.

5.16.2. Allow the IQ-USM810 to operate for > 100 seconds.

Note: other tests may be performed during this time.

Remove TP7-TP8 jumper if in use.

Perform a power cycle on the IQ-USM810.

Note; this may be the same power cycle used for the IQ Bus Dropout Relay Operation test.

Read the clock and compare its time with the current time.

Send: DA DT CT 80 03 0A CS

Return String: DA DT AK CT 80 03 0C CK4 CK3 CK2 CK1 CS

Where CK1, CK2, CK3, and CK4 are the four bytes of the time code.

The two times must be within one second.

4.6.16 IQ BUS MASTER CONTROL

Spec: Hardware can force the IQ Bus high. (Open the loop)

For this test, perform IQ communication via the Crown bus.

Procedure:

Send the Master IQ Bus command:

Send: DA DT CT C0 05 09 01 CS; Master IQ bus (Open loop)

Verify no echo responses on subsequent IQ commands:

Suggested test string: 01 02 03 04 FE FF

Send the normal IQ Bus command...

Send: DA DT CT C0 05 09 00 CS; Unmaster IQ bus (Close loop)

Verify echo responses on subsequent IQ commands:

Suggested test string: 01 02 03 04 FE FF

Return string: 01 02 03 04

4.6.17 IQ BUS DROPOUT RELAY OPERATION

Spec: IQ Bus remains connected when power is removed.

For this test, perform IQ communication via the Crown bus.

Procedure:

Power down IQ-USM 810.

Verify IQ messages pass through the unit under test:

Suggested test string: 01 02 03 04 FE FF

Return string: 01 02 03 04

Reapply power to IQ-USM 810.

4.6.18 IQ BUS HUB / DAISY CONNECTIONS

Spec: Both types on IQ Bus connections are functional.

Note: This product has two types of IQ bus connections. The Daisy type connects the input in one port of the dual RJ-45 and the output in the other. The Hub type connects both input and output to one RJ-45 port.

For this test, perform IQ communication via the Crown bus.

Procedure:

For each type of bus connection (Daisy, Hub), perform at least one of the above tests that require a test on the IQ response.

4.6.19 SHIPPING STATE RESTORATION

Spec: The IQ-USM 810 is returned to the factory defaults.

Note: This section may be skipped when testing a service unit if it is known that the customer wishes to retain the mixers settings and presets.

Note: The following steps must be performed as part of the final power down sequences to ensure the IQ-USM 810 has been returned to factory defaults and presets. If the IQ-USM 810 is re-powered before packing, the following procedure should be repeated.

Procedure:

Send the select preset 0 command:

Send: DA DT CT B2 7F 09 00 CS; Select preset 0

Send the load preset command:

Send: DA DT CT B4 7F 09 01 CS; Load preset

Note: The load preset command must be sent within approximately 2 seconds of the select preset command.

Send the select preset 32 command:

Send: DA DT CT B2 7F 09 20 CS; Select preset 32

Send the load preset command:

Send: DA DT CT B4 7F 09 01 CS; Load preset

Note: The load preset command must be sent within approximately 2 seconds of the select preset command.

Note: Preset 0 and 32 may also be selected using the front panel controls.

1) Use the "∧" and "∨" keys to select preset 0. (Display shows P00.)

2) Press "SEL" switch.

3) Use the "∧" and "∨" keys to select preset 32. (Display shows P32.)

4) Press "SEL" switch.

4.6.20 CHASSIS GROUND

Spec: Ground conductor of the power inlet is connected to chassis ground.

Note: This test to be completed after the complete product assembly.

Procedure:

Verify power inlet less than 1 W between connector ground and chassis.

Recommended chassis test points:

RS232 Connector shell or screw locks, Multi-Function Control Port shell of screw locks or Crown bus connector shield.

4.4.21 HI-POT

Spec: Power Supply withstands Hi-Pot spikes.

Procedure: Verify unit allows no breakdown leakage current with a 1-second, 1.2-kV Hi-Pot from AC mains (Hot and Neutral) to earth ground.

4.7 Typical Measurements

Output Noise 20 Hz to 20 KHz bandwidth, line mode: -77 dBu

Frequency Response 20 Hz to 20 KHz, referenced to 1 KHz, line mode: -0.27 dB.

Harmonic Distortion THD+N, at 1 KHz, 20 Hz to 20 KHz bandwidth, line mode, 0 dBu input: 0.013 %.

Common Mode Rejection at 60 Hz, line mode: -66.5 dB.

Head Room / Input Clip Level highest input level before 1 % TDH+N, Line mode: -.131 % TDH+N @ +20 dBu.

Input Potentiometer at 1 KHz, 0 dBu input:

Potentiometer

at -12 setting: -12.85 dB

at +20 setting: +20.43 dB

Phantom Supply between each signal pin ("+" and "-") and ground of each input: 25.77 VDC

Control Port Output Voltage Pins

5 volt supply (between pins 9 and 10): 4.92 VDC

10 volt supply (between pins 29 and 28): 10.26 VDC

4.8 Test/Debug Objects

Object Number		
Dec	Hex/ASN1	Description / Command string format
704	\$2C0 \$C0 \$05	<p>Bus Master: Allows manual control of the bus master function. (Normally an internal function of the Ucode protocol). With this object set, no IQ bus, communication passes through the IQ-USM 810 Crown bus port.</p> <p>Send: DA DT CT C0 05 09 01 CS; to master the IQ Bus, open the loop Response: None</p> <p>Send: DA DT CT C0 05 00 CS; to unmaster the IQ Bus, close the loop Response: DA DT AK CT 00 CS; standard ACK</p>
768	\$300 \$80 \$06	<p>Display Test Mode: Cycles each section of the display through a known sequence allowing the operator to verify that all segments and indicators are functional. See Section 4.7 for known sequence.</p> <p>Send: DA DT CT 80 06 09 01 CS; To force the preset LED on Response: DA DT AK CT 00 CS; standard ACK</p> <p>Send: DA DT CT 80 06 09 00 CS; To set the preset LED in normal mode Response: DA DT AK CT 00 CS; standard ACK</p>
705	\$2C1 \$C1 \$05	<p>Pushbutton Test: Reads a single byte that is bit mapped to indicate a pushbutton depression (bit 0 = "SEL" depressed, bit 1 = "∧" depressed, bit 2 = "∨" depressed):</p> <p>Send: DA DT CT C1 05 0A CS, To get data Response: DA DT AK CT C1 05 0C BTN CS</p>

4.9 Display Test Patterns

Figure 4.1 shows display test patterns for the IQ-USM 810. For each display section, the sequence starts at the top and cycles to the bottom, and then repeats.

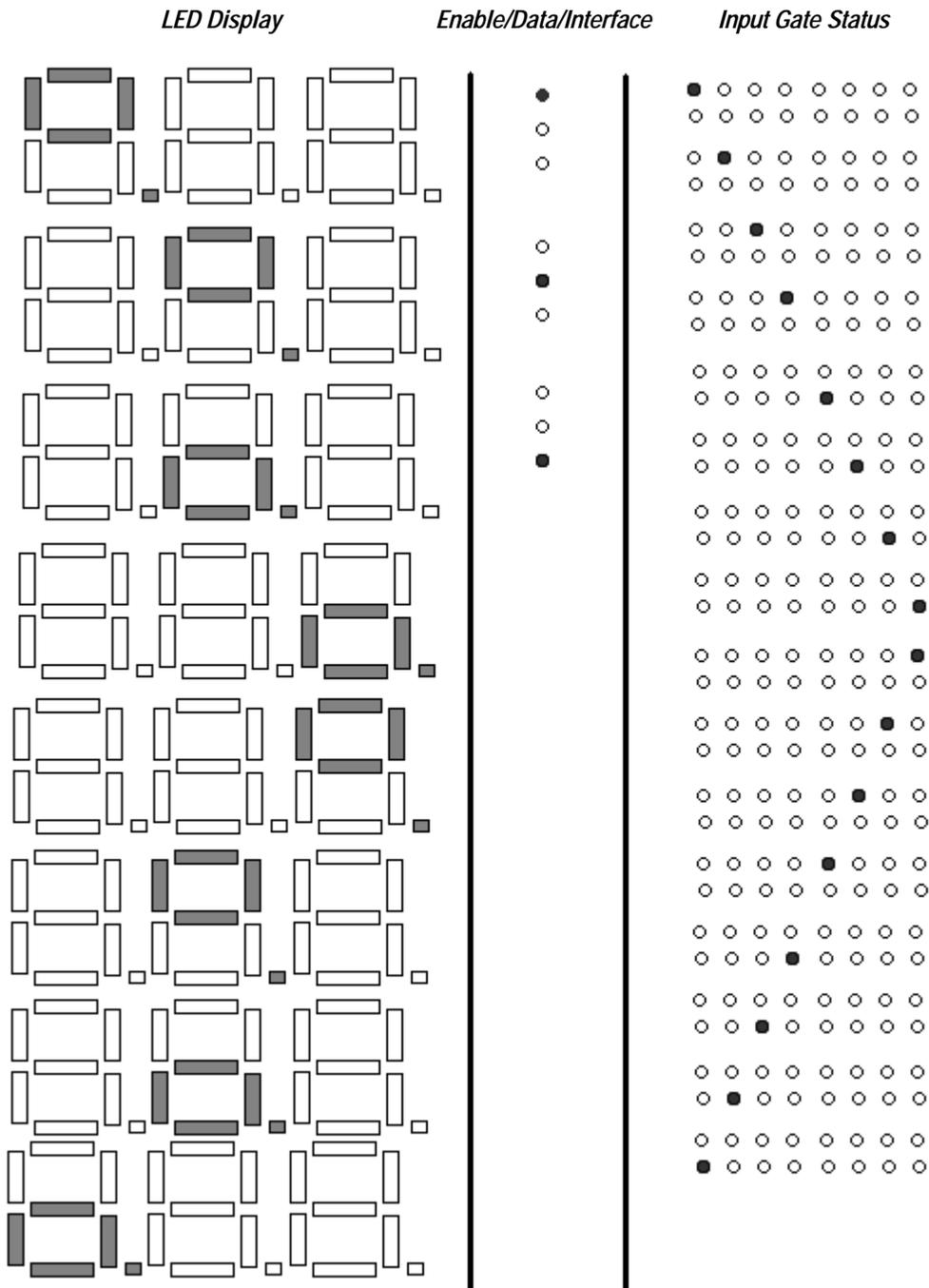


Figure 4.1 Display Test Patterns

4.10 Error Codes

Figure 4.2 shows error codes for the IQ-USM 810.

E01	UART failed system controller power-on self test
E02	RAM failed system controller power-on self test
E03	Application code in flash failed crc test
E04	Flash verify error
E05	Unrecoverable firmware error
E10	Sharc 0 interface hardware error (timeout, etc.)
E11	Sharc 1 interface hardware error (timeout, etc.)
E12	Sharc 2 interface hardware error (timeout, etc.)
E13	Sharc 3 interface hardware error (timeout, etc.)
E14	Sharc 0 failed SRAM test
E15	Sharc 1 failed SRAM test
E16	Sharc 2 failed SRAM test
E17	Sharc 3 failed SRAM test
E18	Sharc 0 failed SDRAM test
E19	Sharc 1 failed SDRAM test
E20	Sharc 2 failed SDRAM test
E21	Sharc 3 failed SDRAM test
E22	Sharc 0 software watchdog timeout
E23	Sharc 1 software watchdog timeout
E24	Sharc 2 software watchdog timeout
E25	Sharc 3 software watchdog timeout

Figure 4.2 IQ-USM 810 Error Codes

4.11 Troubleshooting FAQs

The following FAQs are provided to answer a few questions that may arise in the course of servicing the IQ-USM 810.

Q. What does the display indicate during power up?

A. When the IQ-USM 810 initially powers up, it displays the following:

dSP...810...SH0...SH1...SH2...SH3...Pxx.

This is the boot sequence for the internal processors. Initially, the System Controller processor boots, then it sequentially boots the four DSP processors (SH0-3). After the System Controller processor successfully boots all four DSP processors, audio processing is allowed to begin.

Q. When I power up the IQ-USM 810, it continues to boot. What's up?

A. If the System Controller processor encounters an error

during the boot process, it terminates the process at that point, displays an error code on the front panel, then reboots. See Section 4.10 for a list of error codes.

Q. What is the most common error?

A. Hopefully, no error is common. When "E22" is displayed as the error code, it is most likely due to a loss of digital audio clocking from the Input board. The short 26-pin ribbon cable carries digital audio and clocking from the Input board to the SHARC board. Check for creation of Master Clock (12.288 MHz), Serial Clock (3.032 MHz), and Frame Clock (48 kHz) by the Input board.

Q. How do I reboot the IQ-USM 810?

A. There are a couple of different ways to reboot the IQ-USM 810. The most straightforward way is to remove the AC power cord from the IEC320 connector on the rear panel, then replace the cord. The loss of AC power

will cause the IQ-USM 810 to automatically reboot. If the top cover is off the unit, switch S1 on the System Controller board (the long board with the rear panel DB9F and DB37M connectors) will reboot the unit. The LED located next to the switch is lit when the unit is not in reset.

Q. I notice there is a switch on the SHARC board. What is it for?

A. The switch on the SHARC board resets the SHARC processors independently of the System Controller. The problem with using this switch to reset the SHARC processors is they need the System Controller to reboot them. In practice, the SHARC board reset switch is not used. The LED by the switch lights when the SHARC's are not in reset. Reset is controlled by the System Controller. If a reboot of the SHARC's is required, use the System Controller reset switch to reset the entire IQ-USM 810 and reboot the SHARC's.

Q. I plug in the IQ-USM 810 and nothing happens. What's the matter?

A. First, ensure that AC power is indeed being applied to the unit. Next, take the cover off the unit and see if any of the LED's on the System Controller or SHARC boards are lit. If so, check the cable between the System Controller board and Front Display board. If no LED's are lit, check the cable between the power supply (located under the System Controller board) and the System Controller. If that seems OK, check the power supply by removing the System Controller. A fuse is located on the power supply board. Replace **ONLY** with the same type fuse.

Q. What is preset "P00?"

A. Preset P00 is a factory default preset that allows the IQ-USM 810 to be placed into a known, safe state. In P00, all faders are at minimum and all filters, gates,

delays, etc. are off. It is a good place to start when starting to configure a unit or if you need to get back to a known starting point.

Q. What is the purpose of the "Infinity Pattern" on the front panel?

A. The Infinity pattern is also referred to as a "test" pattern. It serves no real purpose other than to provide an attractive display when front panel level or gate status indication is not desired.

Q. How should I set the baud rate on the IQ-USM 810?

A. The baud rate for the RS232 interface is adjustable and is accessed by the front panel (see the Reference Manual for information on setting the baud rate). In practice, you should try to run at as fast a rate as you can without problems. Some computers have difficulties keeping up at 115 k baud. If you notice the IQ-USM 810 dropping off-line occasionally, try a slower baud rate. The IQ for Windows software automatically adjusts to the selected baud rate of the IQ-USM 810 during initialization, so no setup of the software is required.

Q. Why don't I have a control to set the baud rate of the IQ loop?

A. The IQ loop's baud rate is fixed at 38.4 k baud and is not adjustable.

Q. What voltage should I use to wire analog control pots to the IQ-USM 810's Control Port?

A. The IQ-USM 810 needs a 0 to +10V voltage to utilize the full range of the Control Port's analog inputs. +10VDC is provided on the Control Port connector for this purpose. If you want the remote pot to control only a portion of the fader range, use the IQ for Windows software to tailor the range desired. In general, the Control Port pots should be wired between GND and +10VDC.

5 Parts

5.1 General Information

This chapter includes both a mechanical and electrical parts list for this product. All serviceable parts and assemblies will have a Crown Part Number (CPN) listed in this chapter. The parts listed are current as of the date printed. Crown reserves the right to modify and improve its products for the benefit of its customers.

PART PRICES AND AVAILABILITY ARE SUBJECT TO CHANGE WITHOUT NOTICE.

5.2 Ordering and Receiving Parts

When ordering parts, be sure to give the product model, and include a description and part number from the parts listing. Price quotes are available on request.

5.2.1 Terms

Normal terms are prepaid. Net-30 Days applies to only those having pre-established accounts with Crown. The Crown Parts Department does accept Visa or Master Card. If prepaying, the order must be packed and weighed before a total bill can be established, after which an amount due will be issued and shipment made upon receipt of payment. New parts returned for credit are subject to a restocking fee, and authorization from the Crown Parts Department must be obtained before returning parts for credit.

5.2.2 Shipment

Shipment will normally be made via UPS, or best other method unless you specify otherwise. Shipments are made to and from Elkhart, Indiana USA, only. Established accounts with Crown will receive shipment freight prepaid and will be billed. All others will receive shipment on a C.O.D. or prepayment (check or credit card) basis.

Crown Customer Service

Technical Support Group
Factory Service
Parts Department

Mailing Address: P.O. Box 1000, Elkhart IN 46515

Shipping Address: Plant 2 S. W.
1718 W. Mishawaka Rd., Elkhart IN 46517
Phone: (219) 294-8200
Toll Free: (800) 342-6939
Fax: (219) 294-8301
<http://www.crownaudio.com>

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6 Exploded View Parts

6.1 General Information

This chapter includes a mechanical part list for this product. All serviceable parts and assemblies will have a Crown Part Number (CPN) listed in this chapter. The parts listed are current as of the date printed. Crown reserves the right to modify and improve its products for the benefit of its customers.

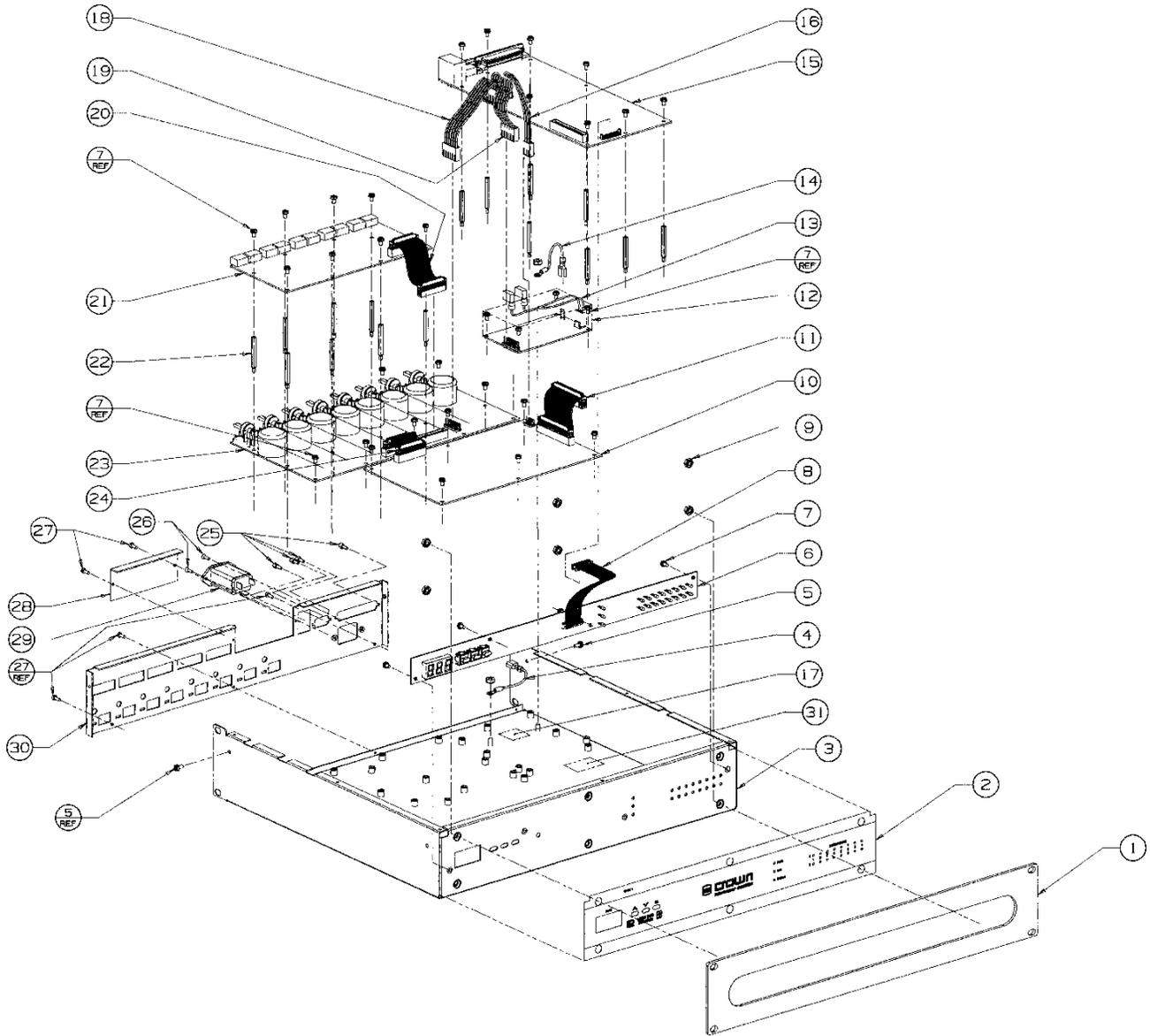


Figure 6.1 Chassis Assembly

6.2 Chassis Assembly

Refer to figure 6.1 for Location of Major Parts

<i>Item</i>	<i>Quantity</i>	<i>Description</i>	<i>Part # (CPN)</i>
1	1	FP, USM810 PC	126726-1
2	1	OVERLAY, USM810 FRONT PANEL	127226-1
3	1	CHASSIS, USM810 WELD AP/PC	126725-6
4	1	WIRE, 18 GRN/YEL RING x 2.5 x FAST	A11410-E025N
5	2	SEMS, 6x32 x .31 TORX PNHD STAR	103433-70605
6	1	PWA, USM810 FRONT DISPLAY	SEE SECTION 7
7	36	SMSCR, 6x32 .25 TORX PNHD SEM	103435-70604
8	1	CABLE, 18 COND TIN PICO FLEX	100466-1
9	8	8-32 HEX NUT W/BELLE	A11056-2
10	1	PWA, USM810 SHARC	SEE SECTION 7
11	1	CABLE, 40POS 3IN RIBBON	127216-1
12	1	PWR SPLY, 120/240V 40W TPL OUT	126783-1
13	1	CABLE, 3 PIN 5" MOLEX	127769-1
14	1	WIRE, 18 GRN/YEL RING x 3.5 x FAST	A11410-E035N
15	1	PWA, USM810 SYS CTRL	SEE SECTION 7
16	1	CABLE, 3 PIN 5.5" MOLEX	127768-1
17	1	LABEL, PROTECTIVE EARTH GROUND	A10776-1
18	1	CABLE, 6 PIN 6.5" MOLEX	127740-1
19	1	CABLE, 6 PIN 4.2" MOLEX	127767-1
20	1	CABLE, 26POS 3IN RIBBON	127215-1
21	1	PWA, USM810 OUTPUT	SEE SECTION 7
22	16	STAND, 6-32 x 1.4375 HEX MALE	A12095-9
23	1	PWA, USM810 INPUT	128049-1
24	1	CABLE, 26POS 1IN RIBBON	127214-1
25	4	SCRLOK W/.312 THD LUG #205818-2	C 7074-5
26	2	4-40 x .37 PLTHD PH MSCR BZ	A10091-70406
27	5	4-40 x .312 TAPTITE PH PN BZ	A10110-70405
28	1	COVER, USM810 CNET PC	127038-2
29	1	FILTER, RFI W/IEC SOCKET 3A	A11451-1
30	1	BACK PANEL, USM810 PC/PP	126727-4
31	1	LABEL, USM810 FUSE	128108-1

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7 Module and Schematic Information

7.1 General Information

The schematics referenced and provided are representative only. There may be slight variations between component to component. These schematics are intended to be used for troubleshooting purposes only.

Note on circuit board designations: Crown circuit boards are referenced with a PWA and/or PWB part number. PWA stands for Printed Wire Assembly. This is the completed circuit board with all components assembled. PWB stands for Printed Wire Board. This is the circuit board only, without components.

7.2 IQ-USM 810 Modules

7.2.1 Front Panel Display PWA:

126747-3

Display PWA on 126746-3 PWB.

7.2.2 System Controller PWA:

128045-1

System Controller PWA on 126346-5 PWB. Use 126451-3 as service replacement.

126451-3

System Controller PWA on 126346-5 PWB. Replaced 128045-1.

7.2.3 SHARC PWA:

128047-3

SHARC PWA on 126743-4 PWB. Use 126744-3 as service replacement.

128047-4

SHARC PWA on 126743-4 PWB. Replaced 128047-3. Use 126744-3 as service replacement.

126744-3

SHARC PWA on 126743-4 PWB.

7.2.4 Input PWA:

128049-1

Input PWA on 126689-3 PWB. Use 126690-3 as service replacement.

126690-3

Input PWA on 126689-3 PWB.

7.2.5 Output PWA:

128051-3

Output PWA on 126692-4 PWB. Use 126692-4 as service replacement.

126693-4

Output PWA on 126692-4 PWB.

7.3 Schematic Diagrams:

7.3.1 Front Panel Display PWA

126745 Rev. A

Use for 126747-3 PWA.

7.3.2 System Controller PWA

126323 Rev. A

Use for 128045-1 PWA.

126451-3 Rev. A

Use for 126451-3 PWA.

7.3.3 SHARC PWA

126742 Rev. C

Use for 128047-3 PWA.

126742 Rev. D

Use for 128047-4 PWA.

126744-3 Rev. A

Use for 126744-3 PWA.

7.3.4 Input PWA

126688 Rev. A

Use for 128049-1 PWA.

126690-3 Rev. A

Use for 126690-3 PWA.

7.3.5 Output PWA

126691 Rev. C

Use for 128051-3 PWA.

126693-4 Rev. A

Use for 126693-4 PWA.

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8 Module Parts

8.1 General Information

This chapter includes electrical parts lists for this product. All serviceable parts and assemblies will have a Crown Part Number (CPN) listed in this chapter. The parts listed are current as of the date printed. Crown reserves the right to modify and improve its products for the benefit of its customers.

126451-3

126690-3

126693-4

126744-3

126747-3

128045-1

128047-3

128047-4

128049-1

128051-3

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PWA #126451-3
System Controller Module
PWB #126346-5
Schematic #126451-3 Rev. A

PARTS LIST			
REF DES	C. P. N.	DESCRIPTION	MAP LOC.
C1	A11427-104K2	.1UF 50V CHIP CAP 10% 0805 X7R	B 2
C2	A11427-104K2	.1UF 50V CHIP CAP 10% 0805 X7R	A 2
C3	A11427-104K2	.1UF 50V CHIP CAP 10% 0805 X7R	A 2
C4	A11427-104K2	.1UF 50V CHIP CAP 10% 0805 X7R	A 2
C5	A11427-104K2	.1UF 50V CHIP CAP 10% 0805 X7R	B 2
C6	A11427-104K2	.1UF 50V CHIP CAP 10% 0805 X7R	D 3
C7	A11427-104K2	.1UF 50V CHIP CAP 10% 0805 X7R	E 2
C8	C10391-B	10.UF 16V 20% TANTALUM SMT	C 4
C9	A11427-104K2	.1UF 50V CHIP CAP 10% 0805 X7R	D 4
C10	A11427-104K2	.1UF 50V CHIP CAP 10% 0805 X7R	D 5
C11	A11427-104K2	.1UF 50V CHIP CAP 10% 0805 X7R	D 5
C12	A11427-104K2	.1UF 50V CHIP CAP 10% 0805 X7R	D 5
C13	A11427-104K2	.1UF 50V CHIP CAP 10% 0805 X7R	B 4
C14	C10391-B	10.UF 16V 20% TANTALUM SMT	J 2
C15	A11427-104K2	.1UF 50V CHIP CAP 10% 0805 X7R	K 1
C16	A11427-104K2	.1UF 50V CHIP CAP 10% 0805 X7R	I 2
C17	A11427-104K2	.1UF 50V CHIP CAP 10% 0805 X7R	F 1
C18	A11427-104K2	.1UF 50V CHIP CAP 10% 0805 X7R	F 2
C19	C10391-B	10.UF 16V 20% TANTALUM SMT	F 2
C20	A11427-104K2	.1UF 50V CHIP CAP 10% 0805 X7R	F 2
C21	A11369-102J2	.001UF 50V 5% NPO MLC 0805 T/R	E 2
C22	127075-1	CAP, 100UF 16V 20% ALUM SMT	E 2
C23	A11369-102J2	.001UF 50V 5% NPO MLC 0805 T/R	E 2
C24	127075-1	CAP, 100UF 16V 20% ALUM SMT	F 1
C25	126251-1	SUPERCAP, IF 5.5V HORIZ	E 5
C26	A11369-6R8D2	6.8PF 50V +/- .5PF NPO MLC 0805	G 3
C27	A11427-104K2	.1UF 50V CHIP CAP 10% 0805 X7R	G 3
C28	A11427-104K2	.1UF 50V CHIP CAP 10% 0805 X7R	J 3
C29	127075-1	CAP, 100UF 16V 20% ALUM SMT	J 3
C30	A11427-104K2	.1UF 50V CHIP CAP 10% 0805 X7R	B 4
C31	A11427-104K2	.1UF 50V CHIP CAP 10% 0805 X7R	H 4
C32	A11427-104K2	.1UF 50V CHIP CAP 10% 0805 X7R	H 4
C33	A11427-104K2	.1UF 50V CHIP CAP 10% 0805 X7R	H 5
C34	C10391-B	10.UF 16V 20% TANTALUM SMT	F 3
C35	A11427-104K2	.1UF 50V CHIP CAP 10% 0805 X7R	E 3
C36	A11427-104K2	.1UF 50V CHIP CAP 10% 0805 X7R	F 3
C37	A11427-104K2	.1UF 50V CHIP CAP 10% 0805 X7R	G 4
C38	A11427-104K2	.1UF 50V CHIP CAP 10% 0805 X7R	E 5
C39	A11427-104K2	.1UF 50V CHIP CAP 10% 0805 X7R	G 4
C40	A11369-220J2	22 PF 5% 50V NPO CER CHIP	G 4
C41	A11369-220J2	22 PF 5% 50V NPO CER CHIP	G 4
C42	A11427-104K2	.1UF 50V CHIP CAP 10% 0805 X7R	F 3
C43	A11427-104K2	.1UF 50V CHIP CAP 10% 0805 X7R	E 4
C44	A11427-104K2	.1UF 50V CHIP CAP 10% 0805 X7R	E 4
C45	A11369-220J2	22 PF 5% 50V NPO CER CHIP	G 4
C46	A11369-220J2	22 PF 5% 50V NPO CER CHIP	G 4
C47	A11427-104K2	.1UF 50V CHIP CAP 10% 0805 X7R	H 4

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SIZE	DWG NO.	REV
A	126451-3	A
SCALE	PROJ NO.	SHEET
NONE	MD404D0	5 OF 15

PARTS LIST			
REF DES	C. P. N.	DESCRIPTION	MAP LOC.
C48	A11369-102J2	.001UF 50V 5% NPO MLC 0805 T/R	H 3
C49	A11427-104K2	.1UF 50V CHIP CAP 10% 0805 X7R	C 1
C50	A11427-104K2	.1UF 50V CHIP CAP 10% 0805 X7R	B 1
C51	A11427-104K2	.1UF 50V CHIP CAP 10% 0805 X7R	C 2
C52	A11427-104K2	.1UF 50V CHIP CAP 10% 0805 X7R	C 3
C53	A11427-104K2	.1UF 50V CHIP CAP 10% 0805 X7R	C 2
C54	A11427-104K2	.1UF 50V CHIP CAP 10% 0805 X7R	C 2
C55	A11427-104K2	.1UF 50V CHIP CAP 10% 0805 X7R	C 1
C56	C10391-B	10 UF 16V 20% TANTALUM SMT	C 2
C57	A11427-104K2	.1UF 50V CHIP CAP 10% 0805 X7R	A 2
C58	A11369-102J2	.001UF 50V 5% NPO MLC 0805 T/R	C 1
C59	A11427-104K2	.1UF 50V CHIP CAP 10% 0805 X7R	D 5
C60	A11369-102J2	.001UF 50V 5% NPO MLC 0805 T/R	C 1
D1	C10144-1	DIODE, ZENER 15V SOT-23	C 1
D2	C10144-1	DIODE, ZENER 15V SOT-23	C 1
D3	C10144-1	DIODE, ZENER 15V SOT-23	B 1
D4	C 9283-0	DIODE, MMBD4148/914 SOT-23 SMT	B 1
E1	126473-1	LED, GRN SMT 1206	F 3
E2	126473-1	LED, GRN SMT 1206	G 4
E3	126473-1	LED, GRN SMT 1206	G 4
F1	125721-1	PTC, 1A 60V 0.70HM	B 4
F2	125721-1	PTC, 1A 60V 0.70HM	B 3
F3	125721-1	PTC, 1A 60V 0.70HM	B 1
FB1	125846-1	FERRITE BEAD, 600 OHM .5A 0805	A 2
FB2	125846-1	FERRITE BEAD, 600 OHM .5A 0805	A 2
FB3	125846-1	FERRITE BEAD, 600 OHM .5A 0805	A 2
FB4	125846-1	FERRITE BEAD, 600 OHM .5A 0805	A 2
FB5	125846-1	FERRITE BEAD, 600 OHM .5A 0805	A 2
FB6	125846-1	FERRITE BEAD, 600 OHM .5A 0805	D 3
FB7	125846-1	FERRITE BEAD, 600 OHM .5A 0805	B 3
FB8	125846-1	FERRITE BEAD, 600 OHM .5A 0805	B 3
FB9	125846-1	FERRITE BEAD, 600 OHM .5A 0805	B 3
FB10	125846-1	FERRITE BEAD, 600 OHM .5A 0805	B 3
FB11	125846-1	FERRITE BEAD, 600 OHM .5A 0805	B 3
FB12	125846-1	FERRITE BEAD, 600 OHM .5A 0805	B 4
FB13	125846-1	FERRITE BEAD, 600 OHM .5A 0805	B 4
FB14	125846-1	FERRITE BEAD, 600 OHM .5A 0805	B 4
FB15	125846-1	FERRITE BEAD, 600 OHM .5A 0805	C 4
FB16	125846-1	FERRITE BEAD, 600 OHM .5A 0805	B 4
FB17	125846-1	FERRITE BEAD, 600 OHM .5A 0805	B 4
FB18	125846-1	FERRITE BEAD, 600 OHM .5A 0805	B 4
FB19	125846-1	FERRITE BEAD, 600 OHM .5A 0805	B 5
FB20	125846-1	FERRITE BEAD, 600 OHM .5A 0805	B 5
FB21	125846-1	FERRITE BEAD, 600 OHM .5A 0805	B 5
FB22	125846-1	FERRITE BEAD, 600 OHM .5A 0805	B 5
FB23	125846-1	FERRITE BEAD, 600 OHM .5A 0805	B 5
FB24	125694-1	FERRITE BEAD, 2A SMT 4532	A 4

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SIZE	DWG NO.	REV
A	126451-3	A
SCALE NONE	PROJ NO. MD404D0	SHEET 6 OF 15

PARTS LIST			
REF DES	C. P. N.	DESCRIPTION	MAP LOC.
FB25	125846-1	FERRITE BEAD, 600 OHM .5A Ø805	A 4
FB26	125846-1	FERRITE BEAD, 600 OHM .5A Ø805	A 4
FB27	125846-1	FERRITE BEAD, 600 OHM .5A Ø805	A 4
FB28	125846-1	FERRITE BEAD, 600 OHM .5A Ø805	A 4
FB29	125846-1	FERRITE BEAD, 600 OHM .5A Ø805	A 5
FB30	125846-1	FERRITE BEAD, 600 OHM .5A Ø805	A 5
FB31	125846-1	FERRITE BEAD, 600 OHM .5A Ø805	A 5
FB32	125846-1	FERRITE BEAD, 600 OHM .5A Ø805	A 5
FB33	125846-1	FERRITE BEAD, 600 OHM .5A Ø805	J 2
FB34	125846-1	FERRITE BEAD, 600 OHM .5A Ø805	F 1
FB35	125846-1	FERRITE BEAD, 600 OHM .5A Ø805	F 2
FB36	125846-1	FERRITE BEAD, 600 OHM .5A Ø805	G 3
FB37	125846-1	FERRITE BEAD, 600 OHM .5A Ø805	J 3
FB38	125694-1	FERRITE BEAD, 2A SMT 4532	B 4
FB39	125846-1	FERRITE BEAD, 600 OHM .5A Ø805	F 3
FB40	125846-1	FERRITE BEAD, 600 OHM .5A Ø805	D 4
FB41	125846-1	FERRITE BEAD, 600 OHM .5A Ø805	H 3
FB42	125846-1	FERRITE BEAD, 600 OHM .5A Ø805	B 1
FB43	125846-1	FERRITE BEAD, 600 OHM .5A Ø805	B 1
FB44	125846-1	FERRITE BEAD, 600 OHM .5A Ø805	C 2
FB45	125846-1	FERRITE BEAD, 600 OHM .5A Ø805	C 2
FB46	125846-1	FERRITE BEAD, 600 OHM .5A Ø805	B 1
FB47	125846-1	FERRITE BEAD, 600 OHM .5A Ø805	B 1
FB48	125694-1	FERRITE BEAD, 2A SMT 4532	E 2
FB49	125694-1	FERRITE BEAD, 2A SMT 4532	A 1
FB50	125846-1	FERRITE BEAD, 600 OHM .5A Ø805	C 3
FB51		OPEN	B 2
HW1	C 6419-3	SHUNT, .025" 5Q POST 2 POS	G 4
J1	C 8173-4	D-SUB 9PIN R ANGLE METAL FEM	A 2
J2	125676-1	CONN, DUAL 8PIN MOD R/A PC MNT	A 1
K1	126289-1	RELAY, DPDT 12V/1A SMT	B 2
L2	125715-1	INDUCTOR, 53UH 1.Ø7A SMT	E 1
MODE	C 7746-8	3POS SGLROW HDR .025 POST GOLD	G 4
P1	127184-1	HEADER, 40PIN Ø.1 CTRS	I 1
P2	C 8666-7	10POS .100X.100 DBLROW HDR AU	F 1
P3	127068-1	HEADER, 6 POS Ø.156" TIN	D 1
P4	C 8890-3	3POS .156 CTR MTA HDR TIN	D 2
P5	127068-1	HEADER, 6 POS Ø.156" TIN	D 1
P6	C10571-5	18 PIN HDR PICOFLEX TIN	K 2
P7	C 9654-2	37 PIN MALE D-SUB PC MNT	A 3
P9	126312-1	HEADER, 6 PIN DUAL	G 3
Q1	C 7448-1	MMBT3904 CHIP NPN	B 4
Q2	C 7448-1	MMBT3904 CHIP NPN	B 4
Q3	C 7448-1	MMBT3904 CHIP NPN	B 4
Q4	C 7448-1	MMBT3904 CHIP NPN	B 5
Q5	C 7448-1	MMBT3904 CHIP NPN	B 5
Q6	C 7448-1	MMBT3904 CHIP NPN	B 5

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SIZE	DWG NO.	REV
A	126451-3	A
SCALE NONE	PROJ NO. MD404DØ	SHEET 7 OF 15

