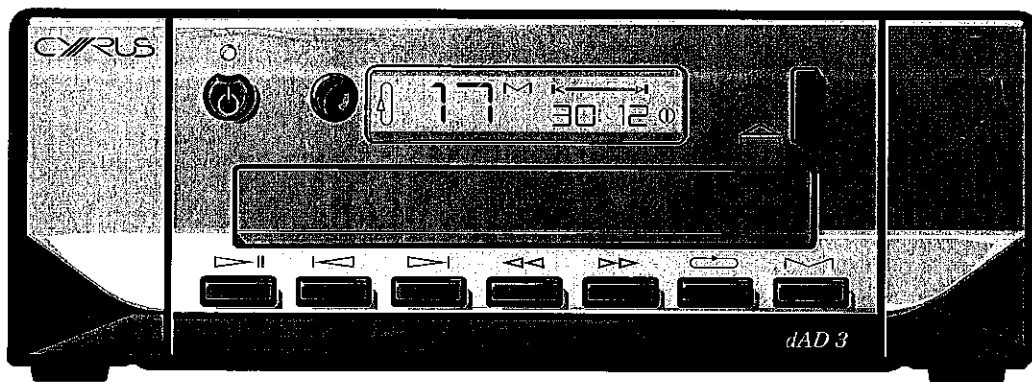


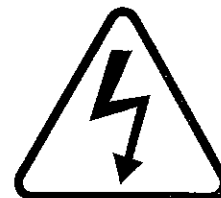
SERVICE MANUAL



SPECIFICATIONS

Audio output	2V rms.
Frequency response	20Hz-20kHz
THD	<0.008% (ref. 1kHz, -10dB)
S/N ratio	100dBA
Dynamic Range	>100 dB (20 Hz to 20 kHz)
Channel separation	>100dB (1kHz), >95dB (20kHz)
Clock Jitter	<100pS
Power Consumption	16W (12W Standby)
Weight	3.5 Kg
Dimensions (H x W x D)	78 x 215 x 360 (mm), 3.1 x 8.4 x 14.1 (inches)
Finish	Black

CYRUS dAD3 SERVICE CAUTIONS



These two symbols shown are displayed prominently on the Cyrus dAD3 base cover label. They indicate that the following cautions must be observed by all personnel-

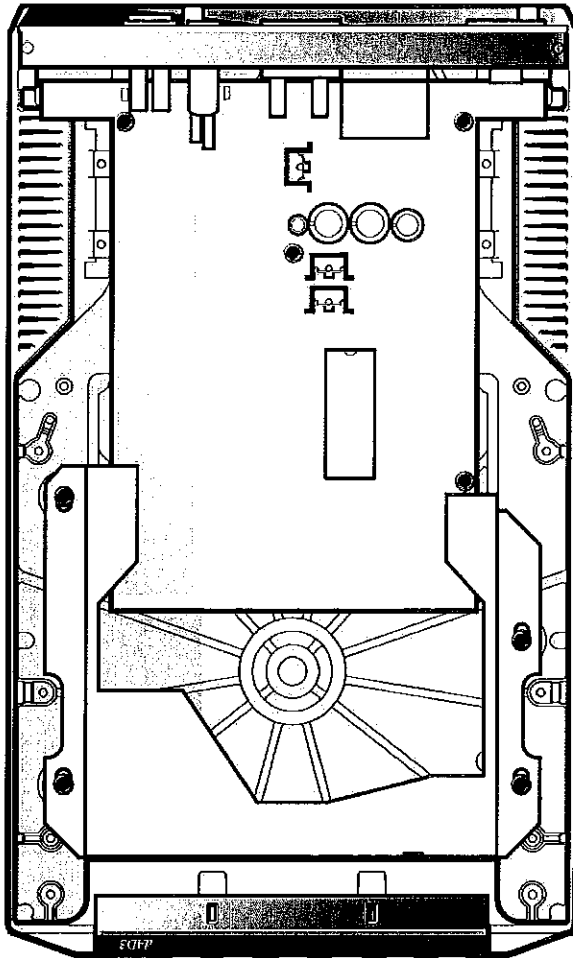
CAUTION: TO REDUCE THE RISK OF ELECTRICAL SHOCK, DO NOT REMOVE COVER OR BACK.

THERE ARE NO USER SERVICEABLE PARTS INSIDE THE PRODUCT.

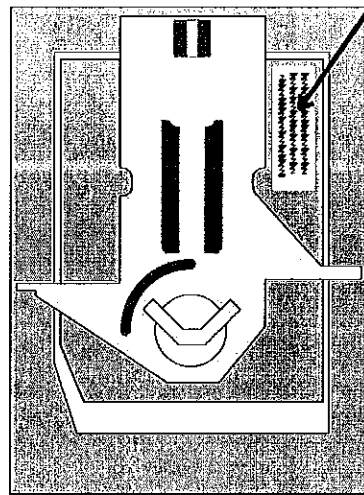
ALWAYS REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

CYRUS dAD3 SERVICE CAUTIONS

The notice below shows the position of caution labels which alert the service technician to the presence of a laser device –



DANGER: INVISIBLE LASER
RADIATION WHEN OPEN.
AVOID DIRECT EXPOSURE
TO BEAM.



CD MECHANISM
REMOVED FROM CHASSIS
AND INVERTED

CYRUS dAD3 SERVICE MANUAL INDEX

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CYRUS dAD3 SMD COMPONENT REPLACEMENT

Handling

SMD resistors and capacitors are widely used in the Cyrus range of products. When handling SMD components, certain precautions should be observed-

Handling SMD resistors and capacitors

- Always store SMD components in their original packaging or in a cool dry environment.
- Always handle SMD resistors and capacitors with tweezers or a vacuum pencil.
- Never handle SMD resistors and capacitors with fingers.
- Hold the SMD component by the body, not by the ends.
- Do not use SMD resistors or capacitors if the ends are dirty or discoloured.
- Do not use SMD resistors or capacitors if they have been dropped on the floor- they may be internally damaged.
- Always use replacement components of the correct size and shape. SMD components are available in many different packages. Where possible, order original parts from Cyrus.

Handling SMD ICs

- Always store these components in their original packaging or in a cool dry environment.
- Always handle SMD transistors and ICs with tweezers or a vacuum pencil.
- Never handle SMD transistors and ICs with fingers.
- Ensure that the connection pins of larger multi-pin ICs are not deformed or damaged before fitting.

Measuring circuits with SMD capacitors and resistors

- Avoid using sharp, pointed probes directly on the component end caps.
- Measure voltages from the PCB pad next to the component.

Static precautions

SMD components, particularly ICs, may be damaged by the static levels present in the workshop. Damage caused by static may not immediately cause component failure but could cause partial damage and a possible failure in the future. Observing these simple SMD precautions will avoid product failures related to static damage-

- Always wear a grounded wristband when replacing *any* electronic components.
- Always store components in their original packaging or conductive plastic bags.
- Never store components in plastic trays or bags without protection.

Soldering/desoldering SMD components

- Never re-use old SMD components after de-soldering!
- Always apply solder heat directly to the contact area. Avoid over-heating adjacent components.
- Always repair SMD PCBs with the correct tools. SMD components can only be replaced with a hot air pencil or soldering iron designed for SMD components, preferably with temperature control.
- Keep the soldering temperature as low as possible. 260°C is recommended for SMD rework. Most SMD components will withstand 260°C for 5 to 10 seconds
- Use tin/lead/silver solder which has a lower melting point (about 179°C). Tin/lead/silver solder paste or small gauge solder (26SWG) is recommended.
- When using solder paste a pressure dispenser should be used to ensure the correct amount of solder is applied to each pad.

CYRUS dAD3 SMD COMPONENT REPLACEMENT

- Solder paste should not be used with direct heating methods as the solder between component pins may not be melted.
- If necessary, remove excess solder paste with solder braid.

Removing SMD resistors and capacitors from the PCB with a soldering iron

1. Fit the soldering iron with a tip large enough to bridge both ends of the component.
2. Place the soldering iron so that its flat tip will heat both ends of the component at once.
3. When the solder melts, remove the component with tweezers.
4. Allow the PCB to cool for a few minutes, removing any excess solder with desoldering braid.

Fitting replacement SMD resistors and capacitors to the PCB with a soldering iron

1. Apply a little flux to the connections.
2. Place the component in position.
3. Tin the soldering iron, bring the tip into contact with the PCB pad and flow solder to the joint. Avoid bringing the soldering iron tip directly into contact with the component.

Removing SMD ICs from the PCB

1. Using fine tipped side cutters or tweezer cutters, snip all the leads of the device and remove the IC body.
2. Desolder the leads from the PCB pads.
3. Clean up the PCB with solder braid.

Removing SMD ICs with a hot air SMD tool

1. Fit a suitable size tip for the IC being removed.
2. Heat the IC evenly until the solder melts.
3. Remove the IC with tweezers.

Fitting replacement ICs to the PCB with a soldering iron

1. Check that the pins of the IC are not distorted.
2. Using tweezers, position the IC over the footprint.
3. Check that all the IC pins are correctly aligned with the pads.
4. With a very fine tip soldering iron, solder in the pins at the corners of the IC.
5. Re-check the alignment and correct if necessary.
6. When the alignment is OK, solder the remaining pins of the IC to the PCB.

CYRUS dAD3 TYPE IDENTIFICATION

Rating label

The Cyrus dAD3 is manufactured to meet the power requirements of different world markets. Each dAD3 carries a rating label on the rear panel which includes details of the following:

Nominal power voltage

This will be either 230V For use on nominal 220V - 240V AC mains supply.
 115V For use on nominal 110V - 120V AC mains supply

If it becomes necessary to adjust the nominal voltage for use in another zone, the power transformer and the power fuse must *both* be replaced with original parts from Cyrus to be the correct type for the new zone

AC fuse rating

The AC fuse rating is also shown on the label. If replacing the AC fuse it is essential that the replacement fuse is exactly the same specification as the original fuse, supplied by Cyrus. All mains fuses have a 'Timelag' blow characteristic.

Power consumption

The power consumption figure is indicated under normal operating conditions.