PARTS LIST			
REF DES	C. P. N.	DESCRIPTION	MAP LOC.
Q7	C 7448-1	MMBT3904 CHIP NPN	B 5
Q8	C 7448-1	MMBT3904 CHIP NPN	B 5
Q9	C 7448-1	MMBT3904 CHIP NPN	B 4
Q10	C 7448-1	MMBT3904 CHIP NPN	B 4
Q11	C 7448-1	MMBT3904 CHIP NPN	B 4
Q12	C 7448-1	MMBT3904 CHIP NPN	B 5
Q13	C 7448-1	MMBT3904 CHIP NPN	B 5
Q14	C 7448-1	MMBT3904 CHIP NPN	B 5
Q15	C 7448-1	MMBT3904 CHIP NPN	B 5
Q16	C 7448-1	MMBT3904 CHIP NPN	B 5
Q17	C 7448-1	MMBT3904 CHIP NPN	F 3
Q18	C 7448-1	MMBT3904 CHIP NPN	D 3
Q19	C 7448-1	MMBT3904 CHIP NPN	D 3
Q20	C 7448-1	MMBT3904 CHIP NPN	D 3
Q21	C 7448-1	MMBT3904 CHIP NPN	C 3
Q22	C 7448-1	MMBT3904 CHIP NPN	C 3
Q23	C 7448-1	MMBT3904 CHIP NPN	C 3
Q24	C 7448-1	MMBT3904 CHIP NPN	C 3
Q25	C 7448-1	MMBT3904 CHIP NPN	C 3
R1	A11368-10021	10K 1/10W 1% SMD 0805 T/R	D 3
R2	A11368-10011	1.KOHM .1W 1% CHIP 0805	F 3
R3	126254-1	TVS, 12V/40A 0805 SMT	B 3
R4	126254-1	TVS, 12V/40A 0805 SMT	B 3
R5	126254-1	TVS, 12V/40A 0805 SMT	B 3
R6	126254-1	TVS, 12V/40A 0805 SMT	B 3
R7	126254-1	TVS, 12V/40A 0805 SMT	B 3
R8	126254-1	TVS, 12V/40A 0805 SMT	B 4
R9	126254-1	TVS, 12V/40A 0805 SMT	B 4
R10	126254-1	TVS, 12V/40A 0805 SMT	B 4
R11	A11368-10021	10K 1/10W 1% SMD 0805 T/R	D 4
R12	A11368-10021	10K 1/10W 1% SMD 0805 T/R	D 4
R13	A11368-10021	10K 1/10W 1% SMD 0805 T/R	D 4
R14	A11368-10021	10K 1/10W 1% SMD 0805 T/R	D 3
R15	A11368-10021	10K 1/10W 1% SMD 0805 T/R	C 4
R16	A11368-10021	10K 1/10W 1% SMD 0805 T/R	C 4
R17	A11368-10021	10K 1/10W 1% SMD 0805 T/R	C 4
R18	A11368-10021	10K 1/10W 1% SMD 0805 T/R	C 3
R19	A11368-10021	10K 1/10W 1% SMD 0805 T/R	C 4
R20	A11368-10021	10K 1/10W 1% SMD 0805 T/R	C 4
R21	A11368-10021	10K 1/10W 1% SMD 0805 T/R	C 4
R22	A11368-10021	10K 1/10W 1% SMD 0805 T/R	C 4
R23	A11368-10021	10K 1/10W 1% SMD 0805 T/R	C 4
R24	A11368-10021	10K 1/10W 1% SMD 0805 T/R	C 4
R25	A11368-10021	10K 1/10W 1% SMD 0805 T/R	C 4
R26	A11368-10021	10K 1/10W 1% SMD 0805 T/R	C 5
R27	A11368-10013	1K 0.25W 1% 1210 T/R	B 4
R28	A11368-10013	1K 0.25W 1% 1210 T/R	B 4

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		SCALE NONE	PROJ NO. MD404D0	SHEET 8 OF 15

PARTS LIST			
REF DES	C. P. N.	DESCRIPTION	MAP LOC.
R29	A11368-10013	1K 0.25W 1% 1210 T/R	B 4
R30	A11368-10013	1K 0.25W 1% 1210 T/R	B 4
R31	A11368-10013	1K 0.25W 1% 1210 T/R	B 5
R32	A11368-10013	1K 0.25W 1% 1210 T/R	B 5
R33	A11368-10013	1K 0.25W 1% 1210 T/R	B 5
R34	A11368-10013	1K 0.25W 1% 1210 T/R	B 5
R35	A11368-10021	10K 1/10W 1% SMD 0805 T/R	C 5
R36	A11368-10021	10K 1/10W 1% SMD 0805 T/R	C 5
R37	A11368-10021	10K 1/10W 1% SMD 0805 T/R	C 5
R38	A11368-10021	10K 1/10W 1% SMD 0805 T/R	C 5
R39	A11368-10021	10K 1/10W 1% SMD 0805 T/R	C 5
R40	A11368-10021	10K 1/10W 1% SMD 0805 T/R	C 5
R41	A11368-10021	10K 1/10W 1% SMD 0805 T/R	C 5
R42	A11368-10021	10K 1/10W 1% SMD 0805 T/R	C 5
R43	A11368-10013	1K 0.25W 1% 1210 T/R	C 4
R44	A11368-10013	1K 0.25W 1% 1210 T/R	C 4
R45	A11368-10013	1K 0.25W 1% 1210 T/R	C 4
R46	A11368-10013	1K 0.25W 1% 1210 T/R	C 4
R47	A11368-10013	1K 0.25W 1% 1210 T/R	C 5
R48	A11368-10013	1K 0.25W 1% 1210 T/R	C 5
R49	A11368-10013	1K 0.25W 1% 1210 T/R	C 5
R50	A11368-10013	1K 0.25W 1% 1210 T/R	C 5
R51	126195-1	TVS, 5.6/40A 0805 SMT	A 4
R52	126254-1	TVS, 12V/40A 0805 SMT	B 5
R53	126254-1	TVS, 12V/40A 0805 SMT	B 5
R54	126254-1	TVS, 12V/40A 0805 SMT	B 5
R55	126254-1	TVS, 12V/40A 0805 SMT	B 5
R56	126254-1	TVS, 12V/40A 0805 SMT	B 5
R57	126254-1	TVS, 12V/40A 0805 SMT	B 4
R58	126254-1	TVS, 12V/40A 0805 SMT	B 4
R59	126254-1	TVS, 12V/40A 0805 SMT	B 4
R60	126254-1	TVS, 12V/40A 0805 SMT	A 5
R61	126254-1	TVS, 12V/40A 0805 SMT	A 5
R62	126254-1	TVS, 12V/40A 0805 SMT	A 5
R63	126254-1	TVS, 12V/40A 0805 SMT	A 5
R64	126254-1	TVS, 12V/40A 0805 SMT	A 4
R65	126254-1	TVS, 12V/40A 0805 SMT	A 4
R66	126254-1	TVS, 12V/40A 0805 SMT	A 4
R67	126254-1	TVS, 12V/40A 0805 SMT	A 4
R68	A11368-10021	10K 1/10W 1% SMD 0805 T/R	I 1
R69	A11368-10021	10K 1/10W 1% SMD 0805 T/R	I 1
R70	A11368-47R51	47.5 OHM .1W 1% 0805 T/R	H 1
R71	A11368-47R51	47.5 OHM .1W 1% 0805 T/R	H 1
R72	A11368-47R51	47.5 OHM .1W 1% 0805 T/R	J 1
R73	A11368-10021	10K 1/10W 1% SMD 0805 T/R	J 2
R74	A11368-10021	10K 1/10W 1% SMD 0805 T/R	J 2
R75	A11368-10021	10K 1/10W 1% SMD 0805 T/R	J 2

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SIZE	DWG NO.	REV
A	126451-3	A
SCALE NONE	PROJ NO. MD404D0	SHEET 9 OF 15

PARTS LIST			
REF DES	C. P. N.	DESCRIPTION	MAP LOC.
R76	A11368-10021	10K 1/10W 1% SMD 0805 T/R	J 2
R77	A11368-10021	10K 1/10W 1% SMD 0805 T/R	J 2
R78	A11368-10021	10K 1/10W 1% SMD 0805 T/R	J 2
R79	A11368-10021	10K 1/10W 1% SMD 0805 T/R	J 2
R80	A11368-10021	10K 1/10W 1% SMD 0805 T/R	K 1
R81	A11368-10021	10K 1/10W 1% SMD 0805 T/R	J 1
R82	A11368-10021	10K 1/10W 1% SMD 0805 T/R	J 1
R83	A11368-47R51	47.5 OHM .1W 1% 0805 T/R	F 1
R84	A11368-47R51	47.5 OHM .1W 1% 0805 T/R	F 2
R85	A11368-47R51	47.5 OHM .1W 1% 0805 T/R	F 2
R86	A11368-10021	10K 1/10W 1% SMD 0805 T/R	F 1
R87	126254-1	TVS, 12V/40A 0805 SMT	B 4
R88	A11368-10011	1.KOHM .1W 1% CHIP 0805	G 4
R89	A11368-10011	1.KOHM .1W 1% CHIP 0805	G 4
R90	A11368-47R51	47.5 OHM .1W 1% 0805 T/R	B 1
R91	A11368-47R51	47.5 OHM .1W 1% 0805 T/R	B 1
R92	126195-1	TVS, 5.6/40A 0805 SMT	B 1
R93	A11368-10021	10K 1/10W 1% SMD 0805 T/R	G 4
R94	A11368-47R51	47.5 OHM .1W 1% 0805 T/R	F 5
R95	A11368-47R51	47.5 OHM .1W 1% 0805 T/R	G 3
R96	A11368-47R51	47.5 OHM .1W 1% 0805 T/R	G 3
R97	A11368-47R51	47.5 OHM .1W 1% 0805 T/R	G 3
R98	A11368-47R51	47.5 OHM .1W 1% 0805 T/R	G 3
R99	A11368-47R51	47.5 OHM .1W 1% 0805 T/R	G 2
R100	A11368-47R51	47.5 OHM .1W 1% 0805 T/R	G 2
R101	A11368-47R51	47.5 OHM .1W 1% 0805 T/R	G 2
R102	A11368-47R51	47.5 OHM .1W 1% 0805 T/R	G 2
R103	A11368-47R51	47.5 OHM .1W 1% 0805 T/R	G 4
R104	A11371-1051	1.MOHM .1W 5% CHIP 0805	G 4
R105	126195-1	TVS, 5.6/40A 0805 SMT	B 1
R106	A11368-10011	1.KOHM .1W 1% CHIP 0805	G 4
R107	A11368-47R51	47.5 OHM .1W 1% 0805 T/R	J 2
R108	A11368-47R51	47.5 OHM .1W 1% 0805 T/R	J 2
R109	A11368-47R51	47.5 OHM .1W 1% 0805 T/R	J 2
R110	A11368-47R51	47.5 OHM .1W 1% 0805 T/R	E 4
R111	A11368-47R51	47.5 OHM .1W 1% 0805 T/R	E 4
R112	A11368-47R51	47.5 OHM .1W 1% 0805 T/R	E 4
R113	A11368-47R51	47.5 OHM .1W 1% 0805 T/R	E 4
R114	A11368-10011	1.KOHM .1W 1% CHIP 0805	E 4
R115	A11368-49921	49.9KOHM .1W 1% CHIP 0805	E 4
R116	A11368-49921	49.9KOHM .1W 1% CHIP 0805	E 4
R117	A11368-49921	49.9KOHM .1W 1% CHIP 0805	E 4
R118	A11368-49921	49.9KOHM .1W 1% CHIP 0805	E 4
R119	A11368-49921	49.9KOHM .1W 1% CHIP 0805	E 4
R120	A11368-49921	49.9KOHM .1W 1% CHIP 0805	E 4
R121	A11368-49921	49.9KOHM .1W 1% CHIP 0805	E 4
R122	A11368-49921	49.9KOHM .1W 1% CHIP 0805	E 4

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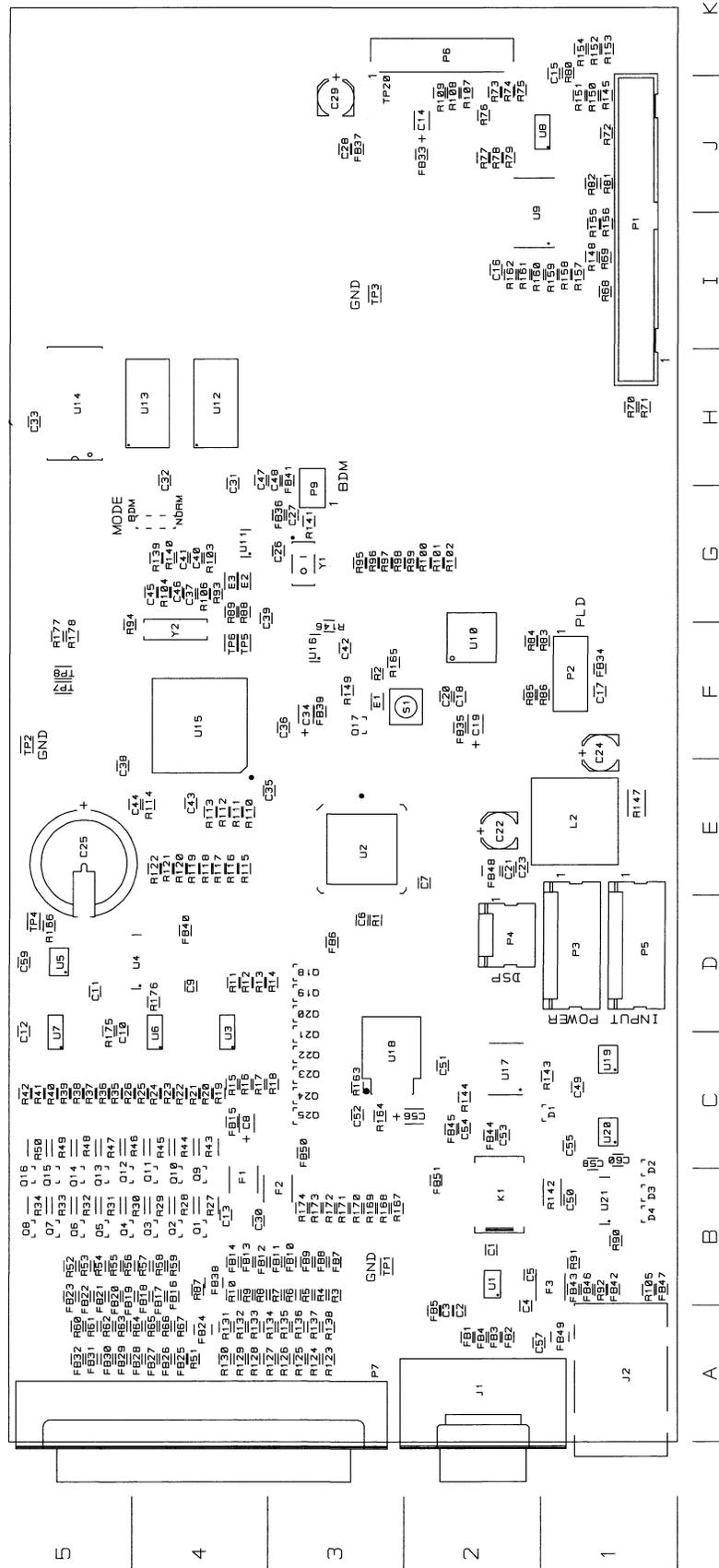
SIZE	DWG NO.	REV
A	126451-3	A
SCALE NONE	PROJ NO. MD404D0	SHEET 10 OF 15

PARTS LIST			
REF DES	C. P. N.	DESCRIPTION	MAP LOC.
R123	A11368-49921	49.9KOHM .1W 1% CHIP 0805	A 3
R124	A11368-49921	49.9KOHM .1W 1% CHIP 0805	A 3
R125	A11368-49921	49.9KOHM .1W 1% CHIP 0805	A 3
R126	A11368-49921	49.9KOHM .1W 1% CHIP 0805	A 3
R127	A11368-49921	49.9KOHM .1W 1% CHIP 0805	A 3
R128	A11368-49921	49.9KOHM .1W 1% CHIP 0805	A 4
R129	A11368-49921	49.9KOHM .1W 1% CHIP 0805	A 4
R130	A11368-49921	49.9KOHM .1W 1% CHIP 0805	A 4
R131	126254-1	TVS, 12V/40A 0805 SMT	A 4
R132	126254-1	TVS, 12V/40A 0805 SMT	A 4
R133	126254-1	TVS, 12V/40A 0805 SMT	A 4
R134	126254-1	TVS, 12V/40A 0805 SMT	A 3
R135	126254-1	TVS, 12V/40A 0805 SMT	A 3
R136	126254-1	TVS, 12V/40A 0805 SMT	A 3
R137	126254-1	TVS, 12V/40A 0805 SMT	A 3
R138	126254-1	TVS, 12V/40A 0805 SMT	A 3
R139	A11368-10021	10K 1/10W 1% SMD 0805 T/R	G 4
R140	A11368-10021	10K 1/10W 1% SMD 0805 T/R	G 4
R141	A11368-10021	10K 1/10W 1% SMD 0805 T/R	G 3
R142	A11371-3314	330 OHM 5% .5W 2010 RES T/R	B 1
R143	A11368-10011	1.KOHM .1W 1% CHIP 0805	C 1
R144	A11368-10021	10K 1/10W 1% SMD 0805 T/R	C 2
R145	A11368-47R51	47.5 OHM .1W 1% 0805 T/R	J 1
R146	A11368-10021	10K 1/10W 1% SMD 0805 T/R	F 3
R147		OPEN	E 1
R148	A11368-10021	10K 1/10W 1% SMD 0805 T/R	I 1
R149	A11368-10021	10K 1/10W 1% SMD 0805 T/R	F 3
R150	A11368-47R51	47.5 OHM .1W 1% 0805 T/R	J 1
R151	A11368-47R51	47.5 OHM .1W 1% 0805 T/R	J 1
R152	A11368-47R51	47.5 OHM .1W 1% 0805 T/R	K 1
R153	A11368-47R51	47.5 OHM .1W 1% 0805 T/R	K 1
R154	A11368-47R51	47.5 OHM .1W 1% 0805 T/R	K 1
R155	A11368-47R51	47.5 OHM .1W 1% 0805 T/R	I 1
R156	A11368-47R51	47.5 OHM .1W 1% 0805 T/R	I 1
R157	A11368-47R51	47.5 OHM .1W 1% 0805 T/R	I 1
R158	A11368-47R51	47.5 OHM .1W 1% 0805 T/R	I 1
R159	A11368-47R51	47.5 OHM .1W 1% 0805 T/R	I 1
R160	A11368-47R51	47.5 OHM .1W 1% 0805 T/R	I 2
R161	A11368-47R51	47.5 OHM .1W 1% 0805 T/R	I 2
R162	A11368-47R51	47.5 OHM .1W 1% 0805 T/R	I 2
R163	A11368-28011	2.80KOHM .10W 1% MF 0805	C 3
R164	A11368-39201	392. OHM 1/10W 1% SMD 0805 T/R	C 3
R165	126195-1	TVS, 5.6/40A 0805 SMT	F 3
R166	A11368-47R51	47.5 OHM .1W 1% 0805 T/R	D 5
R167	A11368-10021	10K 1/10W 1% SMD 0805 T/R	B 3
R168	A11368-10021	10K 1/10W 1% SMD 0805 T/R	B 3
R169	A11368-10021	10K 1/10W 1% SMD 0805 T/R	B 3

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SIZE	DWG NO.	REV
A	126451-3	A
SCALE NONE	PROJ NO. MD404D0	SHEET 11 OF 15



PWA #126451-3 Component Map (Component Side)

PWA #126690-3

Input Module

PWB #126689-3

Schematic #126690-3 Rev. A

PARTS LIST			
REF DES	C. P. N.	DESCRIPTION	MAP LOC.
C1	A11427-104K2	.1UF 50V CHIP CAP 10% 0805 X7R	K 4
C2	C10359-5	1.UF 16V 20% TANTALUM SMT	K 4
C3	A11427-104K2	.1UF 50V CHIP CAP 10% 0805 X7R	I 5
C4	C10359-5	1.UF 16V 20% TANTALUM SMT	H 5
C5	A11427-104K2	.1UF 50V CHIP CAP 10% 0805 X7R	H 5
C6	A11427-104K2	.1UF 50V CHIP CAP 10% 0805 X7R	H 4
C7	C10359-5	1.UF 16V 20% TANTALUM SMT	H 4
C8	A11427-104K2	.1UF 50V CHIP CAP 10% 0805 X7R	G 5
C9	C10359-5	1.UF 16V 20% TANTALUM SMT	G 5
C10	A11427-104K2	.1UF 50V CHIP CAP 10% 0805 X7R	G 5
C11	A11427-104K2	.1UF 50V CHIP CAP 10% 0805 X7R	G 5
C12	A11427-104K2	.1UF 50V CHIP CAP 10% 0805 X7R	G 6
C13	A11427-104K2	.1UF 50V CHIP CAP 10% 0805 X7R	E 6
C14	A11427-104K2	.1UF 50V CHIP CAP 10% 0805 X7R	E 6
C15	A11427-104K2	.1UF 50V CHIP CAP 10% 0805 X7R	F 5
C16	A11427-104K2	.1UF 50V CHIP CAP 10% 0805 X7R	F 6
C17	A11427-104K2	.1UF 50V CHIP CAP 10% 0805 X7R	F 5
C18	A11427-104K2	.1UF 50V CHIP CAP 10% 0805 X7R	F 6
C19	A11427-104K2	.1UF 50V CHIP CAP 10% 0805 X7R	E 4
C20	C10359-5	1.UF 16V 20% TANTALUM SMT	E 4
C21	A11427-104K2	.1UF 50V CHIP CAP 10% 0805 X7R	F 5
C22	C10359-5	1.UF 16V 20% TANTALUM SMT	F 5
C23	A11427-104K2	.1UF 50V CHIP CAP 10% 0805 X7R	F 5
C24	A11427-104K2	.1UF 50V CHIP CAP 10% 0805 X7R	B 4
C25	C10359-5	1.UF 16V 20% TANTALUM SMT	C 4
C26	A11427-104K2	.1UF 50V CHIP CAP 10% 0805 X7R	F 5
C27	C10359-5	1.UF 16V 20% TANTALUM SMT	E 5
C28	A11427-104K2	.1UF 50V CHIP CAP 10% 0805 X7R	E 5
C29	A11369-102J2	.001UF 50V 5% NPO MLC 0805 T/R	G 6
C30	A11369-102J2	.001UF 50V 5% NPO MLC 0805 T/R	E 6
C31	A11369-102J2	.001UF 50V 5% NPO MLC 0805 T/R	F 6
C32	A11427-104K2	.1UF 50V CHIP CAP 10% 0805 X7R	H 6
C33	A11369-102J2	.001UF 50V 5% NPO MLC 0805 T/R	H 6
C34	C10391-8	10.UF 16V 20% TANTALUM SMT	E 6
C35	A11369-102J2	.001UF 50V 5% NPO MLC 0805 T/R	I 5
C36	A11369-102J2	.001UF 50V 5% NPO MLC 0805 T/R	H 5
C37	A11369-102J2	.001UF 50V 5% NPO MLC 0805 T/R	G 5
C38	A11369-102J2	.001UF 50V 5% NPO MLC 0805 T/R	F 5
C39	C10391-8	10.UF 16V 20% TANTALUM SMT	H 6
C40	C10391-8	10.UF 16V 20% TANTALUM SMT	I 5
C41	C10391-8	10.UF 16V 20% TANTALUM SMT	G 5
C42	C10391-8	10.UF 16V 20% TANTALUM SMT	E 5
C43	A11427-104K2	.1UF 50V CHIP CAP 10% 0805 X7R	K 4
C44	A11427-104K2	.1UF 50V CHIP CAP 10% 0805 X7R	H 4
C45	A11427-104K2	.1UF 50V CHIP CAP 10% 0805 X7R	E 4
C46	A11427-104K2	.1UF 50V CHIP CAP 10% 0805 X7R	B 4
C55	A11369-102J2	.001UF 50V 5% NPO MLC 0805 T/R	E 6

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SIZE	DWG NO.	REV
A	126690-3	A
SCALE	NONE	PROJ NO. MD404D0
SHEET 6 OF 22		

PARTS LIST			
REF DES	C. P. N.	DESCRIPTION	MAP LOC.
L700	126454-1	INDUCTOR, 270UH 5% SMT 1812	C 2
L701	126454-1	INDUCTOR, 270UH 5% SMT 1812	C 2
L800	126454-1	INDUCTOR, 270UH 5% SMT 1812	A 2
L801	126454-1	INDUCTOR, 270UH 5% SMT 1812	B 2
L900	125715-1	INDUCTOR, 53UH 1.87A SMT	C 6
L901	127060-1	INDUCTOR, 220UH 290MA SMT 7032	B 6
L902	127060-1	INDUCTOR, 220UH 290MA SMT 7032	B 5
L903	127060-1	INDUCTOR, 220UH 290MA SMT 7032	C 5
L904	127060-1	INDUCTOR, 220UH 290MA SMT 7032	B 5
P900	127068-1	HEADER, 6 POS Ø.156" TIN	D 5
Q100	C 9931-4	MMBT5087LT1 PNP XSISTOR SOT-23	K 3
Q101	C 9931-4	MMBT5087LT1 PNP XSISTOR SOT-23	K 4
Q200	C 9931-4	MMBT5087LT1 PNP XSISTOR SOT-23	K 3
Q201	C 9931-4	MMBT5087LT1 PNP XSISTOR SOT-23	J 4
Q300	C 9931-4	MMBT5087LT1 PNP XSISTOR SOT-23	H 3
Q301	C 9931-4	MMBT5087LT1 PNP XSISTOR SOT-23	I 4
Q400	C 9931-4	MMBT5087LT1 PNP XSISTOR SOT-23	H 3
Q401	C 9931-4	MMBT5087LT1 PNP XSISTOR SOT-23	H 4
Q500	C 9931-4	MMBT5087LT1 PNP XSISTOR SOT-23	F 3
Q501	C 9931-4	MMBT5087LT1 PNP XSISTOR SOT-23	F 4
Q600	C 9931-4	MMBT5087LT1 PNP XSISTOR SOT-23	E 3
Q601	C 9931-4	MMBT5087LT1 PNP XSISTOR SOT-23	E 4
Q700	C 9931-4	MMBT5087LT1 PNP XSISTOR SOT-23	C 3
Q701	C 9931-4	MMBT5087LT1 PNP XSISTOR SOT-23	C 4
Q800	C 9931-4	MMBT5087LT1 PNP XSISTOR SOT-23	B 3
Q801	C 9931-4	MMBT5087LT1 PNP XSISTOR SOT-23	B 4
Q900	126410-1	FET, N-CHNL 20A 30V DPAK	B 5
R1	A11368-10011	1.KOHM .1W 1% CHIP 0805	K 4
R2	A11371-1501	15 OHM .1W 5% 0805 T/R	H 5
R3	A11368-47R51	47.5 OHM .1W 1% 0805 T/R	H 5
R5	A11368-47R51	47.5 OHM .1W 1% 0805 T/R	H 5
R6	A11368-10021	10K 1/10W 1% SMD 0805 T/R	H 5
R8	A11368-10021	10K 1/10W 1% SMD 0805 T/R	I 5
R11	A11368-10021	10K 1/10W 1% SMD 0805 T/R	I 5
R12	A11368-10011	1.KOHM .1W 1% CHIP 0805	H 4
R13	A11371-1501	15 OHM .1W 5% 0805 T/R	G 5
R14	A11368-47R51	47.5 OHM .1W 1% 0805 T/R	G 5
R17	A11368-10021	10K 1/10W 1% SMD 0805 T/R	H 6
R19	A11368-10021	10K 1/10W 1% SMD 0805 T/R	G 5
R22	A11368-10021	10K 1/10W 1% SMD 0805 T/R	H 5
R23	A11368-47R51	47.5 OHM .1W 1% 0805 T/R	H 5
R24	A11368-47R51	47.5 OHM .1W 1% 0805 T/R	H 5
R25	A11368-47R51	47.5 OHM .1W 1% 0805 T/R	G 5
R26	A11368-47R51	47.5 OHM .1W 1% 0805 T/R	G 5
R27	A11368-10021	10K 1/10W 1% SMD 0805 T/R	D 5
R28	A11368-10021	10K 1/10W 1% SMD 0805 T/R	D 5
R29	A11368-47R51	47.5 OHM .1W 1% 0805 T/R	G 6

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SIZE	DWG NO.	REV
A	126690-3	A
SCALE NONE	PROJ NO. MD404D0	SHEET 13 OF 22

PARTS LIST			
REF DES	C. P. N.	DESCRIPTION	MAP LOC.
R30	A11368-10021	10K 1/10W 1% SMD 0805 T/R	H 6
R31	A11368-47R51	47.5 OHM .1W 1% 0805 T/R	H 6
R32	A11368-10021	10K 1/10W 1% SMD 0805 T/R	H 5
R33	A11368-47R51	47.5 OHM .1W 1% 0805 T/R	G 6
R35	A11368-47R51	47.5 OHM .1W 1% 0805 T/R	F 5
R36	A11368-47R51	47.5 OHM .1W 1% 0805 T/R	F 5
R37	A11368-47R51	47.5 OHM .1W 1% 0805 T/R	F 5
R38	A11368-47R51	47.5 OHM .1W 1% 0805 T/R	F 5
R39	A11368-10021	10K 1/10W 1% SMD 0805 T/R	F 6
R40	A11368-47R51	47.5 OHM .1W 1% 0805 T/R	H 5
R41	A11368-10021	10K 1/10W 1% SMD 0805 T/R	F 5
R42	A11368-10021	10K 1/10W 1% SMD 0805 T/R	F 6
R44	A11368-47R51	47.5 OHM .1W 1% 0805 T/R	G 5
R45	A11368-47R51	47.5 OHM .1W 1% 0805 T/R	G 5
R46	A11368-47R51	47.5 OHM .1W 1% 0805 T/R	G 5
R47	A11368-47R51	47.5 OHM .1W 1% 0805 T/R	F 5
R48	A11368-10021	10K 1/10W 1% SMD 0805 T/R	G 6
R50	A11368-10021	10K 1/10W 1% SMD 0805 T/R	G 5
R51	A11368-10021	10K 1/10W 1% SMD 0805 T/R	G 6
R52	A11368-10011	1.KOHM .1W 1% CHIP 0805	E 4
R53	A11371-1501	15 OHM .1W 5% 0805 T/R	F 5
R54	A11368-47R51	47.5 OHM .1W 1% 0805 T/R	F 5
R60	A11368-10021	10K 1/10W 1% SMD 0805 T/R	F 5
R63	A11368-10021	10K 1/10W 1% SMD 0805 T/R	G 5
R64	A11368-10011	1.KOHM .1W 1% CHIP 0805	C 4
R65	A11371-1501	15 OHM .1W 5% 0805 T/R	E 5
R66	A11368-47R51	47.5 OHM .1W 1% 0805 T/R	E 5
R70	A11368-47R51	47.5 OHM .1W 1% 0805 T/R	E 5
R72	A11368-10021	10K 1/10W 1% SMD 0805 T/R	F 5
R75	A11368-10021	10K 1/10W 1% SMD 0805 T/R	F 5
R100	A11368-20031	200K 0.1W 1% SMD CHIP 0805	K 1
R101	A11368-20031	200K 0.1W 1% SMD CHIP 0805	L 1
R102	A11368-10021	10K 1/10W 1% SMD 0805 T/R	K 1
R103	A11368-20021	20.KOHM .1W 1% CHIP 0805	K 2
R104	A11368-20021	20.KOHM .1W 1% CHIP 0805	K 2
R105	A11368-20011	2.0K, 0.10W 1% MF 0805	K 2
R106	A11368-20011	2.0K, 0.10W 1% MF 0805	L 2
R107	A11368-30111	3.01K 1/10W 1% SMD 0805 T/R	K 4
R108	A11368-30111	3.01K 1/10W 1% SMD 0805 T/R	K 3
R109	A11368-20021	20.KOHM .1W 1% CHIP 0805	L 4
R110	A11368-10021	10K 1/10W 1% SMD 0805 T/R	K 3
R111	126472-1	POT, 10K AUD TAPER R/A PC MT	L 1
R112	A11368-75R01	75.OHM 1/10W 1% SMD 0805 T/R	L 4
R113	A11368-20021	20.KOHM .1W 1% CHIP 0805	L 4
R114	A11368-10021	10K 1/10W 1% SMD 0805 T/R	K 4
R115	A11368-20021	20.KOHM .1W 1% CHIP 0805	K 3
R116	A11368-20021	20.KOHM .1W 1% CHIP 0805	K 4

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SIZE	DWG NO.	REV
A	126690-3	A
SCALE	NONE	PROJ NO. MD404D0 SHEET 14 OF 22

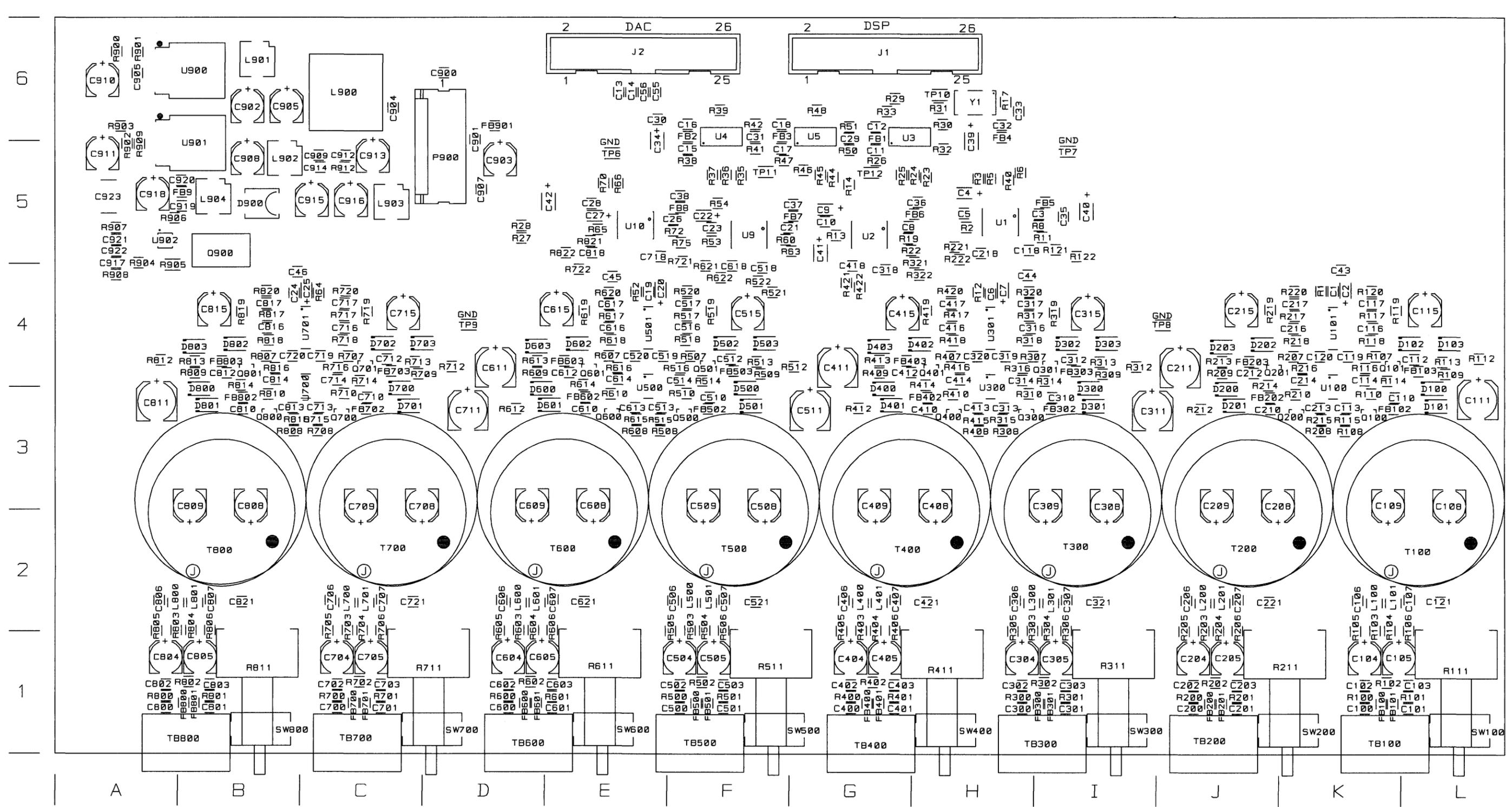
PARTS LIST			
REF DES	C. P. N.	DESCRIPTION	MAP LOC.
R720	A11368-20021	20.KOHM .1W 1% CHIP 0805	C 4
R721	A11371-1511	150. OHM .1W 5% CHIP 0805	F 5
R722	A11371-1511	150. OHM .1W 5% CHIP 0805	E 4
R800	A11368-20031	200K 0.1W 1% SMD CHIP 0805	A 1
R801	A11368-20031	200K 0.1W 1% SMD CHIP 0805	B 1
R802	A11368-10021	10K 1/10W 1% SMD 0805 T/R	B 1
R803	A11368-20021	20.KOHM .1W 1% CHIP 0805	A 2
R804	A11368-20021	20.KOHM .1W 1% CHIP 0805	B 2
R805	A11368-20011	2.0K. 0.10W 1% MF 0805	A 2
R806	A11368-20011	2.0K. 0.10W 1% MF 0805	B 2
R807	A11368-30111	3.01K 1/10W 1% SMD 0805 T/R	B 4
R808	A11368-30111	3.01K 1/10W 1% SMD 0805 T/R	B 3
R809	A11368-20021	20.KOHM .1W 1% CHIP 0805	B 4
R810	A11368-10021	10K 1/10W 1% SMD 0805 T/R	B 3
R811	126472-1	POT, 10K AUD TAPER R/A PC MT	B 1
R812	A11368-75R01	75.OHM 1/10W 1% SMD 0805 T/R	A 4
R813	A11368-20021	20.KOHM .1W 1% CHIP 0805	B 4
R814	A11368-10021	10K 1/10W 1% SMD 0805 T/R	B 4
R815	A11368-20021	20.KOHM .1W 1% CHIP 0805	B 3
R816	A11368-20021	20.KOHM .1W 1% CHIP 0805	B 4
R817	A11368-20021	20.KOHM .1W 1% CHIP 0805	B 4
R818	A11368-20011	2.0K. 0.10W 1% MF 0805	B 4
R819	A11368-20021	20.KOHM .1W 1% CHIP 0805	B 4
R820	A11368-20021	20.KOHM .1W 1% CHIP 0805	B 4
R821	A11371-1511	150. OHM .1W 5% CHIP 0805	E 5
R822	A11371-1511	150. OHM .1W 5% CHIP 0805	E 5
R900	A11368-10521	10.5K .10W 1% MF 0805	A 6
R901	A11368-10011	1.KOHM .1W 1% CHIP 0805	A 6
R902	A11368-10521	10.5K .10W 1% MF 0805	A 5
R903	A11368-10011	1.KOHM .1W 1% CHIP 0805	A 6
R904	A11368-20031	200K 0.1W 1% SMD CHIP 0805	A 5
R905	127080-1	RES. 0.7870HM 1% SMT 1206	A 4
R906		OPEN	A 5
R907	A11368-61931	619K OHM .1W 1% 0805 T/R	A 5
R908	A11368-10021	10K 1/10W 1% SMD 0805 T/R	A 4
R909	A11368-20021	20.KOHM .1W 1% CHIP 0805	A 5
R912	A11368-10021	10K 1/10W 1% SMD 0805 T/R	C 5
SW100	126645-1	SWITCH, 2P3T SLIDE R/A PC MT	L 1
SW200	126645-1	SWITCH, 2P3T SLIDE R/A PC MT	J 1
SW300	126645-1	SWITCH, 2P3T SLIDE R/A PC MT	I 1
SW400	126645-1	SWITCH, 2P3T SLIDE R/A PC MT	H 1
SW500	126645-1	SWITCH, 2P3T SLIDE R/A PC MT	F 1
SW600	126645-1	SWITCH, 2P3T SLIDE R/A PC MT	E 1
SW700	126645-1	SWITCH, 2P3T SLIDE R/A PC MT	C 1
SW800	126645-1	SWITCH, 2P3T SLIDE R/A PC MT	B 1
T100		OPEN	L 3
T200		OPEN	J 3

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SIZE	DWG NO.	REV
A	126690-3	A
SCALE NONE	PROJ NO. MD404D0	SHEET 18 OF 22

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PWA #126690-3 Component Map
(Component Side)