Serial number

Each Cyrus dAD3 carries a serial number code which identifies the following-

- Type of product
- Market destination
- Build number

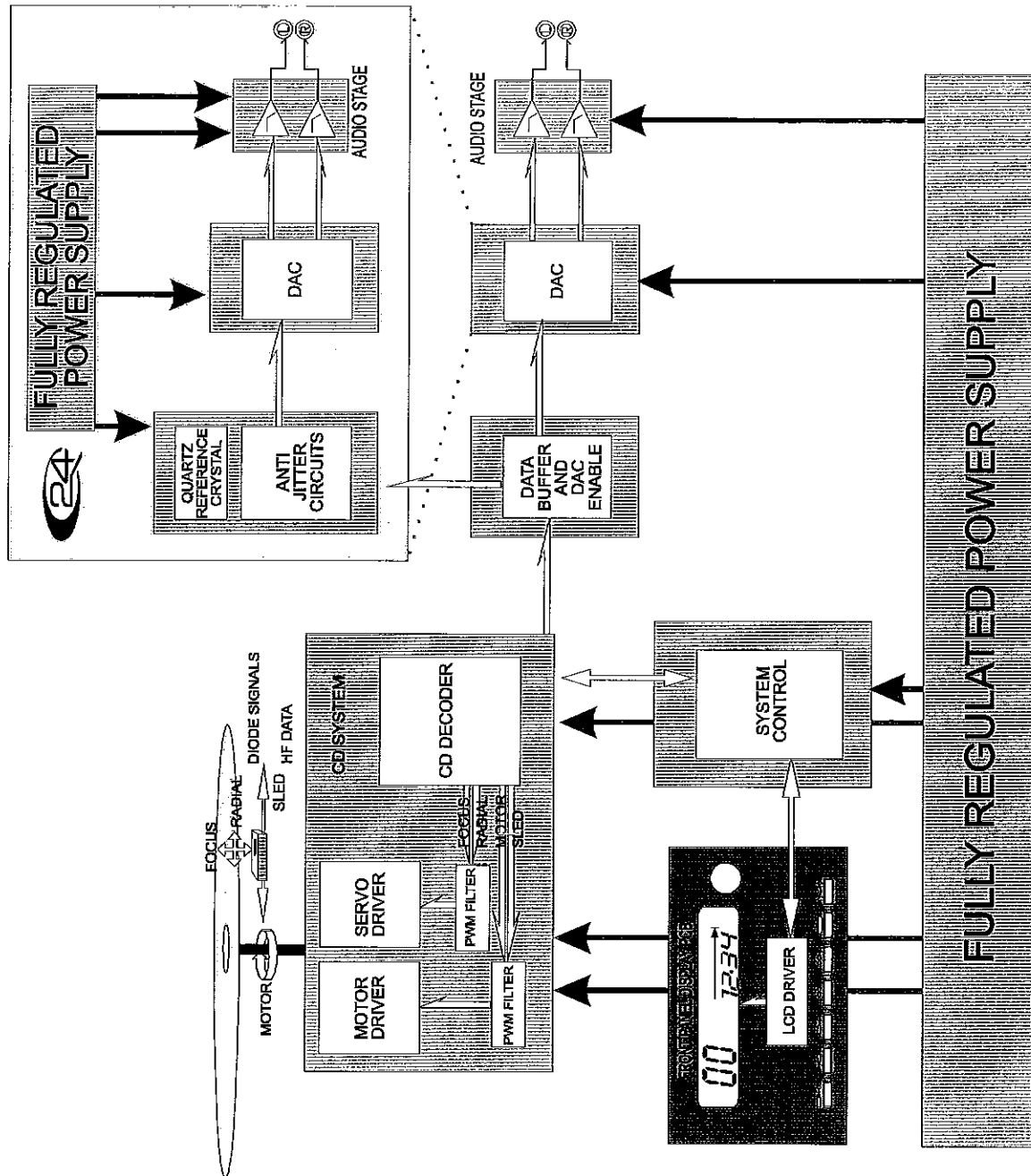
The serial number is visible through a window in the base plate caution label. It is therefore important to ensure that a base plate removed from a product is re-fitted to the same product. In any communications with Cyrus Service or Quality departments it is essential that the full serial number is quoted so that original specification parts and service information may be supplied.

PCB Identification

In the course of manufacture the PCB artwork of the dAD 3 has changed slightly, all change details are listed in right hand column of the PCB parts list. Each PCB is marked with a design revision number and this number should be quoted in all correspondence to the service department when requesting technical advice or requesting spare parts. The table below shows the markings, which are found on each main PCB.

Revision number	PCB marking
Main board revision 1	HA7Q1361
Main board revision 2	HA7Q1362
Main board revision 3	HA7Q1373

CYRUS dAD3 BLOCK DIAGRAM



CYRUS dAD3 TECHNICAL DESCRIPTION

Power Supply

The unit is powered from a single power transformer, providing both high voltage, +/-18Vdc, and low voltage, +/-8Vdc, output for regulation.

Each area of the circuit then has its own regulated supply. In addition, the 9V supply (VR200 and VR201) for the servo drivers has a power on delay. The 5V supply for the DAC is switched by the control microprocessor (IC400) via T701 and T702. The power supply is switched off in Standby or when a plug-in DAC module is fitted.

The addition of a PSX-R will supply the high voltage requirements of the CD player, ie the analogue amplifier and servo drivers. The PSX-R is operated in 21V mode, and is switched in and out of standby by DOEN which is connected to AMPIN. The 21V is present all the time that the PSX-R and Cyrus dAD3 are switched on, regardless of standby mode, and is switched to 21V mode by TR700 taking PSXO low.

Test point	Play voltage	Standby voltage	Regulator	Function
C221 +ve	+9V	+9V	VR200	Servo driver supply
C220 +ve	+9V	+9V	VR201	Motor driver supply
C217 +ve	+5V	+5V	VR202	Servo processor/CD decoder supply
R505	+5V	+5V	VR400	Tray motor supply
T504 emitter	+5V	+5V	VR401	Backlight supply
IC302 pin 14	+5V	+5V	VR402	Data buffer supply
T702 collector	+5V	0V	VR700	DAC supply
IC602 pin 4	+10V	+10V	VR701	Analogue filter supply
IC602 pin 8	+10V	+10V	VR702	Analogue filter supply

Control microprocessor

The control system is set up with two microprocessors, the control microprocessor IC400 which reads the keys, remote control and MC-Bus and drives the display and the CD command microprocessor IC200 which controls all functions of the CD module. Communications between the main microprocessor and the command microprocessor is via a data bus from pins 22, 23, 24 of IC400 to pins 5, 7, 13 of IC200.

CD Servo

The CD servo circuit consists of a servo microprocessor IC100, which interfaces to the CD decoder IC300. This microprocessor, executes the code necessary to obtain disc focus, disc motor spin and tracking position.

The radial, focus, disc motor and sledge servos are driven by two dual driver IC's (Philips TDA7073), which are controlled by the servo driver. All clocks for the system are generated by the decoder IC, which also provides the digital audio output signal. PHASE is a line generated by the microprocessor in response to commands from the front panel or remote control. A high on this line will invert the data to the DAC, low is normal operation.

CYRUS dAD3 TECHNICAL DESCRIPTION

DAC/audio output stage

The digital audio signals are output from the CD decoder IC300. The digital to analogue converter IC601 is a bit stream continuous calibration filter DAC. The output is clamped during periods of no audio output, or invalid audio.

The MUTE line is generated by the CD decoder IC and is active low, it is low for all instances, except when valid audio is detected by the decoder. This is then inverted by T601 to produce a level to turn T602 and T603 on, thus clamping the output to ground.

All signals to the DAC are also taken to a set of connectors for an upgrade module. This is to allow for the addition of an upgrade DAC module in the future. The addition of another DAC module will disable the main board DAC IC601 by turning off the supply to it, and isolating it from the signals going to it. The audio is connected to the output via left and right jumper selectors, and a jumper is fitted to the appropriate header to select between the internal DAC or the upgrade module.

CYRUS dAD3 USE WITH PSX-R

Multiway connector pin assignments

The connections between the Cyrus dAD3 and PSX-R function as follows-

Pin 1 (Standby)

This is an output from the Cyrus dAD3 to send a standby control message (logic 1, +5V) to the PSX-R, enabling the regulated power supplies of the PSX-R. Note that this pin will not change state if the Cyrus dAD3 detects a fault (See pin 5).

Pin 2 (Positive supply)

For the Cyrus dAD3 application this pin delivers +21V from the PSX-R to the Cyrus dAD3 servo control motors for CD mechanism. This is switched by the Standby control system.

Pin 3 (GND)

This pin is the system ground return between the Cyrus dAD3 and PSX-R.

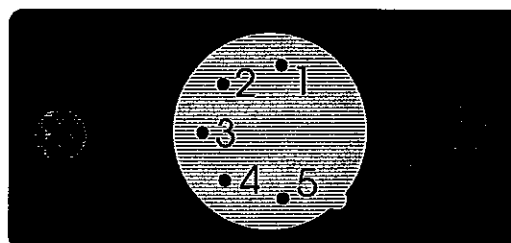
Pin 4 (Negative supply)

For the Cyrus dAD3 application the -21V delivered from the PSX-R is not used by the dAD3. This is switched by the Standby control system and loaded (R722, see circuit diagram) to achieve zero current follow in the GND return.

Pin 5 (PSX-R detect)

This pin is an input to the Cyrus dAD3 to detect the presence of a working PSX-R. The line condition is Logic 0 (0V) at all times when a PSX-R is connected and power is applied.

This diagram shows the pin numbers of the Cyrus dAD3 power supply input connector. View is of the connector pins from the rear of the CD player.