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PWA #126693-4

Output Module

PWB #126692-4

Schematic #126693-4 Rev. A

PARTS LIST			
REF DES	C. P. N.	DESCRIPTION	MAP LOC.
C304	A11427-104K2	.1UF 50V CHIP CAP 10% 0805 X7R	E 2
C305	A11369-102J2	.001UF 50V 5% NPO MLC 0805 T/R	F 3
C310	A11369-102J2	.001UF 50V 5% NPO MLC 0805 T/R	E 3
C311	A11369-102J2	.001UF 50V 5% NPO MLC 0805 T/R	E 2
C312	102438-221K2	220PF 200V 10% NPO 0805 T/R	E 2
C313	102438-221K2	220PF 200V 10% NPO 0805 T/R	E 2
C314	A11369-220J2	22 PF 5% 50V NPO CER CHIP	E 2
C315	102438-101K2	100PF 200V NPO 0805 T/R	E 2
C316	102438-101K2	100PF 200V NPO 0805 T/R	E 2
C317	126475-1	CAP. AL 47UF 35V SMT	E 2
C318	126475-1	CAP. AL 47UF 35V SMT	E 2
C319	A11369-152J2	1500PF 50V 5% NPO MLC 0805 T/R	E 1
C320	A11369-152J2	1500PF 50V 5% NPO MLC 0805 T/R	E 1
C321	102438-221K2	220PF 200V 10% NPO 0805 T/R	E 1
C322	102438-221K2	220PF 200V 10% NPO 0805 T/R	E 1
C403	A11427-104K2	.1UF 50V CHIP CAP 10% 0805 X7R	D 2
C404	A11427-104K2	.1UF 50V CHIP CAP 10% 0805 X7R	D 2
C410	A11369-102J2	.001UF 50V 5% NPO MLC 0805 T/R	D 3
C411	A11369-102J2	.001UF 50V 5% NPO MLC 0805 T/R	D 2
C412	102438-221K2	220PF 200V 10% NPO 0805 T/R	D 2
C413	102438-221K2	220PF 200V 10% NPO 0805 T/R	D 2
C414	A11369-220J2	22 PF 5% 50V NPO CER CHIP	E 2
C415	102438-101K2	100PF 200V NPO 0805 T/R	D 2
C416	102438-101K2	100PF 200V NPO 0805 T/R	E 2
C417	126475-1	CAP. AL 47UF 35V SMT	D 2
C418	126475-1	CAP. AL 47UF 35V SMT	E 2
C419	A11369-152J2	1500PF 50V 5% NPO MLC 0805 T/R	D 1
C420	A11369-152J2	1500PF 50V 5% NPO MLC 0805 T/R	D 1
C421	102438-221K2	220PF 200V 10% NPO 0805 T/R	D 1
C422	102438-221K2	220PF 200V 10% NPO 0805 T/R	D 1
C500	A11427-104K2	.1UF 50V CHIP CAP 10% 0805 X7R	D 3
C501	C10359-5	1. UF 16V 20% TANTALUM SMT	D 3
C502	A11427-104K2	.1UF 50V CHIP CAP 10% 0805 X7R	D 3
C503	A11427-104K2	.1UF 50V CHIP CAP 10% 0805 X7R	C 2
C504	A11427-104K2	.1UF 50V CHIP CAP 10% 0805 X7R	C 2
C505	A11369-102J2	.001UF 50V 5% NPO MLC 0805 T/R	E 3
C510	A11369-102J2	.001UF 50V 5% NPO MLC 0805 T/R	C 3
C511	A11369-102J2	.001UF 50V 5% NPO MLC 0805 T/R	D 2
C512	102438-221K2	220PF 200V 10% NPO 0805 T/R	C 2
C513	102438-221K2	220PF 200V 10% NPO 0805 T/R	C 2
C514	A11369-220J2	22 PF 5% 50V NPO CER CHIP	D 2
C515	102438-101K2	100PF 200V NPO 0805 T/R	C 2
C516	102438-101K2	100PF 200V NPO 0805 T/R	D 2
C517	126475-1	CAP. AL 47UF 35V SMT	C 2
C518	126475-1	CAP. AL 47UF 35V SMT	D 2
C519	A11369-152J2	1500PF 50V 5% NPO MLC 0805 T/R	D 1
C520	A11369-152J2	1500PF 50V 5% NPO MLC 0805 T/R	D 1

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SIZE	DWG NO.	REV
A	126693-4	A
SCALE NONE	PROJ NO. MD404D0	SHEET 7 OF 19

PARTS LIST			
REF DES	C. P. N.	DESCRIPTION	MAP LOC.
R58	A11368-10021	10K 1/10W 1% SMD 0805 T/R	H 4
R59	A11368-49911	4.99K 1/10W 1% SMD 0805 T/R	G 4
R60	A11368-10021	10K 1/10W 1% SMD 0805 T/R	H 4
R61	A11368-10021	10K 1/10W 1% SMD 0805 T/R	H 4
R62	A11368-10001	100 OHM 1% 0805 RES T/R	H 3
R63	A11368-10001	100 OHM 1% 0805 RES T/R	H 3
R64	A11368-10031	100.KOHM .1W 1% CHIP 0805	H 1
R65	A11368-10031	100.KOHM .1W 1% CHIP 0805	I 1
R66	A11368-10001	100 OHM 1% 0805 RES T/R	H 2
R67	A11368-10001	100 OHM 1% 0805 RES T/R	H 2
R68	A11368-10031	100.KOHM .1W 1% CHIP 0805	G 1
R69	A11368-10031	100.KOHM .1W 1% CHIP 0805	H 1
R70	A11368-10001	100 OHM 1% 0805 RES T/R	H 3
R71	A11368-10001	100 OHM 1% 0805 RES T/R	H 3
R72	A11368-10001	100 OHM 1% 0805 RES T/R	H 2
R73	A11368-10001	100 OHM 1% 0805 RES T/R	H 2
R74	A11368-10001	100 OHM 1% 0805 RES T/R	F 4
R75	A11368-47R51	47.5 OHM .1W 1% 0805 T/R	B 4
R76	A11368-47R51	47.5 OHM .1W 1% 0805 T/R	B 4
R77	A11368-47R51	47.5 OHM .1W 1% 0805 T/R	C 4
R78	A11368-47R51	47.5 OHM .1W 1% 0805 T/R	C 4
R79	A11368-47R51	47.5 OHM .1W 1% 0805 T/R	C 4
R100	A11368-10021	10K 1/10W 1% SMD 0805 T/R	G 3
R101	A11368-10021	10K 1/10W 1% SMD 0805 T/R	G 3
R102		OPEN	G 3
R103		OPEN	G 3
R104		OPEN	G 3
R105	A11368-10021	10K 1/10W 1% SMD 0805 T/R	G 3
R106	A11371-1501	15 OHM .1W 5% 0805 T/R	G 3
R107	A11368-10001	100 OHM 1% 0805 RES T/R	F 3
R110	A11368-13721	13.7K 1/10W 1% SMD 0805 T/R	G 3
R111	A11368-13721	13.7K 1/10W 1% SMD 0805 T/R	F 3
R112	A11368-13721	13.7K 1/10W 1% SMD 0805 T/R	G 2
R113	A11368-33211	3.32K OHM .1W 1% CHIP 0805	G 2
R114	A11368-13721	13.7K 1/10W 1% SMD 0805 T/R	F 3
R115	A11368-33211	3.32K OHM .1W 1% CHIP 0805	G 2
R116	A11368-76811	7.68KOHM 0.10W 1% SMT 0805	G 3
R117	A11368-30121	30.1K. 0.10W 1% MF 0805	G 2
R118	A11368-13721	13.7K 1/10W 1% SMD 0805 T/R	G 2
R119	A11368-10021	10K 1/10W 1% SMD 0805 T/R	G 2
R120	A11368-49911	4.99K 1/10W 1% SMD 0805 T/R	G 2
R121	A11368-10021	10K 1/10W 1% SMD 0805 T/R	G 2
R122	A11368-10021	10K 1/10W 1% SMD 0805 T/R	G 2
R123	A11368-10001	100 OHM 1% 0805 RES T/R	G 1
R124	A11368-10001	100 OHM 1% 0805 RES T/R	G 1
R125	A11368-10031	100.KOHM .1W 1% CHIP 0805	G 1
R126	A11368-10031	100.KOHM .1W 1% CHIP 0805	G 1
R127	A11368-10001	100 OHM 1% 0805 RES T/R	G 1

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SIZE	DWG NO.	REV
A	126693-4	A
SCALE NONE	PROJ NO. MD404D0	SHEET 11 OF 19

PARTS LIST			
REF DES	C. P. N.	DESCRIPTION	MAP LOC.
R328	A11368-10001	100 OHM 1% 0805 RES T/R	E 1
R410	A11368-13721	13.7K 1/10W 1% SMD 0805 T/R	E 3
R411	A11368-13721	13.7K 1/10W 1% SMD 0805 T/R	E 3
R412	A11368-13721	13.7K 1/10W 1% SMD 0805 T/R	D 2
R413	A11368-33211	3.32K OHM .1W 1% CHIP 0805	D 2
R414	A11368-13721	13.7K 1/10W 1% SMD 0805 T/R	D 3
R415	A11368-33211	3.32K OHM .1W 1% CHIP 0805	D 2
R416	A11368-76811	7.68KOHM 0.10W 1% SMT 0805	D 3
R417	A11368-30121	30.1K, 0.10W 1% MF 0805	E 2
R418	A11368-13721	13.7K 1/10W 1% SMD 0805 T/R	E 2
R419	A11368-10021	10K 1/10W 1% SMD 0805 T/R	E 2
R420	A11368-49911	4.99K 1/10W 1% SMD 0805 T/R	D 2
R421	A11368-10021	10K 1/10W 1% SMD 0805 T/R	D 2
R422	A11368-10021	10K 1/10W 1% SMD 0805 T/R	E 2
R423	A11368-10001	100 OHM 1% 0805 RES T/R	D 1
R424	A11368-10001	100 OHM 1% 0805 RES T/R	D 1
R425	A11368-10031	100.KOHM .1W 1% CHIP 0805	D 1
R426	A11368-10031	100.KOHM .1W 1% CHIP 0805	D 1
R427	A11368-10001	100 OHM 1% 0805 RES T/R	D 1
R428	A11368-10001	100 OHM 1% 0805 RES T/R	D 1
R500	A11368-10021	10K 1/10W 1% SMD 0805 T/R	D 3
R501	A11368-10021	10K 1/10W 1% SMD 0805 T/R	D 3
R502		OPEN	D 3
R503		OPEN	D 3
R504		OPEN	D 3
R505	A11368-10021	10K 1/10W 1% SMD 0805 T/R	D 3
R506	A11371-1501	15 OHM .1W 5% 0805 T/R	D 3
R507	A11368-10001	100 OHM 1% 0805 RES T/R	D 3
R510	A11368-13721	13.7K 1/10W 1% SMD 0805 T/R	D 3
R511	A11368-13721	13.7K 1/10W 1% SMD 0805 T/R	D 3
R512	A11368-13721	13.7K 1/10W 1% SMD 0805 T/R	C 2
R513	A11368-33211	3.32K OHM .1W 1% CHIP 0805	D 2
R514	A11368-13721	13.7K 1/10W 1% SMD 0805 T/R	C 3
R515	A11368-33211	3.32K OHM .1W 1% CHIP 0805	C 2
R516	A11368-76811	7.68KOHM 0.10W 1% SMT 0805	C 3
R517	A11368-30121	30.1K, 0.10W 1% MF 0805	D 2
R518	A11368-13721	13.7K 1/10W 1% SMD 0805 T/R	D 2
R519	A11368-10021	10K 1/10W 1% SMD 0805 T/R	D 2
R520	A11368-49911	4.99K 1/10W 1% SMD 0805 T/R	C 2
R521	A11368-10021	10K 1/10W 1% SMD 0805 T/R	D 2
R522	A11368-10021	10K 1/10W 1% SMD 0805 T/R	D 2
R523	A11368-10001	100 OHM 1% 0805 RES T/R	D 1
R524	A11368-10001	100 OHM 1% 0805 RES T/R	D 1
R525	A11368-10031	100.KOHM .1W 1% CHIP 0805	D 1
R526	A11368-10031	100.KOHM .1W 1% CHIP 0805	D 1
R527	A11368-10001	100 OHM 1% 0805 RES T/R	D 1
R528	A11368-10001	100 OHM 1% 0805 RES T/R	D 1

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SIZE	DWG NO.	REV
A	126693-4	A
SCALE NONE	PROJ NO. MD404D0	SHEET 13 OF 19

PARTS LIST			
REF DES	C. P. N.	DESCRIPTION	MAP LOC.
R610	A11368-13721	13.7K 1/10W 1% SMD 0805 T/R	D 3
R611	A11368-13721	13.7K 1/10W 1% SMD 0805 T/R	D 3
R612	A11368-13721	13.7K 1/10W 1% SMD 0805 T/R	C 2
R613	A11368-33211	3.32K OHM .1W 1% CHIP 0805	C 2
R614	A11368-13721	13.7K 1/10W 1% SMD 0805 T/R	B 2
R615	A11368-33211	3.32K OHM .1W 1% CHIP 0805	B 2
R616	A11368-76811	7.68KOHM 0.10W 1% SMT 0805	C 3
R617	A11368-30121	30.1K. 0.10W 1% MF 0805	C 2
R618	A11368-13721	13.7K 1/10W 1% SMD 0805 T/R	C 2
R619	A11368-10021	10K 1/10W 1% SMD 0805 T/R	C 2
R620	A11368-49911	4.99K 1/10W 1% SMD 0805 T/R	B 2
R621	A11368-10021	10K 1/10W 1% SMD 0805 T/R	C 2
R622	A11368-10021	10K 1/10W 1% SMD 0805 T/R	C 2
R623	A11368-10001	100 OHM 1% 0805 RES T/R	C 1
R624	A11368-10001	100 OHM 1% 0805 RES T/R	C 1
R625	A11368-10031	100.KOHM .1W 1% CHIP 0805	C 1
R626	A11368-10031	100.KOHM .1W 1% CHIP 0805	C 1
R627	A11368-10001	100 OHM 1% 0805 RES T/R	C 1
R628	A11368-10001	100 OHM 1% 0805 RES T/R	C 1
R700	A11368-10021	10K 1/10W 1% SMD 0805 T/R	C 3
R701	A11368-10021	10K 1/10W 1% SMD 0805 T/R	C 3
R702		OPEN	C 3
R703		OPEN	C 3
R704		OPEN	C 3
R705	A11368-10021	10K 1/10W 1% SMD 0805 T/R	C 3
R706	A11371-1501	15 OHM .1W 5% 0805 T/R	C 3
R707	A11368-10001	100 OHM 1% 0805 RES T/R	B 3
R710	A11368-13721	13.7K 1/10W 1% SMD 0805 T/R	C 3
R711	A11368-13721	13.7K 1/10W 1% SMD 0805 T/R	C 3
R712	A11368-13721	13.7K 1/10W 1% SMD 0805 T/R	B 2
R713	A11368-33211	3.32K OHM .1W 1% CHIP 0805	B 2
R714	A11368-13721	13.7K 1/10W 1% SMD 0805 T/R	A 3
R715	A11368-33211	3.32K OHM .1W 1% CHIP 0805	B 2
R716	A11368-76811	7.68KOHM 0.10W 1% SMT 0805	B 3
R717	A11368-30121	30.1K. 0.10W 1% MF 0805	B 2
R718	A11368-13721	13.7K 1/10W 1% SMD 0805 T/R	B 2
R719	A11368-10021	10K 1/10W 1% SMD 0805 T/R	B 2
R720	A11368-49911	4.99K 1/10W 1% SMD 0805 T/R	B 2
R721	A11368-10021	10K 1/10W 1% SMD 0805 T/R	B 2
R722	A11368-10021	10K 1/10W 1% SMD 0805 T/R	B 2
R723	A11368-10001	100 OHM 1% 0805 RES T/R	B 1
R724	A11368-10001	100 OHM 1% 0805 RES T/R	B 1
R725	A11368-10031	100.KOHM .1W 1% CHIP 0805	B 1
R726	A11368-10031	100.KOHM .1W 1% CHIP 0805	B 1
R727	A11368-10001	100 OHM 1% 0805 RES T/R	B 1
R728	A11368-10001	100 OHM 1% 0805 RES T/R	B 1
R810	A11368-13721	13.7K 1/10W 1% SMD 0805 T/R	B 3

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SIZE	DWG NO.	REV
A	126693-4	A
SCALE NONE	PROJ NO. MD404D0	SHEET 14 OF 19

PARTS LIST			
REF DES	C. P. N.	DESCRIPTION	MAP LOC.
R811	A11368-13721	13.7K 1/10W 1% SMD 0805 T/R	B 3
R812	A11368-13721	13.7K 1/10W 1% SMD 0805 T/R	A 2
R813	A11368-33211	3.32K OHM .1W 1% CHIP 0805	A 2
R814	A11368-13721	13.7K 1/10W 1% SMD 0805 T/R	A 3
R815	A11368-33211	3.32K OHM .1W 1% CHIP 0805	A 2
R816	A11368-76811	7.68KOHM 0.10W 1% SMT 0805	A 3
R817	A11368-30121	30.1K. 0.10W 1% MF 0805	A 2
R818	A11368-13721	13.7K 1/10W 1% SMD 0805 T/R	A 2
R819	A11368-10021	10K 1/10W 1% SMD 0805 T/R	A 2
R820	A11368-49911	4.99K 1/10W 1% SMD 0805 T/R	A 2
R821	A11368-10021	10K 1/10W 1% SMD 0805 T/R	A 2
R822	A11368-10021	10K 1/10W 1% SMD 0805 T/R	A 2
R823	A11368-10001	100 OHM 1% 0805 RES T/R	A 1
R824	A11368-10001	100 OHM 1% 0805 RES T/R	A 1
R825	A11368-10031	100.KOHM .1W 1% CHIP 0805	A 1
R826	A11368-10031	100.KOHM .1W 1% CHIP 0805	A 1
R827	A11368-10001	100 OHM 1% 0805 RES T/R	A 1
R828	A11368-10001	100 OHM 1% 0805 RES T/R	A 1
T1	OPEN		H 3
T2	OPEN		H 2
TB1	C 9676-5	3 POS. R/A 5MM HDR RND PIN	H 1
TB2	C 9676-5	3 POS. R/A 5MM HDR RND PIN	G 1
TB100	C 9676-5	3 POS. R/A 5MM HDR RND PIN	G 1
TB200	C 9676-5	3 POS. R/A 5MM HDR RND PIN	F 1
TB300	C 9676-5	3 POS. R/A 5MM HDR RND PIN	E 1
TB400	C 9676-5	3 POS. R/A 5MM HDR RND PIN	D 1
TB500	C 9676-5	3 POS. R/A 5MM HDR RND PIN	C 1
TB600	C 9676-5	3 POS. R/A 5MM HDR RND PIN	B 1
TB700	C 9676-5	3 POS. R/A 5MM HDR RND PIN	B 1
TB800	C 9676-5	3 POS. R/A 5MM HDR RND PIN	A 1
TP9	127064-1	TEST POINT, SMT 1206	C 4
TP10	127064-1	TEST POINT, SMT 1206	F 4
TP11	127064-1	TEST POINT, SMT 1206	D 3
TP53	127064-1	TEST POINT, SMT 1206	C 1
TP57	127064-1	TEST POINT, SMT 1206	A 3
TP58	127064-1	TEST POINT, SMT 1206	I 1
U1	126509-1	IC, 49FCT005 CLK DRIVER QSOP	D 4
U2	126509-1	IC, 49FCT005 CLK DRIVER QSOP	E 4
U3	126509-1	IC, 49FCT005 CLK DRIVER QSOP	D 4
U4	125631-1	DAC, 24BIT CS4390-KS 20 SSOP	G 4
U5	C 9012-3	OP AMP, QUAD LO NOISE MC33079D	H 4
U6	C 9012-3	OP AMP, QUAD LO NOISE MC33079D	H 4
U100	125631-1	DAC, 24BIT CS4390-KS 20 SSOP	F 3
U101	C 9012-3	OP AMP, QUAD LO NOISE MC33079D	G 2
U201	C 9012-3	OP AMP, QUAD LO NOISE MC33079D	F 2
U300	125631-1	DAC, 24BIT CS4390-KS 20 SSOP	E 3
U301	C 9012-3	OP AMP, QUAD LO NOISE MC33079D	E 2

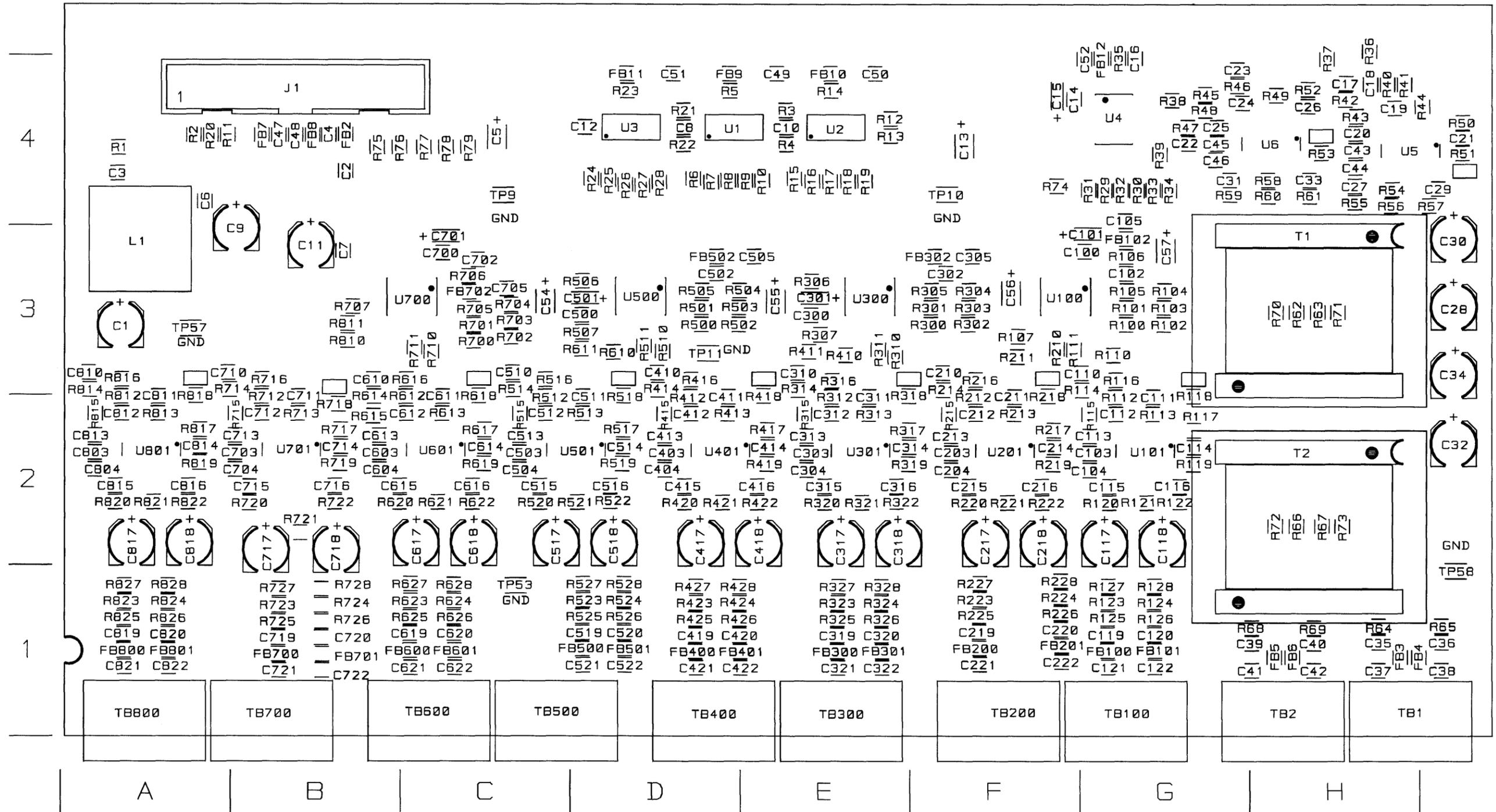
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SIZE	DWG NO.	REV
A	126693-4	A
SCALE NONE	PROJ NO. MD404D0	SHEET 15 OF 19

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PWA #126744-3

SHARC Module

PWB #126743-4

Schematic #126744-3 Rev. A

PARTS LIST			
REF DES	C. P. N.	DESCRIPTION	MAP LOC.
C1	A11427-104K2	.1UF 50V CHIP CAP 10% 0805 X7R	B 3
C2	A11427-104K2	.1UF 50V CHIP CAP 10% 0805 X7R	A 3
C3	A11427-104K2	.1UF 50V CHIP CAP 10% 0805 X7R	A 2
C4	A11427-104K2	.1UF 50V CHIP CAP 10% 0805 X7R	B 2
C5	A11427-104K2	.1UF 50V CHIP CAP 10% 0805 X7R	B 2
C6	A11427-104K2	.1UF 50V CHIP CAP 10% 0805 X7R	B 3
C7	A11427-104K2	.1UF 50V CHIP CAP 10% 0805 X7R	B 3
C8	A11427-104K2	.1UF 50V CHIP CAP 10% 0805 X7R	C 2
C9	A11427-104K2	.1UF 50V CHIP CAP 10% 0805 X7R	C 2
C14	A11427-104K2	.1UF 50V CHIP CAP 10% 0805 X7R	C 7
C15	A11427-104K2	.1UF 50V CHIP CAP 10% 0805 X7R	C 5
C16	A11427-104K2	.1UF 50V CHIP CAP 10% 0805 X7R	C 6
C17	A11427-104K2	.1UF 50V CHIP CAP 10% 0805 X7R	C 7
C18	A11427-104K2	.1UF 50V CHIP CAP 10% 0805 X7R	D 5
C19	A11427-104K2	.1UF 50V CHIP CAP 10% 0805 X7R	C 5
C20	A11427-104K2	.1UF 50V CHIP CAP 10% 0805 X7R	D 6
C21	A11427-104K2	.1UF 50V CHIP CAP 10% 0805 X7R	D 5
C22	C10391-8	10.UF 16V 20% TANTALUM SMT	D 3
C23	127074-1	CAP. 220UF 6.3V 20% ALUM SMT	E 2
C24	A11427-104K2	.1UF 50V CHIP CAP 10% 0805 X7R	D 7
C25	A11427-104K2	.1UF 50V CHIP CAP 10% 0805 X7R	D 7
C26	127074-1	CAP. 220UF 6.3V 20% ALUM SMT	F 2
C27	127074-1	CAP. 220UF 6.3V 20% ALUM SMT	F 3
C28	A11427-104K2	.1UF 50V CHIP CAP 10% 0805 X7R	E 7
C29	A11427-104K2	.1UF 50V CHIP CAP 10% 0805 X7R	D 7
C30	A11427-104K2	.1UF 50V CHIP CAP 10% 0805 X7R	A 7
C32	A11427-104K2	.1UF 50V CHIP CAP 10% 0805 X7R	A 7
C33	A11427-104K2	.1UF 50V CHIP CAP 10% 0805 X7R	A 3
C34	A11427-104K2	.1UF 50V CHIP CAP 10% 0805 X7R	A 2
C35	A11427-104K2	.1UF 50V CHIP CAP 10% 0805 X7R	E 8
C36	A11427-104K2	.1UF 50V CHIP CAP 10% 0805 X7R	F 9
C37	A11427-104K2	.1UF 50V CHIP CAP 10% 0805 X7R	E 6
C38	A11427-104K2	.1UF 50V CHIP CAP 10% 0805 X7R	E 5
C39	C10391-8	10.UF 16V 20% TANTALUM SMT	D 9
C40	A11427-104K2	.1UF 50V CHIP CAP 10% 0805 X7R	D 5
C41	A11427-104K2	.1UF 50V CHIP CAP 10% 0805 X7R	D 5
C42	A11427-104K2	.1UF 50V CHIP CAP 10% 0805 X7R	C 3
C43	A11427-104K2	.1UF 50V CHIP CAP 10% 0805 X7R	C 3
C44	A11427-104K2	.1UF 50V CHIP CAP 10% 0805 X7R	D 2
C45	A11427-104K2	.1UF 50V CHIP CAP 10% 0805 X7R	D 1
C46	A11427-104K2	.1UF 50V CHIP CAP 10% 0805 X7R	F 4
C47	A11427-104K2	.1UF 50V CHIP CAP 10% 0805 X7R	C 9
C48	A11427-104K2	.1UF 50V CHIP CAP 10% 0805 X7R	D 9
C49	A11427-104K2	.1UF 50V CHIP CAP 10% 0805 X7R	D 9
C50	A11427-104K2	.1UF 50V CHIP CAP 10% 0805 X7R	E 9
C51	A11427-104K2	.1UF 50V CHIP CAP 10% 0805 X7R	E 9
C52	A11427-104K2	.1UF 50V CHIP CAP 10% 0805 X7R	E 8

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SIZE	DWG NO.	REV
A	126744-3	A
SCALE	PROJ NO.	SHEET
NONE	MD404D0	5 OF 17

PARTS LIST			
REF DES	C.P.N.	DESCRIPTION	MAP LOC.
C100	C10391-8	10.UF 16V 20% TANTALUM SMT	A 5
C101	C10391-8	10.UF 16V 20% TANTALUM SMT	B 3
C102	C10391-8	10.UF 16V 20% TANTALUM SMT	F 3
C103	A11427-104K2	.1UF 50V CHIP CAP 10% 0805 X7R	E 3
C104	A11427-103K2	.01 UF 50V 10% X7R MLC 0805	F 3
C105	A11427-104K2	.1UF 50V CHIP CAP 10% 0805 X7R	E 3
C106	A11427-104K2	.1UF 50V CHIP CAP 10% 0805 X7R	E 3
C107	A11427-104K2	.1UF 50V CHIP CAP 10% 0805 X7R	E 1
C108	A11427-104K2	.1UF 50V CHIP CAP 10% 0805 X7R	B 7
C109	C10391-8	10.UF 16V 20% TANTALUM SMT	E 9
C110	C10391-8	10.UF 16V 20% TANTALUM SMT	A 6
C111	C10391-8	10.UF 16V 20% TANTALUM SMT	A 9
C112	C10391-8	10.UF 16V 20% TANTALUM SMT	C 3
C113	127074-1	CAP, 220UF 6.3V 20% ALUM SMT	F 4
C114	A11427-104K2	.1UF 50V CHIP CAP 10% 0805 X7R	A 6
D1	C 9283-0	DIODE, MMBD4148/914 SOT-23 SMT	A 3
D2	125711-1	DIODE, SCHOTTKY 40V 1A D0214A	E 3
D3	126411-1	DIODE, SCHOTTKY 3A 40V SMT	E 2
D4	C 9283-0	DIODE, MMBD4148/914 SOT-23 SMT	A 9
D5	C 9283-0	DIODE, MMBD4148/914 SOT-23 SMT	E 8
D6	C 9283-0	DIODE, MMBD4148/914 SOT-23 SMT	A 4
D7	C 9283-0	DIODE, MMBD4148/914 SOT-23 SMT	E 4
E1	126473-1	LED, GRN SMT 1206	E 9
E2	126473-1	LED, GRN SMT 1206	E 9
E3	126473-1	LED, GRN SMT 1206	A 9
E4	126473-1	LED, GRN SMT 1206	A 8
E5	126473-1	LED, GRN SMT 1206	A 3
E6	126473-1	LED, GRN SMT 1206	A 5
E7	126473-1	LED, GRN SMT 1206	A 4
E8	126473-1	LED, GRN SMT 1206	E 4
E9	126473-1	LED, GRN SMT 1206	E 4
FB1	125846-1	FERRITE BEAD, 600 OHM .5A 0805	C 5
FB2	125846-1	FERRITE BEAD, 600 OHM .5A 0805	D 8
FB3	125846-1	FERRITE BEAD, 600 OHM .5A 0805	A 7
FB4	125846-1	FERRITE BEAD, 600 OHM .5A 0805	A 3
FB5	125846-1	FERRITE BEAD, 600 OHM .5A 0805	F 9
FB6	125846-1	FERRITE BEAD, 600 OHM .5A 0805	E 6
FB7	125846-1	FERRITE BEAD, 600 OHM .5A 0805	A 3
FB9	125846-1	FERRITE BEAD, 600 OHM .5A 0805	A 2
FB10	125846-1	FERRITE BEAD, 600 OHM .5A 0805	D 2
FB11	125846-1	FERRITE BEAD, 600 OHM .5A 0805	C 7
FB12	125846-1	FERRITE BEAD, 600 OHM .5A 0805	C 7
FB13	125694-1	FERRITE BEAD, 2A SMT 4532	C 9
FB14	125694-1	FERRITE BEAD, 2A SMT 4532	A 8
FB15	125694-1	FERRITE BEAD, 2A SMT 4532	C 3
FB16	125694-1	FERRITE BEAD, 2A SMT 4532	A 3
FB17	125846-1	FERRITE BEAD, 600 OHM .5A 0805	A 6

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SIZE	DWG NO.	REV
A	126744-3	A
SCALE NONE	PROJ NO. MD404D0	SHEET 7 OF 17

PARTS LIST			
REF DES	C. P. N.	DESCRIPTION	MAP LOC.
R37	A11368-47R51	47.5 OHM .1W 1% 0805 T/R	C 5
R38	A11368-47R51	47.5 OHM .1W 1% 0805 T/R	C 5
R39	A11368-47R51	47.5 OHM .1W 1% 0805 T/R	D 3
R40	A11368-22R11	22.1 OHM 0.1W 1% 0805 T/R	D 3
R41	A11368-22R11	22.1 OHM 0.1W 1% 0805 T/R	C 3
R42	A11368-47R51	47.5 OHM .1W 1% 0805 T/R	C 4
R43	A11368-47R51	47.5 OHM .1W 1% 0805 T/R	E 5
R44	A11368-47R51	47.5 OHM .1W 1% 0805 T/R	C 5
R45	A11368-47R51	47.5 OHM .1W 1% 0805 T/R	B 5
R46	A11368-22R11	22.1 OHM 0.1W 1% 0805 T/R	B 5
R47	A11368-22R11	22.1 OHM 0.1W 1% 0805 T/R	B 5
R48	A11368-47R51	47.5 OHM .1W 1% 0805 T/R	B 5
R49	A11368-47R51	47.5 OHM .1W 1% 0805 T/R	A 4
R50	A11368-10R01	10.0 OHM 0.10W 1% 0805 T/R	C 8
R51	A11368-47R51	47.5 OHM .1W 1% 0805 T/R	C 8
R52	A11368-47R51	47.5 OHM .1W 1% 0805 T/R	C 9
R53	A11368-47R51	47.5 OHM .1W 1% 0805 T/R	C 9
R54	A11368-47R51	47.5 OHM .1W 1% 0805 T/R	C 9
R55	A11368-47R51	47.5 OHM .1W 1% 0805 T/R	C 9
R56	A11368-47R51	47.5 OHM .1W 1% 0805 T/R	C 9
R57	A11368-10R01	10.0 OHM 0.10W 1% 0805 T/R	C 8
R58	A11368-47R51	47.5 OHM .1W 1% 0805 T/R	C 8
R59	A11368-47R51	47.5 OHM .1W 1% 0805 T/R	B 9
R60	A11368-22R11	22.1 OHM 0.1W 1% 0805 T/R	C 9
R61	A11368-22R11	22.1 OHM 0.1W 1% 0805 T/R	C 9
R62	A11368-47R51	47.5 OHM .1W 1% 0805 T/R	C 9
R63	A11368-47R51	47.5 OHM .1W 1% 0805 T/R	A 8
R64	A11368-47R51	47.5 OHM .1W 1% 0805 T/R	E 9
R65	A11368-22R11	22.1 OHM 0.1W 1% 0805 T/R	D 8
R66	A11368-22R11	22.1 OHM 0.1W 1% 0805 T/R	C 8
R67	A11368-47R51	47.5 OHM .1W 1% 0805 T/R	C 8
R68	A11368-47R51	47.5 OHM .1W 1% 0805 T/R	C 9
R69	A11368-47R51	47.5 OHM .1W 1% 0805 T/R	D 8
R70	A11368-10021	10K 1/10W 1% SMD 0805 T/R	B 8
R71	A11368-10021	10K 1/10W 1% SMD 0805 T/R	B 4
R72	A11368-10021	10K 1/10W 1% SMD 0805 T/R	B 4
R73	A11368-10021	10K 1/10W 1% SMD 0805 T/R	B 4
R74	A11368-10021	10K 1/10W 1% SMD 0805 T/R	D 5
R75	A11368-10021	10K 1/10W 1% SMD 0805 T/R	D 5
R76	A11368-10021	10K 1/10W 1% SMD 0805 T/R	C 5
R77	A11368-47R51	47.5 OHM .1W 1% 0805 T/R	C 8
R78		OPEN	E 5
R79		OPEN	B 8
R80	A11368-47R51	47.5 OHM .1W 1% 0805 T/R	B 9
R81	A11368-47R51	47.5 OHM .1W 1% 0805 T/R	B 6
R82	A11368-47R51	47.5 OHM .1W 1% 0805 T/R	D 3
R83		OPEN	C 8

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SIZE	DWG NO.	REV
A	126744-3	A
SCALE NONE	PROJ NO. MD404D0	SHEET 9 OF 17

PARTS LIST			
REF DES	C.P.N.	DESCRIPTION	MAP LOC.
R84		OPEN	E 5
R85	A11368-10021	10K 1/10W 1% SMD 0805 T/R	E 5
R86	A11368-10021	10K 1/10W 1% SMD 0805 T/R	E 4
R87	A11368-10021	10K 1/10W 1% SMD 0805 T/R	A 4
R88	A11368-10021	10K 1/10W 1% SMD 0805 T/R	A 4
R89	A11368-10021	10K 1/10W 1% SMD 0805 T/R	A 8
R90	A11368-10021	10K 1/10W 1% SMD 0805 T/R	A 8
R91	A11368-10011	1. KOHM .1W 1% CHIP 0805	E 7
R92	A11368-22601	226 OHM 0.1W 1% 0805 T/R	E 9
R93	A11368-22601	226 OHM 0.1W 1% 0805 T/R	E 9
R94	A11368-22601	226 OHM 0.1W 1% 0805 T/R	A 8
R95	A11368-10021	10K 1/10W 1% SMD 0805 T/R	E 5
R96	A11368-10021	10K 1/10W 1% SMD 0805 T/R	E 5
R97	A11368-10021	10K 1/10W 1% SMD 0805 T/R	D 5
R98	A11368-10021	10K 1/10W 1% SMD 0805 T/R	D 5
R103	A11368-22R11	22.1 OHM 0.1W 1% 0805 T/R	D 8
R104	A11368-47R51	47.5 OHM .1W 1% 0805 T/R	D 8
R105	A11368-47R51	47.5 OHM .1W 1% 0805 T/R	D 8
R106	A11368-22R11	22.1 OHM 0.1W 1% 0805 T/R	B 9
R107	A11368-47R51	47.5 OHM .1W 1% 0805 T/R	B 9
R108	A11368-47R51	47.5 OHM .1W 1% 0805 T/R	B 9
R109	A11368-22R11	22.1 OHM 0.1W 1% 0805 T/R	B 5
R110	A11368-47R51	47.5 OHM .1W 1% 0805 T/R	B 5
R111	A11368-47R51	47.5 OHM .1W 1% 0805 T/R	B 5
R112	A11368-22R11	22.1 OHM 0.1W 1% 0805 T/R	D 3
R113	A11368-47R51	47.5 OHM .1W 1% 0805 T/R	D 3
R114	A11368-47R51	47.5 OHM .1W 1% 0805 T/R	D 3
R115	A11368-47R51	47.5 OHM .1W 1% 0805 T/R	A 7
R116	A11368-10011	1. KOHM .1W 1% CHIP 0805	A 3
R117	A11368-10021	10K 1/10W 1% SMD 0805 T/R	A 3
R118	A11368-10021	10K 1/10W 1% SMD 0805 T/R	A 2
R119	A11368-10021	10K 1/10W 1% SMD 0805 T/R	A 3
R120	A11368-47R51	47.5 OHM .1W 1% 0805 T/R	A 7
R121	A11368-47R51	47.5 OHM .1W 1% 0805 T/R	A 6
R122	A11368-47R51	47.5 OHM .1W 1% 0805 T/R	A 6
R123	A11368-47R51	47.5 OHM .1W 1% 0805 T/R	A 7
R124	A11368-47R51	47.5 OHM .1W 1% 0805 T/R	A 7
R125	A11368-47R51	47.5 OHM .1W 1% 0805 T/R	A 7
R126	A11368-47R51	47.5 OHM .1W 1% 0805 T/R	A 7
R127	A11368-47R51	47.5 OHM .1W 1% 0805 T/R	A 7
R128	A11368-47R51	47.5 OHM .1W 1% 0805 T/R	A 7
R129	A11368-47R51	47.5 OHM .1W 1% 0805 T/R	A 7
R130	A11368-47R51	47.5 OHM .1W 1% 0805 T/R	C 4
R131	A11368-47R51	47.5 OHM .1W 1% 0805 T/R	D 5
R132	A11368-47R51	47.5 OHM .1W 1% 0805 T/R	D 5
R133	A11368-47R51	47.5 OHM .1W 1% 0805 T/R	C 5
R134	A11368-47R51	47.5 OHM .1W 1% 0805 T/R	C 5

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SIZE	DWG NO.	REV
A	126744-3	A
SCALE NONE	PROJ NO. MD404D0	SHEET 10 OF 17

PARTS LIST			
REF DES	C. P. N.	DESCRIPTION	MAP LOC.
R135	A11368-22601	226 OHM 0.1W 1% 0805 T/R	A 9
R136	A11368-22601	226 OHM 0.1W 1% 0805 T/R	A 5
R137	A11368-22601	226 OHM 0.1W 1% 0805 T/R	A 4
R138	A11368-22601	226 OHM 0.1W 1% 0805 T/R	E 4
R139	A11368-22601	226 OHM 0.1W 1% 0805 T/R	E 4
R140	A11368-10021	10K 1/10W 1% SMD 0805 T/R	E 6
R141	A11368-10021	10K 1/10W 1% SMD 0805 T/R	A 3
R142	A11368-22601	226 OHM 0.1W 1% 0805 T/R	A 3
R143	A11368-47R51	47.5 OHM .1W 1% 0805 T/R	C 4
R144	A11368-47R51	47.5 OHM .1W 1% 0805 T/R	B 7
R145	A11368-47R51	47.5 OHM .1W 1% 0805 T/R	C 6
R146	A11368-47R51	47.5 OHM .1W 1% 0805 T/R	B 6
R147	A11368-47R51	47.5 OHM .1W 1% 0805 T/R	C 6
R148	A11368-47R51	47.5 OHM .1W 1% 0805 T/R	B 7
R149	A11368-47R51	47.5 OHM .1W 1% 0805 T/R	F 8
R150	A11368-47R51	47.5 OHM .1W 1% 0805 T/R	E 8
R151	A11368-33R21	33.2 OHM 1% 0805 RES T/R	E 8
R152	A11368-47R51	47.5 OHM .1W 1% 0805 T/R	C 4
R153	A11368-47R51	47.5 OHM .1W 1% 0805 T/R	E 6
R154	A11368-47R51	47.5 OHM .1W 1% 0805 T/R	F 5
R155	A11368-47R51	47.5 OHM .1W 1% 0805 T/R	E 5
R156	A11368-47R51	47.5 OHM .1W 1% 0805 T/R	E 5
R157	A11368-47R51	47.5 OHM .1W 1% 0805 T/R	E 5
R158	A11368-10021	10K 1/10W 1% SMD 0805 T/R	A 7
R159	A11368-10021	10K 1/10W 1% SMD 0805 T/R	D 4
R160	A11368-10021	10K 1/10W 1% SMD 0805 T/R	B 9
R161	A11368-10011	1.KOHM .1W 1% CHIP 0805	A 3
R162	A11368-10021	10K 1/10W 1% SMD 0805 T/R	A 7
R163	A11368-10021	10K 1/10W 1% SMD 0805 T/R	A 7
R164	A11368-47R51	47.5 OHM .1W 1% 0805 T/R	F 9
R165	A11368-47R51	47.5 OHM .1W 1% 0805 T/R	F 9
R166	A11368-47R51	47.5 OHM .1W 1% 0805 T/R	F 9
R167	A11368-47R51	47.5 OHM .1W 1% 0805 T/R	F 9
R168	A11368-47R51	47.5 OHM .1W 1% 0805 T/R	F 9
R169	A11368-47R51	47.5 OHM .1W 1% 0805 T/R	F 9
R170	A11368-47R51	47.5 OHM .1W 1% 0805 T/R	C 4
R171	A11368-33R21	33.2 OHM 1% 0805 RES T/R	F 8
R172	A11368-47R51	47.5 OHM .1W 1% 0805 T/R	E 9
R173	A11368-47R51	47.5 OHM .1W 1% 0805 T/R	E 5
R174	A11368-47R51	47.5 OHM .1W 1% 0805 T/R	E 5
R175	A11368-47R51	47.5 OHM .1W 1% 0805 T/R	E 5
R176	A11368-47R51	47.5 OHM .1W 1% 0805 T/R	E 6
R177	A11368-47R51	47.5 OHM .1W 1% 0805 T/R	E 5
R178	A11368-47R51	47.5 OHM .1W 1% 0805 T/R	F 9
R179	A11368-10011	1.KOHM .1W 1% CHIP 0805	D 3
R180	A11368-10021	10K 1/10W 1% SMD 0805 T/R	C 8
R181	A11368-10021	10K 1/10W 1% SMD 0805 T/R	B 9

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SIZE	DWG NO.	REV
A	126744-3	A
SCALE NONE	PROJ NO. MD404D0	SHEET 11 OF 17

PARTS LIST			
REF DES	C. P. N.	DESCRIPTION	MAP LOC.
R182	A11368-47R51	47.5 OHM .1W 1% 0805 T/R	B 7
R183	A11368-47R51	47.5 OHM .1W 1% 0805 T/R	C 7
R184	A11368-47R51	47.5 OHM .1W 1% 0805 T/R	C 6
R185	A11368-47R51	47.5 OHM .1W 1% 0805 T/R	D 1
R186	A11368-47R51	47.5 OHM .1W 1% 0805 T/R	D 1
R187	A11368-47R51	47.5 OHM .1W 1% 0805 T/R	D 2
R188	A11368-47R51	47.5 OHM .1W 1% 0805 T/R	D 2
R189	A11368-47R51	47.5 OHM .1W 1% 0805 T/R	F 2
R190	A11368-47R51	47.5 OHM .1W 1% 0805 T/R	F 3
R191	A11368-10021	10K 1/10W 1% SMD 0805 T/R	F 4
R192	A11368-47R51	47.5 OHM .1W 1% 0805 T/R	C 6
R193	A11368-47R51	47.5 OHM .1W 1% 0805 T/R	E 5
R194	A11368-47R51	47.5 OHM .1W 1% 0805 T/R	E 5
R195	A11368-47R51	47.5 OHM .1W 1% 0805 T/R	E 5
R196	A11368-47R51	47.5 OHM .1W 1% 0805 T/R	D 2
R197	A11368-10021	10K 1/10W 1% SMD 0805 T/R	D 2
R198	A11368-10021	10K 1/10W 1% SMD 0805 T/R	F 3
R199	A11368-47R51	47.5 OHM .1W 1% 0805 T/R	B 6
R200	126414-1	RES. .0150HM 1W 1% 2512 SMT T/R	E 3
R201	A11368-47R51	47.5 OHM .1W 1% 0805 T/R	B 7
R202	A11368-47R51	47.5 OHM .1W 1% 0805 T/R	D 2
R203	A11368-10011	1.KOHM .1W 1% CHIP 0805	F 5
R205	A11368-47R51	47.5 OHM .1W 1% 0805 T/R	B 6
R206	A11368-47R51	47.5 OHM .1W 1% 0805 T/R	B 6
R207	A11368-47R51	47.5 OHM .1W 1% 0805 T/R	B 6
R208	A11368-10021	10K 1/10W 1% SMD 0805 T/R	B 6
R209	A11368-47R51	47.5 OHM .1W 1% 0805 T/R	A 3
R210	A11368-47R51	47.5 OHM .1W 1% 0805 T/R	D 1
R211	A11368-47R51	47.5 OHM .1W 1% 0805 T/R	D 1
R212	A11368-47R51	47.5 OHM .1W 1% 0805 T/R	D 1
R213	A11368-47R51	47.5 OHM .1W 1% 0805 T/R	D 1
R214	A11368-47R51	47.5 OHM .1W 1% 0805 T/R	D 1
R215	A11368-47R51	47.5 OHM .1W 1% 0805 T/R	D 1
R216	A11368-47R51	47.5 OHM .1W 1% 0805 T/R	E 1
R217	A11368-47R51	47.5 OHM .1W 1% 0805 T/R	E 1
R218	A11368-47R51	47.5 OHM .1W 1% 0805 T/R	B 6
R219	A11368-47R51	47.5 OHM .1W 1% 0805 T/R	B 7
R220	A11368-47R51	47.5 OHM .1W 1% 0805 T/R	B 7
R221	A11368-47R51	47.5 OHM .1W 1% 0805 T/R	B 6
R222	A11368-47R51	47.5 OHM .1W 1% 0805 T/R	B 6
R223	A11368-47R51	47.5 OHM .1W 1% 0805 T/R	A 6
R224	A11368-47R51	47.5 OHM .1W 1% 0805 T/R	B 6
R225	A11368-47R51	47.5 OHM .1W 1% 0805 T/R	B 6
R226	A11368-47R51	47.5 OHM .1W 1% 0805 T/R	B 6
R227	A11368-47R51	47.5 OHM .1W 1% 0805 T/R	B 6
R228	A11368-47R51	47.5 OHM .1W 1% 0805 T/R	B 6
R229	A11368-10021	10K 1/10W 1% SMD 0805 T/R	A 6
R230	A11368-10021	10K 1/10W 1% SMD 0805 T/R	A 6

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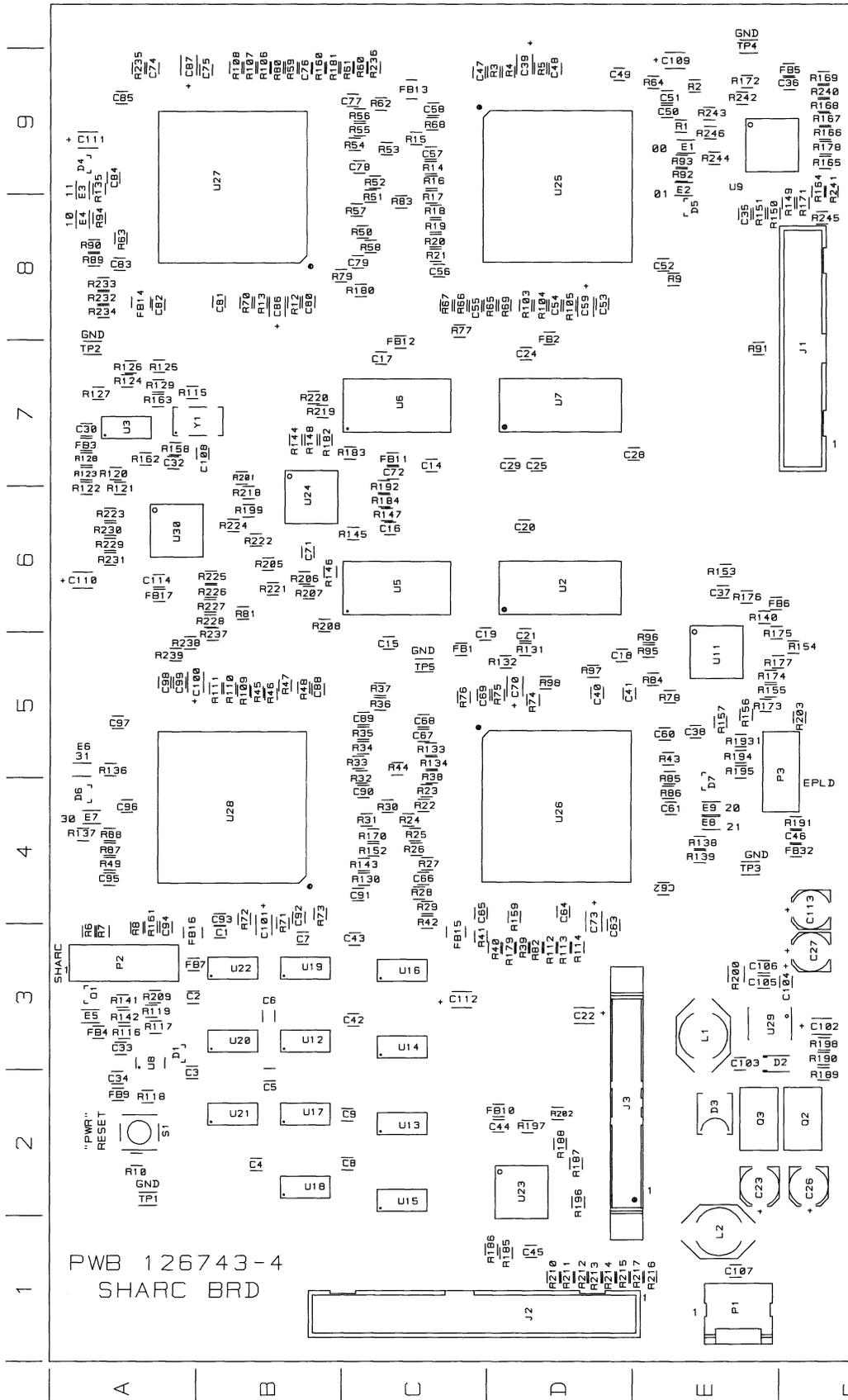
SIZE	DWG NO.	REV
A	126744-3	A
SCALE	PROJ NO.	SHEET
NONE	MD404D0	12 OF 17

PARTS LIST			
REF DES	C.P.N.	DESCRIPTION	MAP LOC.
R231	A11368-10021	10K 1/10W 1% SMD 0805 T/R	A 6
R232	A11368-10021	10K 1/10W 1% SMD 0805 T/R	A 8
R233	A11368-10021	10K 1/10W 1% SMD 0805 T/R	A 8
R234	A11368-10021	10K 1/10W 1% SMD 0805 T/R	A 8
R235	A11368-10021	10K 1/10W 1% SMD 0805 T/R	A 9
R236	A11368-10021	10K 1/10W 1% SMD 0805 T/R	C 9
R237	A11368-47R51	47.5 OHM .1W 1% 0805 T/R	B 5
R238	A11368-47R51	47.5 OHM .1W 1% 0805 T/R	A 5
R239	A11368-47R51	47.5 OHM .1W 1% 0805 T/R	A 5
R240		OPEN	F 9
R241		OPEN	F 9
R242	A11368-47R51	47.5 OHM .1W 1% 0805 T/R	E 9
R243	A11368-47R51	47.5 OHM .1W 1% 0805 T/R	E 9
R244	A11368-47R51	47.5 OHM .1W 1% 0805 T/R	E 9
R245	A11368-47R51	47.5 OHM .1W 1% 0805 T/R	F 8
R246	A11368-47R51	47.5 OHM .1W 1% 0805 T/R	E 9
S1	127059-1	SWITCH, SPST 6MM SMT	A 2
TP1	127064-1	TEST POINT, SMT 1206	A 2
TP2	127064-1	TEST POINT, SMT 1206	A 7
TP3	127064-1	TEST POINT, SMT 1206	E 4
TP4	127064-1	TEST POINT, SMT 1206	E 10
TP5	127064-1	TEST POINT, SMT 1206	C 5
U2	126357-1	IC, SDRAM 1MX16 3.3V TSOP	D 6
U3	126360-1	IC, 49FCT3805 CLK DRV 3.3V QSOP	A 7
U5	126358-1	IC, SRAM 64KX16 15NS 3.3V TSOP	C 6
U6	126358-1	IC, SRAM 64KX16 15NS 3.3V TSOP	C 7
U7	126357-1	IC, SDRAM 1MX16 3.3V TSOP	D 7
U8	126377-1	IC, DS1834A DUAL ECONORESET SMT	A 3
U9	127073-1	IC, M4LV-64/32-15VC 3.3V TQFP	E 9
U11	127073-1	IC, M4LV-64/32-15VC 3.3V TQFP	E 5
U12	126361-1	IC, 74LCX573 3.3V OCT LAT QSOP	B 3
U13	126361-1	IC, 74LCX573 3.3V OCT LAT QSOP	C 2
U14	126361-1	IC, 74LCX573 3.3V OCT LAT QSOP	C 3
U15	126361-1	IC, 74LCX573 3.3V OCT LAT QSOP	C 2
U16	126361-1	IC, 74LCX573 3.3V OCT LAT QSOP	C 3
U17	126361-1	IC, 74LCX573 3.3V OCT LAT QSOP	B 2
U18	126361-1	IC, 74LCX573 3.3V OCT LAT QSOP	B 2
U19	126361-1	IC, 74LCX573 3.3V OCT LAT QSOP	B 3
U20	126361-1	IC, 74LCX573 3.3V OCT LAT QSOP	B 3
U21	126361-1	IC, 74LCX573 3.3V OCT LAT QSOP	B 2
U22	126361-1	IC, 74LCX573 3.3V OCT LAT QSOP	B 3
U23	127073-1	IC, M4LV-64/32-15VC 3.3V TQFP	D 2
U24	127072-1	IC, M4LV-64/32-10VC 3.3V TQFP	B 6
U25	126359-1	IC, 21065 SHARC DSP 3.3V	D 9
U26	126359-1	IC, 21065 SHARC DSP 3.3V	D 4
U27	126359-1	IC, 21065 SHARC DSP 3.3V	B 9
U28	126359-1	IC, 21065 SHARC DSP 3.3V	B 4

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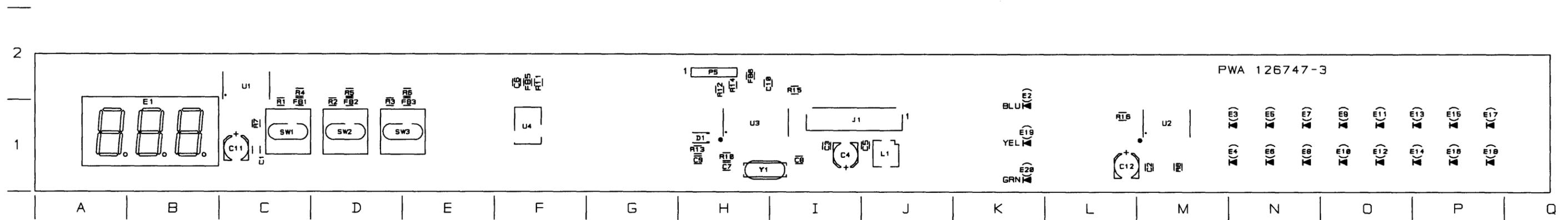
SIZE	DWG NO.	REV
A	126744-3	A
SCALE NONE	PROJ NO. MD404D0	SHEET 13 OF 17



PWA #126744-3 Component Map (Component Side)

PWA #126747-3
Front Display Module
PWB #126746-3
Schematic #126745 Rev. A

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PWA #126747-3 Component Map
(Component Side)

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PWA #128045-1
System Controller Module
PWB #126346-5
Schematic #126323 Rev. A

PARTS LIST			
REF DES	C. P. N.	DESCRIPTION	MAP LOC.
C1	A11427-104K2	0.1 MF 50V 10% 0805	B 2
C2	A11427-104K2	0.1 MF 50V 10% 0805	A 2
C3	A11427-104K2	0.1 MF 50V 10% 0805	A 2
C4	A11427-104K2	0.1 MF 50V 10% 0805	A 2
C5	A11427-104K2	0.1 MF 50V 10% 0805	B 2
C6	A11427-104K2	0.1 MF 50V 10% 0805	D 3
C7	A11427-104K2	0.1 MF 50V 10% 0805	E 2
C8	C10391-8	10 UF 16V 20% TANT	C 4
C9	A11427-104K2	0.1 MF 50V 10% 0805	D 4
C10	A11427-104K2	0.1 MF 50V 10% 0805	D 5
C11	A11427-104K2	0.1 MF 50V 10% 0805	D 5
C12	A11427-104K2	0.1 MF 50V 10% 0805	D 5
C13	A11427-104K2	0.1 MF 50V 10% 0805	B 4
C14	C10391-8	10 UF 16V 20% TANT	J 2
C15	A11427-104K2	0.1 MF 50V 10% 0805	K 1
C16	A11427-104K2	0.1 MF 50V 10% 0805	I 2
C17	A11427-104K2	0.1 MF 50V 10% 0805	F 1
C18	A11427-104K2	0.1 MF 50V 10% 0805	F 2
C19	C10391-8	10 UF 16V 20% TANT	F 2
C20	A11427-104K2	0.1 MF 50V 10% 0805	F 2
C21	A11369-102J2	0.001UF 50V 5% NPO MLC 0805 T/	E 2
C22	127075-1	CAP, 100UF/16V, 20%, LOW ESR, ALUM SMT	E 2
C23	A11369-102J2	0.001UF 50V 5% NPO MLC 0805 T/	E 2
C24	127075-1	CAP, 100UF/16V, 20%, LOW ESR, ALUM SMT	F 1
C25	126251-1	1 FARAD 5.5V	E 5
C26	A11369-6R0D2	6.8PF 50V 1% CHIP 0805	G 3
C27	A11427-104K2	0.1 MF 50V 10% 0805	G 3
C28	A11427-104K2	0.1 MF 50V 10% 0805	J 3
C29	127075-1	CAP, 100UF/16V, 20%, LOW ESR, ALUM SMT	J 3
C30	A11427-104K2	0.1 MF 50V 10% 0805	B 4
C31	A11427-104K2	0.1 MF 50V 10% 0805	H 4
C32	A11427-104K2	0.1 MF 50V 10% 0805	H 4
C33	A11427-104K2	0.1 MF 50V 10% 0805	H 5
C34	C10391-8	10 UF 16V 20% TANT	F 3
C35	A11427-104K2	0.1 MF 50V 10% 0805	E 3
C36	A11427-104K2	0.1 MF 50V 10% 0805	F 3
C37	A11427-104K2	0.1 MF 50V 10% 0805	G 4
C38	A11427-104K2	0.1 MF 50V 10% 0805	E 5
C39	A11427-104K2	0.1 MF 50V 10% 0805	G 4
C40	A11369-220J2	22PF 50V 5% NPO/COG CHIP 0805	G 4
C41	A11369-220J2	22PF 50V 5% NPO/COG CHIP 0805	G 4
C42	A11427-104K2	0.1 MF 50V 10% 0805	F 3
C43	A11427-104K2	0.1 MF 50V 10% 0805	E 4
C44	A11427-104K2	0.1 MF 50V 10% 0805	E 4
C45	A11369-220J2	22PF 50V 5% NPO/COG CHIP 0805	G 4
C46	A11369-220J2	22PF 50V 5% NPO/COG CHIP 0805	G 4
C47	A11427-104K2	0.1 MF 50V 10% 0805	H 4

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DRAWN	JFL	7/20/99	DWG. NO.	SHEET 4 OF 12	REV
PROJ.	MD404D0		128045-1		(B)

PARTS LIST			
REF DES	C.P.N.	DESCRIPTION	MAP LOC.
C48	A11369-102J2	0.001UF 50V 5% NPO MLC 0805 T/	H 3
C49	A11427-104K2	0.1 MF 50V 10% 0805	C 1
C50	A11427-104K2	0.1 MF 50V 10% 0805	B 1
C51	A11427-104K2	0.1 MF 50V 10% 0805	C 2
C52	A11427-104K2	0.1 MF 50V 10% 0805	C 3
C53	A11427-104K2	0.1 MF 50V 10% 0805	C 2
C54	A11427-104K2	0.1 MF 50V 10% 0805	C 2
C55	A11427-104K2	0.1 MF 50V 10% 0805	C 1
C56	C10391-B	10 UF 16V 20% TANT	C 2
C57	A11427-104K2	0.1 MF 50V 10% 0805	A 2
C59	A11427-104K2	0.1 MF 50V 10% 0805	D 5
D1	C10144-1	DIODE, ZENER 15V SOT-23	C 1
D2	C10144-1	DIODE, ZENER 15V SOT-23	C 1
D3	C10144-1	DIODE, ZENER 15V SOT-23	B 1
D4	C 9283-0	DIODE, 1N914/1N4148 SOT-23 SMT	B 1
E1	126473-1	LED, SMT 1206 GREEN	F 3
E2	126473-1	LED, SMT 1206 GREEN	G 4
E3	126473-1	LED, SMT 1206 GREEN	G 4
F1	125721-1	PTC, 1A 60V 0.7 OHM	B 4
F2	125721-1	PTC, 1A 60V 0.7 OHM	B 3
F3	125721-1	PTC, 1A 60V 0.7 OHM	B 1
FB1	125846-1	FERRITE BEAD, 0.5A, 600OHMS	A 2
FB2	125846-1	FERRITE BEAD, 0.5A, 600OHMS	A 2
FB3	125846-1	FERRITE BEAD, 0.5A, 600OHMS	A 2
FB4	125846-1	FERRITE BEAD, 0.5A, 600OHMS	A 2
FB5	125846-1	FERRITE BEAD, 0.5A, 600OHMS	A 2
FB6	125846-1	FERRITE BEAD, 0.5A, 600OHMS	D 3
FB7	125846-1	FERRITE BEAD, 0.5A, 600OHMS	B 3
FB8	125846-1	FERRITE BEAD, 0.5A, 600OHMS	B 3
FB9	125846-1	FERRITE BEAD, 0.5A, 600OHMS	B 3
FB10	125846-1	FERRITE BEAD, 0.5A, 600OHMS	B 3
FB11	125846-1	FERRITE BEAD, 0.5A, 600OHMS	B 3
FB12	125846-1	FERRITE BEAD, 0.5A, 600OHMS	B 4
FB13	125846-1	FERRITE BEAD, 0.5A, 600OHMS	B 4
FB14	125846-1	FERRITE BEAD, 0.5A, 600OHMS	B 4
FB15	125846-1	FERRITE BEAD, 0.5A, 600OHMS	C 4
FB16	125846-1	FERRITE BEAD, 0.5A, 600OHMS	B 4
FB17	125846-1	FERRITE BEAD, 0.5A, 600OHMS	B 4
FB18	125846-1	FERRITE BEAD, 0.5A, 600OHMS	B 4
FB19	125846-1	FERRITE BEAD, 0.5A, 600OHMS	B 5
FB20	125846-1	FERRITE BEAD, 0.5A, 600OHMS	B 5
FB21	125846-1	FERRITE BEAD, 0.5A, 600OHMS	B 5
FB22	125846-1	FERRITE BEAD, 0.5A, 600OHMS	B 5
FB23	125846-1	FERRITE BEAD, 0.5A, 600OHMS	B 5
FB24	125694-1	FERRITE BEAD, 2A SMT 2A	A 4
FB25	125846-1	FERRITE BEAD, 0.5A, 600OHMS	A 4
FB26	125846-1	FERRITE BEAD, 0.5A, 600OHMS	A 4

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DRAWN	JFL	7/20/99	DWG. NO.	SHEET 5 OF 12	REV
PROJ.	MD404D0		128045-1		(B)

PARTS LIST			
REF DES	C.P.N.	DESCRIPTION	MAP LOC.
FB27	125846-1	FERRITE BEAD, 0.5A, 600OHMS	A 4
FB28	125846-1	FERRITE BEAD, 0.5A, 600OHMS	A 4
FB29	125846-1	FERRITE BEAD, 0.5A, 600OHMS	A 5
FB30	125846-1	FERRITE BEAD, 0.5A, 600OHMS	A 5
FB31	125846-1	FERRITE BEAD, 0.5A, 600OHMS	A 5
FB32	125846-1	FERRITE BEAD, 0.5A, 600OHMS	A 5
FB33	125846-1	FERRITE BEAD, 0.5A, 600OHMS	J 2
FB34	125846-1	FERRITE BEAD, 0.5A, 600OHMS	F 1
FB35	125846-1	FERRITE BEAD, 0.5A, 600OHMS	F 2
FB36	125846-1	FERRITE BEAD, 0.5A, 600OHMS	G 3
FB37	125846-1	FERRITE BEAD, 0.5A, 600OHMS	J 3
FB38	125694-1	FERRITE BEAD, 2A SMT 2A	B 4
FB39	125846-1	FERRITE BEAD, 0.5A, 600OHMS	F 3
FB40	125846-1	FERRITE BEAD, 0.5A, 600OHMS	D 4
FB41	125846-1	FERRITE BEAD, 0.5A, 600OHMS	H 3
FB42	125846-1	FERRITE BEAD, 0.5A, 600OHMS	B 1
FB43	125846-1	FERRITE BEAD, 0.5A, 600OHMS	B 1
FB44	125846-1	FERRITE BEAD, 0.5A, 600OHMS	C 2
FB45	125846-1	FERRITE BEAD, 0.5A, 600OHMS	C 2
FB46	125846-1	FERRITE BEAD, 0.5A, 600OHMS	B 1
FB47	125846-1	FERRITE BEAD, 0.5A, 600OHMS	B 1
FB48	125694-1	FERRITE BEAD, 2A SMT 2A	E 2
FB49	125694-1	FERRITE BEAD, 2A SMT 2A	A 1
FB50	125846-1	FERRITE BEAD, 0.5A, 600OHMS	C 3
FB51	TBD FB 0805	TBD, FERRITE BEAD - 0805	B 2
HW1	C 6419-3	SHUNT, .025" SQ POST 2 POS	G 4
J1	C 8173-4	CON 9PIN SUB-D RA 478 MNT	A 2
J2	125676-1	CON , RJ-45 DUAL STACKED, RT A	A 1
K1	126289-1	RELAY, DPDT 12V 1A	B 2
L2	125715-1	INDUCTOR, 53UH 1.87A	E 1
MODE	C 7746-8	3 PIN .1 SGLROW HDR GOLD .230	G 4
P1	127184-1	HEADER, 40PIN 0.1 CTRS	I 1
P2	C 8666-7	10 PIN .100X.100 HDR. GOLD	F 1
P3	127068-1	HEADER, 6POS, 0.156" TIN	D 1
P4	127143-1	HEADER, 3POS, 0.156" TIN	D 2
P5	127068-1	HEADER, 6POS, 0.156" TIN	D 1
P6	C10571-5	18 PIN HDR PICO FLEX TIN	K 2
P7	C 9654-2	CON 37 PIN SUB-D RA 31B MNT	A 3
P9	126312-1	HEADER, 6 PIN DUAL ROW	G 3
Q1	C 7448-1	MMBT3904 CHIP NPN	B 4
Q2	C 7448-1	MMBT3904 CHIP NPN	B 4
Q3	C 7448-1	MMBT3904 CHIP NPN	B 4
Q4	C 7448-1	MMBT3904 CHIP NPN	B 5
Q5	C 7448-1	MMBT3904 CHIP NPN	B 5
Q6	C 7448-1	MMBT3904 CHIP NPN	B 5
Q7	C 7448-1	MMBT3904 CHIP NPN	B 5
Q8	C 7448-1	MMBT3904 CHIP NPN	B 5

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DRAWN	JFL	7/20/99	DWG. NO.	SHEET 6 OF 12	REV
PROJ.	MD40400		128045-1		(B)

PARTS LIST			
REF DES	C. P. N.	DESCRIPTION	MAP LOC.
R31	A11368-10013	1 K .25W 1% 1210 SMT T/R	B 5
R32	A11368-10013	1 K .25W 1% 1210 SMT T/R	B 5
R33	A11368-10013	1 K .25W 1% 1210 SMT T/R	B 5
R34	A11368-10013	1 K .25W 1% 1210 SMT T/R	B 5
R35	A11368-10021	10K 1/10W 1% CHIP 0805	C 5
R36	A11368-10021	10K 1/10W 1% CHIP 0805	C 5
R37	A11368-10021	10K 1/10W 1% CHIP 0805	C 5
R38	A11368-10021	10K 1/10W 1% CHIP 0805	C 5
R39	A11368-10021	10K 1/10W 1% CHIP 0805	C 5
R40	A11368-10021	10K 1/10W 1% CHIP 0805	C 5
R41	A11368-10021	10K 1/10W 1% CHIP 0805	C 5
R42	A11368-10021	10K 1/10W 1% CHIP 0805	C 5
R43	A11368-10013	1 K .25W 1% 1210 SMT T/R	C 4
R44	A11368-10013	1 K .25W 1% 1210 SMT T/R	C 4
R45	A11368-10013	1 K .25W 1% 1210 SMT T/R	C 4
R46	A11368-10013	1 K .25W 1% 1210 SMT T/R	C 4
R47	A11368-10013	1 K .25W 1% 1210 SMT T/R	C 5
R48	A11368-10013	1 K .25W 1% 1210 SMT T/R	C 5
R49	A11368-10013	1 K .25W 1% 1210 SMT T/R	C 5
R50	A11368-10013	1 K .25W 1% 1210 SMT T/R	C 5
R51	126195-1	TVS, 5.6V/40A SMD 0805	A 4
R52	126254-1	TVS, 12V e 40A	B 5
R53	126254-1	TVS, 12V e 40A	B 5
R54	126254-1	TVS, 12V e 40A	B 5
R55	126254-1	TVS, 12V e 40A	B 5
R56	126254-1	TVS, 12V e 40A	B 5
R57	126254-1	TVS, 12V e 40A	B 4
R58	126254-1	TVS, 12V e 40A	B 4
R59	126254-1	TVS, 12V e 40A	B 4
R60	126254-1	TVS, 12V e 40A	A 5
R61	126254-1	TVS, 12V e 40A	A 5
R62	126254-1	TVS, 12V e 40A	A 5
R63	126254-1	TVS, 12V e 40A	A 5
R64	126254-1	TVS, 12V e 40A	A 4
R65	126254-1	TVS, 12V e 40A	A 4
R66	126254-1	TVS, 12V e 40A	A 4
R67	126254-1	TVS, 12V e 40A	A 4
R68	A11368-10021	10K 1/10W 1% CHIP 0805	I 1
R69	A11368-10021	10K 1/10W 1% CHIP 0805	I 1
R70	A11368-47R51	47.5 OHM 0.10W 1% CHIP	H 1
R71	A11368-47R51	47.5 OHM 0.10W 1% CHIP	H 1
R72	A11368-47R51	47.5 OHM 0.10W 1% CHIP	J 1
R73	A11368-10021	10K 1/10W 1% CHIP 0805	J 2
R74	A11368-10021	10K 1/10W 1% CHIP 0805	J 2
R75	A11368-10021	10K 1/10W 1% CHIP 0805	J 2
R76	A11368-10021	10K 1/10W 1% CHIP 0805	J 2
R77	A11368-10021	10K 1/10W 1% CHIP 0805	J 2

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DRAWN JFL 7/20/99 DWG. NO. SHEET 8 OF 12 REV

PROJ. MD404D0 128045-1 (B)

PARTS LIST			
REF DES	C. P. N.	DESCRIPTION	MAP LOC.
R78	A11368-10021	10K 1/10W 1% CHIP 0805	J 2
R79	A11368-10021	10K 1/10W 1% CHIP 0805	J 2
R80	A11368-10021	10K 1/10W 1% CHIP 0805	K 1
R81	A11368-10021	10K 1/10W 1% CHIP 0805	J 1
R82	A11368-10021	10K 1/10W 1% CHIP 0805	J 1
R83	A11368-47R51	47.5 OHM 0.10W 1% CHIP	F 1
R84	A11368-47R51	47.5 OHM 0.10W 1% CHIP	F 2
R85	A11368-47R51	47.5 OHM 0.10W 1% CHIP	F 2
R86	A11368-10021	10K 1/10W 1% CHIP 0805	F 1
R87	126254-1	TVS, 12V e 40A	B 4
R88	A11368-10011	1K 0.10W 1% CHIP 0805	G 4
R89	A11368-10011	1K 0.10W 1% CHIP 0805	G 4
R90	A11368-47R51	47.5 OHM 0.10W 1% CHIP	B 1
R91	A11368-47R51	47.5 OHM 0.10W 1% CHIP	B 1
R92	126195-1	TVS, 5.6V/40A SMD 0805	B 1
R93	A11368-10021	10K 1/10W 1% CHIP 0805	G 4
R94	A11368-47R51	47.5 OHM 0.10W 1% CHIP	F 5
R95	A11368-47R51	47.5 OHM 0.10W 1% CHIP	G 3
R96	A11368-47R51	47.5 OHM 0.10W 1% CHIP	G 3
R97	A11368-47R51	47.5 OHM 0.10W 1% CHIP	G 3
R98	A11368-47R51	47.5 OHM 0.10W 1% CHIP	G 3
R99	A11368-47R51	47.5 OHM 0.10W 1% CHIP	G 2
R100	A11368-47R51	47.5 OHM 0.10W 1% CHIP	G 2
R101	A11368-47R51	47.5 OHM 0.10W 1% CHIP	G 2
R102	A11368-47R51	47.5 OHM 0.10W 1% CHIP	G 2
R103	A11368-47R51	47.5 OHM 0.10W 1% CHIP	G 4
R104	A11371-1051	1M 0.1W 5% CHIP 0805	G 4
R105	126195-1	TVS, 5.6V/40A SMD 0805	B 1
R106	A11368-10011	1K 0.10W 1% CHIP 0805	G 4
R107	A11368-47R51	47.5 OHM 0.10W 1% CHIP	J 2
R108	A11368-47R51	47.5 OHM 0.10W 1% CHIP	J 2
R109	A11368-47R51	47.5 OHM 0.10W 1% CHIP	J 2
R110	A11368-47R51	47.5 OHM 0.10W 1% CHIP	E 4
R111	A11368-47R51	47.5 OHM 0.10W 1% CHIP	E 4
R112	A11368-47R51	47.5 OHM 0.10W 1% CHIP	E 4
R113	A11368-47R51	47.5 OHM 0.10W 1% CHIP	E 4
R114	A11368-10011	1K 0.10W 1% CHIP 0805	E 4
R115	A11368-49921	49.9K 0.1W 1% CHIP 0805	E 4
R116	A11368-49921	49.9K 0.1W 1% CHIP 0805	E 4
R117	A11368-49921	49.9K 0.1W 1% CHIP 0805	E 4
R118	A11368-49921	49.9K 0.1W 1% CHIP 0805	E 4
R119	A11368-49921	49.9K 0.1W 1% CHIP 0805	E 4
R120	A11368-49921	49.9K 0.1W 1% CHIP 0805	E 4
R121	A11368-49921	49.9K 0.1W 1% CHIP 0805	E 4
R122	A11368-49921	49.9K 0.1W 1% CHIP 0805	E 4
R123	A11368-49921	49.9K 0.1W 1% CHIP 0805	A 3
R124	A11368-49921	49.9K 0.1W 1% CHIP 0805	A 3

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DRAWN	JFL	7/20/99	DWG. NO. SHEET 9 OF 12
PROJ.	MD404DB		128045-1
			REV (B)

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PARTS LIST			
REF DES	C.P.N.	DESCRIPTION	MAP LOC.
R125	A11368-49921	49.9K 0.1W 1% CHIP 0805	A 3
R126	A11368-49921	49.9K 0.1W 1% CHIP 0805	A 3
R127	A11368-49921	49.9K 0.1W 1% CHIP 0805	A 3
R128	A11368-49921	49.9K 0.1W 1% CHIP 0805	A 4
R129	A11368-49921	49.9K 0.1W 1% CHIP 0805	A 4
R130	A11368-49921	49.9K 0.1W 1% CHIP 0805	A 4
R131	126254-1	TVS, 12V e 40A	A 4
R132	126254-1	TVS, 12V e 40A	A 4
R133	126254-1	TVS, 12V e 40A	A 4
R134	126254-1	TVS, 12V e 40A	A 3
R135	126254-1	TVS, 12V e 40A	A 3
R136	126254-1	TVS, 12V e 40A	A 3
R137	126254-1	TVS, 12V e 40A	A 3
R138	126254-1	TVS, 12V e 40A	A 3
R139	A11368-10021	10K 1/10W 1% CHIP 0805	G 4
R140	A11368-10021	10K 1/10W 1% CHIP 0805	G 4
R141	A11368-10021	10K 1/10W 1% CHIP 0805	G 3
R142	A11371-3314	330 OHM 0.50W 5% 1210	B 1
R143	A11368-10011	1K 0.10W 1% CHIP 0805	C 1
R144	A11368-10021	10K 1/10W 1% CHIP 0805	C 2
R145	A11368-47R51	47.5 OHM 0.10W 1% CHIP	J 1
R146	A11368-10021	10K 1/10W 1% CHIP 0805	F 3
R147		OPEN	E 1
R148	A11368-10021	10K 1/10W 1% CHIP 0805	I 1
R149	A11368-10021	10K 1/10W 1% CHIP 0805	F 3
R150	A11368-47R51	47.5 OHM 0.10W 1% CHIP	J 1
R151	A11368-47R51	47.5 OHM 0.10W 1% CHIP	J 1
R152	A11368-47R51	47.5 OHM 0.10W 1% CHIP	K 1
R153	A11368-47R51	47.5 OHM 0.10W 1% CHIP	K 1
R154	A11368-47R51	47.5 OHM 0.10W 1% CHIP	K 1
R155	A11368-47R51	47.5 OHM 0.10W 1% CHIP	I 1
R156	A11368-47R51	47.5 OHM 0.10W 1% CHIP	I 1
R157	A11368-47R51	47.5 OHM 0.10W 1% CHIP	I 1
R158	A11368-47R51	47.5 OHM 0.10W 1% CHIP	I 1
R159	A11368-47R51	47.5 OHM 0.10W 1% CHIP	I 1
R160	A11368-47R51	47.5 OHM 0.10W 1% CHIP	I 2
R161	A11368-47R51	47.5 OHM 0.10W 1% CHIP	I 2
R162	A11368-47R51	47.5 OHM 0.10W 1% CHIP	I 2
R163	A11368-28011	2.80K OHM 0.10W 1% CHIP 0805	C 3
R164	A11368-39201	392. OHM 1/10W 1% CHIP 0805	C 3
R165	126195-1	TVS, 5.6V/40A SMD 0805	F 3
R166	A11368-47R51	47.5 OHM 0.10W 1% CHIP	D 5
R167	A11368-10021	10K 1/10W 1% CHIP 0805	B 3
R168	A11368-10021	10K 1/10W 1% CHIP 0805	B 3
R169	A11368-10021	10K 1/10W 1% CHIP 0805	B 3
R170	A11368-10021	10K 1/10W 1% CHIP 0805	B 3
R171	A11368-10021	10K 1/10W 1% CHIP 0805	B 3