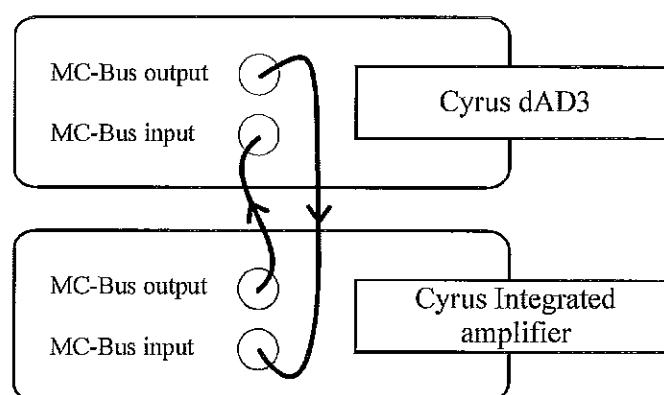
CYRUS dAD3 MCBUS OPERATION

The MC-Bus system

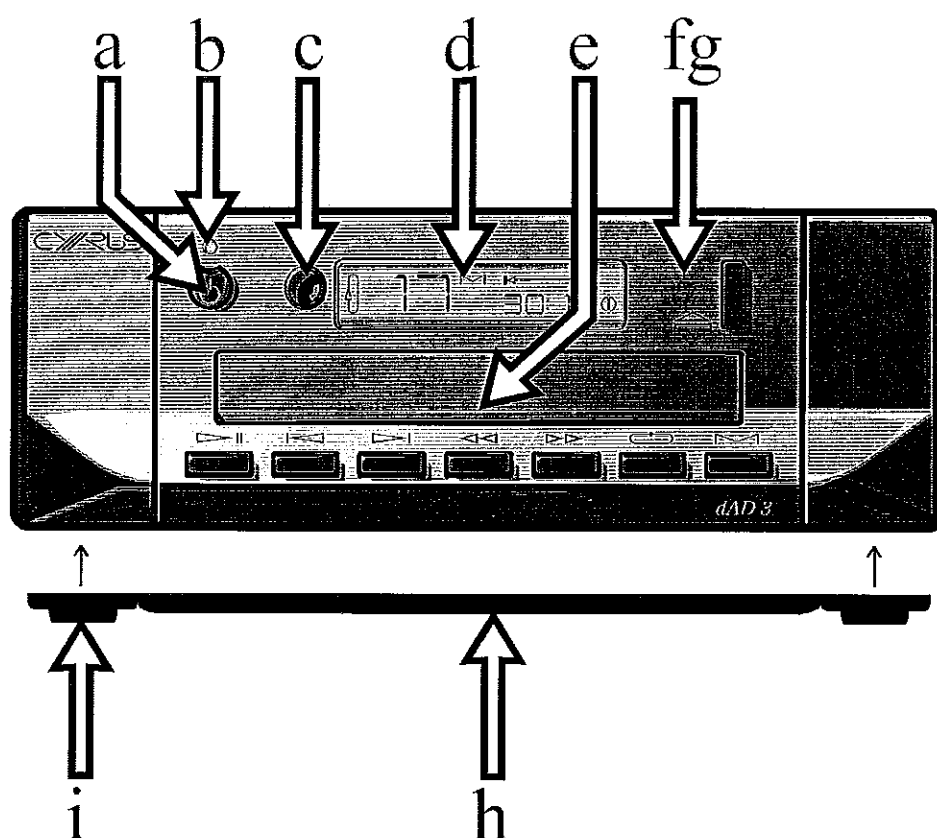
MC-Bus is a system which provides communication between the control systems of a number of Cyrus products. The communication takes the form of a serial data stream which is sent from a 'master' product and received and repeated by 'slave' products. The data is thus passed from one product to another around a loop. The master product should then receive the message back which confirms that loop connections have been correctly made. The CD player is a 'slave' product and listens for 'CD' commands from the master product in the loop (usually an amplifier or surround decoder).

MC-Bus system tests

The MC-Bus system can be tested by connecting the dAD3 into a known working Cyrus system. Note that MC-Bus must be connected as a closed loop as shown in the diagram below. It is also important to connect the audio signal cables between components to provide an adequate ground return path for the MC-Bus signals. Switch on the power to the system and set all components to Standby. Selecting the CD input on the amplifier will bring the dAD3 out of standby. When the amplifier is set to Standby, all other components connected to the MC-Bus loop will also set to Standby.



CYRUS dAD3 FRONT PANEL PARTS DRAWING



Front Panel parts

Ref	Part Number	Description
a	AM-POWCP/	Standby knob trim
b	AM-PLENS/	Power lens
c	AM-LEMSM/02	Remote eye lens
d	D3-DISPW/	Display window
e	D3-DRWFR/	Draw Trim
f	D3-FACIA/	Cyrus dAD3 front facia black
g	D3-FRONT/	Technical Moulding
h	AM-BPPLT/B	Base plate
i	AM-BFOOT/	Rubber foot

CYRUS dAD3 PCB PARTS LIST

RESISTORS

R100	AXIAL	2.2R	NFR 1/4W 5%	HA7Q1361 and HA7Q1262: 4R7
R101	AXIAL	1R	NFR 1/4W 5%	
R102	SMD-0805	100k	MF 1/8W 1%	
R103	SMD-0805	10k	MF 1/8W 1%	
R104	SMD-0805	10k	MF 1/8W 1%	
R105	SMD-0805	10k	MF 1/8W 1%	
R106	SMD-0805	10k	MF 1/8W 1%	
R107	SMD-0805	10k	MF 1/8W 1%	
R108	SMD-0805	10k	MF 1/8W 1%	
R109	AXIAL	4.7R	NFR 1/4W 5%	
R110	SMD-0805	270k	MF 1/8W 1%	
R111	SMD-0805	100R	MF 1/8W 1%	
R112	SMD-0805	100R	MF 1/8W 1%	
R113	SMD-0805	100R	MF 1/8W 1%	
R114	SMD-0805	270R	MF 1/8W 1%	
R115	SMD-0805	270R	MF 1/8W 1%	
R116	SMD-0805	680R	MF 1/8W 1%	
R117	SMD-0805	12k	MF 1/8W 1%	
R118	SMD-0805	12k	MF 1/8W 1%	
R119	AXIAL	1R	NFR 1/4W 5%	
R120	SMD-0805	12k	MF 1/8W 1%	
R121	SMD-0805	12k	MF 1/8W 1%	
R122	SMD-0805	820R	MF 1/8W 1%	
R123	AXIAL	1.8R	NFR 1/4W 5%	
R124	AXIAL	1.8R	NFR 1/4W 5%	
R125	AXIAL	1.8R	NFR 1/4W 5%	
R126	AXIAL	1.8R	NFR 1/4W 5%	
R127	SMD-0805	22k	MF 1/8W 1%	HA7Q1361: Not fitted
R128	SMD-0805	0R	MF 1/8W 1%	HA7Q1361 & HA7Q1362: Not fitted
R200	AXIAL	1R	NFR 1/4W 5%	
R202	SMD-0805	10k	MF 1/8W 1%	
R203	SMD-0805	10k	MF 1/8W 1%	
R204	SMD-0805	10k	MF 1/8W 1%	
R205	SMD-0805	470R	MF 1/8W 1%	
R206	SMD-0805	47k	MF 1/8W 1%	
R207	SMD-0805	1M	MF 1/8W 1%	
R208	SMD-0805	1.5k	MF 1/8W 1%	
R209	SMD-0805	470R	MF 1/8W 1%	
R210	SMD-0805	470R	MF 1/8W 1%	
R211	SMD-0805	220k	MF 1/8W 1%	
R212	SMD-0805	2.2k	MF 1/8W 1%	
R214	SMD-0805	2.2k	MF 1/8W 1%	
R215	SMD-0805	470R	MF 1/8W 1%	
R216	SMD-0805	470R	MF 1/8W 1%	
R217	SMD-0805	1.5k	MF 1/8W 1%	
R218	FA8325	27R	MF 1/2W 5%	
R300	AXIAL	2.2R	NFR 1/4W 5%	
R301	SMD-0805	47R	MF 1/8W 1%	
R304	SMD-0805	1k	MF 1/8W 1%	
R305	SMD-0805	22k	MF 1/8W 1%	
R306	AXIAL	2.2R	NFR 1/4W 5%	
R307	SMD-0805	1M	MF 1/8W 1%	
R308	SMD-0805	47k	MF 1/8W 1%	