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DRAWN	JFL	7/20/99	DWG. NO.	SHEET 10 OF 12	REV
PROJ.	MD404D0		128045-1		Ⓟ

PWA #128047-3

SHARC Module

PWB #126743-4

Schematic #126742 Rev. C

PARTS LIST			
REF DES	C. P. N.	DESCRIPTION	MAP LOC.
C1	A11427-104K2	0.1 MF 50V 10% 0805	B 3
C2	A11427-104K2	0.1 MF 50V 10% 0805	A 3
C3	A11427-104K2	0.1 MF 50V 10% 0805	A 2
C4	A11427-104K2	0.1 MF 50V 10% 0805	B 2
C5	A11427-104K2	0.1 MF 50V 10% 0805	B 2
C6	A11427-104K2	0.1 MF 50V 10% 0805	B 3
C7	A11427-104K2	0.1 MF 50V 10% 0805	B 3
C8	A11427-104K2	0.1 MF 50V 10% 0805	C 2
C9	A11427-104K2	0.1 MF 50V 10% 0805	C 2
C14	A11427-104K2	0.1 MF 50V 10% 0805	C 7
C15	A11427-104K2	0.1 MF 50V 10% 0805	C 5
C16	A11427-104K2	0.1 MF 50V 10% 0805	C 6
C17	A11427-104K2	0.1 MF 50V 10% 0805	C 7
C18	A11427-104K2	0.1 MF 50V 10% 0805	D 5
C19	A11427-104K2	0.1 MF 50V 10% 0805	C 5
C20	A11427-104K2	0.1 MF 50V 10% 0805	D 6
C21	A11427-104K2	0.1 MF 50V 10% 0805	D 5
C22	C10391-8	10 UF 16V 20% TANT	D 3
C23	127074-1	CAP, 220UF/6.3V, 20%, LOW ESR, ALUM SMT	E 2
C24	A11427-104K2	0.1 MF 50V 10% 0805	D 7
C25	A11427-104K2	0.1 MF 50V 10% 0805	D 7
C26	127074-1	CAP, 220UF/6.3V, 20%, LOW ESR, ALUM SMT	F 2
C27	127074-1	CAP, 220UF/6.3V, 20%, LOW ESR, ALUM SMT	F 3
C28	A11427-104K2	0.1 MF 50V 10% 0805	E 7
C29	A11427-104K2	0.1 MF 50V 10% 0805	D 7
C30	A11427-104K2	0.1 MF 50V 10% 0805	A 7
C32	A11427-104K2	0.1 MF 50V 10% 0805	A 7
C33	A11427-104K2	0.1 MF 50V 10% 0805	A 3
C34	A11427-104K2	0.1 MF 50V 10% 0805	A 2
C35	A11427-104K2	0.1 MF 50V 10% 0805	E 8
C36	A11427-104K2	0.1 MF 50V 10% 0805	F 9
C37	A11427-104K2	0.1 MF 50V 10% 0805	E 6
C38	A11427-104K2	0.1 MF 50V 10% 0805	E 5
C39	C10391-8	10 UF 16V 20% TANT	D 9
C40	A11427-104K2	0.1 MF 50V 10% 0805	D 5
C41	A11427-104K2	0.1 MF 50V 10% 0805	D 5
C42	A11427-104K2	0.1 MF 50V 10% 0805	C 3
C43	A11427-104K2	0.1 MF 50V 10% 0805	C 3
C44	A11427-104K2	0.1 MF 50V 10% 0805	D 2
C45	A11427-104K2	0.1 MF 50V 10% 0805	D 1
C46	A11427-104K2	0.1 MF 50V 10% 0805	F 4
C47	A11427-104K2	0.1 MF 50V 10% 0805	C 9
C48	A11427-104K2	0.1 MF 50V 10% 0805	D 9
C49	A11427-104K2	0.1 MF 50V 10% 0805	D 9
C50	A11427-104K2	0.1 MF 50V 10% 0805	E 9
C51	A11427-104K2	0.1 MF 50V 10% 0805	E 9
C52	A11427-104K2	0.1 MF 50V 10% 0805	E 8

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DRAWN	JFL	B/10/99	DWG. NO.	SHEET 5 OF 15	REV
PROJ.	MD404D0		128047-3		(B)

PARTS LIST			
REF DES	C. P. N.	DESCRIPTION	MAP LOC.
C53	A11427-104K2	0.1 MF 50V 10% 0805	D 8
C54	A11427-104K2	0.1 MF 50V 10% 0805	D 8
C55	A11427-104K2	0.1 MF 50V 10% 0805	C 8
C56	A11427-104K2	0.1 MF 50V 10% 0805	C 8
C57	A11427-104K2	0.1 MF 50V 10% 0805	C 9
C58	A11427-104K2	0.1 MF 50V 10% 0805	C 9
C59	C10391-B	10 UF 16V 20% TANT	D 8
C60	A11427-104K2	0.1 MF 50V 10% 0805	E 5
C61	A11427-104K2	0.1 MF 50V 10% 0805	E 4
C62	A11427-104K2	0.1 MF 50V 10% 0805	E 4
C63	A11427-104K2	0.1 MF 50V 10% 0805	D 3
C64	A11427-104K2	0.1 MF 50V 10% 0805	D 4
C65	A11427-104K2	0.1 MF 50V 10% 0805	C 4
C66	A11427-104K2	0.1 MF 50V 10% 0805	C 4
C67	A11427-104K2	0.1 MF 50V 10% 0805	C 5
C68	A11427-104K2	0.1 MF 50V 10% 0805	C 5
C69	A11427-104K2	0.1 MF 50V 10% 0805	C 5
C70	C10391-B	10 UF 16V 20% TANT	D 5
C71	A11427-104K2	0.1 MF 50V 10% 0805	B 6
C72	A11427-104K2	0.1 MF 50V 10% 0805	C 7
C73	C10391-B	10 UF 16V 20% TANT	D 4
C74	A11427-104K2	0.1 MF 50V 10% 0805	A 9
C75	A11427-104K2	0.1 MF 50V 10% 0805	B 9
C76	A11427-104K2	0.1 MF 50V 10% 0805	B 9
C77	A11427-104K2	0.1 MF 50V 10% 0805	C 9
C78	A11427-104K2	0.1 MF 50V 10% 0805	C 9
C79	A11427-104K2	0.1 MF 50V 10% 0805	C 8
C80	A11427-104K2	0.1 MF 50V 10% 0805	B 8
C81	A11427-104K2	0.1 MF 50V 10% 0805	B 8
C82	A11427-104K2	0.1 MF 50V 10% 0805	A 8
C83	A11427-104K2	0.1 MF 50V 10% 0805	A 8
C84	A11427-104K2	0.1 MF 50V 10% 0805	A 9
C85	A11427-104K2	0.1 MF 50V 10% 0805	A 9
C86	C10391-B	10 UF 16V 20% TANT	B 8
C87	C10391-B	10 UF 16V 20% TANT	A 9
C88	A11427-104K2	0.1 MF 50V 10% 0805	B 5
C89	A11427-104K2	0.1 MF 50V 10% 0805	C 5
C90	A11427-104K2	0.1 MF 50V 10% 0805	C 4
C91	A11427-104K2	0.1 MF 50V 10% 0805	C 4
C92	A11427-104K2	0.1 MF 50V 10% 0805	B 4
C93	A11427-104K2	0.1 MF 50V 10% 0805	B 4
C94	A11427-104K2	0.1 MF 50V 10% 0805	A 3
C95	A11427-104K2	0.1 MF 50V 10% 0805	A 4
C96	A11427-104K2	0.1 MF 50V 10% 0805	A 4
C97	A11427-104K2	0.1 MF 50V 10% 0805	A 5
C98	A11427-104K2	0.1 MF 50V 10% 0805	A 5
C99	A11427-104K2	0.1 MF 50V 10% 0805	A 5

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DRAWN	JFL	8/10/99	DWG. NO.	SHEET 6 OF 15	REV
PROJ.	MD404D0		128047-3		(B)

PARTS LIST			
REF DES	C.P.N.	DESCRIPTION	MAP LOC.
C100	C10391-8	10 UF 16V 20% TANT	A 5
C101	C10391-8	10 UF 16V 20% TANT	B 3
C102	C10391-8	10 UF 16V 20% TANT	F 3
C103	A11427-104K2	0.1 MF 50V 10% 0805	E 3
C104	A11427-103K2	0.01MF 50V 10% CHIP 0805	F 3
C105	A11427-104K2	0.1 MF 50V 10% 0805	E 3
C106	A11427-104K2	0.1 MF 50V 10% 0805	E 3
C107	A11427-104K2	0.1 MF 50V 10% 0805	E 1
C108	A11427-104K2	0.1 MF 50V 10% 0805	B 7
C109	C10391-8	10 UF 16V 20% TANT	E 9
C110	C10391-8	10 UF 16V 20% TANT	A 6
C111	C10391-8	10 UF 16V 20% TANT	A 9
C112	C10391-8	10 UF 16V 20% TANT	C 3
C113	127074-1	CAP, 220UF/6.3V, 20%, LOW ESR, ALUM SMT	F 4
C114	A11427-104K2	0.1 MF 50V 10% 0805	A 6
D1	C 9283-0	DIODE, 1N914/1N4148 SOT-23 SMT	A 3
D2	125711-1	DIODE, SCHOTTKY 40V 1A DO214A	E 3
D3	126411-1	DIODE, MBR340T3	E 2
D4	C 9283-0	DIODE, 1N914/1N4148 SOT-23 SMT	A 9
D5	C 9283-0	DIODE, 1N914/1N4148 SOT-23 SMT	E 8
D6	C 9283-0	DIODE, 1N914/1N4148 SOT-23 SMT	A 4
D7	C 9283-0	DIODE, 1N914/1N4148 SOT-23 SMT	E 4
E1	126473-1	LED, SMT 1206 GREEN	E 9
E2	126473-1	LED, SMT 1206 GREEN	E 9
E3	126473-1	LED, SMT 1206 GREEN	A 9
E4	126473-1	LED, SMT 1206 GREEN	A 8
E5	126473-1	LED, SMT 1206 GREEN	A 3
E6	126473-1	LED, SMT 1206 GREEN	A 5
E7	126473-1	LED, SMT 1206 GREEN	A 4
E8	126473-1	LED, SMT 1206 GREEN	E 4
E9	126473-1	LED, SMT 1206 GREEN	E 4
FB1	125846-1	FERRITE BEAD, 0.5A, 600OHMS	C 5
FB2	125846-1	FERRITE BEAD, 0.5A, 600OHMS	D 8
FB3	125846-1	FERRITE BEAD, 0.5A, 600OHMS	A 7
FB4	125846-1	FERRITE BEAD, 0.5A, 600OHMS	A 3
FB5	125846-1	FERRITE BEAD, 0.5A, 600OHMS	F 9
FB6	125846-1	FERRITE BEAD, 0.5A, 600OHMS	E 6
FB7	125846-1	FERRITE BEAD, 0.5A, 600OHMS	A 3
FB9	125846-1	FERRITE BEAD, 0.5A, 600OHMS	A 2
FB10	125846-1	FERRITE BEAD, 0.5A, 600OHMS	D 2
FB11	125846-1	FERRITE BEAD, 0.5A, 600OHMS	C 7
FB12	125846-1	FERRITE BEAD, 0.5A, 600OHMS	C 7
FB13	125694-1	FERRITE BEAD, 2A SMT 2A	C 9
FB14	125694-1	FERRITE BEAD, 2A SMT 2A	A 8
FB15	125694-1	FERRITE BEAD, 2A SMT 2A	C 3
FB16	125694-1	FERRITE BEAD, 2A SMT 2A	A 3
FB17	125846-1	FERRITE BEAD, 0.5A, 600OHMS	A 6

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DRAWN	JFL	8/10/99	DWG. NO.	SHEET 7 OF 15	REV
PROJ.	MD404D0		128047-3		(B)

PARTS LIST			
REF DES	C.P.N.	DESCRIPTION	MAP LOC.
FB32	125846-1	FERRITE BEAD, 0.5A, 600OHMS	F 4
J1	127183-1	HEADER, 26PIN 0.1 CTRS	F 7
J2	127184-1	HEADER, 40PIN 0.1 CTRS	C 1
J3	127680-1	HEADER, 50P 2ROW .050 CTR LONG	D 2
L1	126412-1	INDUCTOR, 3.3 UH SMD	E 3
L2	126412-1	INDUCTOR, 3.3 UH SMD	E 1
P1	C 8890-3	HEADER, 3POS, 0.156" TIN	E 1
P2	126466-1	HEADER, 14 PIN DUAL ROW	A 3
P3	C 8666-7	10 PIN .100X.100 HDR. GOLD	F 5
Q1	C 7448-1	MMBT3904 CHIP NPN	A 3
Q2	126410-1	PWR FET, MTD20N03HDL	F 2
Q3	126410-1	PWR FET, MTD20N03HDL	E 2
R1	A11368-10021	10K 1/10W 1% CHIP 0805	E 9
R2	A11368-10021	10K 1/10W 1% CHIP 0805	E 9
R3	A11368-10021	10K 1/10W 1% CHIP 0805	D 9
R4	A11368-10021	10K 1/10W 1% CHIP 0805	D 9
R5	A11368-10021	10K 1/10W 1% CHIP 0805	D 9
R6	A11368-10021	10K 1/10W 1% CHIP 0805	A 3
R7	A11368-10021	10K 1/10W 1% CHIP 0805	A 3
R8	A11368-10021	10K 1/10W 1% CHIP 0805	A 3
R9	A11368-10011	1K 0.10W 1% CHIP 0805	E 8
R10	126195-1	TVS, 5.6V/40A SMD 0805	A 2
R12	A11368-10021	10K 1/10W 1% CHIP 0805	B 8
R13	A11368-10021	10K 1/10W 1% CHIP 0805	B 8
R14	A11368-47R51	47.5 OHM 0.10W 1% CHIP	C 9
R15	A11368-47R51	47.5 OHM 0.10W 1% CHIP	C 9
R16	A11368-47R51	47.5 OHM 0.10W 1% CHIP	C 9
R17	A11368-47R51	47.5 OHM 0.10W 1% CHIP	C 8
R18	A11368-47R51	47.5 OHM 0.10W 1% CHIP	C 8
R19	A11368-47R51	47.5 OHM 0.10W 1% CHIP	C 8
R20	A11368-47R51	47.5 OHM 0.10W 1% CHIP	C 8
R21	A11368-47R51	47.5 OHM 0.10W 1% CHIP	C 8
R22	A11368-47R51	47.5 OHM 0.10W 1% CHIP	C 4
R23	A11368-47R51	47.5 OHM 0.10W 1% CHIP	C 4
R24	A11368-47R51	47.5 OHM 0.10W 1% CHIP	C 4
R25	A11368-47R51	47.5 OHM 0.10W 1% CHIP	C 4
R26	A11368-47R51	47.5 OHM 0.10W 1% CHIP	C 4
R27	A11368-47R51	47.5 OHM 0.10W 1% CHIP	C 4
R28	A11368-47R51	47.5 OHM 0.10W 1% CHIP	C 4
R29	A11368-47R51	47.5 OHM 0.10W 1% CHIP	C 4
R30	A11368-47R51	47.5 OHM 0.10W 1% CHIP	C 4
R31	A11368-47R51	47.5 OHM 0.10W 1% CHIP	C 4
R32	A11368-47R51	47.5 OHM 0.10W 1% CHIP	C 5
R33	A11368-47R51	47.5 OHM 0.10W 1% CHIP	C 5
R34	A11368-47R51	47.5 OHM 0.10W 1% CHIP	C 5
R35	A11368-47R51	47.5 OHM 0.10W 1% CHIP	C 5
R36	A11368-47R51	47.5 OHM 0.10W 1% CHIP	C 5

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DRAWN JFL 8/10/99
 PROJ. MD404D0

DWG. NO. 128047-3 SHEET 8 OF 15

REV (B)

PARTS LIST			
REF DES	C. P. N.	DESCRIPTION	MAP LOC.
R37	A11368-47R51	47.5 OHM 0.10W 1% CHIP	C 5
R38	A11368-47R51	47.5 OHM 0.10W 1% CHIP	C 5
R39	A11368-47R51	47.5 OHM 0.10W 1% CHIP	D 3
R40	A11368-47R51	47.5 OHM 0.10W 1% CHIP	D 3
R41	A11368-47R51	47.5 OHM 0.10W 1% CHIP	C 3
R42	A11368-47R51	47.5 OHM 0.10W 1% CHIP	C 4
R43	A11368-47R51	47.5 OHM 0.10W 1% CHIP	E 5
R44	A11368-47R51	47.5 OHM 0.10W 1% CHIP	C 5
R45	A11368-47R51	47.5 OHM 0.10W 1% CHIP	B 5
R46	A11368-47R51	47.5 OHM 0.10W 1% CHIP	B 5
R47	A11368-47R51	47.5 OHM 0.10W 1% CHIP	B 5
R48	A11368-47R51	47.5 OHM 0.10W 1% CHIP	B 5
R49	A11368-47R51	47.5 OHM 0.10W 1% CHIP	A 4
R50	A11368-47R51	47.5 OHM 0.10W 1% CHIP	C 8
R51	A11368-47R51	47.5 OHM 0.10W 1% CHIP	C 8
R52	A11368-47R51	47.5 OHM 0.10W 1% CHIP	C 9
R53	A11368-47R51	47.5 OHM 0.10W 1% CHIP	C 9
R54	A11368-47R51	47.5 OHM 0.10W 1% CHIP	C 9
R55	A11368-47R51	47.5 OHM 0.10W 1% CHIP	C 9
R56	A11368-47R51	47.5 OHM 0.10W 1% CHIP	C 9
R57	A11368-47R51	47.5 OHM 0.10W 1% CHIP	C 8
R58	A11368-47R51	47.5 OHM 0.10W 1% CHIP	C 8
R59	A11368-47R51	47.5 OHM 0.10W 1% CHIP	B 9
R60	A11368-47R51	47.5 OHM 0.10W 1% CHIP	C 9
R61	A11368-47R51	47.5 OHM 0.10W 1% CHIP	C 9
R62	A11368-47R51	47.5 OHM 0.10W 1% CHIP	C 9
R63	A11368-47R51	47.5 OHM 0.10W 1% CHIP	A 8
R64	A11368-47R51	47.5 OHM 0.10W 1% CHIP	E 9
R65	A11368-47R51	47.5 OHM 0.10W 1% CHIP	D 8
R66	A11368-47R51	47.5 OHM 0.10W 1% CHIP	C 8
R67	A11368-47R51	47.5 OHM 0.10W 1% CHIP	C 8
R68	A11368-47R51	47.5 OHM 0.10W 1% CHIP	C 9
R69	A11368-47R51	47.5 OHM 0.10W 1% CHIP	D 8
R70	A11368-10021	10K 1/10W 1% CHIP 0805	B 8
R71	A11368-10021	10K 1/10W 1% CHIP 0805	B 4
R72	A11368-10021	10K 1/10W 1% CHIP 0805	B 4
R73	A11368-10021	10K 1/10W 1% CHIP 0805	B 4
R74	A11368-10021	10K 1/10W 1% CHIP 0805	D 5
R75	A11368-10021	10K 1/10W 1% CHIP 0805	D 5
R76	A11368-10021	10K 1/10W 1% CHIP 0805	C 5
R77	A11368-47R51	47.5 OHM 0.10W 1% CHIP	C 8
R78		OPEN	E 5
R79		OPEN	B 8
R80	A11368-47R51	47.5 OHM 0.10W 1% CHIP	B 9
R81	A11368-47R51	47.5 OHM 0.10W 1% CHIP	B 6
R82	A11368-47R51	47.5 OHM 0.10W 1% CHIP	D 3
R83		OPEN	C 8

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DRAWN	JFL	8/10/99	DWG. NO.	SHEET 9 OF 15	REV
PROJ.	MD404D0		128047-3		(B)

PARTS LIST			
REF DES	C. P. N.	DESCRIPTION	MAP LOC.
R84		OPEN	E 5
R85	A11368-10021	10K 1/10W 1% CHIP 0805	E 5
R86	A11368-10021	10K 1/10W 1% CHIP 0805	E 4
R87	A11368-10021	10K 1/10W 1% CHIP 0805	A 4
R88	A11368-10021	10K 1/10W 1% CHIP 0805	A 4
R89	A11368-10021	10K 1/10W 1% CHIP 0805	A 8
R90	A11368-10021	10K 1/10W 1% CHIP 0805	A 8
R91	A11368-10011	1K 0.10W 1% CHIP 0805	E 7
R92	A11368-22601	226 OHM 0.10W 1% CHIP 0805	E 9
R93	A11368-22601	226 OHM 0.10W 1% CHIP 0805	E 9
R94	A11368-22601	226 OHM 0.10W 1% CHIP 0805	A 8
R95	A11368-10021	10K 1/10W 1% CHIP 0805	E 5
R96	A11368-10021	10K 1/10W 1% CHIP 0805	E 5
R97	A11368-10021	10K 1/10W 1% CHIP 0805	D 5
R98	A11368-10021	10K 1/10W 1% CHIP 0805	D 5
R103	A11368-47R51	47.5 OHM 0.10W 1% CHIP	D 8
R104	A11368-47R51	47.5 OHM 0.10W 1% CHIP	D 8
R105	A11368-47R51	47.5 OHM 0.10W 1% CHIP	D 8
R106	A11368-47R51	47.5 OHM 0.10W 1% CHIP	B 9
R107	A11368-47R51	47.5 OHM 0.10W 1% CHIP	B 9
R108	A11368-47R51	47.5 OHM 0.10W 1% CHIP	B 9
R109	A11368-47R51	47.5 OHM 0.10W 1% CHIP	B 5
R110	A11368-47R51	47.5 OHM 0.10W 1% CHIP	B 5
R111	A11368-47R51	47.5 OHM 0.10W 1% CHIP	B 5
R112	A11368-47R51	47.5 OHM 0.10W 1% CHIP	D 3
R113	A11368-47R51	47.5 OHM 0.10W 1% CHIP	D 3
R114	A11368-47R51	47.5 OHM 0.10W 1% CHIP	D 3
R115	A11368-47R51	47.5 OHM 0.10W 1% CHIP	A 7
R116	A11368-10011	1K 0.10W 1% CHIP 0805	A 3
R117	A11368-10021	10K 1/10W 1% CHIP 0805	A 3
R118	A11368-10021	10K 1/10W 1% CHIP 0805	A 2
R119	A11368-10021	10K 1/10W 1% CHIP 0805	A 3
R120	A11368-47R51	47.5 OHM 0.10W 1% CHIP	A 7
R121	A11368-47R51	47.5 OHM 0.10W 1% CHIP	A 6
R122	A11368-47R51	47.5 OHM 0.10W 1% CHIP	A 6
R123	A11368-47R51	47.5 OHM 0.10W 1% CHIP	A 7
R124	A11368-47R51	47.5 OHM 0.10W 1% CHIP	A 7
R125	A11368-47R51	47.5 OHM 0.10W 1% CHIP	A 7
R126	A11368-47R51	47.5 OHM 0.10W 1% CHIP	A 7
R127	A11368-47R51	47.5 OHM 0.10W 1% CHIP	A 7
R128	A11368-47R51	47.5 OHM 0.10W 1% CHIP	A 7
R129	A11368-47R51	47.5 OHM 0.10W 1% CHIP	A 7
R130	A11368-47R51	47.5 OHM 0.10W 1% CHIP	C 4
R131	A11368-47R51	47.5 OHM 0.10W 1% CHIP	D 5
R132	A11368-47R51	47.5 OHM 0.10W 1% CHIP	D 5
R133	A11368-47R51	47.5 OHM 0.10W 1% CHIP	C 5
R134	A11368-47R51	47.5 OHM 0.10W 1% CHIP	C 5

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DRAWN	JFL	8/10/99	DWG. NO.	SHEET 10 OF 15	REV
PROJ.	MD404D0		128047-3		(B)

PARTS LIST			
REF DES	C. P. N.	DESCRIPTION	MAP LOC.
R135	A11368-22601	226 OHM 0.10W 1% CHIP 0805	A 9
R136	A11368-22601	226 OHM 0.10W 1% CHIP 0805	A 5
R137	A11368-22601	226 OHM 0.10W 1% CHIP 0805	A 4
R138	A11368-22601	226 OHM 0.10W 1% CHIP 0805	E 4
R139	A11368-22601	226 OHM 0.10W 1% CHIP 0805	E 4
R140	A11368-10021	10K 1/10W 1% CHIP 0805	E 6
R141	A11368-10021	10K 1/10W 1% CHIP 0805	A 3
R142	A11368-22601	226 OHM 0.10W 1% CHIP 0805	A 3
R143	A11368-47R51	47.5 OHM 0.10W 1% CHIP	C 4
R144	A11368-47R51	47.5 OHM 0.10W 1% CHIP	B 7
R145	A11368-47R51	47.5 OHM 0.10W 1% CHIP	C 6
R146	A11368-47R51	47.5 OHM 0.10W 1% CHIP	B 6
R147	A11368-47R51	47.5 OHM 0.10W 1% CHIP	C 6
R148	A11368-47R51	47.5 OHM 0.10W 1% CHIP	B 7
R149	A11368-47R51	47.5 OHM 0.10W 1% CHIP	F 8
R150	A11368-47R51	47.5 OHM 0.10W 1% CHIP	E 8
R151	A11368-33R21	33.2 OHM 1% 0805 RES T/R	E 8
R152	A11368-47R51	47.5 OHM 0.10W 1% CHIP	C 4
R153	A11368-47R51	47.5 OHM 0.10W 1% CHIP	E 6
R154	A11368-47R51	47.5 OHM 0.10W 1% CHIP	F 5
R155	A11368-47R51	47.5 OHM 0.10W 1% CHIP	E 5
R156	A11368-47R51	47.5 OHM 0.10W 1% CHIP	E 5
R157	A11368-47R51	47.5 OHM 0.10W 1% CHIP	E 5
R158	A11368-10021	10K 1/10W 1% CHIP 0805	A 7
R159	A11368-10021	10K 1/10W 1% CHIP 0805	D 4
R160	A11368-10021	10K 1/10W 1% CHIP 0805	B 9
R161	A11368-10011	1K 0.10W 1% CHIP 0805	A 3
R162	A11368-10021	10K 1/10W 1% CHIP 0805	A 7
R163	A11368-10021	10K 1/10W 1% CHIP 0805	A 7
R164	A11368-47R51	47.5 OHM 0.10W 1% CHIP	F 9
R165	A11368-47R51	47.5 OHM 0.10W 1% CHIP	F 9
R166	A11368-47R51	47.5 OHM 0.10W 1% CHIP	F 9
R167	A11368-47R51	47.5 OHM 0.10W 1% CHIP	F 9
R168	A11368-47R51	47.5 OHM 0.10W 1% CHIP	F 9
R169	A11368-47R51	47.5 OHM 0.10W 1% CHIP	F 9
R170	A11368-47R51	47.5 OHM 0.10W 1% CHIP	C 4
R171	A11368-33R21	33.2 OHM 1% 0805 RES T/R	F 8
R172	A11368-47R51	47.5 OHM 0.10W 1% CHIP	E 9
R173	A11368-47R51	47.5 OHM 0.10W 1% CHIP	E 5
R174	A11368-47R51	47.5 OHM 0.10W 1% CHIP	E 5
R175	A11368-47R51	47.5 OHM 0.10W 1% CHIP	E 5
R176	A11368-47R51	47.5 OHM 0.10W 1% CHIP	E 6
R177	A11368-47R51	47.5 OHM 0.10W 1% CHIP	E 5
R178	A11368-47R51	47.5 OHM 0.10W 1% CHIP	F 9
R179	A11368-10011	1K 0.10W 1% CHIP 0805	D 3
R180	A11368-10021	10K 1/10W 1% CHIP 0805	C 8
R181	A11368-10021	10K 1/10W 1% CHIP 0805	B 9

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DRAWN	JFL	8/10/99	DWG. NO.	SHEET 11 OF 15	REV
PROJ.	MD404D0		128047-3		Ⓟ

PARTS LIST			
REF DES	C. P. N.	DESCRIPTION	MAP LOC.
R182	A11368-47R51	47.5 OHM 0.10W 1% CHIP	B 7
R183	A11368-47R51	47.5 OHM 0.10W 1% CHIP	C 7
R184	A11368-47R51	47.5 OHM 0.10W 1% CHIP	C 6
R185	A11368-47R51	47.5 OHM 0.10W 1% CHIP	D 1
R186	A11368-47R51	47.5 OHM 0.10W 1% CHIP	D 1
R187	A11368-47R51	47.5 OHM 0.10W 1% CHIP	D 2
R188	A11368-47R51	47.5 OHM 0.10W 1% CHIP	D 2
R189	A11368-47R51	47.5 OHM 0.10W 1% CHIP	F 2
R190	A11368-47R51	47.5 OHM 0.10W 1% CHIP	F 3
R191	A11368-10021	10K 1/10W 1% CHIP 0805	F 4
R192	A11368-47R51	47.5 OHM 0.10W 1% CHIP	C 6
R193	A11368-47R51	47.5 OHM 0.10W 1% CHIP	E 5
R194	A11368-47R51	47.5 OHM 0.10W 1% CHIP	E 5
R195	A11368-47R51	47.5 OHM 0.10W 1% CHIP	E 5
R196	A11368-47R51	47.5 OHM 0.10W 1% CHIP	D 2
R197	A11368-10021	10K 1/10W 1% CHIP 0805	D 2
R198	A11368-10021	10K 1/10W 1% CHIP 0805	F 3
R199	A11368-47R51	47.5 OHM 0.10W 1% CHIP	B 6
R200	126414-1	0.015 OHM 1W 1% 2512 T/R	E 3
R201	A11368-47R51	47.5 OHM 0.10W 1% CHIP	B 7
R202	A11368-47R51	47.5 OHM 0.10W 1% CHIP	D 2
R203	A11368-10011	1K 0.10W 1% CHIP 0805	F 5
R205	A11368-47R51	47.5 OHM 0.10W 1% CHIP	B 6
R206	A11368-47R51	47.5 OHM 0.10W 1% CHIP	B 6
R207	A11368-47R51	47.5 OHM 0.10W 1% CHIP	B 6
R208	A11368-10021	10K 1/10W 1% CHIP 0805	B 6
R209	A11368-47R51	47.5 OHM 0.10W 1% CHIP	A 3
R210	A11368-47R51	47.5 OHM 0.10W 1% CHIP	D 1
R211	A11368-47R51	47.5 OHM 0.10W 1% CHIP	D 1
R212	A11368-47R51	47.5 OHM 0.10W 1% CHIP	D 1
R213	A11368-47R51	47.5 OHM 0.10W 1% CHIP	D 1
R214	A11368-47R51	47.5 OHM 0.10W 1% CHIP	D 1
R215	A11368-47R51	47.5 OHM 0.10W 1% CHIP	D 1
R216	A11368-47R51	47.5 OHM 0.10W 1% CHIP	E 1
R217	A11368-47R51	47.5 OHM 0.10W 1% CHIP	E 1
R218	A11368-47R51	47.5 OHM 0.10W 1% CHIP	B 6
R219	A11368-47R51	47.5 OHM 0.10W 1% CHIP	B 7
R220	A11368-47R51	47.5 OHM 0.10W 1% CHIP	B 7
R221	A11368-47R51	47.5 OHM 0.10W 1% CHIP	B 6
R222	A11368-47R51	47.5 OHM 0.10W 1% CHIP	B 6
R223	A11368-47R51	47.5 OHM 0.10W 1% CHIP	A 6
R224	A11368-47R51	47.5 OHM 0.10W 1% CHIP	B 6
R225	A11368-47R51	47.5 OHM 0.10W 1% CHIP	B 6
R226	A11368-47R51	47.5 OHM 0.10W 1% CHIP	B 6
R227	A11368-47R51	47.5 OHM 0.10W 1% CHIP	B 6
R228	A11368-47R51	47.5 OHM 0.10W 1% CHIP	B 6
R229	A11368-10021	10K 1/10W 1% CHIP 0805	A 6
R230	A11368-10021	10K 1/10W 1% CHIP 0805	A 6

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DRAWN	JFL	8/10/99	DWG. NO.	SHEET 12 OF 15	REV
PROJ.	MD404DB		128047-3		(B)

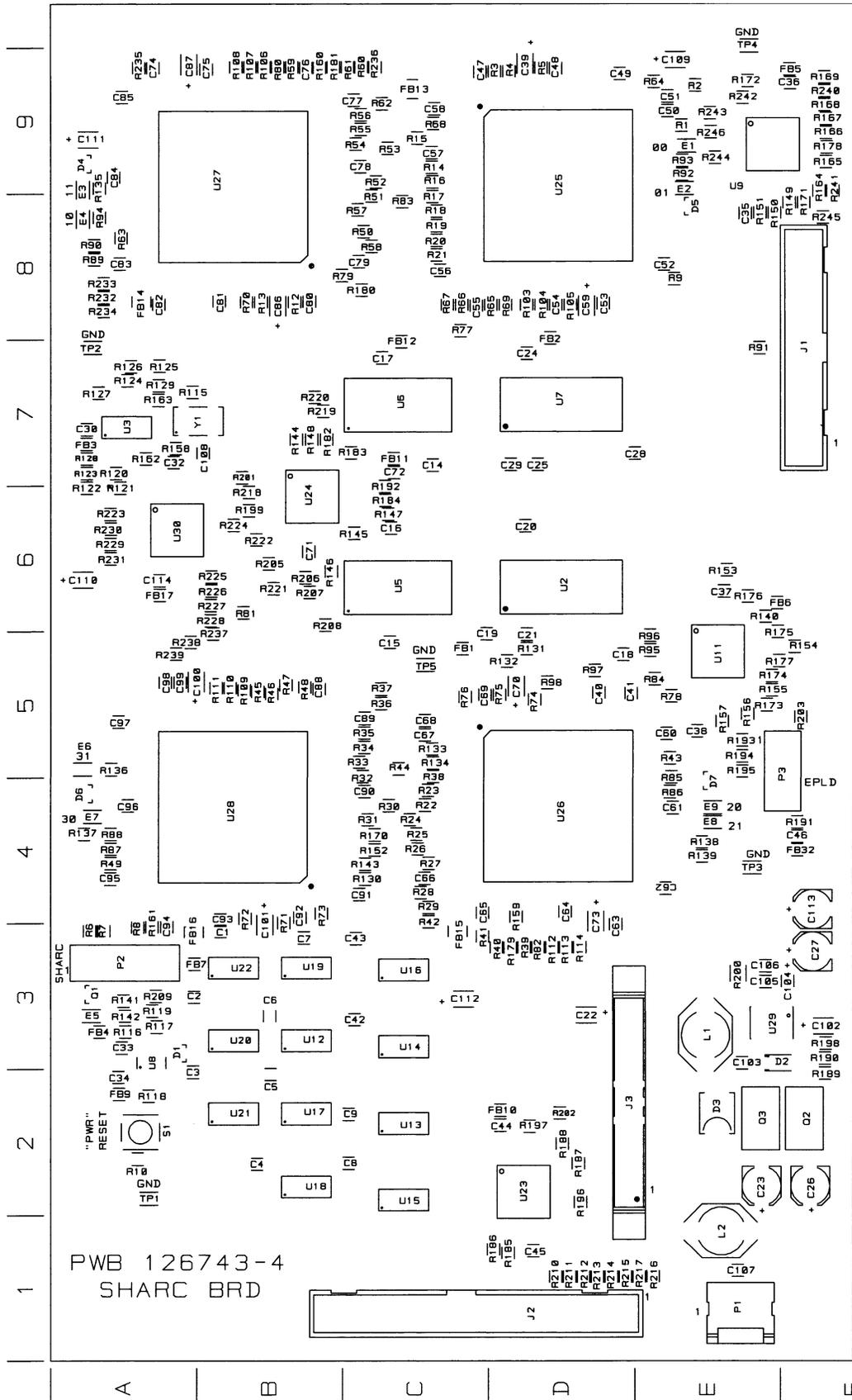
PARTS LIST			
REF DES	C. P. N.	DESCRIPTION	MAP LOC.
R231	A11368-10021	10K 1/10W 1% CHIP 0805	A 6
R232	A11368-10021	10K 1/10W 1% CHIP 0805	A 8
R233	A11368-10021	10K 1/10W 1% CHIP 0805	A 8
R234	A11368-10021	10K 1/10W 1% CHIP 0805	A 8
R235	A11368-10021	10K 1/10W 1% CHIP 0805	A 9
R236	A11368-10021	10K 1/10W 1% CHIP 0805	C 9
R237	A11368-47R51	47.5 OHM 0.10W 1% CHIP	B 5
R238	A11368-47R51	47.5 OHM 0.10W 1% CHIP	A 5
R239	A11368-47R51	47.5 OHM 0.10W 1% CHIP	A 5
R240		OPEN	F 9
R241		OPEN	F 9
R242	A11368-47R51	47.5 OHM 0.10W 1% CHIP	E 9
R243	A11368-47R51	47.5 OHM 0.10W 1% CHIP	E 9
R244	A11368-47R51	47.5 OHM 0.10W 1% CHIP	E 9
R245	A11368-47R51	47.5 OHM 0.10W 1% CHIP	F 8
R246	A11368-47R51	47.5 OHM 0.10W 1% CHIP	E 9
S1	127059-1	SWITCH, SPST 6 MM SMT	A 2
TP1	127064-1	TEST POINT, SMT 1206	A 2
TP2	127064-1	TEST POINT, SMT 1206	A 7
TP3	127064-1	TEST POINT, SMT 1206	E 4
TP4	127064-1	TEST POINT, SMT 1206	E 10
TP5	127064-1	TEST POINT, SMT 1206	C 5
U2	126357-1	IC, 1M X 16 SDRAM	D 6
U3	126360-1	IC, 49FCT3805 BUFFER/CLK DRVR	A 7
U5	126358-1	IC, 64K X 16 SRAM	C 6
U6	126358-1	IC, 64K X 16 SRAM	C 7
U7	126357-1	IC, 1M X 16 SDRAM	D 7
U8	126377-1	IC, DS1834AS	A 3
U9	127073-1	IC, MACH4LV-64/32-15VC	E 9
U11	127073-1	IC, MACH4LV-64/32-15VC	E 5
U12	126361-1	IC, 74LCX573	B 3
U13	126361-1	IC, 74LCX573	C 2
U14	126361-1	IC, 74LCX573	C 3
U15	126361-1	IC, 74LCX573	C 2
U16	126361-1	IC, 74LCX573	C 3
U17	126361-1	IC, 74LCX573	B 2
U18	126361-1	IC, 74LCX573	B 2
U19	126361-1	IC, 74LCX573	B 3
U20	126361-1	IC, 74LCX573	B 3
U21	126361-1	IC, 74LCX573	B 2
U22	126361-1	IC, 74LCX573	B 3
U23	127073-1	IC, MACH4LV-64/32-15VC	D 2
U24	127072-1	IC, MACH4LV-64/32-10VC	B 6
U25	126359-1	IC, 21065 SHARC DSP 3.3V	D 9
U26	126359-1	IC, 21065 SHARC DSP 3.3V	D 4
U27	126359-1	IC, 21065 SHARC DSP 3.3V	B 9
U28	126359-1	IC, 21065 SHARC DSP 3.3V	B 4

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DRAWN	JFL	8/10/99	DWG. NO.	SHEET 13 OF 15	REV
PROJ.	MD404D0		128047-3		(B)



PWA #128047-3 Component Map (Component Side)

PWA #128047-4

SHARC Module

PWB #126743-4

Schematic #126742 Rev. D

PARTS LIST			
REF DES	C.P.N.	DESCRIPTION	MAP LOC.
C53	A11427-104K2	0.1 MF 50V 10% 0805	D 8
C54	A11427-104K2	0.1 MF 50V 10% 0805	D 8
C55	A11427-104K2	0.1 MF 50V 10% 0805	C 8
C56	A11427-104K2	0.1 MF 50V 10% 0805	C 8
C57	A11427-104K2	0.1 MF 50V 10% 0805	C 9
C58	A11427-104K2	0.1 MF 50V 10% 0805	C 9
C59	C10391-B	10 UF 16V 20% TANT	D 8
C60	A11427-104K2	0.1 MF 50V 10% 0805	E 5
C61	A11427-104K2	0.1 MF 50V 10% 0805	E 4
C62	A11427-104K2	0.1 MF 50V 10% 0805	E 4
C63	A11427-104K2	0.1 MF 50V 10% 0805	D 3
C64	A11427-104K2	0.1 MF 50V 10% 0805	D 4
C65	A11427-104K2	0.1 MF 50V 10% 0805	C 4
C66	A11427-104K2	0.1 MF 50V 10% 0805	C 4
C67	A11427-104K2	0.1 MF 50V 10% 0805	C 5
C68	A11427-104K2	0.1 MF 50V 10% 0805	C 5
C69	A11427-104K2	0.1 MF 50V 10% 0805	C 5
C70	C10391-B	10 UF 16V 20% TANT	D 5
C71	A11427-104K2	0.1 MF 50V 10% 0805	B 6
C72	A11427-104K2	0.1 MF 50V 10% 0805	C 7
C73	C10391-B	10 UF 16V 20% TANT	D 4
C74	A11427-104K2	0.1 MF 50V 10% 0805	A 9
C75	A11427-104K2	0.1 MF 50V 10% 0805	B 9
C76	A11427-104K2	0.1 MF 50V 10% 0805	B 9
C77	A11427-104K2	0.1 MF 50V 10% 0805	C 9
C78	A11427-104K2	0.1 MF 50V 10% 0805	C 9
C79	A11427-104K2	0.1 MF 50V 10% 0805	C 8
C80	A11427-104K2	0.1 MF 50V 10% 0805	B 8
C81	A11427-104K2	0.1 MF 50V 10% 0805	B 8
C82	A11427-104K2	0.1 MF 50V 10% 0805	A 8
C83	A11427-104K2	0.1 MF 50V 10% 0805	A 8
C84	A11427-104K2	0.1 MF 50V 10% 0805	A 9
C85	A11427-104K2	0.1 MF 50V 10% 0805	A 9
C86	C10391-B	10 UF 16V 20% TANT	B 8
C87	C10391-B	10 UF 16V 20% TANT	A 9
C88	A11427-104K2	0.1 MF 50V 10% 0805	B 5
C89	A11427-104K2	0.1 MF 50V 10% 0805	C 5
C90	A11427-104K2	0.1 MF 50V 10% 0805	C 4
C91	A11427-104K2	0.1 MF 50V 10% 0805	C 4
C92	A11427-104K2	0.1 MF 50V 10% 0805	B 4
C93	A11427-104K2	0.1 MF 50V 10% 0805	B 4
C94	A11427-104K2	0.1 MF 50V 10% 0805	A 3
C95	A11427-104K2	0.1 MF 50V 10% 0805	A 4
C96	A11427-104K2	0.1 MF 50V 10% 0805	A 4
C97	A11427-104K2	0.1 MF 50V 10% 0805	A 5
C98	A11427-104K2	0.1 MF 50V 10% 0805	A 5
C99	A11427-104K2	0.1 MF 50V 10% 0805	A 5

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DRAWN	JFL	10/26/99	DWG. NO.	SHEET 6 OF 15	REV
PROJ.	MD40400		128047-4		(A)

PARTS LIST			
REF DES	C. P. N.	DESCRIPTION	MAP LOC.
C100	C10391-8	10 UF 16V 20% TANT	A 5
C101	C10391-8	10 UF 16V 20% TANT	B 3
C102	C10391-8	10 UF 16V 20% TANT	F 3
C103	A11427-104K2	0.1 MF 50V 10% 0805	E 3
C104	A11427-103K2	0.01MF 50V 10% CHIP 0805	F 3
C105	A11427-104K2	0.1 MF 50V 10% 0805	E 3
C106	A11427-104K2	0.1 MF 50V 10% 0805	E 3
C107	A11427-104K2	0.1 MF 50V 10% 0805	E 1
C108	A11427-104K2	0.1 MF 50V 10% 0805	B 7
C109	C10391-8	10 UF 16V 20% TANT	E 9
C110	C10391-8	10 UF 16V 20% TANT	A 6
C111	C10391-8	10 UF 16V 20% TANT	A 9
C112	C10391-8	10 UF 16V 20% TANT	C 3
C113	127074-1	CAP, 220UF/6.3V, 20%, LOW ESR, ALUM SMT	F 4
C114	A11427-104K2	0.1 MF 50V 10% 0805	A 6
D1	C 9283-0	DIODE, 1N914/1N4148 SOT-23 SMT	A 3
D2	125711-1	DIODE, SCHOTTKY 40V 1A D0214A	E 3
D3	126411-1	DIODE, MBR5340T3	E 2
D4	C 9283-0	DIODE, 1N914/1N4148 SOT-23 SMT	A 9
D5	C 9283-0	DIODE, 1N914/1N4148 SOT-23 SMT	E 8
D6	C 9283-0	DIODE, 1N914/1N4148 SOT-23 SMT	A 4
D7	C 9283-0	DIODE, 1N914/1N4148 SOT-23 SMT	E 4
E1	126473-1	LED, SMT 1206 GREEN	E 9
E2	126473-1	LED, SMT 1206 GREEN	E 9
E3	126473-1	LED, SMT 1206 GREEN	A 9
E4	126473-1	LED, SMT 1206 GREEN	A 8
E5	126473-1	LED, SMT 1206 GREEN	A 3
E6	126473-1	LED, SMT 1206 GREEN	A 5
E7	126473-1	LED, SMT 1206 GREEN	A 4
E8	126473-1	LED, SMT 1206 GREEN	E 4
E9	126473-1	LED, SMT 1206 GREEN	E 4
FB1	125846-1	FERRITE BEAD, 0.5A, 600OHMS	C 5
FB2	125846-1	FERRITE BEAD, 0.5A, 600OHMS	D 8
FB3	125846-1	FERRITE BEAD, 0.5A, 600OHMS	A 7
FB4	125846-1	FERRITE BEAD, 0.5A, 600OHMS	A 3
FB5	125846-1	FERRITE BEAD, 0.5A, 600OHMS	F 9
FB6	125846-1	FERRITE BEAD, 0.5A, 600OHMS	E 6
FB7	125846-1	FERRITE BEAD, 0.5A, 600OHMS	A 3
FB9	125846-1	FERRITE BEAD, 0.5A, 600OHMS	A 2
FB10	125846-1	FERRITE BEAD, 0.5A, 600OHMS	D 2
FB11	125846-1	FERRITE BEAD, 0.5A, 600OHMS	C 7
FB12	125846-1	FERRITE BEAD, 0.5A, 600OHMS	C 7
FB13	125694-1	FERRITE BEAD, 2A SMT 2A	C 9
FB14	125694-1	FERRITE BEAD, 2A SMT 2A	A 8
FB15	125694-1	FERRITE BEAD, 2A SMT 2A	C 3
FB16	125694-1	FERRITE BEAD, 2A SMT 2A	A 3
FB17	125846-1	FERRITE BEAD, 0.5A, 600OHMS	A 6

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DRAWN	JFL	10/26/99	DWG. NO.	SHEET 7 OF 15	REV
PROJ.	MD404D0		128047-4		(A)

PARTS LIST			
REF DES	C.P.N.	DESCRIPTION	MAP LOC.
FB32	125846-1	FERRITE BEAD, 0.5A, 600OHMS	F 4
J1	127183-1	HEADER, 26PIN 0.1 CTRS	F 7
J2	127184-1	HEADER, 40PIN 0.1 CTRS	C 1
J3	127680-1	HEADER, 50P 2ROW .050 CTR LONG	D 2
L1	126412-1	INDUCTOR, 3.3 UH SMD	E 3
L2	126412-1	INDUCTOR, 3.3 UH SMD	E 1
P1	C 8890-3	HEADER, 3POS, 0.156" TIN	E 1
P2	126466-1	HEADER, 14 PIN DUAL ROW	A 3
P3	C 8666-7	10 PIN .100X.100 HDR. GOLD	F 5
Q1	C 7448-1	MMBT3904 CHIP NPN	A 3
Q2	126410-1	PWR FET, MTD20N03HDL	F 2
Q3	126410-1	PWR FET, MTD20N03HDL	E 2
R1	A11368-10021	10K 1/10W 1% CHIP 0805	E 9
R2	A11368-10021	10K 1/10W 1% CHIP 0805	E 9
R3	A11368-10021	10K 1/10W 1% CHIP 0805	D 9
R4	A11368-10021	10K 1/10W 1% CHIP 0805	D 9
R5	A11368-10021	10K 1/10W 1% CHIP 0805	D 9
R6	A11368-10021	10K 1/10W 1% CHIP 0805	A 3
R7	A11368-10021	10K 1/10W 1% CHIP 0805	A 3
R8	A11368-10021	10K 1/10W 1% CHIP 0805	A 3
R9	A11368-10011	1K 0.10W 1% CHIP 0805	E 8
R10	126195-1	TVS, 5.6V/40A SMD 0805	A 2
R12	A11368-10021	10K 1/10W 1% CHIP 0805	B 8
R13	A11368-10021	10K 1/10W 1% CHIP 0805	B 8
R14	A11368-10R01	10.0 OHM 0.10W 1% 0805 T/R	C 9
R15	A11368-10R01	10.0 OHM 0.10W 1% 0805 T/R	C 9
R16	A11368-47R51	47.5 OHM 0.10W 1% CHIP	C 9
R17	A11368-47R51	47.5 OHM 0.10W 1% CHIP	C 8
R18	A11368-47R51	47.5 OHM 0.10W 1% CHIP	C 8
R19	A11368-47R51	47.5 OHM 0.10W 1% CHIP	C 8
R20	A11368-47R51	47.5 OHM 0.10W 1% CHIP	C 8
R21	A11368-47R51	47.5 OHM 0.10W 1% CHIP	C 8
R22	A11368-10R01	10.0 OHM 0.10W 1% 0805 T/R	C 4
R23	A11368-10R01	10.0 OHM 0.10W 1% 0805 T/R	C 4
R24	A11368-47R51	47.5 OHM 0.10W 1% CHIP	C 4
R25	A11368-47R51	47.5 OHM 0.10W 1% CHIP	C 4
R26	A11368-47R51	47.5 OHM 0.10W 1% CHIP	C 4
R27	A11368-47R51	47.5 OHM 0.10W 1% CHIP	C 4
R28	A11368-47R51	47.5 OHM 0.10W 1% CHIP	C 4
R29	A11368-47R51	47.5 OHM 0.10W 1% CHIP	C 4
R30	A11368-10R01	10.0 OHM 0.10W 1% 0805 T/R	C 4
R31	A11368-10R01	10.0 OHM 0.10W 1% 0805 T/R	C 4
R32	A11368-47R51	47.5 OHM 0.10W 1% CHIP	C 5
R33	A11368-47R51	47.5 OHM 0.10W 1% CHIP	C 5
R34	A11368-47R51	47.5 OHM 0.10W 1% CHIP	C 5
R35	A11368-47R51	47.5 OHM 0.10W 1% CHIP	C 5
R36	A11368-47R51	47.5 OHM 0.10W 1% CHIP	C 5

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DRAWN	JFL	10/26/99	DWG. NO.	SHEET 8 OF 15	REV
PROJ.	MD404D0		128047-4		(A)

PARTS LIST			
REF DES	C. P. N.	DESCRIPTION	MAP LOC.
R37	A11368-47R51	47.5 OHM 0.10W 1% CHIP	C 5
R38	A11368-47R51	47.5 OHM 0.10W 1% CHIP	C 5
R39	A11368-47R51	47.5 OHM 0.10W 1% CHIP	D 3
R40	A11368-22R11	22.1 OHM 0.10W 1% 0805 T/R	D 3
R41	A11368-22R11	22.1 OHM 0.10W 1% 0805 T/R	C 3
R42	A11368-47R51	47.5 OHM 0.10W 1% CHIP	C 4
R43	A11368-47R51	47.5 OHM 0.10W 1% CHIP	E 5
R44	A11368-47R51	47.5 OHM 0.10W 1% CHIP	C 5
R45	A11368-47R51	47.5 OHM 0.10W 1% CHIP	B 5
R46	A11368-22R11	22.1 OHM 0.10W 1% 0805 T/R	B 5
R47	A11368-22R11	22.1 OHM 0.10W 1% 0805 T/R	B 5
R48	A11368-47R51	47.5 OHM 0.10W 1% CHIP	B 5
R49	A11368-47R51	47.5 OHM 0.10W 1% CHIP	A 4
R50	A11368-10R01	10.0 OHM 0.10W 1% 0805 T/R	C 8
R51	A11368-47R51	47.5 OHM 0.10W 1% CHIP	C 8
R52	A11368-47R51	47.5 OHM 0.10W 1% CHIP	C 9
R53	A11368-47R51	47.5 OHM 0.10W 1% CHIP	C 9
R54	A11368-47R51	47.5 OHM 0.10W 1% CHIP	C 9
R55	A11368-47R51	47.5 OHM 0.10W 1% CHIP	C 9
R56	A11368-47R51	47.5 OHM 0.10W 1% CHIP	C 9
R57	A11368-10R01	10.0 OHM 0.10W 1% 0805 T/R	C 8
R58	A11368-47R51	47.5 OHM 0.10W 1% CHIP	C 8
R59	A11368-47R51	47.5 OHM 0.10W 1% CHIP	B 9
R60	A11368-22R11	22.1 OHM 0.10W 1% 0805 T/R	C 9
R61	A11368-22R11	22.1 OHM 0.10W 1% 0805 T/R	C 9
R62	A11368-47R51	47.5 OHM 0.10W 1% CHIP	C 9
R63	A11368-47R51	47.5 OHM 0.10W 1% CHIP	A 8
R64	A11368-47R51	47.5 OHM 0.10W 1% CHIP	E 9
R65	A11368-22R11	22.1 OHM 0.10W 1% 0805 T/R	D 8
R66	A11368-22R11	22.1 OHM 0.10W 1% 0805 T/R	C 8
R67	A11368-47R51	47.5 OHM 0.10W 1% CHIP	C 8
R68	A11368-47R51	47.5 OHM 0.10W 1% CHIP	C 9
R69	A11368-47R51	47.5 OHM 0.10W 1% CHIP	D 8
R70	A11368-10021	10K 1/10W 1% CHIP 0805	B 8
R71	A11368-10021	10K 1/10W 1% CHIP 0805	B 4
R72	A11368-10021	10K 1/10W 1% CHIP 0805	B 4
R73	A11368-10021	10K 1/10W 1% CHIP 0805	B 4
R74	A11368-10021	10K 1/10W 1% CHIP 0805	D 5
R75	A11368-10021	10K 1/10W 1% CHIP 0805	D 5
R76	A11368-10021	10K 1/10W 1% CHIP 0805	C 5
R77	A11368-47R51	47.5 OHM 0.10W 1% CHIP	C 8
R78		OPEN	E 5
R79		OPEN	B 8
R80	A11368-47R51	47.5 OHM 0.10W 1% CHIP	B 9
R81	A11368-47R51	47.5 OHM 0.10W 1% CHIP	B 6
R82	A11368-47R51	47.5 OHM 0.10W 1% CHIP	D 3
R83		OPEN	C 8

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DRAWN	JFL	10/26/99	DWG. NO.
PROJ.	MD404D0	128047-4	
			REV (A)

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PARTS LIST			
REF DES	C. P. N.	DESCRIPTION	MAP LOC.
R84		OPEN	E 5
R85	A11368-10021	10K 1/10W 1% CHIP 0805	E 5
R86	A11368-10021	10K 1/10W 1% CHIP 0805	E 4
R87	A11368-10021	10K 1/10W 1% CHIP 0805	A 4
R88	A11368-10021	10K 1/10W 1% CHIP 0805	A 4
R89	A11368-10021	10K 1/10W 1% CHIP 0805	A 8
R90	A11368-10021	10K 1/10W 1% CHIP 0805	A 8
R91	A11368-10011	1K 0.10W 1% CHIP 0805	E 7
R92	A11368-22601	226 OHM 0.10W 1% CHIP 0805	E 9
R93	A11368-22601	226 OHM 0.10W 1% CHIP 0805	E 9
R94	A11368-22601	226 OHM 0.10W 1% CHIP 0805	A 8
R95	A11368-10021	10K 1/10W 1% CHIP 0805	E 5
R96	A11368-10021	10K 1/10W 1% CHIP 0805	E 5
R97	A11368-10021	10K 1/10W 1% CHIP 0805	D 5
R98	A11368-10021	10K 1/10W 1% CHIP 0805	D 5
R103	A11368-22R11	22.1 OHM 0.10W 1% 0805 T/R	D 8
R104	A11368-47R51	47.5 OHM 0.10W 1% CHIP	D 8
R105	A11368-47R51	47.5 OHM 0.10W 1% CHIP	D 8
R106	A11368-22R11	22.1 OHM 0.10W 1% 0805 T/R	B 9
R107	A11368-47R51	47.5 OHM 0.10W 1% CHIP	B 9
R108	A11368-47R51	47.5 OHM 0.10W 1% CHIP	B 9
R109	A11368-22R11	22.1 OHM 0.10W 1% 0805 T/R	B 5
R110	A11368-47R51	47.5 OHM 0.10W 1% CHIP	B 5
R111	A11368-47R51	47.5 OHM 0.10W 1% CHIP	B 5
R112	A11368-22R11	22.1 OHM 0.10W 1% 0805 T/R	D 3
R113	A11368-47R51	47.5 OHM 0.10W 1% CHIP	D 3
R114	A11368-47R51	47.5 OHM 0.10W 1% CHIP	D 3
R115	A11368-47R51	47.5 OHM 0.10W 1% CHIP	A 7
R116	A11368-10011	1K 0.10W 1% CHIP 0805	A 3
R117	A11368-10021	10K 1/10W 1% CHIP 0805	A 3
R118	A11368-10021	10K 1/10W 1% CHIP 0805	A 2
R119	A11368-10021	10K 1/10W 1% CHIP 0805	A 3
R120	A11368-47R51	47.5 OHM 0.10W 1% CHIP	A 7
R121	A11368-47R51	47.5 OHM 0.10W 1% CHIP	A 6
R122	A11368-47R51	47.5 OHM 0.10W 1% CHIP	A 6
R123	A11368-47R51	47.5 OHM 0.10W 1% CHIP	A 7
R124	A11368-47R51	47.5 OHM 0.10W 1% CHIP	A 7
R125	A11368-47R51	47.5 OHM 0.10W 1% CHIP	A 7
R126	A11368-47R51	47.5 OHM 0.10W 1% CHIP	A 7
R127	A11368-47R51	47.5 OHM 0.10W 1% CHIP	A 7
R128	A11368-47R51	47.5 OHM 0.10W 1% CHIP	A 7
R129	A11368-47R51	47.5 OHM 0.10W 1% CHIP	A 7
R130	A11368-47R51	47.5 OHM 0.10W 1% CHIP	C 4
R131	A11368-47R51	47.5 OHM 0.10W 1% CHIP	D 5
R132	A11368-47R51	47.5 OHM 0.10W 1% CHIP	D 5
R133	A11368-47R51	47.5 OHM 0.10W 1% CHIP	C 5
R134	A11368-47R51	47.5 OHM 0.10W 1% CHIP	C 5

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DRAWN	JFL	10/26/99	DWG. NO.	SHEET 10 OF 15	REV
PROJ.	MD404D0		128047-4		(A)

PARTS LIST			
REF DES	C. P. N.	DESCRIPTION	MAP LOC.
R135	A11368-22601	226 OHM 0.10W 1% CHIP 0805	A 9
R136	A11368-22601	226 OHM 0.10W 1% CHIP 0805	A 5
R137	A11368-22601	226 OHM 0.10W 1% CHIP 0805	A 4
R138	A11368-22601	226 OHM 0.10W 1% CHIP 0805	E 4
R139	A11368-22601	226 OHM 0.10W 1% CHIP 0805	E 4
R140	A11368-10021	10K 1/10W 1% CHIP 0805	E 6
R141	A11368-10021	10K 1/10W 1% CHIP 0805	A 3
R142	A11368-22601	226 OHM 0.10W 1% CHIP 0805	A 3
R143	A11368-47R51	47.5 OHM 0.10W 1% CHIP	C 4
R144	A11368-47R51	47.5 OHM 0.10W 1% CHIP	B 7
R145	A11368-47R51	47.5 OHM 0.10W 1% CHIP	C 6
R146	A11368-47R51	47.5 OHM 0.10W 1% CHIP	B 6
R147	A11368-47R51	47.5 OHM 0.10W 1% CHIP	C 6
R148	A11368-47R51	47.5 OHM 0.10W 1% CHIP	B 7
R149	A11368-47R51	47.5 OHM 0.10W 1% CHIP	F 8
R150	A11368-47R51	47.5 OHM 0.10W 1% CHIP	E 8
R151	A11368-33R21	33.2 OHM 1% 0805 RES T/R	E 8
R152	A11368-47R51	47.5 OHM 0.10W 1% CHIP	C 4
R153	A11368-47R51	47.5 OHM 0.10W 1% CHIP	E 6
R154	A11368-47R51	47.5 OHM 0.10W 1% CHIP	F 5
R155	A11368-47R51	47.5 OHM 0.10W 1% CHIP	E 5
R156	A11368-47R51	47.5 OHM 0.10W 1% CHIP	E 5
R157	A11368-47R51	47.5 OHM 0.10W 1% CHIP	E 5
R158	A11368-10021	10K 1/10W 1% CHIP 0805	A 7
R159	A11368-10021	10K 1/10W 1% CHIP 0805	D 4
R160	A11368-10021	10K 1/10W 1% CHIP 0805	B 9
R161	A11368-10011	1K 0.10W 1% CHIP 0805	A 3
R162	A11368-10021	10K 1/10W 1% CHIP 0805	A 7
R163	A11368-10021	10K 1/10W 1% CHIP 0805	A 7
R164	A11368-47R51	47.5 OHM 0.10W 1% CHIP	F 9
R165	A11368-47R51	47.5 OHM 0.10W 1% CHIP	F 9
R166	A11368-47R51	47.5 OHM 0.10W 1% CHIP	F 9
R167	A11368-47R51	47.5 OHM 0.10W 1% CHIP	F 9
R168	A11368-47R51	47.5 OHM 0.10W 1% CHIP	F 9
R169	A11368-47R51	47.5 OHM 0.10W 1% CHIP	F 9
R170	A11368-47R51	47.5 OHM 0.10W 1% CHIP	C 4
R171	A11368-33R21	33.2 OHM 1% 0805 RES T/R	F 8
R172	A11368-47R51	47.5 OHM 0.10W 1% CHIP	E 9
R173	A11368-47R51	47.5 OHM 0.10W 1% CHIP	E 5
R174	A11368-47R51	47.5 OHM 0.10W 1% CHIP	E 5
R175	A11368-47R51	47.5 OHM 0.10W 1% CHIP	E 5
R176	A11368-47R51	47.5 OHM 0.10W 1% CHIP	E 6
R177	A11368-47R51	47.5 OHM 0.10W 1% CHIP	E 5
R178	A11368-47R51	47.5 OHM 0.10W 1% CHIP	F 9
R179	A11368-10011	1K 0.10W 1% CHIP 0805	D 3
R180	A11368-10021	10K 1/10W 1% CHIP 0805	C 8
R181	A11368-10021	10K 1/10W 1% CHIP 0805	B 9

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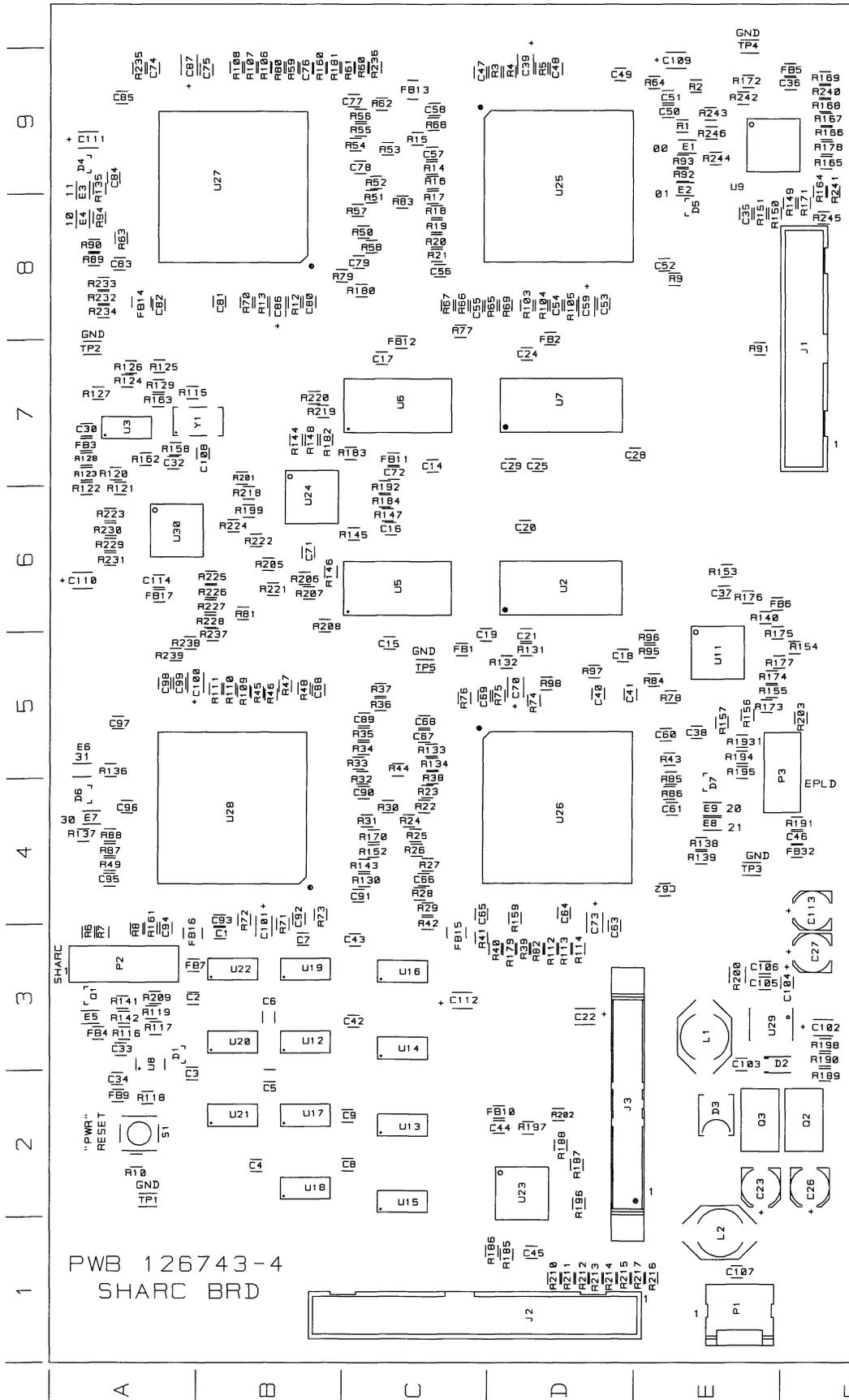
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DRAWN	JFL	10/26/99	DWG. NO.	SHEET 11 OF 15	REV
PROJ.	MD404D0		128047-4		(A)

PARTS LIST			
REF DES	C. P. N.	DESCRIPTION	MAP LOC.
R182	A11368-47R51	47.5 OHM 0.10W 1% CHIP	B 7
R183	A11368-47R51	47.5 OHM 0.10W 1% CHIP	C 7
R184	A11368-47R51	47.5 OHM 0.10W 1% CHIP	C 6
R185	A11368-47R51	47.5 OHM 0.10W 1% CHIP	D 1
R186	A11368-47R51	47.5 OHM 0.10W 1% CHIP	D 1
R187	A11368-47R51	47.5 OHM 0.10W 1% CHIP	D 2
R188	A11368-47R51	47.5 OHM 0.10W 1% CHIP	D 2
R189	A11368-47R51	47.5 OHM 0.10W 1% CHIP	F 2
R190	A11368-47R51	47.5 OHM 0.10W 1% CHIP	F 3
R191	A11368-10021	10K 1/10W 1% CHIP 0805	F 4
R192	A11368-47R51	47.5 OHM 0.10W 1% CHIP	C 6
R193	A11368-47R51	47.5 OHM 0.10W 1% CHIP	E 5
R194	A11368-47R51	47.5 OHM 0.10W 1% CHIP	E 5
R195	A11368-47R51	47.5 OHM 0.10W 1% CHIP	E 5
R196	A11368-47R51	47.5 OHM 0.10W 1% CHIP	D 2
R197	A11368-10021	10K 1/10W 1% CHIP 0805	D 2
R198	A11368-10021	10K 1/10W 1% CHIP 0805	F 3
R199	A11368-47R51	47.5 OHM 0.10W 1% CHIP	B 6
R200	126414-1	0.015 OHM 1W 1% 2512 T/R	E 3
R201	A11368-47R51	47.5 OHM 0.10W 1% CHIP	B 7
R202	A11368-47R51	47.5 OHM 0.10W 1% CHIP	D 2
R203	A11368-10011	1K 0.10W 1% CHIP 0805	F 5
R205	A11368-47R51	47.5 OHM 0.10W 1% CHIP	B 6
R206	A11368-47R51	47.5 OHM 0.10W 1% CHIP	B 6
R207	A11368-47R51	47.5 OHM 0.10W 1% CHIP	B 6
R208	A11368-10021	10K 1/10W 1% CHIP 0805	B 6
R209	A11368-47R51	47.5 OHM 0.10W 1% CHIP	A 3
R210	A11368-47R51	47.5 OHM 0.10W 1% CHIP	D 1
R211	A11368-47R51	47.5 OHM 0.10W 1% CHIP	D 1
R212	A11368-47R51	47.5 OHM 0.10W 1% CHIP	D 1
R213	A11368-47R51	47.5 OHM 0.10W 1% CHIP	D 1
R214	A11368-47R51	47.5 OHM 0.10W 1% CHIP	D 1
R215	A11368-47R51	47.5 OHM 0.10W 1% CHIP	D 1
R216	A11368-47R51	47.5 OHM 0.10W 1% CHIP	E 1
R217	A11368-47R51	47.5 OHM 0.10W 1% CHIP	E 1
R218	A11368-47R51	47.5 OHM 0.10W 1% CHIP	B 6
R219	A11368-47R51	47.5 OHM 0.10W 1% CHIP	B 7
R220	A11368-47R51	47.5 OHM 0.10W 1% CHIP	B 7
R221	A11368-47R51	47.5 OHM 0.10W 1% CHIP	B 6
R222	A11368-47R51	47.5 OHM 0.10W 1% CHIP	B 6
R223	A11368-47R51	47.5 OHM 0.10W 1% CHIP	A 6
R224	A11368-47R51	47.5 OHM 0.10W 1% CHIP	B 6
R225	A11368-47R51	47.5 OHM 0.10W 1% CHIP	B 6
R226	A11368-47R51	47.5 OHM 0.10W 1% CHIP	B 6
R227	A11368-47R51	47.5 OHM 0.10W 1% CHIP	B 6
R228	A11368-47R51	47.5 OHM 0.10W 1% CHIP	B 6
R229	A11368-10021	10K 1/10W 1% CHIP 0805	A 6
R230	A11368-10021	10K 1/10W 1% CHIP 0805	A 6

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1718 WEST MISHAWAKA ROAD		ELKHART, INDIANA 48517	PHONE (219) 294-8000
DRAWN	JFL	10/26/99	DWG. NO.
PROJ.	MD404D0	SHEET 12 OF 15	
128047-4			REV
A			A



PWB 126743-4
SHARC BRD

PWA #128047-4 Component Map (Component Side)

PWA #128049-1

Input Module

PWB #126689-3

Schematic #126688 Rev. A

PARTS LIST			
REF DES	C. P. N.	DESCRIPTION	MAP LOC.
C1	A11427-104K2	0.1 MF 50V 10% 0805	K 4
C2	C10359-5	1.UF 16V 20% TANTALUM SMT	K 4
C3	A11427-104K2	0.1 MF 50V 10% 0805	I 5
C4	C10359-5	1.UF 16V 20% TANTALUM SMT	H 5
C5	A11427-104K2	0.1 MF 50V 10% 0805	H 5
C6	A11427-104K2	0.1 MF 50V 10% 0805	H 4
C7	C10359-5	1.UF 16V 20% TANTALUM SMT	H 4
C8	A11427-104K2	0.1 MF 50V 10% 0805	G 5
C9	C10359-5	1.UF 16V 20% TANTALUM SMT	G 5
C10	A11427-104K2	0.1 MF 50V 10% 0805	G 5
C11	A11427-104K2	0.1 MF 50V 10% 0805	G 5
C12	A11427-104K2	0.1 MF 50V 10% 0805	G 6
C13	A11427-104K2	0.1 MF 50V 10% 0805	E 6
C14	A11427-104K2	0.1 MF 50V 10% 0805	E 6
C15	A11427-104K2	0.1 MF 50V 10% 0805	F 5
C16	A11427-104K2	0.1 MF 50V 10% 0805	F 6
C17	A11427-104K2	0.1 MF 50V 10% 0805	F 5
C18	A11427-104K2	0.1 MF 50V 10% 0805	F 6
C19	A11427-104K2	0.1 MF 50V 10% 0805	E 4
C20	C10359-5	1.UF 16V 20% TANTALUM SMT	E 4
C21	A11427-104K2	0.1 MF 50V 10% 0805	F 5
C22	C10359-5	1.UF 16V 20% TANTALUM SMT	F 5
C23	A11427-104K2	0.1 MF 50V 10% 0805	F 5
C24	A11427-104K2	0.1 MF 50V 10% 0805	B 4
C25	C10359-5	1.UF 16V 20% TANTALUM SMT	C 4
C26	A11427-104K2	0.1 MF 50V 10% 0805	F 5
C27	C10359-5	1.UF 16V 20% TANTALUM SMT	E 5
C28	A11427-104K2	0.1 MF 50V 10% 0805	E 5
C29	A11369-102J2	0.001UF 50V 5% NPO MLC 0805 T/	G 6
C30	A11369-102J2	0.001UF 50V 5% NPO MLC 0805 T/	E 6
C31	A11369-102J2	0.001UF 50V 5% NPO MLC 0805 T/	F 6
C32	A11427-104K2	0.1 MF 50V 10% 0805	H 6
C33	A11369-102J2	0.001UF 50V 5% NPO MLC 0805 T/	H 6
C34	C10391-8	10 UF 16V 20% TANT	E 6
C35	A11369-102J2	0.001UF 50V 5% NPO MLC 0805 T/	I 5
C36	A11369-102J2	0.001UF 50V 5% NPO MLC 0805 T/	H 5
C37	A11369-102J2	0.001UF 50V 5% NPO MLC 0805 T/	G 5
C38	A11369-102J2	0.001UF 50V 5% NPO MLC 0805 T/	F 5
C39	C10391-8	10 UF 16V 20% TANT	H 6
C40	C10391-8	10 UF 16V 20% TANT	I 5
C41	C10391-8	10 UF 16V 20% TANT	G 5
C42	C10391-8	10 UF 16V 20% TANT	E 5
C43	A11427-104K2	0.1 MF 50V 10% 0805	K 4
C44	A11427-104K2	0.1 MF 50V 10% 0805	H 4
C45	A11427-104K2	0.1 MF 50V 10% 0805	E 4
C46	A11427-104K2	0.1 MF 50V 10% 0805	B 4
C55	A11369-102J2	0.001UF 50V 5% NPO MLC 0805 T/	E 6

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DRAWN	JFL	7/18/99	DWG. NO.	SHEET 6 OF 20	REV
PROJ.	MD404D0		128049-1		(B)

PARTS LIST			
REF DES	C. P. N.	DESCRIPTION	MAP LOC.
C304	126475-1	CAP, 47 MF 35V ELECT SMD	H 1
C305	126475-1	CAP, 47 MF 35V ELECT SMD	I 1
C306	A11369-102J2	0.001UF 50V 5% NPO MLC 0805 T/	H 2
C307	A11369-102J2	0.001UF 50V 5% NPO MLC 0805 T/	I 2
C308	126475-1	CAP, 47 MF 35V ELECT SMD	I 3
C309	126475-1	CAP, 47 MF 35V ELECT SMD	I 3
C310	102438-221K2	220PF 200V 10% NPO 0805	I 3
C311	126476-1	CAP, 470 MF 6.3V ELECT SMD	I 3
C312	102438-221K2	220PF 200V 10% NPO 0805	I 4
C313	102438-470J2	CAP, 47PF 200V 5% NPO 0805	H 3
C314	102438-470J2	CAP, 47PF 200V 5% NPO 0805	H 4
C315	126475-1	CAP, 47 MF 35V ELECT SMD	I 4
C316	102438-221K2	220PF 200V 10% NPO 0805	H 4
C317	A11369-220J2	22PF 50V 5% NPO/COG CHIP 0805	H 4
C318	A11369-152J2	1500PF 50V 5% NPO MLC 0805 T/R	G 4
C319	A11427-104K2	0.1 MF 50V 10% 0805	H 4
C320	A11427-104K2	0.1 MF 50V 10% 0805	H 4
C321	A11427-104K2	0.1 MF 50V 10% 0805	I 2
C400	102438-221K2	220PF 200V 10% NPO 0805	G 1
C401	102438-221K2	220PF 200V 10% NPO 0805	G 1
C402	A11369-152J2	1500PF 50V 5% NPO MLC 0805 T/R	G 1
C403	A11369-152J2	1500PF 50V 5% NPO MLC 0805 T/R	G 1
C404	126475-1	CAP, 47 MF 35V ELECT SMD	G 1
C405	126475-1	CAP, 47 MF 35V ELECT SMD	G 1
C406	A11369-102J2	0.001UF 50V 5% NPO MLC 0805 T/	G 2
C407	A11369-102J2	0.001UF 50V 5% NPO MLC 0805 T/	G 2
C408	126475-1	CAP, 47 MF 35V ELECT SMD	H 3
C409	126475-1	CAP, 47 MF 35V ELECT SMD	G 3
C410	102438-221K2	220PF 200V 10% NPO 0805	H 3
C411	126476-1	CAP, 470 MF 6.3V ELECT SMD	G 4
C412	102438-221K2	220PF 200V 10% NPO 0805	H 4
C413	102438-470J2	CAP, 47PF 200V 5% NPO 0805	H 3
C414	102438-470J2	CAP, 47PF 200V 5% NPO 0805	H 4
C415	126475-1	CAP, 47 MF 35V ELECT SMD	G 4
C416	102438-221K2	220PF 200V 10% NPO 0805	H 4
C417	A11369-220J2	22PF 50V 5% NPO/COG CHIP 0805	H 4
C418	A11369-152J2	1500PF 50V 5% NPO MLC 0805 T/R	G 4
C421	A11427-104K2	0.1 MF 50V 10% 0805	H 2
C500	102438-221K2	220PF 200V 10% NPO 0805	F 1
C501	102438-221K2	220PF 200V 10% NPO 0805	F 1
C502	A11369-152J2	1500PF 50V 5% NPO MLC 0805 T/R	F 1
C503	A11369-152J2	1500PF 50V 5% NPO MLC 0805 T/R	F 1
C504	126475-1	CAP, 47 MF 35V ELECT SMD	F 1
C505	126475-1	CAP, 47 MF 35V ELECT SMD	F 1
C506	A11369-102J2	0.001UF 50V 5% NPO MLC 0805 T/	F 2
C507	A11369-102J2	0.001UF 50V 5% NPO MLC 0805 T/	F 2
C508	126475-1	CAP, 47 MF 35V ELECT SMD	F 3

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DRAWN	JFL	7/19/99	DWG. NO.	SHEET 8 OF 20	REV
PROJ.	MD404D0		128049-1		(B)