CYRUS dAD3 PCB PARTS LIST

R311	SMD-0805	100R	MF 1/8W 1%	
R312	SMD-0805	100R	MF 1/8W 1%	
R313	SMD-0805	100R	MF 1/8W 1%	
R314	SMD-0805	100R	MF 1/8W 1%	
R315	SMD-0805	270R	MF 1/8W 1%	
R316	SMD-0805	270R	MF 1/8W 1%	
R317	SMD-0805	22k	MF 1/8W 1%	
R318	SMD-0805	820R	MF 1/8W 1%	
R319	AXIAL	1R	NFR 1/4W 5%	
R320	SMD-0805	47k	MF 1/8W 1%	
R321	SMD-0805	1.8k	MF 1/8W 1%	
R322	SMD-0805	47k	MF 1/8W 1%	
R323	AXIAL	1.8R	NFR 1/4W 5%	
R324	AXIAL	1.8R	NFR 1/4W 5%	
R325	AXIAL	1.8R	NFR 1/4W 5%	
R326	AXIAL	1.8R	NFR 1/4W 5%	
R327	SMD-0805	8.2k	MF 1/8W 1%	
R328	SMD-0805	100R	MF 1/8W 1%	
R329			NOT FITTED	
R330			NOT FITTED	
R331			NOT FITTED	
R332			NOT FITTED	
R333			NOT FITTED	
R400	SMD-0805	10k	MF 1/8W 1%	
R401	SMD-0805	1.8k	MF 1/8W 1%	
R402	SMD-0805	10k	MF 1/8W 1%	
R403	SMD-0805	10k	MF 1/8W 1%	
R404	SMD-0805	4.7k	MF 1/8W 1%	
R405	SMD-0805	4.7k	MF 1/8W 1%	
R406	SMD-0805	1M	MF 1/8W 1%	
R407	SMD-0805	4.7k	MF 1/8W 1%	
R408	SMD-0805	4.7k	MF 1/8W 1%	
R409	SMD-0805	10R	MF 1/8W 1%	
R410	SMD-0805	10k	MF 1/8W 1%	
R411	SMD-0805	10k	MF 1/8W 1%	
R412	SMD-0805	4.7k	MF 1/8W 1%	
R413	SMD-0805	4.7k	MF 1/8W 1%	
R414	SMD-0805	1k	MF 1/8W 1%	
R415	SMD-0805	1k	MF 1/8W 1%	
R416	SMD-0805	47k	MF 1/8W 1%	
R418	SMD-0805	1k	MF 1/8W 1%	
R419	SMD-0805	47k	MF 1/8W 1%	
R420	SMD-0805	47k	MF 1/8W 1%	
R421	SMD-0805	47k	MF 1/8W 1%	
R422	SMD-0805	47k	MF 1/8W 1%	
R500	SMD-0805	3.3k	MF 1/8W 1%	
R503	SMD-0805	1.5k	MF 1/8W 1%	
R504	SMD-0805	470R	MF 1/8W 1%	
R505	AXIAL	6.8R	NFR 1/4W 5%	
R506	SMD-0805	1.5k	MF 1/8W 1%	
R507	SMD-0805	470R	MF 1/8W 1%	
R508	SMD-0805	10k	MF 1/8W 1%	
R509	SMD-0805	1k	MF 1/8W 1%	
R510	SMD-0805	100k	MF 1/8W 1%	
R511	AXIAL	10R	NFR 1/4W 5%	