PARTS LIST			
REF DES	C. P. N.	DESCRIPTION	MAP LOC.
C509	126475-1	CAP, 47 MF 35V ELECT SMD	F 3
C510	102438-221K2	220PF 200V 10% NPO 0805	F 3
C511	126476-1	CAP, 470 MF 6.3V ELECT SMD	G 3
C512	102438-221K2	220PF 200V 10% NPO 0805	F 4
C513	102438-470J2	CAP, 47PF 200V 5% NPO 0805	E 3
C514	102438-470J2	CAP, 47PF 200V 5% NPO 0805	F 4
C515	126475-1	CAP, 47 MF 35V ELECT SMD	F 4
C516	102438-221K2	220PF 200V 10% NPO 0805	F 4
C517	A11369-220J2	22PF 50V 5% NPO/COG CHIP 0805	F 4
C518	A11369-152J2	1500PF 50V 5% NPO MLC 0805 T/R	F 4
C519	A11427-104K2	0.1 MF 50V 10% 0805	E 4
C520	A11427-104K2	0.1 MF 50V 10% 0805	E 4
C521	A11427-104K2	0.1 MF 50V 10% 0805	F 2
C600	102438-221K2	220PF 200V 10% NPO 0805	D 1
C601	102438-221K2	220PF 200V 10% NPO 0805	E 1
C602	A11369-152J2	1500PF 50V 5% NPO MLC 0805 T/R	D 1
C603	A11369-152J2	1500PF 50V 5% NPO MLC 0805 T/R	E 1
C604	126475-1	CAP, 47 MF 35V ELECT SMD	D 1
C605	126475-1	CAP, 47 MF 35V ELECT SMD	D 1
C606	A11369-102J2	0.001UF 50V 5% NPO MLC 0805 T/	D 2
C607	A11369-102J2	0.001UF 50V 5% NPO MLC 0805 T/	E 2
C608	126475-1	CAP, 47 MF 35V ELECT SMD	E 3
C609	126475-1	CAP, 47 MF 35V ELECT SMD	D 3
C610	102438-221K2	220PF 200V 10% NPO 0805	E 3
C611	126476-1	CAP, 470 MF 6.3V ELECT SMD	D 4
C612	102438-221K2	220PF 200V 10% NPO 0805	E 4
C613	102438-470J2	CAP, 47PF 200V 5% NPO 0805	E 3
C614	102438-470J2	CAP, 47PF 200V 5% NPO 0805	E 4
C615	126475-1	CAP, 47 MF 35V ELECT SMD	E 4
C616	102438-221K2	220PF 200V 10% NPO 0805	E 4
C617	A11369-220J2	22PF 50V 5% NPO/COG CHIP 0805	E 4
C618	A11369-152J2	1500PF 50V 5% NPO MLC 0805 T/R	F 4
C621	A11427-104K2	0.1 MF 50V 10% 0805	E 2
C700	102438-221K2	220PF 200V 10% NPO 0805	C 1
C701	102438-221K2	220PF 200V 10% NPO 0805	C 1
C702	A11369-152J2	1500PF 50V 5% NPO MLC 0805 T/R	C 1
C703	A11369-152J2	1500PF 50V 5% NPO MLC 0805 T/R	C 1
C704	126475-1	CAP, 47 MF 35V ELECT SMD	C 1
C705	126475-1	CAP, 47 MF 35V ELECT SMD	C 1
C706	A11369-102J2	0.001UF 50V 5% NPO MLC 0805 T/	C 2
C707	A11369-102J2	0.001UF 50V 5% NPO MLC 0805 T/	C 2
C708	126475-1	CAP, 47 MF 35V ELECT SMD	D 3
C709	126475-1	CAP, 47 MF 35V ELECT SMD	C 3
C710	102438-221K2	220PF 200V 10% NPO 0805	C 3
C711	126476-1	CAP, 470 MF 6.3V ELECT SMD	D 3
C712	102438-221K2	220PF 200V 10% NPO 0805	C 4
C713	102438-470J2	CAP, 47PF 200V 5% NPO 0805	C 3

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DRAWN	JFL	7/19/99	DWG. NO.
PROJ.	MD404D0		

SHEET 9 OF 20	REV
128049-1	(B)

PARTS LIST			
REF DES	C. P. N.	DESCRIPTION	MAP LOC.
C714	102438-470J2	CAP, 47PF 200V 5% NPO 0805	C 4
C715	126475-1	CAP, 47 MF 35V ELECT SMD	C 4
C716	102438-221K2	220PF 200V 10% NPO 0805	C 4
C717	A11369-220J2	22PF 50V 5% NPO/COG CHIP 0805	C 4
C718	A11369-152J2	1500PF 50V 5% NPO MLC 0805 T/R	E 5
C719	A11427-104K2	0.1 MF 50V 10% 0805	C 4
C720	A11427-104K2	0.1 MF 50V 10% 0805	B 4
C721	A11427-104K2	0.1 MF 50V 10% 0805	C 2
C800	102438-221K2	220PF 200V 10% NPO 0805	A 1
C801	102438-221K2	220PF 200V 10% NPO 0805	B 1
C802	A11369-152J2	1500PF 50V 5% NPO MLC 0805 T/R	A 1
C803	A11369-152J2	1500PF 50V 5% NPO MLC 0805 T/R	B 1
C804	126475-1	CAP, 47 MF 35V ELECT SMD	A 1
C805	126475-1	CAP, 47 MF 35V ELECT SMD	B 1
C806	A11369-102J2	0.001UF 50V 5% NPO MLC 0805 T/	A 2
C807	A11369-102J2	0.001UF 50V 5% NPO MLC 0805 T/	B 2
C808	126475-1	CAP, 47 MF 35V ELECT SMD	B 3
C809	126475-1	CAP, 47 MF 35V ELECT SMD	B 3
C810	102438-221K2	220PF 200V 10% NPO 0805	B 3
C811	126476-1	CAP, 470 MF 6.3V ELECT SMD	A 3
C812	102438-221K2	220PF 200V 10% NPO 0805	B 4
C813	102438-470J2	CAP, 47PF 200V 5% NPO 0805	B 3
C814	102438-470J2	CAP, 47PF 200V 5% NPO 0805	B 4
C815	126475-1	CAP, 47 MF 35V ELECT SMD	B 4
C816	102438-221K2	220PF 200V 10% NPO 0805	B 4
C817	A11369-220J2	22PF 50V 5% NPO/COG CHIP 0805	B 4
C818	A11369-152J2	1500PF 50V 5% NPO MLC 0805 T/R	E 5
C821	A11427-104K2	0.1 MF 50V 10% 0805	B 2
C900	A11369-102J2	0.001UF 50V 5% NPO MLC 0805 T/	D 6
C901	A11369-102J2	0.001UF 50V 5% NPO MLC 0805 T/	D 6
C902	127075-1	CAP, 100UF/16V, 20%, LOW ESR, ALUM SMT	B 6
C903	127074-1	CAP, 220UF/6.3V, 20%, LOW ESR, ALUM SMT	D 5
C904	A11369-102J2	0.001UF 50V 5% NPO MLC 0805 T/	C 6
C905	127074-1	CAP, 220UF/6.3V, 20%, LOW ESR, ALUM SMT	B 6
C906	A11427-104K2	0.1 MF 50V 10% 0805	A 6
C907	A11369-102J2	0.001UF 50V 5% NPO MLC 0805 T/	D 5
C908	127075-1	CAP, 100UF/16V, 20%, LOW ESR, ALUM SMT	B 5
C909	A11427-104K2	0.1 MF 50V 10% 0805	C 5
C910	127075-1	CAP, 100UF/16V, 20%, LOW ESR, ALUM SMT	A 6
C911	127075-1	CAP, 100UF/16V, 20%, LOW ESR, ALUM SMT	A 5
C912	A11427-104K2	0.1 MF 50V 10% 0805	C 5
C913	126475-1	CAP, 47 MF 35V ELECT SMD	C 5
C914	A11427-104K2	0.1 MF 50V 10% 0805	C 5
C915	126475-1	CAP, 47 MF 35V ELECT SMD	C 5
C916	126475-1	CAP, 47 MF 35V ELECT SMD	C 5
C917	A11369-152J2	1500PF 50V 5% NPO MLC 0805 T/R	A 5
C918	127075-1	CAP, 100UF/16V, 20%, LOW ESR, ALUM SMT	A 5

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DRAWN	JFL	7/19/99	DWG. NO.	SHEET 10 OF 20	REV
PROJ.	MD404D0		128049-1		(B)

PARTS LIST			
REF DES	C.P.N.	DESCRIPTION	MAP LOC.
C919	A11427-104K2	0.1 MF 50V 10% 0805	B 5
C920	A11369-102J2	0.001UF 50V 5% NPO MLC 0805 T/	B 5
C921	A11427-104K2	0.1 MF 50V 10% 0805	A 5
C922	A11427-104K2	0.1 MF 50V 10% 0805	A 5
C923	127076-1	CAP. 1UF/50V. CERAMIC. X7R. 10%. SMT2225	A 5
D100	C10067-4	DIODE, 1A 100V SILICON	L 3
D101	C10067-4	DIODE, 1A 100V SILICON	L 3
D102	C10067-4	DIODE, 1A 100V SILICON	L 4
D103	C10067-4	DIODE, 1A 100V SILICON	L 4
D200	C10067-4	DIODE, 1A 100V SILICON	J 3
D201	C10067-4	DIODE, 1A 100V SILICON	J 3
D202	C10067-4	DIODE, 1A 100V SILICON	J 4
D203	C10067-4	DIODE, 1A 100V SILICON	J 4
D300	C10067-4	DIODE, 1A 100V SILICON	I 3
D301	C10067-4	DIODE, 1A 100V SILICON	I 3
D302	C10067-4	DIODE, 1A 100V SILICON	I 4
D303	C10067-4	DIODE, 1A 100V SILICON	I 4
D400	C10067-4	DIODE, 1A 100V SILICON	G 3
D401	C10067-4	DIODE, 1A 100V SILICON	G 3
D402	C10067-4	DIODE, 1A 100V SILICON	H 4
D403	C10067-4	DIODE, 1A 100V SILICON	G 4
D500	C10067-4	DIODE, 1A 100V SILICON	F 3
D501	C10067-4	DIODE, 1A 100V SILICON	F 3
D502	C10067-4	DIODE, 1A 100V SILICON	F 4
D503	C10067-4	DIODE, 1A 100V SILICON	F 4
D600	C10067-4	DIODE, 1A 100V SILICON	D 3
D601	C10067-4	DIODE, 1A 100V SILICON	E 3
D602	C10067-4	DIODE, 1A 100V SILICON	E 4
D603	C10067-4	DIODE, 1A 100V SILICON	D 4
D700	C10067-4	DIODE, 1A 100V SILICON	C 3
D701	C10067-4	DIODE, 1A 100V SILICON	C 3
D702	C10067-4	DIODE, 1A 100V SILICON	C 4
D703	C10067-4	DIODE, 1A 100V SILICON	D 4
D800	C10067-4	DIODE, 1A 100V SILICON	B 3
D801	C10067-4	DIODE, 1A 100V SILICON	B 3
D802	C10067-4	DIODE, 1A 100V SILICON	B 4
D803	C10067-4	DIODE, 1A 100V SILICON	B 4
D900	126411-1	DIODE, MBR5340T3	B 5
FB1	125846-1	FERRITE BEAD, 0.5A, 600OHMS	G 6
FB2	125846-1	FERRITE BEAD, 0.5A, 600OHMS	F 6
FB3	125846-1	FERRITE BEAD, 0.5A, 600OHMS	F 6
FB4	125846-1	FERRITE BEAD, 0.5A, 600OHMS	H 6
FB5	125846-1	FERRITE BEAD, 0.5A, 600OHMS	I 5
FB6	125846-1	FERRITE BEAD, 0.5A, 600OHMS	H 5
FB7	125846-1	FERRITE BEAD, 0.5A, 600OHMS	G 5
FB8	125846-1	FERRITE BEAD, 0.5A, 600OHMS	F 5
FB9	125846-1	FERRITE BEAD, 0.5A, 600OHMS	B 5

CROWN INTERNATIONAL INC.			
1718 WEST MISHAWAKA ROAD		ELKHART, INDIANA 48517	PHONE (219) 294-8888
DRAWN	JFL	7/19/99	DWG. NO.
PROJ.	MD404D0		SHEET 11 OF 20
128049-1			REV B

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PARTS LIST			
REF DES	C.P.N.	DESCRIPTION	MAP LOC.
FB100	125846-1	FERRITE BEAD, 0.5A, 600OHMS	K 1
FB101	125846-1	FERRITE BEAD, 0.5A, 600OHMS	K 1
FB102	125846-1	FERRITE BEAD, 0.5A, 600OHMS	K 3
FB103	125846-1	FERRITE BEAD, 0.5A, 600OHMS	L 4
FB200	125846-1	FERRITE BEAD, 0.5A, 600OHMS	J 1
FB201	125846-1	FERRITE BEAD, 0.5A, 600OHMS	J 1
FB202	125846-1	FERRITE BEAD, 0.5A, 600OHMS	J 3
FB203	125846-1	FERRITE BEAD, 0.5A, 600OHMS	J 4
FB300	125846-1	FERRITE BEAD, 0.5A, 600OHMS	I 1
FB301	125846-1	FERRITE BEAD, 0.5A, 600OHMS	I 1
FB302	125846-1	FERRITE BEAD, 0.5A, 600OHMS	I 3
FB303	125846-1	FERRITE BEAD, 0.5A, 600OHMS	I 4
FB400	125846-1	FERRITE BEAD, 0.5A, 600OHMS	G 1
FB401	125846-1	FERRITE BEAD, 0.5A, 600OHMS	G 1
FB402	125846-1	FERRITE BEAD, 0.5A, 600OHMS	H 3
FB403	125846-1	FERRITE BEAD, 0.5A, 600OHMS	G 4
FB500	125846-1	FERRITE BEAD, 0.5A, 600OHMS	F 1
FB501	125846-1	FERRITE BEAD, 0.5A, 600OHMS	F 1
FB502	125846-1	FERRITE BEAD, 0.5A, 600OHMS	F 3
FB503	125846-1	FERRITE BEAD, 0.5A, 600OHMS	F 4
FB600	125846-1	FERRITE BEAD, 0.5A, 600OHMS	D 1
FB601	125846-1	FERRITE BEAD, 0.5A, 600OHMS	D 1
FB602	125846-1	FERRITE BEAD, 0.5A, 600OHMS	E 3
FB603	125846-1	FERRITE BEAD, 0.5A, 600OHMS	E 4
FB700	125846-1	FERRITE BEAD, 0.5A, 600OHMS	C 1
FB701	125846-1	FERRITE BEAD, 0.5A, 600OHMS	C 1
FB702	125846-1	FERRITE BEAD, 0.5A, 600OHMS	C 3
FB703	125846-1	FERRITE BEAD, 0.5A, 600OHMS	C 4
FB800	125846-1	FERRITE BEAD, 0.5A, 600OHMS	B 1
FB801	125846-1	FERRITE BEAD, 0.5A, 600OHMS	B 1
FB802	125846-1	FERRITE BEAD, 0.5A, 600OHMS	B 3
FB803	125846-1	FERRITE BEAD, 0.5A, 600OHMS	B 4
FB901	125846-1	FERRITE BEAD, 0.5A, 600OHMS	D 6
J1	127183-1	HEADER, 26PIN 0.1 CTRS	G 6
J2	127183-1	HEADER, 26PIN 0.1 CTRS	E 6
L100	126454-1	INDUCTOR, 270UH +/- 5% SMT 181	K 2
L101	126454-1	INDUCTOR, 270UH +/- 5% SMT 181	K 2
L200	126454-1	INDUCTOR, 270UH +/- 5% SMT 181	J 2
L201	126454-1	INDUCTOR, 270UH +/- 5% SMT 181	J 2
L300	126454-1	INDUCTOR, 270UH +/- 5% SMT 181	H 2
L301	126454-1	INDUCTOR, 270UH +/- 5% SMT 181	I 2
L400	126454-1	INDUCTOR, 270UH +/- 5% SMT 181	G 2
L401	126454-1	INDUCTOR, 270UH +/- 5% SMT 181	G 2
L500	126454-1	INDUCTOR, 270UH +/- 5% SMT 181	F 2
L501	126454-1	INDUCTOR, 270UH +/- 5% SMT 181	F 2
L600	126454-1	INDUCTOR, 270UH +/- 5% SMT 181	D 2
L601	126454-1	INDUCTOR, 270UH +/- 5% SMT 181	D 2

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DRAWN	JFL	7/19/99	DWG. NO.	SHEET 12 OF 20	REV
PROJ.	MD404D0		128049-1		(B)

PARTS LIST			
REF DES	C. P. N.	DESCRIPTION	MAP LOC.
L700	126454-1	INDUCTOR, 270UH +/- 5% SMT 181	C 2
L701	126454-1	INDUCTOR, 270UH +/- 5% SMT 181	C 2
L800	126454-1	INDUCTOR, 270UH +/- 5% SMT 181	A 2
L801	126454-1	INDUCTOR, 270UH +/- 5% SMT 181	B 2
L900	125715-1	INDUCTOR, 53UH 1.87A	C 6
L901	127060-1	INDUCTOR, 220 UH, 290MA, SMT7032	B 6
L902	127060-1	INDUCTOR, 220 UH, 290MA, SMT7032	B 5
L903	127060-1	INDUCTOR, 220 UH, 290MA, SMT7032	C 5
L904	127060-1	INDUCTOR, 220 UH, 290MA, SMT7032	B 5
P900	127068-1	HEADER, 6POS, 0.156" TIN	D 5
Q100	C 9931-4	MMBT5087LT1 PNP XSISTOR SOT-23	K 3
Q101	C 9931-4	MMBT5087LT1 PNP XSISTOR SOT-23	K 4
Q200	C 9931-4	MMBT5087LT1 PNP XSISTOR SOT-23	K 3
Q201	C 9931-4	MMBT5087LT1 PNP XSISTOR SOT-23	J 4
Q300	C 9931-4	MMBT5087LT1 PNP XSISTOR SOT-23	H 3
Q301	C 9931-4	MMBT5087LT1 PNP XSISTOR SOT-23	I 4
Q400	C 9931-4	MMBT5087LT1 PNP XSISTOR SOT-23	H 3
Q401	C 9931-4	MMBT5087LT1 PNP XSISTOR SOT-23	H 4
Q500	C 9931-4	MMBT5087LT1 PNP XSISTOR SOT-23	F 3
Q501	C 9931-4	MMBT5087LT1 PNP XSISTOR SOT-23	F 4
Q600	C 9931-4	MMBT5087LT1 PNP XSISTOR SOT-23	E 3
Q601	C 9931-4	MMBT5087LT1 PNP XSISTOR SOT-23	E 4
Q700	C 9931-4	MMBT5087LT1 PNP XSISTOR SOT-23	C 3
Q701	C 9931-4	MMBT5087LT1 PNP XSISTOR SOT-23	C 4
Q800	C 9931-4	MMBT5087LT1 PNP XSISTOR SOT-23	B 3
Q801	C 9931-4	MMBT5087LT1 PNP XSISTOR SOT-23	B 4
Q900	126410-1	PWR FET, MTD20N03HDL	B 5
R1	A11368-10011	1K 0.10W 1% CHIP 0805	K 4
R2	A11371-1501	15 OHM 0.10W 5% CHIP	H 5
R3	A11368-47R51	47.5 OHM 0.10W 1% CHIP	H 5
R5	A11368-47R51	47.5 OHM 0.10W 1% CHIP	H 5
R6	A11368-10021	10K 1/10W 1% CHIP 0805	H 5
R8	A11368-10021	10K 1/10W 1% CHIP 0805	I 5
R11	A11368-10021	10K 1/10W 1% CHIP 0805	I 5
R12	A11368-10011	1K 0.10W 1% CHIP 0805	H 4
R13	A11371-1501	15 OHM 0.10W 5% CHIP	G 5
R14	A11368-47R51	47.5 OHM 0.10W 1% CHIP	G 5
R17	A11368-10021	10K 1/10W 1% CHIP 0805	H 6
R19	A11368-10021	10K 1/10W 1% CHIP 0805	G 5
R22	A11368-10021	10K 1/10W 1% CHIP 0805	H 5
R23	A11368-47R51	47.5 OHM 0.10W 1% CHIP	H 5
R24	A11368-47R51	47.5 OHM 0.10W 1% CHIP	H 5
R25	A11368-47R51	47.5 OHM 0.10W 1% CHIP	G 5
R26	A11368-47R51	47.5 OHM 0.10W 1% CHIP	G 5
R27	A11368-10021	10K 1/10W 1% CHIP 0805	D 5
R28	A11368-10021	10K 1/10W 1% CHIP 0805	D 5
R29	A11368-47R51	47.5 OHM 0.10W 1% CHIP	G 6

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DRAWN	JFL	7/19/99
PROJ.	MD404D0	

DWG. NO.	SHEET 13 OF 20	REV
128049-1		(B)

PARTS LIST			
REF DES	C. P. N.	DESCRIPTION	MAP LOC.
R30	A11368-10021	10K 1/10W 1% CHIP 0805	H 6
R31	A11368-47R51	47.5 OHM 0.10W 1% CHIP	H 6
R32	A11368-10021	10K 1/10W 1% CHIP 0805	H 5
R33	A11368-47R51	47.5 OHM 0.10W 1% CHIP	G 6
R35	A11368-47R51	47.5 OHM 0.10W 1% CHIP	F 5
R36	A11368-47R51	47.5 OHM 0.10W 1% CHIP	F 5
R37	A11368-47R51	47.5 OHM 0.10W 1% CHIP	F 5
R38	A11368-47R51	47.5 OHM 0.10W 1% CHIP	F 5
R39	A11368-10021	10K 1/10W 1% CHIP 0805	F 6
R40	A11368-47R51	47.5 OHM 0.10W 1% CHIP	H 5
R41	A11368-10021	10K 1/10W 1% CHIP 0805	F 5
R42	A11368-10021	10K 1/10W 1% CHIP 0805	F 6
R44	A11368-47R51	47.5 OHM 0.10W 1% CHIP	G 5
R45	A11368-47R51	47.5 OHM 0.10W 1% CHIP	G 5
R46	A11368-47R51	47.5 OHM 0.10W 1% CHIP	G 5
R47	A11368-47R51	47.5 OHM 0.10W 1% CHIP	F 5
R48	A11368-10021	10K 1/10W 1% CHIP 0805	G 6
R50	A11368-10021	10K 1/10W 1% CHIP 0805	G 5
R51	A11368-10021	10K 1/10W 1% CHIP 0805	G 6
R52	A11368-10011	1K 0.10W 1% CHIP 0805	E 4
R53	A11371-1501	15 OHM 0.10W 5% CHIP	F 5
R54	A11368-47R51	47.5 OHM 0.10W 1% CHIP	F 5
R60	A11368-10021	10K 1/10W 1% CHIP 0805	F 5
R63	A11368-10021	10K 1/10W 1% CHIP 0805	G 5
R64	A11368-10011	1K 0.10W 1% CHIP 0805	C 4
R65	A11371-1501	15 OHM 0.10W 5% CHIP	E 5
R66	A11368-47R51	47.5 OHM 0.10W 1% CHIP	E 5
R70	A11368-47R51	47.5 OHM 0.10W 1% CHIP	E 5
R72	A11368-10021	10K 1/10W 1% CHIP 0805	F 5
R75	A11368-10021	10K 1/10W 1% CHIP 0805	F 5
R100	A11368-20031	200K 0.10W 1% CHIP	K 1
R101	A11368-20031	200K 0.10W 1% CHIP	L 1
R102	A11368-10021	10K 1/10W 1% CHIP 0805	K 1
R103	A11368-20021	20K 0.10W 1% CHIP 0805	K 2
R104	A11368-20021	20K 0.10W 1% CHIP 0805	K 2
R105	A11368-20011	2K OHM 0.1W 1% CHIP 0805	K 2
R106	A11368-20011	2K OHM 0.1W 1% CHIP 0805	L 2
R107	A11368-30111	3.01K 1/10W 1% CHIP 0805	K 4
R108	A11368-30111	3.01K 1/10W 1% CHIP 0805	K 3
R109	A11368-20021	20K 0.10W 1% CHIP 0805	L 4
R110	A11368-10021	10K 1/10W 1% CHIP 0805	K 3
R111	126472-1	POT. 10K AUDIO TAPER R/A PC MN	L 1
R112	A11368-75R01	75 OHM 0.10W 1% CHIP	L 4
R113	A11368-20021	20K 0.10W 1% CHIP 0805	L 4
R114	A11368-10021	10K 1/10W 1% CHIP 0805	K 4
R115	A11368-20021	20K 0.10W 1% CHIP 0805	K 3
R116	A11368-20021	20K 0.10W 1% CHIP 0805	K 4

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DRAWN	JFL	7/19/99	DWG. NO.	SHEET 14 OF 20	REV
PROJ.	MD404D0		128049-1		(B)

PARTS LIST			
REF DES	C.P.N.	DESCRIPTION	MAP LOC.
R117	A11368-20021	20K 0.10W 1% CHIP 0805	K 4
R118	A11368-20011	2K OHM 0.1W 1% CHIP 0805	K 4
R119	A11368-20021	20K 0.10W 1% CHIP 0805	K 4
R120	A11368-20021	20K 0.10W 1% CHIP 0805	K 4
R121	A11371-1511	150 OHM 0.1W 5% CHIP 0805	I 5
R122	A11371-1511	150 OHM 0.1W 5% CHIP 0805	I 5
R200	A11368-20031	200K 0.10W 1% CHIP	J 1
R201	A11368-20031	200K 0.10W 1% CHIP	J 1
R202	A11368-10021	10K 1/10W 1% CHIP 0805	J 1
R203	A11368-20021	20K 0.10W 1% CHIP 0805	J 2
R204	A11368-20021	20K 0.10W 1% CHIP 0805	J 2
R205	A11368-20011	2K OHM 0.1W 1% CHIP 0805	J 2
R206	A11368-20011	2K OHM 0.1W 1% CHIP 0805	J 2
R207	A11368-30111	3.01K 1/10W 1% CHIP 0805	K 4
R208	A11368-30111	3.01K 1/10W 1% CHIP 0805	K 3
R209	A11368-20021	20K 0.10W 1% CHIP 0805	J 4
R210	A11368-10021	10K 1/10W 1% CHIP 0805	K 3
R211	126472-1	POT, 10K AUDIO TAPER R/A PC MN	J 1
R212	A11368-75R01	75 OHM 0.10W 1% CHIP	J 3
R213	A11368-20021	20K 0.10W 1% CHIP 0805	J 4
R214	A11368-10021	10K 1/10W 1% CHIP 0805	J 4
R215	A11368-20021	20K 0.10W 1% CHIP 0805	K 3
R216	A11368-20021	20K 0.10W 1% CHIP 0805	K 4
R217	A11368-20021	20K 0.10W 1% CHIP 0805	K 4
R218	A11368-20011	2K OHM 0.1W 1% CHIP 0805	K 4
R219	A11368-20021	20K 0.10W 1% CHIP 0805	J 4
R220	A11368-20021	20K 0.10W 1% CHIP 0805	K 4
R221	A11371-1511	150 OHM 0.1W 5% CHIP 0805	H 5
R222	A11371-1511	150 OHM 0.1W 5% CHIP 0805	H 5
R300	A11368-20031	200K 0.10W 1% CHIP	H 1
R301	A11368-20031	200K 0.10W 1% CHIP	I 1
R302	A11368-10021	10K 1/10W 1% CHIP 0805	I 1
R303	A11368-20021	20K 0.10W 1% CHIP 0805	H 2
R304	A11368-20021	20K 0.10W 1% CHIP 0805	I 2
R305	A11368-20011	2K OHM 0.1W 1% CHIP 0805	H 2
R306	A11368-20011	2K OHM 0.1W 1% CHIP 0805	I 2
R307	A11368-30111	3.01K 1/10W 1% CHIP 0805	I 4
R308	A11368-30111	3.01K 1/10W 1% CHIP 0805	H 3
R309	A11368-20021	20K 0.10W 1% CHIP 0805	I 4
R310	A11368-10021	10K 1/10W 1% CHIP 0805	H 3
R311	126472-1	POT, 10K AUDIO TAPER R/A PC MN	I 1
R312	A11368-75R01	75 OHM 0.10W 1% CHIP	I 4
R313	A11368-20021	20K 0.10W 1% CHIP 0805	I 4
R314	A11368-10021	10K 1/10W 1% CHIP 0805	I 4
R315	A11368-20021	20K 0.10W 1% CHIP 0805	H 3
R316	A11368-20021	20K 0.10W 1% CHIP 0805	H 4
R317	A11368-20021	20K 0.10W 1% CHIP 0805	H 4

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DRAWN	JFL	7/19/99	DWG. NO.	128049-1	SHEET 15 OF 20	REV
PROJ.	MD404D0					(B)

PARTS LIST			
REF DES	C. P. N.	DESCRIPTION	MAP LOC.
R318	A11368-20011	2K OHM 0.1W 1% CHIP 0805	H 4
R319	A11368-20021	20K 0.10W 1% CHIP 0805	I 4
R320	A11368-20021	20K 0.10W 1% CHIP 0805	H 4
R321	A11371-1511	150 OHM 0.1W 5% CHIP 0805	H 5
R322	A11371-1511	150 OHM 0.1W 5% CHIP 0805	H 4
R400	A11368-20031	200K 0.10W 1% CHIP	G 1
R401	A11368-20031	200K 0.10W 1% CHIP	G 1
R402	A11368-10021	10K 1/10W 1% CHIP 0805	G 1
R403	A11368-20021	20K 0.10W 1% CHIP 0805	G 2
R404	A11368-20021	20K 0.10W 1% CHIP 0805	G 2
R405	A11368-20011	2K OHM 0.1W 1% CHIP 0805	G 2
R406	A11368-20011	2K OHM 0.1W 1% CHIP 0805	G 2
R407	A11368-30111	3.01K 1/10W 1% CHIP 0805	H 4
R408	A11368-30111	3.01K 1/10W 1% CHIP 0805	H 3
R409	A11368-20021	20K 0.10W 1% CHIP 0805	G 4
R410	A11368-10021	10K 1/10W 1% CHIP 0805	H 3
R411	126472-1	POT. 10K AUDIO TAPER R/A PC MN	H 1
R412	A11368-75R01	75 OHM 0.10W 1% CHIP	G 3
R413	A11368-20021	20K 0.10W 1% CHIP 0805	G 4
R414	A11368-10021	10K 1/10W 1% CHIP 0805	H 4
R415	A11368-20021	20K 0.10W 1% CHIP 0805	H 3
R416	A11368-20021	20K 0.10W 1% CHIP 0805	H 4
R417	A11368-20021	20K 0.10W 1% CHIP 0805	H 4
R418	A11368-20011	2K OHM 0.1W 1% CHIP 0805	H 4
R419	A11368-20021	20K 0.10W 1% CHIP 0805	H 4
R420	A11368-20021	20K 0.10W 1% CHIP 0805	H 4
R421	A11371-1511	150 OHM 0.1W 5% CHIP 0805	G 4
R422	A11371-1511	150 OHM 0.1W 5% CHIP 0805	G 4
R500	A11368-20031	200K 0.10W 1% CHIP	F 1
R501	A11368-20031	200K 0.10W 1% CHIP	F 1
R502	A11368-10021	10K 1/10W 1% CHIP 0805	F 1
R503	A11368-20021	20K 0.10W 1% CHIP 0805	F 2
R504	A11368-20021	20K 0.10W 1% CHIP 0805	F 2
R505	A11368-20011	2K OHM 0.1W 1% CHIP 0805	F 2
R506	A11368-20011	2K OHM 0.1W 1% CHIP 0805	F 2
R507	A11368-30111	3.01K 1/10W 1% CHIP 0805	F 4
R508	A11368-30111	3.01K 1/10W 1% CHIP 0805	E 3
R509	A11368-20021	20K 0.10W 1% CHIP 0805	F 4
R510	A11368-10021	10K 1/10W 1% CHIP 0805	F 3
R511	126472-1	POT. 10K AUDIO TAPER R/A PC MN	F 1
R512	A11368-75R01	75 OHM 0.10W 1% CHIP	G 4
R513	A11368-20021	20K 0.10W 1% CHIP 0805	F 4
R514	A11368-10021	10K 1/10W 1% CHIP 0805	F 4
R515	A11368-20021	20K 0.10W 1% CHIP 0805	E 3
R516	A11368-20021	20K 0.10W 1% CHIP 0805	F 4
R517	A11368-20021	20K 0.10W 1% CHIP 0805	F 4
R518	A11368-20011	2K OHM 0.1W 1% CHIP 0805	F 4

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DRAWN	JFL	7/19/99	DWG. NO.	SHEET 16 OF 20	REV
PROJ.	MD404D8		128049-1		(B)

PARTS LIST			
REF DES	C.P.N.	DESCRIPTION	MAP LOC.
R519	A11368-20021	20K 0.10W 1% CHIP 0805	F 4
R520	A11368-20021	20K 0.10W 1% CHIP 0805	F 4
R521	A11371-1511	150 OHM 0.1W 5% CHIP 0805	F 4
R522	A11371-1511	150 OHM 0.1W 5% CHIP 0805	F 4
R600	A11368-20031	200K 0.10W 1% CHIP	D 1
R601	A11368-20031	200K 0.10W 1% CHIP	E 1
R602	A11368-10021	10K 1/10W 1% CHIP 0805	D 1
R603	A11368-20021	20K 0.10W 1% CHIP 0805	D 2
R604	A11368-20021	20K 0.10W 1% CHIP 0805	D 2
R605	A11368-20011	2K OHM 0.1W 1% CHIP 0805	D 2
R606	A11368-20011	2K OHM 0.1W 1% CHIP 0805	E 2
R607	A11368-30111	3.01K 1/10W 1% CHIP 0805	E 4
R608	A11368-30111	3.01K 1/10W 1% CHIP 0805	E 3
R609	A11368-20021	20K 0.10W 1% CHIP 0805	D 4
R610	A11368-10021	10K 1/10W 1% CHIP 0805	E 3
R611	126472-1	POT, 10K AUDIO TAPER R/A PC MN	E 1
R612	A11368-75R01	75 OHM 0.10W 1% CHIP	D 3
R613	A11368-20021	20K 0.10W 1% CHIP 0805	D 4
R614	A11368-10021	10K 1/10W 1% CHIP 0805	E 4
R615	A11368-20021	20K 0.10W 1% CHIP 0805	E 3
R616	A11368-20021	20K 0.10W 1% CHIP 0805	E 4
R617	A11368-20021	20K 0.10W 1% CHIP 0805	E 4
R618	A11368-20011	2K OHM 0.1W 1% CHIP 0805	E 4
R619	A11368-20021	20K 0.10W 1% CHIP 0805	E 4
R620	A11368-20021	20K 0.10W 1% CHIP 0805	E 4
R621	A11371-1511	150 OHM 0.1W 5% CHIP 0805	F 4
R622	A11371-1511	150 OHM 0.1W 5% CHIP 0805	F 4
R700	A11368-20031	200K 0.10W 1% CHIP	C 1
R701	A11368-20031	200K 0.10W 1% CHIP	C 1
R702	A11368-10021	10K 1/10W 1% CHIP 0805	C 1
R703	A11368-20021	20K 0.10W 1% CHIP 0805	C 2
R704	A11368-20021	20K 0.10W 1% CHIP 0805	C 2
R705	A11368-20011	2K OHM 0.1W 1% CHIP 0805	C 2
R706	A11368-20011	2K OHM 0.1W 1% CHIP 0805	C 2
R707	A11368-30111	3.01K 1/10W 1% CHIP 0805	C 4
R708	A11368-30111	3.01K 1/10W 1% CHIP 0805	C 3
R709	A11368-20021	20K 0.10W 1% CHIP 0805	C 4
R710	A11368-10021	10K 1/10W 1% CHIP 0805	C 3
R711	126472-1	POT, 10K AUDIO TAPER R/A PC MN	C 1
R712	A11368-75R01	75 OHM 0.10W 1% CHIP	D 4
R713	A11368-20021	20K 0.10W 1% CHIP 0805	C 4
R714	A11368-10021	10K 1/10W 1% CHIP 0805	C 4
R715	A11368-20021	20K 0.10W 1% CHIP 0805	C 3
R716	A11368-20021	20K 0.10W 1% CHIP 0805	C 4
R717	A11368-20021	20K 0.10W 1% CHIP 0805	C 4
R718	A11368-20011	2K OHM 0.1W 1% CHIP 0805	C 4
R719	A11368-20021	20K 0.10W 1% CHIP 0805	C 4

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DRAWN	JFL	7/19/99	DWG. NO.	SHEET 17 OF 20	REV
PROJ.	MD404D8		128049-1		(B)

PARTS LIST			
REF DES	C.P.N.	DESCRIPTION	MAP LOC.
R720	A11368-20021	20K 0.10W 1% CHIP 0805	C 4
R721	A11371-1511	150 OHM 0.1W 5% CHIP 0805	F 5
R722	A11371-1511	150 OHM 0.1W 5% CHIP 0805	E 4
R800	A11368-20031	200K 0.10W 1% CHIP	A 1
R801	A11368-20031	200K 0.10W 1% CHIP	B 1
R802	A11368-10021	10K 1/10W 1% CHIP 0805	B 1
R803	A11368-20021	20K 0.10W 1% CHIP 0805	A 2
R804	A11368-20021	20K 0.10W 1% CHIP 0805	B 2
R805	A11368-20011	2K OHM 0.1W 1% CHIP 0805	A 2
R806	A11368-20011	2K OHM 0.1W 1% CHIP 0805	B 2
R807	A11368-30111	3.01K 1/10W 1% CHIP 0805	B 4
R808	A11368-30111	3.01K 1/10W 1% CHIP 0805	B 3
R809	A11368-20021	20K 0.10W 1% CHIP 0805	B 4
R810	A11368-10021	10K 1/10W 1% CHIP 0805	B 3
R811	126472-1	POT, 10K AUDIO TAPER R/A PC MN	B 1
R812	A11368-75R01	75 OHM 0.10W 1% CHIP	A 4
R813	A11368-20021	20K 0.10W 1% CHIP 0805	B 4
R814	A11368-10021	10K 1/10W 1% CHIP 0805	B 4
R815	A11368-20021	20K 0.10W 1% CHIP 0805	B 3
R816	A11368-20021	20K 0.10W 1% CHIP 0805	B 4
R817	A11368-20021	20K 0.10W 1% CHIP 0805	B 4
R818	A11368-20011	2K OHM 0.1W 1% CHIP 0805	B 4
R819	A11368-20021	20K 0.10W 1% CHIP 0805	B 4
R820	A11368-20021	20K 0.10W 1% CHIP 0805	B 4
R821	A11371-1511	150 OHM 0.1W 5% CHIP 0805	E 5
R822	A11371-1511	150 OHM 0.1W 5% CHIP 0805	E 5
R900	A11368-10521	10.5K OHM 0.10W 1% CHIP 0805	A 6
R901	A11368-10011	1K 0.10W 1% CHIP 0805	A 6
R902	A11368-10521	10.5K OHM 0.10W 1% CHIP 0805	A 5
R903	A11368-10011	1K 0.10W 1% CHIP 0805	A 6
R904	A11368-20031	200K 0.10W 1% CHIP	A 5
R905	127080-1	RES. 0.787 OHM, 0.25W, 1%, SMT1206	A 4
R906		OPEN	A 5
R907	A11368-61931	619KOHM .1W 1% 0805 T/R	A 5
R908	A11368-10021	10K 1/10W 1% CHIP 0805	A 4
R909	A11368-20021	20K 0.10W 1% CHIP 0805	A 5
R912	A11368-10021	10K 1/10W 1% CHIP 0805	C 5
SW100	126645-1	SWITCH, 2P3T SLIDE	L 1
SW200	126645-1	SWITCH, 2P3T SLIDE	J 1
SW300	126645-1	SWITCH, 2P3T SLIDE	I 1
SW400	126645-1	SWITCH, 2P3T SLIDE	H 1
SW500	126645-1	SWITCH, 2P3T SLIDE	F 1
SW600	126645-1	SWITCH, 2P3T SLIDE	E 1
SW700	126645-1	SWITCH, 2P3T SLIDE	C 1
SW800	126645-1	SWITCH, 2P3T SLIDE	B 1
T100		OPEN	L 3
T200		OPEN	J 3

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DRAWN	JFL	7/19/99	DWG. NO.	SHEET 18 OF 20	REV
PROJ.	MD404D0		128049-1		Ⓟ

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PWA #128051-3

Output Module

PWB #126692-4

Schematic #126691 Rev. C

PARTS LIST			
REF DES	C. P. N.	DESCRIPTION	MAP LOC.
C1	127074-1	CAP, 220UF/6.3V, 20%, LOW ESR, ALUM SMT	A 3
C2	A11427-104K2	0.1 MF 50V 10% 0805	B 4
C3	A11369-102J2	0.001UF 50V 5% NPO MLC 0805 T/	A 4
C4	A11369-102J2	0.001UF 50V 5% NPO MLC 0805 T/	B 4
C5	C10391-B	10 UF 16V 20% TANT	C 4
C6	A11427-104K2	0.1 MF 50V 10% 0805	A 4
C7	A11427-104K2	0.1 MF 50V 10% 0805	B 3
C8	A11427-104K2	0.1 MF 50V 10% 0805	D 4
C9	127075-1	CAP, 100UF/16V, 20%, LOW ESR, ALUM SMT	B 3
C10	A11427-104K2	0.1 MF 50V 10% 0805	E 4
C11	127075-1	CAP, 100UF/16V, 20%, LOW ESR, ALUM SMT	B 3
C12	A11427-104K2	0.1 MF 50V 10% 0805	D 4
C13	C10391-B	10 UF 16V 20% TANT	F 4
C14	A11427-104K2	0.1 MF 50V 10% 0805	F 4
C15	C10359-5	1.UF 16V 20% TANTALUM SMT	F 4
C16	A11427-104K2	0.1 MF 50V 10% 0805	G 4
C17	A11369-102J2	0.001UF 50V 5% NPO MLC 0805 T/	H 4
C18	A11369-102J2	0.001UF 50V 5% NPO MLC 0805 T/	H 4
C19	102438-221K2	220PF 200V 10% NPO 0805	H 4
C20	102438-221K2	220PF 200V 10% NPO 0805	H 4
C21	A11369-220J2	22PF 50V 5% NPO/COG CHIP 0805	I 4
C22	A11369-102J2	0.001UF 50V 5% NPO MLC 0805 T/	G 4
C23	A11369-102J2	0.001UF 50V 5% NPO MLC 0805 T/	G 4
C24	102438-221K2	220PF 200V 10% NPO 0805	G 4
C25	102438-221K2	220PF 200V 10% NPO 0805	G 4
C26	A11369-220J2	22PF 50V 5% NPO/COG CHIP 0805	H 4
C27	102438-101K2	100PF 200V 10% NPO 0805	H 4
C28	126475-1	CAP, 47 MF 35V ELECT SMD	I 3
C29	102438-101K2	100PF 200V 10% NPO 0805	I 4
C30	126475-1	CAP, 47 MF 35V ELECT SMD	I 3
C31	102438-101K2	100PF 200V 10% NPO 0805	G 4
C32	126475-1	CAP, 47 MF 35V ELECT SMD	I 2
C33	102438-101K2	100PF 200V 10% NPO 0805	H 4
C34	126475-1	CAP, 47 MF 35V ELECT SMD	I 3
C35	A11369-152J2	1500PF 50V 5% NPO MLC 0805 T/R	H 1
C36	A11369-152J2	1500PF 50V 5% NPO MLC 0805 T/R	I 1
C37	102438-221K2	220PF 200V 10% NPO 0805	H 1
C38	102438-221K2	220PF 200V 10% NPO 0805	I 1
C39	A11369-152J2	1500PF 50V 5% NPO MLC 0805 T/R	G 1
C40	A11369-152J2	1500PF 50V 5% NPO MLC 0805 T/R	H 1
C41	102438-221K2	220PF 200V 10% NPO 0805	G 1
C42	102438-221K2	220PF 200V 10% NPO 0805	H 1
C43	A11427-104K2	0.1 MF 50V 10% 0805	H 4
C44	A11427-104K2	0.1 MF 50V 10% 0805	H 4
C45	A11427-104K2	0.1 MF 50V 10% 0805	G 4
C46	A11427-104K2	0.1 MF 50V 10% 0805	G 4
C47	A11369-102J2	0.001UF 50V 5% NPO MLC 0805 T/	B 4

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DRAWN	JFL	8-9-99	DWG. NO.	SHEET 5 OF 17	REV
PROJ.	MD404D0		128051-3		(B)

PARTS LIST			
REF DES	C. P. N.	DESCRIPTION	MAP LOC.
C48	A11369-102J2	0.001UF 50V 5% NPO MLC 0805 T/	B 4
C49	A11369-102J2	0.001UF 50V 5% NPO MLC 0805 T/	E 4
C50	A11369-102J2	0.001UF 50V 5% NPO MLC 0805 T/	E 4
C51	A11369-102J2	0.001UF 50V 5% NPO MLC 0805 T/	D 4
C52	A11369-102J2	0.001UF 50V 5% NPO MLC 0805 T/	G 4
C54	C10391-8	10 UF 16V 20% TANT	C 3
C55	C10391-8	10 UF 16V 20% TANT	E 3
C56	C10391-8	10 UF 16V 20% TANT	F 3
C57	C10391-8	10 UF 16V 20% TANT	G 3
C100	A11427-104K2	0.1 MF 50V 10% 0805	G 3
C101	C10359-5	1. UF 16V 20% TANTALUM SMT	G 3
C102	A11427-104K2	0.1 MF 50V 10% 0805	G 3
C103	A11427-104K2	0.1 MF 50V 10% 0805	G 2
C104	A11427-104K2	0.1 MF 50V 10% 0805	G 2
C105	A11369-102J2	0.001UF 50V 5% NPO MLC 0805 T/	G 4
C110	A11369-102J2	0.001UF 50V 5% NPO MLC 0805 T/	F 3
C111	A11369-102J2	0.001UF 50V 5% NPO MLC 0805 T/	G 2
C112	102438-221K2	220PF 200V 10% NPO 0805	G 2
C113	102438-221K2	220PF 200V 10% NPO 0805	G 2
C114	A11369-220J2	22PF 50V 5% NPO/COG CHIP 0805	G 2
C115	102438-101K2	100PF 200V 10% NPO 0805	G 2
C116	102438-101K2	100PF 200V 10% NPO 0805	G 2
C117	126475-1	CAP, 47 MF 35V ELECT SMD	G 2
C118	126475-1	CAP, 47 MF 35V ELECT SMD	G 2
C119	A11369-152J2	1500PF 50V 5% NPO MLC 0805 T/R	G 1
C120	A11369-152J2	1500PF 50V 5% NPO MLC 0805 T/R	G 1
C121	102438-221K2	220PF 200V 10% NPO 0805	G 1
C122	102438-221K2	220PF 200V 10% NPO 0805	G 1
C203	A11427-104K2	0.1 MF 50V 10% 0805	F 2
C204	A11427-104K2	0.1 MF 50V 10% 0805	F 2
C210	A11369-102J2	0.001UF 50V 5% NPO MLC 0805 T/	F 3
C211	A11369-102J2	0.001UF 50V 5% NPO MLC 0805 T/	F 2
C212	102438-221K2	220PF 200V 10% NPO 0805	F 2
C213	102438-221K2	220PF 200V 10% NPO 0805	F 2
C214	A11369-220J2	22PF 50V 5% NPO/COG CHIP 0805	F 2
C215	102438-101K2	100PF 200V 10% NPO 0805	F 2
C216	102438-101K2	100PF 200V 10% NPO 0805	F 2
C217	126475-1	CAP, 47 MF 35V ELECT SMD	F 2
C218	126475-1	CAP, 47 MF 35V ELECT SMD	F 2
C219	A11369-152J2	1500PF 50V 5% NPO MLC 0805 T/R	F 1
C220	A11369-152J2	1500PF 50V 5% NPO MLC 0805 T/R	F 1
C221	102438-221K2	220PF 200V 10% NPO 0805	F 1
C222	102438-221K2	220PF 200V 10% NPO 0805	F 1
C300	A11427-104K2	0.1 MF 50V 10% 0805	E 3
C301	C10359-5	1. UF 16V 20% TANTALUM SMT	E 3
C302	A11427-104K2	0.1 MF 50V 10% 0805	F 3
C303	A11427-104K2	0.1 MF 50V 10% 0805	E 2

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DRAWN	JFL	8-9-99	DWG. NO.	SHEET 6 OF 17	REV
PROJ.	MD404D0		128051-3		Ⓟ

PARTS LIST			
REF DES	C. P. N.	DESCRIPTION	MAP LOC.
C304	A11427-104K2	0.1 MF 50V 10% 0805	E 2
C305	A11369-102J2	0.001UF 50V 5% NPO MLC 0805 T/	F 3
C310	A11369-102J2	0.001UF 50V 5% NPO MLC 0805 T/	E 3
C311	A11369-102J2	0.001UF 50V 5% NPO MLC 0805 T/	E 2
C312	102438-221K2	220PF 200V 10% NPO 0805	E 2
C313	102438-221K2	220PF 200V 10% NPO 0805	E 2
C314	A11369-220J2	22PF 50V 5% NPO/COG CHIP 0805	E 2
C315	102438-101K2	100PF 200V 10% NPO 0805	E 2
C316	102438-101K2	100PF 200V 10% NPO 0805	E 2
C317	126475-1	CAP, 47 MF 35V ELECT SMD	E 2
C318	126475-1	CAP, 47 MF 35V ELECT SMD	E 2
C319	A11369-152J2	1500PF 50V 5% NPO MLC 0805 T/R	E 1
C320	A11369-152J2	1500PF 50V 5% NPO MLC 0805 T/R	E 1
C321	102438-221K2	220PF 200V 10% NPO 0805	E 1
C322	102438-221K2	220PF 200V 10% NPO 0805	E 1
C403	A11427-104K2	0.1 MF 50V 10% 0805	D 2
C404	A11427-104K2	0.1 MF 50V 10% 0805	D 2
C410	A11369-102J2	0.001UF 50V 5% NPO MLC 0805 T/	D 3
C411	A11369-102J2	0.001UF 50V 5% NPO MLC 0805 T/	D 2
C412	102438-221K2	220PF 200V 10% NPO 0805	D 2
C413	102438-221K2	220PF 200V 10% NPO 0805	D 2
C414	A11369-220J2	22PF 50V 5% NPO/COG CHIP 0805	E 2
C415	102438-101K2	100PF 200V 10% NPO 0805	D 2
C416	102438-101K2	100PF 200V 10% NPO 0805	E 2
C417	126475-1	CAP, 47 MF 35V ELECT SMD	D 2
C418	126475-1	CAP, 47 MF 35V ELECT SMD	E 2
C419	A11369-152J2	1500PF 50V 5% NPO MLC 0805 T/R	D 1
C420	A11369-152J2	1500PF 50V 5% NPO MLC 0805 T/R	D 1
C421	102438-221K2	220PF 200V 10% NPO 0805	D 1
C422	102438-221K2	220PF 200V 10% NPO 0805	D 1
C500	A11427-104K2	0.1 MF 50V 10% 0805	D 3
C501	C10359-5	1. UF 16V 20% TANTALUM SMT	D 3
C502	A11427-104K2	0.1 MF 50V 10% 0805	D 3
C503	A11427-104K2	0.1 MF 50V 10% 0805	C 2
C504	A11427-104K2	0.1 MF 50V 10% 0805	C 2
C505	A11369-102J2	0.001UF 50V 5% NPO MLC 0805 T/	E 3
C510	A11369-102J2	0.001UF 50V 5% NPO MLC 0805 T/	C 3
C511	A11369-102J2	0.001UF 50V 5% NPO MLC 0805 T/	D 2
C512	102438-221K2	220PF 200V 10% NPO 0805	C 2
C513	102438-221K2	220PF 200V 10% NPO 0805	C 2
C514	A11369-220J2	22PF 50V 5% NPO/COG CHIP 0805	D 2
C515	102438-101K2	100PF 200V 10% NPO 0805	C 2
C516	102438-101K2	100PF 200V 10% NPO 0805	D 2
C517	126475-1	CAP, 47 MF 35V ELECT SMD	C 2
C518	126475-1	CAP, 47 MF 35V ELECT SMD	D 2
C519	A11369-152J2	1500PF 50V 5% NPO MLC 0805 T/R	D 1
C520	A11369-152J2	1500PF 50V 5% NPO MLC 0805 T/R	D 1

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DRAWN	JFL	B-9-99	DWG. NO.	SHEET 7 OF 17	REV
PROJ.	MD404D0		128051-3		(B)

PARTS LIST			
REF DES	C. P. N.	DESCRIPTION	MAP LOC.
C819	A11369-152J2	1500PF 50V 5% NPO MLC 0805 T/R	A 1
C820	A11369-152J2	1500PF 50V 5% NPO MLC 0805 T/R	A 1
C821	102438-221K2	220PF 200V 10% NPO 0805	A 1
C822	102438-221K2	220PF 200V 10% NPO 0805	A 1
FB2	125846-1	FERRITE BEAD, 0.5A, 600OHMS	B 4
FB3	125846-1	FERRITE BEAD, 0.5A, 600OHMS	H 1
FB4	125846-1	FERRITE BEAD, 0.5A, 600OHMS	H 1
FB5	125846-1	FERRITE BEAD, 0.5A, 600OHMS	H 1
FB6	125846-1	FERRITE BEAD, 0.5A, 600OHMS	H 1
FB7	125846-1	FERRITE BEAD, 0.5A, 600OHMS	B 4
FB8	125846-1	FERRITE BEAD, 0.5A, 600OHMS	B 4
FB9	125846-1	FERRITE BEAD, 0.5A, 600OHMS	D 4
FB10	125846-1	FERRITE BEAD, 0.5A, 600OHMS	E 4
FB11	125846-1	FERRITE BEAD, 0.5A, 600OHMS	D 4
FB12	125846-1	FERRITE BEAD, 0.5A, 600OHMS	G 4
FB100	125846-1	FERRITE BEAD, 0.5A, 600OHMS	G 1
FB101	125846-1	FERRITE BEAD, 0.5A, 600OHMS	G 1
FB102	125846-1	FERRITE BEAD, 0.5A, 600OHMS	G 3
FB200	125846-1	FERRITE BEAD, 0.5A, 600OHMS	F 1
FB201	125846-1	FERRITE BEAD, 0.5A, 600OHMS	F 1
FB300	125846-1	FERRITE BEAD, 0.5A, 600OHMS	E 1
FB301	125846-1	FERRITE BEAD, 0.5A, 600OHMS	E 1
FB302	125846-1	FERRITE BEAD, 0.5A, 600OHMS	F 3
FB400	125846-1	FERRITE BEAD, 0.5A, 600OHMS	D 1
FB401	125846-1	FERRITE BEAD, 0.5A, 600OHMS	D 1
FB500	125846-1	FERRITE BEAD, 0.5A, 600OHMS	D 1
FB501	125846-1	FERRITE BEAD, 0.5A, 600OHMS	D 1
FB502	125846-1	FERRITE BEAD, 0.5A, 600OHMS	D 3
FB600	125846-1	FERRITE BEAD, 0.5A, 600OHMS	C 1
FB601	125846-1	FERRITE BEAD, 0.5A, 600OHMS	C 1
FB700	125846-1	FERRITE BEAD, 0.5A, 600OHMS	B 1
FB701	125846-1	FERRITE BEAD, 0.5A, 600OHMS	B 1
FB702	125846-1	FERRITE BEAD, 0.5A, 600OHMS	C 3
FB800	125846-1	FERRITE BEAD, 0.5A, 600OHMS	A 1
FB801	125846-1	FERRITE BEAD, 0.5A, 600OHMS	A 1
J1	127183-1	HEADER, 26PIN 0.1 CTRS	B 4
L1	125715-1	INDUCTOR, 53UH 1.87A	A 3
R1	A11368-10021	10K 1/10W 1% CHIP 0805	A 4
R2	A11368-47R51	47.5 OHM 0.10W 1% CHIP	A 4
R3	A11368-10021	10K 1/10W 1% CHIP 0805	E 4
R4	A11368-10021	10K 1/10W 1% CHIP 0805	E 4
R5	A11368-10021	10K 1/10W 1% CHIP 0805	D 4
R6	A11368-47R51	47.5 OHM 0.10W 1% CHIP	D 4
R7	A11368-47R51	47.5 OHM 0.10W 1% CHIP	D 4
R8	A11368-47R51	47.5 OHM 0.10W 1% CHIP	D 4
R9	A11368-47R51	47.5 OHM 0.10W 1% CHIP	E 4
R10	A11368-47R51	47.5 OHM 0.10W 1% CHIP	E 4

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DRAWN	JFL	8-9-99	DWG. NO.	SHEET 9 OF 17	REV
PROJ.	MD404D0		128051-3		(B)

PARTS LIST			
REF DES	C. P. N.	DESCRIPTION	MAP LOC.
R11	A11368-47R51	47.5 OHM 0.10W 1% CHIP	A 4
R12	A11368-10021	10K 1/10W 1% CHIP 0805	E 4
R13	A11368-10021	10K 1/10W 1% CHIP 0805	E 4
R14	A11368-10021	10K 1/10W 1% CHIP 0805	E 4
R15	A11368-47R51	47.5 OHM 0.10W 1% CHIP	E 4
R16	A11368-47R51	47.5 OHM 0.10W 1% CHIP	E 4
R17	A11368-47R51	47.5 OHM 0.10W 1% CHIP	E 4
R18	A11368-47R51	47.5 OHM 0.10W 1% CHIP	E 4
R19	A11368-47R51	47.5 OHM 0.10W 1% CHIP	E 4
R20	A11368-47R51	47.5 OHM 0.10W 1% CHIP	A 4
R21	A11368-10021	10K 1/10W 1% CHIP 0805	D 4
R22	A11368-10021	10K 1/10W 1% CHIP 0805	D 4
R23	A11368-10021	10K 1/10W 1% CHIP 0805	D 4
R24	A11368-47R51	47.5 OHM 0.10W 1% CHIP	D 4
R25	A11368-47R51	47.5 OHM 0.10W 1% CHIP	D 4
R26	A11368-47R51	47.5 OHM 0.10W 1% CHIP	D 4
R27	A11368-47R51	47.5 OHM 0.10W 1% CHIP	D 4
R28	A11368-47R51	47.5 OHM 0.10W 1% CHIP	D 4
R29	A11368-10021	10K 1/10W 1% CHIP 0805	G 4
R30	A11368-10021	10K 1/10W 1% CHIP 0805	G 4
R31		OPEN	G 4
R32		OPEN	G 4
R33	A11368-10021	10K 1/10W 1% CHIP 0805	G 4
R34	A11371-1501	15 OHM 0.10W 5% CHIP	G 4
R35		OPEN	G 4
R36	A11368-13721	13.7K 1/10W 1% SMD CHIP 0805	G 4
R37	A11368-13721	13.7K 1/10W 1% SMD CHIP 0805	G 4
R38	A11368-13721	13.7K 1/10W 1% SMD CHIP 0805	G 4
R39	A11368-13721	13.7K 1/10W 1% SMD CHIP 0805	G 4
R40	A11368-13721	13.7K 1/10W 1% SMD CHIP 0805	H 4
R41	A11368-33211	3.32K OHM 0.10W 1% CHIP 0805	H 4
R42	A11368-13721	13.7K 1/10W 1% SMD CHIP 0805	H 4
R43	A11368-33211	3.32K OHM 0.10W 1% CHIP 0805	H 4
R44	A11368-76811	7.68K OHM 0.10W 1% CHIP 0805	H 4
R45	A11368-13721	13.7K 1/10W 1% SMD CHIP 0805	G 4
R46	A11368-33211	3.32K OHM 0.10W 1% CHIP 0805	G 4
R47	A11368-13721	13.7K 1/10W 1% SMD CHIP 0805	G 4
R48	A11368-33211	3.32K OHM 0.10W 1% CHIP 0805	G 4
R49	A11368-76811	7.68K OHM 0.10W 1% CHIP 0805	H 4
R50	A11368-30121	30.1K OHM 0.10W 1% CHIP 0805	I 4
R51	A11368-13721	13.7K 1/10W 1% SMD CHIP 0805	I 4
R52	A11368-30121	30.1K OHM 0.10W 1% CHIP 0805	H 4
R53	A11368-13721	13.7K 1/10W 1% SMD CHIP 0805	H 4
R54	A11368-10021	10K 1/10W 1% CHIP 0805	H 4
R55	A11368-49911	4.99K 1/10W 1% CHIP 0805	H 4
R56	A11368-10021	10K 1/10W 1% CHIP 0805	H 4
R57	A11368-10021	10K 1/10W 1% CHIP 0805	I 4

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DRAWN	JFL	8-9-99	DWG. NO.	SHEET 10 OF 17	REV
PROJ.	MD404D0		128051-3		(B)

PARTS LIST			
REF DES	C. P. N.	DESCRIPTION	MAP LOC.
R58	A11368-10021	10K 1/10W 1% CHIP 0805	H 4
R59	A11368-49911	4.99K 1/10W 1% CHIP 0805	G 4
R60	A11368-10021	10K 1/10W 1% CHIP 0805	H 4
R61	A11368-10021	10K 1/10W 1% CHIP 0805	H 4
R62	A11368-10001	100 OHM 0.1W 1% 0805	H 3
R63	A11368-10001	100 OHM 0.1W 1% 0805	H 3
R64	A11368-10031	100K 0.1W 1% CHIP 0805	H 1
R65	A11368-10031	100K 0.1W 1% CHIP 0805	I 1
R66	A11368-10001	100 OHM 0.1W 1% 0805	H 2
R67	A11368-10001	100 OHM 0.1W 1% 0805	H 2
R68	A11368-10031	100K 0.1W 1% CHIP 0805	G 1
R69	A11368-10031	100K 0.1W 1% CHIP 0805	H 1
R70	A11368-10001	100 OHM 0.1W 1% 0805	H 3
R71	A11368-10001	100 OHM 0.1W 1% 0805	H 3
R72	A11368-10001	100 OHM 0.1W 1% 0805	H 2
R73	A11368-10001	100 OHM 0.1W 1% 0805	H 2
R74	A11368-10001	100 OHM 0.1W 1% 0805	F 4
R75	A11368-47R51	47.5 OHM 0.10W 1% CHIP	B 4
R76	A11368-47R51	47.5 OHM 0.10W 1% CHIP	B 4
R77	A11368-47R51	47.5 OHM 0.10W 1% CHIP	C 4
R78	A11368-47R51	47.5 OHM 0.10W 1% CHIP	C 4
R79	A11368-47R51	47.5 OHM 0.10W 1% CHIP	C 4
R100	A11368-10021	10K 1/10W 1% CHIP 0805	G 3
R101	A11368-10021	10K 1/10W 1% CHIP 0805	G 3
R102		OPEN	G 3
R103		OPEN	G 3
R104		OPEN	G 3
R105	A11368-10021	10K 1/10W 1% CHIP 0805	G 3
R106	A11371-1501	15 OHM 0.10W 5% CHIP	G 3
R107	A11368-10001	100 OHM 0.1W 1% 0805	F 3
R110	A11368-13721	13.7K 1/10W 1% SMD CHIP 0805	G 3
R111	A11368-13721	13.7K 1/10W 1% SMD CHIP 0805	F 3
R112	A11368-13721	13.7K 1/10W 1% SMD CHIP 0805	G 2
R113	A11368-33211	3.32K OHM 0.10W 1% CHIP 0805	G 2
R114	A11368-13721	13.7K 1/10W 1% SMD CHIP 0805	F 3
R115	A11368-33211	3.32K OHM 0.10W 1% CHIP 0805	G 2
R116	A11368-76811	7.68K OHM 0.10W 1% CHIP 0805	G 3
R117	A11368-30121	30.1K OHM 0.10W 1% CHIP 0805	G 2
R118	A11368-13721	13.7K 1/10W 1% SMD CHIP 0805	G 2
R119	A11368-10021	10K 1/10W 1% CHIP 0805	G 2
R120	A11368-49911	4.99K 1/10W 1% CHIP 0805	G 2
R121	A11368-10021	10K 1/10W 1% CHIP 0805	G 2
R122	A11368-10021	10K 1/10W 1% CHIP 0805	G 2
R123	A11368-10001	100 OHM 0.1W 1% 0805	G 1
R124	A11368-10001	100 OHM 0.1W 1% 0805	G 1
R125	A11368-10031	100K 0.1W 1% CHIP 0805	G 1
R126	A11368-10031	100K 0.1W 1% CHIP 0805	G 1

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DRAWN	JFL	B-9-99	DWG. NO.	SHEET 11 OF 17	REV
PROJ.	MD404D0		128051-3		(B)

PARTS LIST			
REF DES	C. P. N.	DESCRIPTION	MAP LOC.
R127	A11368-10001	100 OHM 0.1W 1% 0805	G 1
R128	A11368-10001	100 OHM 0.1W 1% 0805	G 1
R210	A11368-13721	13.7K 1/10W 1% SMD CHIP 0805	F 3
R211	A11368-13721	13.7K 1/10W 1% SMD CHIP 0805	F 3
R212	A11368-13721	13.7K 1/10W 1% SMD CHIP 0805	F 2
R213	A11368-33211	3.32K OHM 0.10W 1% CHIP 0805	F 2
R214	A11368-13721	13.7K 1/10W 1% SMD CHIP 0805	F 3
R215	A11368-33211	3.32K OHM 0.10W 1% CHIP 0805	F 2
R216	A11368-76811	7.68K OHM 0.10W 1% CHIP 0805	F 3
R217	A11368-30121	30.1K OHM 0.10W 1% CHIP 0805	F 2
R218	A11368-13721	13.7K 1/10W 1% SMD CHIP 0805	F 2
R219	A11368-10021	10K 1/10W 1% CHIP 0805	F 2
R220	A11368-49911	4.99K 1/10W 1% CHIP 0805	F 2
R221	A11368-10021	10K 1/10W 1% CHIP 0805	F 2
R222	A11368-10021	10K 1/10W 1% CHIP 0805	F 2
R223	A11368-10001	100 OHM 0.1W 1% 0805	F 1
R224	A11368-10001	100 OHM 0.1W 1% 0805	F 1
R225	A11368-10031	100K 0.1W 1% CHIP 0805	F 1
R226	A11368-10031	100K 0.1W 1% CHIP 0805	F 1
R227	A11368-10001	100 OHM 0.1W 1% 0805	F 1
R228	A11368-10001	100 OHM 0.1W 1% 0805	F 1
R300	A11368-10021	10K 1/10W 1% CHIP 0805	F 3
R301	A11368-10021	10K 1/10W 1% CHIP 0805	F 3
R302		OPEN	F 3
R303		OPEN	F 3
R304		OPEN	F 3
R305	A11368-10021	10K 1/10W 1% CHIP 0805	F 3
R306	A11371-1501	15 OHM 0.10W 5% CHIP	E 3
R307	A11368-10001	100 OHM 0.1W 1% 0805	E 3
R310	A11368-13721	13.7K 1/10W 1% SMD CHIP 0805	E 3
R311	A11368-13721	13.7K 1/10W 1% SMD CHIP 0805	E 3
R312	A11368-13721	13.7K 1/10W 1% SMD CHIP 0805	E 2
R313	A11368-33211	3.32K OHM 0.10W 1% CHIP 0805	E 2
R314	A11368-13721	13.7K 1/10W 1% SMD CHIP 0805	E 3
R315	A11368-33211	3.32K OHM 0.10W 1% CHIP 0805	E 2
R316	A11368-76811	7.68K OHM 0.10W 1% CHIP 0805	E 3
R317	A11368-30121	30.1K OHM 0.10W 1% CHIP 0805	E 2
R318	A11368-13721	13.7K 1/10W 1% SMD CHIP 0805	E 2
R319	A11368-10021	10K 1/10W 1% CHIP 0805	E 2
R320	A11368-49911	4.99K 1/10W 1% CHIP 0805	E 2
R321	A11368-10021	10K 1/10W 1% CHIP 0805	E 2
R322	A11368-10021	10K 1/10W 1% CHIP 0805	E 2
R323	A11368-10001	100 OHM 0.1W 1% 0805	E 1
R324	A11368-10001	100 OHM 0.1W 1% 0805	E 1
R325	A11368-10031	100K 0.1W 1% CHIP 0805	E 1
R326	A11368-10031	100K 0.1W 1% CHIP 0805	E 1
R327	A11368-10001	100 OHM 0.1W 1% 0805	E 1

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DRAWN	JFL	B-9-99	DWG. NO.	SHEET 12 OF 17	REV
PROJ.	MD404D0		128051-3		(B)

PARTS LIST			
REF DES	C. P. N.	DESCRIPTION	MAP LOC.
R328	A11368-10001	100 OHM 0.1W 1% 0805	E 1
R410	A11368-13721	13.7K 1/10W 1% SMD CHIP 0805	E 3
R411	A11368-13721	13.7K 1/10W 1% SMD CHIP 0805	E 3
R412	A11368-13721	13.7K 1/10W 1% SMD CHIP 0805	D 2
R413	A11368-33211	3.32K OHM 0.10W 1% CHIP 0805	D 2
R414	A11368-13721	13.7K 1/10W 1% SMD CHIP 0805	D 3
R415	A11368-33211	3.32K OHM 0.10W 1% CHIP 0805	D 2
R416	A11368-76811	7.68K OHM 0.10W 1% CHIP 0805	D 3
R417	A11368-30121	30.1K OHM 0.10W 1% CHIP 0805	E 2
R418	A11368-13721	13.7K 1/10W 1% SMD CHIP 0805	E 2
R419	A11368-10021	10K 1/10W 1% CHIP 0805	E 2
R420	A11368-49911	4.99K 1/10W 1% CHIP 0805	D 2
R421	A11368-10021	10K 1/10W 1% CHIP 0805	D 2
R422	A11368-10021	10K 1/10W 1% CHIP 0805	E 2
R423	A11368-10001	100 OHM 0.1W 1% 0805	D 1
R424	A11368-10001	100 OHM 0.1W 1% 0805	D 1
R425	A11368-10031	100K 0.1W 1% CHIP 0805	D 1
R426	A11368-10031	100K 0.1W 1% CHIP 0805	D 1
R427	A11368-10001	100 OHM 0.1W 1% 0805	D 1
R428	A11368-10001	100 OHM 0.1W 1% 0805	D 1
R500	A11368-10021	10K 1/10W 1% CHIP 0805	D 3
R501	A11368-10021	10K 1/10W 1% CHIP 0805	D 3
R502		OPEN	D 3
R503		OPEN	D 3
R504		OPEN	D 3
R505	A11368-10021	10K 1/10W 1% CHIP 0805	D 3
R506	A11371-1501	15 OHM 0.10W 5% CHIP	D 3
R507	A11368-10001	100 OHM 0.1W 1% 0805	D 3
R510	A11368-13721	13.7K 1/10W 1% SMD CHIP 0805	D 3
R511	A11368-13721	13.7K 1/10W 1% SMD CHIP 0805	D 3
R512	A11368-13721	13.7K 1/10W 1% SMD CHIP 0805	C 2
R513	A11368-33211	3.32K OHM 0.10W 1% CHIP 0805	D 2
R514	A11368-13721	13.7K 1/10W 1% SMD CHIP 0805	C 3
R515	A11368-33211	3.32K OHM 0.10W 1% CHIP 0805	C 2
R516	A11368-76811	7.68K OHM 0.10W 1% CHIP 0805	C 3
R517	A11368-30121	30.1K OHM 0.10W 1% CHIP 0805	D 2
R518	A11368-13721	13.7K 1/10W 1% SMD CHIP 0805	D 2
R519	A11368-10021	10K 1/10W 1% CHIP 0805	D 2
R520	A11368-49911	4.99K 1/10W 1% CHIP 0805	C 2
R521	A11368-10021	10K 1/10W 1% CHIP 0805	D 2
R522	A11368-10021	10K 1/10W 1% CHIP 0805	D 2
R523	A11368-10001	100 OHM 0.1W 1% 0805	D 1
R524	A11368-10001	100 OHM 0.1W 1% 0805	D 1
R525	A11368-10031	100K 0.1W 1% CHIP 0805	D 1
R526	A11368-10031	100K 0.1W 1% CHIP 0805	D 1
R527	A11368-10001	100 OHM 0.1W 1% 0805	D 1
R528	A11368-10001	100 OHM 0.1W 1% 0805	D 1

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DRAWN	JFL	8-9-99	DWG. NO.	SHEET 13 OF 17	REV
PROJ.	MD404DB		128051-3		(B)

PARTS LIST			
REF DES	C. P. N.	DESCRIPTION	MAP LOC.
R610	A11368-13721	13.7K 1/10W 1% SMD CHIP 0805	D 3
R611	A11368-13721	13.7K 1/10W 1% SMD CHIP 0805	D 3
R612	A11368-13721	13.7K 1/10W 1% SMD CHIP 0805	C 2
R613	A11368-33211	3.32K OHM 0.10W 1% CHIP 0805	C 2
R614	A11368-13721	13.7K 1/10W 1% SMD CHIP 0805	B 2
R615	A11368-33211	3.32K OHM 0.10W 1% CHIP 0805	B 2
R616	A11368-76811	7.68K OHM 0.10W 1% CHIP 0805	C 3
R617	A11368-30121	30.1K OHM 0.10W 1% CHIP 0805	C 2
R618	A11368-13721	13.7K 1/10W 1% SMD CHIP 0805	C 2
R619	A11368-10021	10K 1/10W 1% CHIP 0805	C 2
R620	A11368-49911	4.99K 1/10W 1% CHIP 0805	B 2
R621	A11368-10021	10K 1/10W 1% CHIP 0805	C 2
R622	A11368-10021	10K 1/10W 1% CHIP 0805	C 2
R623	A11368-10001	100 OHM 0.1W 1% 0805	C 1
R624	A11368-10001	100 OHM 0.1W 1% 0805	C 1
R625	A11368-10031	100K 0.1W 1% CHIP 0805	C 1
R626	A11368-10031	100K 0.1W 1% CHIP 0805	C 1
R627	A11368-10001	100 OHM 0.1W 1% 0805	C 1
R628	A11368-10001	100 OHM 0.1W 1% 0805	C 1
R700	A11368-10021	10K 1/10W 1% CHIP 0805	C 3
R701	A11368-10021	10K 1/10W 1% CHIP 0805	C 3
R702		OPEN	C 3
R703		OPEN	C 3
R704		OPEN	C 3
R705	A11368-10021	10K 1/10W 1% CHIP 0805	C 3
R706	A11371-1501	15 OHM 0.10W 5% CHIP	C 3
R707	A11368-10001	100 OHM 0.1W 1% 0805	B 3
R710	A11368-13721	13.7K 1/10W 1% SMD CHIP 0805	C 3
R711	A11368-13721	13.7K 1/10W 1% SMD CHIP 0805	C 3
R712	A11368-13721	13.7K 1/10W 1% SMD CHIP 0805	B 2
R713	A11368-33211	3.32K OHM 0.10W 1% CHIP 0805	B 2
R714	A11368-13721	13.7K 1/10W 1% SMD CHIP 0805	A 3
R715	A11368-33211	3.32K OHM 0.10W 1% CHIP 0805	B 2
R716	A11368-76811	7.68K OHM 0.10W 1% CHIP 0805	B 3
R717	A11368-30121	30.1K OHM 0.10W 1% CHIP 0805	B 2
R718	A11368-13721	13.7K 1/10W 1% SMD CHIP 0805	B 2
R719	A11368-10021	10K 1/10W 1% CHIP 0805	B 2
R720	A11368-49911	4.99K 1/10W 1% CHIP 0805	B 2
R721	A11368-10021	10K 1/10W 1% CHIP 0805	B 2
R722	A11368-10021	10K 1/10W 1% CHIP 0805	B 2
R723	A11368-10001	100 OHM 0.1W 1% 0805	B 1
R724	A11368-10001	100 OHM 0.1W 1% 0805	B 1
R725	A11368-10031	100K 0.1W 1% CHIP 0805	B 1
R726	A11368-10031	100K 0.1W 1% CHIP 0805	B 1
R727	A11368-10001	100 OHM 0.1W 1% 0805	B 1
R728	A11368-10001	100 OHM 0.1W 1% 0805	B 1
R810	A11368-13721	13.7K 1/10W 1% SMD CHIP 0805	B 3

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	PROJ.	MD404D0	DWG. NO. 128051-3
			SHEET 14 OF 17
			REV (B)

PARTS LIST			
REF DES	C. P. N.	DESCRIPTION	MAP LOC.
R811	A11368-13721	13.7K 1/10W 1% SMD CHIP 0805	B 3
R812	A11368-13721	13.7K 1/10W 1% SMD CHIP 0805	A 2
R813	A11368-33211	3.32K OHM 0.10W 1% CHIP 0805	A 2
R814	A11368-13721	13.7K 1/10W 1% SMD CHIP 0805	A 3
R815	A11368-33211	3.32K OHM 0.10W 1% CHIP 0805	A 2
R816	A11368-76811	7.68K OHM 0.10W 1% CHIP 0805	A 3
R817	A11368-30121	30.1K OHM 0.10W 1% CHIP 0805	A 2
R818	A11368-13721	13.7K 1/10W 1% SMD CHIP 0805	A 2
R819	A11368-10021	10K 1/10W 1% CHIP 0805	A 2
R820	A11368-49911	4.99K 1/10W 1% CHIP 0805	A 2
R821	A11368-10021	10K 1/10W 1% CHIP 0805	A 2
R822	A11368-10021	10K 1/10W 1% CHIP 0805	A 2
R823	A11368-10001	100 OHM 0.1W 1% 0805	A 1
R824	A11368-10001	100 OHM 0.1W 1% 0805	A 1
R825	A11368-10031	100K 0.1W 1% CHIP 0805	A 1
R826	A11368-10031	100K 0.1W 1% CHIP 0805	A 1
R827	A11368-10001	100 OHM 0.1W 1% 0805	A 1
R828	A11368-10001	100 OHM 0.1W 1% 0805	A 1
T1	OPEN		H 3
T2	OPEN		H 2
TB1	C 9676-5	TB3 R/A	H 1
TB2	C 9676-5	TB3 R/A	G 1
TB100	C 9676-5	TB3 R/A	G 1
TB200	C 9676-5	TB3 R/A	F 1
TB300	C 9676-5	TB3 R/A	E 1
TB400	C 9676-5	TB3 R/A	D 1
TB500	C 9676-5	TB3 R/A	C 1
TB600	C 9676-5	TB3 R/A	B 1
TB700	C 9676-5	TB3 R/A	B 1
TB800	C 9676-5	TB3 R/A	A 1
TP9	127064-1	TEST POINT, SMT 1206	C 4
TP10	127064-1	TEST POINT, SMT 1206	F 4
TP11	127064-1	TEST POINT, SMT 1206	D 3
TP53	127064-1	TEST POINT, SMT 1206	C 1
TP57	127064-1	TEST POINT, SMT 1206	A 3
TP58	127064-1	TEST POINT, SMT 1206	I 1
U1	126509-1	IC, 49FCT805 BUFFER/CLK DRVR	D 4
U2	126509-1	IC, 49FCT805 BUFFER/CLK DRVR	E 4
U3	126509-1	IC, 49FCT805 BUFFER/CLK DRVR	D 4
U4	125631-1	DAC, 24BIT CS4390-KS 20 SSOP	G 4
U5	C 9012-3	MC33079D QUAD LO NOISE OP AMP	H 4
U6	C 9012-3	MC33079D QUAD LO NOISE OP AMP	H 4
U100	125631-1	DAC, 24BIT CS4390-KS 20 SSOP	F 3
U101	C 9012-3	MC33079D QUAD LO NOISE OP AMP	G 2
U201	C 9012-3	MC33079D QUAD LO NOISE OP AMP	F 2
U300	125631-1	DAC, 24BIT CS4390-KS 20 SSOP	E 3
U301	C 9012-3	MC33079D QUAD LO NOISE OP AMP	E 2

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DRAWN	JFL	8-9-99	DWG. NO.	SHEET 15 OF 17	REV
PROJ.	MD404D0		128051-3		(B)

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9 Schematic Diagrams

The schematics provided are representative only. There may be slight variations between amplifier to amplifier. These schematics are intended to be used for troubleshooting purposes only.

126323 Rev. A

126688 Rev. A

126691 Rev. C

126742 Rev. C

126742 Rev. D

126745 Rev. A

126451-3 Rev. A

126690-3 Rev. A

126693-4 Rev. A

126744-3 Rev. A

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