CYRUS dAD3 PCB PARTS LIST

R512	SMD-0805	47k	MF 1/8W 1%	
R513	SMD-0805	2.2k	MF 1/8W 1%	
R514	SMD-0805	47k	MF 1/8W 1%	
R515	SMD-0805	47k	MF 1/8W 1%	
R516	SMD-0805	47k	MF 1/8W 1%	
R517	SMD-0805	47k	MF 1/8W 1%	
R518	SMD-0805	47k	MF 1/8W 1%	
R601	SMD-0805	22k	MF 1/8W 1%	
R602	SMD-0805	100k	MF 1/8W 1%	
R603	SMD-0805	100k	MF 1/8W 1%	
R604	AXIAL	4.7R	NFR 1/4W 5%	
R605	AXIAL	4.7R	NFR 1/4W 5%	
R606	AXIAL	4.7R	NFR 1/4W 5%	
R607	AXIAL	4.7R	NFR 1/4W 5%	
R608	AXIAL	1R	NFR 1/4W 5%	
R609	SMD-0805	1.8k	MF 1/8W 1%	
R610	SMD-0805	1.8k	MF 1/8W 1%	
R611	SMD-0805	3.3k	MF 1/8W 1%	
R612	SMD-0805	2.2k	MF 1/8W 1%	
R613	SMD-0805	3.3k	MF 1/8W 1%	
R614	SMD-0805	2.2k	MF 1/8W 1%	
R615	SMD-0805	220k	MF 1/8W 1%	
R616	SMD-0805	22k	MF 1/8W 1%	
R617	SMD-0805	220k	MF 1/8W 1%	
R618	SMD-0805	22k	MF 1/8W 1%	
R619	SMD-0805	7.5k	MF 1/8W 1%	
R620	SMD-0805	7.5k	MF 1/8W 1%	
R622	SMD-0805	2.2k	MF 1/8W 1%	
R623	SMD-0805	47R	MF 1/8W 1%	
R624	SMD-0805	47R	MF 1/8W 1%	
R627	SMD-0805	2.2k	MF 1/8W 1%	
R700	SMD-0805	1k	MF 1/8W 1%	
R701	SMD-0805	4.7k	MF 1/8W 1%	
R702	SMD-0805	470R	MF 1/8W 1%	
R703	SMD-0805	1k	MF 1/8W 1%	
R704	SMD-0805	4.7k	MF 1/8W 1%	
R705	SMD-0805	4.7k	MF 1/8W 1%	
R706	SMD-0805	4.7k	MF 1/8W 1%	
R707	SMD-0805	4.7k	MF 1/8W 1%	
R710	SMD-0805	5.6k	MF 1/8W 1%	
R715	SMD-0805	4.7k	MF 1/8W 1%	
R716	SMD-0805	3.3k	MF 1/8W 1%	
R717	SMD-0805	47k	MF 1/8W 1%	
R718	SMD-0805	1k	MF 1/8W 1%	
R719	SMD-0805	30k	MF 1/8W 1%	HA7Q1361 & HA7Q1362: Not fitted
R720	SMD-0805	30k	MF 1/8W 1%	HA7Q1361 & HA7Q1362: Not fitted
R721	FA83	1.5R	MF 1W 5%	HA7Q1361 & HA7Q1362: Not fitted
R722	KVW304-3	470R	3W 5%	HA7Q1361 & HA7Q1362: Not fitted

Key:

MF = metal film. NFR = non flammable resistor. MRS25 = axial metal film resistor

SMD-0805 = refers to surface mount device size profile 0805

CYRUS dAD3 PCB PARTS LIST

CAPACITORS

C100	SMD-0805	100nF	CP 50V 20%	
C101	SMD 4.0mm	10uF	EL 16V 20%	
C102	SMD 4.0mm	10uF	EL 16V 20%	
C103	SMD-0805	100nF	CP 50V 20%	
C104	SMD-0805	220pF	CP 50V 10%	
C105	SMD-0805	220pF	CP 50V 10%	
C106	SMD-0805	220pF	CP 50V 10%	
C107	SMD 1206	220nF	CP 50V 10%	
C108	SMD-0805	560pF	CP 50V 10%	
C109	SMD-0805	560pF	CP 50V 10%	
C110	SMD-0805	220pF	CP 50V 10%	
C111	SMD-0805	220pF	CP 50V 10%	
C112	SMD-0805	220pF	CP 50V 10%	
C113	SMD-0805	100nF	CP 50V 20%	
C114	SMD 5.0mm	22uF	EL 16V 20%	
C115	SMD-0805	100nF	CP 50V 20%	
C116	SMD 5.0mm	22uF	EL 16V 20%	
C117	SMD-0805	12nF	CP 50V 10%	
C118	SMD-0805	330pF	CP 50V 10%	
C119	SMD-0805	100nF	CP 50V 20%	
C120	SMD 6.3mm	47uF	EL 16V 20%	
C121	SMD-0805	10nF	CP 50V 10%	
C122	SMD-0805	330pF	CP 50V 10%	
C123	SMD-0805	100nF	CP 50V 20%	
C124			NOT FITTED	
C200	SMD 4.0mm	4.7uF	EL 25V 20%	
C201	SMD-0805	100nF	CP 50V 20%	
C202	SMD 4.0mm	10uF	EL 16V 20%	
C203	SMD-0805	22pF	CP 50V 10%	
C204	SMD-0805	22pF	CP 50V 10%	
C205	SMD-0805	100nF	CP 50V 20%	
C206	SMD 5.0mm	10uF	EL 25V 20%	
C207	SMD-0805	100nF	CP 50V 20%	
C216	SMD-0805	100nF	CP 50V 20%	
C217	SMD 4.0mm	10uF	EL 16V 20%	
C218	SMD 8.0mm	47uF	EL 35V 20%	HA7Q1361: Not fitted
C219	SMD 8.0mm	47uF	EL 35V 20%	HA7Q1361 & HA7Q1362: Not fitted
C220	SMD 6.3mm	47uF	EL 16V 20%	HA7Q1361 & HA7Q1362: Not fitted
C221	SMD 6.3mm	47uF	EL 16V 20%	HA7Q1361 & HA7Q1362: Not fitted
C300	SMD 4.0mm	4.7uF	EL 25V 20%	
C301	SMD-0805	100nF	CP 50V 20%	
C305	SMD-0805	1nF	CP 50V 10%	HA7Q1361 & HA7Q1362: 820pF
C306	SMD-0805	22nF	CP 50V 10%	
C307	SMD-0805	47pF	CP 50V 10%	
C308	SMD-0805	22nF	CP 50V 10%	
C309	SMD 4.0mm	4.7uF	EL 25V 20%	
C310	SMD-0805	100nF	CP 50V 20%	
C311	SMD-0805	1nF	CP 50V 10%	
C312	SMD-0805	22pF	CP 50V 10%	
C313	SMD-0805	10pF	CP 50V 10%	HA7Q1361: 5.6pF
C314	SMD-0805	100nF	CP 50V 20%	
C315	SMD-0805	100nF	CP 50V 20%	
C316	SMD 5.0mm	22uF	EL 16V 20%	

CYRUS dAD3 PCB PARTS LIST

C317	SMD-0805	1nF	CP 50V 10%	
C318	SMD-0805	100nF	CP 50V 20%	
C319	SMD-0805	100nF	CP 50V 20%	
C320	SMD 6.3mm	47uF	EL 16V 20%	
C321	SMD-0805	1nF	CP 50V 10%	
C322	SMD-0805	100nF	CP 50V 20%	
C323	SMD-0805	100nF	CP 50V 20%	
C330	SMD-0805	100nF	CP 50V 20%	
C331	SMD-0805	10nF	CP 50V 10%	
C332	SMD-0805	47pF	CP 50V 10%	
C334			NOT FITTED	
C335			NOT FITTED	
C336			NOT FITTED	
C400	SMD-0805	22pF	CP 50V 10%	
C401	SMD-0805	22pF	CP 50V 10%	
C402	SMD 4.0mm	10uF	EL 16V 20%	
C403	SMD-0805	100nF	CP 50V 20%	
C404	SMD-0805	100nF	CP 50V 20%	
C405	SMD-0805	100nF	CP 50V 20%	
C406	SMD-0805	100nF	CP 50V 20%	
C407	SMD 4.0mm	10uF	EL 16V 20%	
C408	SMD 4.0mm	10uF	EL 16V 20%	
C409	SMD-0805	100nF	CP 50V 20%	
C410	SMD-0805	100nF	CP 50V 20%	
C411	SMD 5.0mm	22uF	EL 16V 20%	
C412	SMD-0805	150pF	CP 50V 10%	
C413	SMD-0805	150pF	CP 50V 10%	
C414	SMD-0805	100nF	CP 50V 20%	
C415	SMD-0805	100nF	CP 50V 20%	
C416	SMD-0805	10nF	CP 50V 10%	
C500	SMD-0805	100nF	CP 50V 20%	
C501	SMD-0805	100nF	CP 50V 20%	
C502	SMD-0805	100nF	CP 50V 20%	
C503	SMD-0805	100nF	CP 50V 20%	
C504	SMD-0805	100nF	CP 50V 20%	
C505	SMD 4.0mm	10uF	EL 16V 20%	
C506	SMD 4.0mm	10uF	EL 16V 20%	
C507	SMD-0805	150pF	CP 50V 10%	
C508	SMD-0805	10nF	CP 50V 10%	
C509	SMD-0805	150pF	CP 50V 10%	
C510	SMD-0805	10nF	CP 50V 10%	
C511	SMD-0805	100nF	CP 50V 20%	
C512	SMD-0805	100nF	CP 50V 20%	
C513	SMD-0805	100nF	CP 50V 20%	
C514	SMD-0805	100nF	CP 50V 20%	
C515	SMD-0805	10nF	CP 50V 10%	
C516	SMD 4.0mm	10uF	EL 16V 20%	
C605	SMD-0805	1nF	CP 50V 10%	
C606	SMD-0805	1nF	CP 50V 10%	
C607	SMD-0805	100nF	CP 50V 20%	
C608	SMD-0805	100nF	CP 50V 20%	
C609	SMD-0805	100nF	CP 50V 20%	
C610	SMD-0805	100nF	CP 50V 20%	
C611	SMD 6.3mm	47uF	EL 16V 20%	
C612	SMD 6.3mm	47uF	EL 16V 20%	

CYRUS dAD3 PCB PARTS LIST

C613	SMD 6.3mm	47uF	EL 16V 20%	
C614	SMD 6.3mm	47uF	EL 16V 20%	
C615	SMD 6.3mm	47uF	EL 16V 20%	
C616	SMD 6.3mm	47uF	EL 16V 20%	
C617	SMD-0805	120pF	CP 50V 10%	
C618	SMD-0805	120pF	CP 50V 10%	
C619	SMD 5.0mm	22uF	EL 16V 20%	
C620	SMD 5.0mm	22uF	EL 16V 20%	
C621	SMD 5.0mm	22uF	EL 16V 20%	
C622	SMD 5.0mm	22uF	EL 16V 20%	
C623	SMD-0805	27pF	CP 50V 10%	HA7Q1361: 33pF
C624	SMD-0805	27pF	CP 50V 10%	HA7Q1361: 33pF
C628	SMD-0805	150pF	CP 50V 10%	
C629	SMD-0805	150pF	CP 50V 10%	
C630	SMD-0805	100nF	CP 50V 20%	
C631	SMD-0805	100nF	CP 50V 20%	
C632			NOT FITTED	
C633			NOT FITTED	
C700	SMD-0805	1nF	CP 50V 10%	
C701	SMD-0805	1nF	CP 50V 10%	
C702	SMD-0805	1nF	CP 50V 10%	
C703	SMD-0805	10nF	CP 50V 10%	
C704	SMD-0805	10nF	CP 50V 10%	
C705	SMD-0805	10nF	CP 50V 10%	
C706	SMD-0805	10nF	CP 50V 10%	
C708	SMD 6.3mm	47uF	EL 16V 20%	
C709	RE2	2200uF	EL 25V 20%	
C714	SMD-0805	10nF	CP 50V 10%	
C715	SMD-0805	10nF	CP 50V 10%	
C716	RE2	2200uF	EL 16V 20%	
C717	SMD-0805	10nF	CP 50V 10%	
C718	SMD-0805	10nF	CP 50V 10%	
C721	SMD-0805	10nF	CP 50V 10%	
C722	SMD-0805	10nF	CP 50V 10%	
C724	SMD 4.0mm	10uF	EL 16V 20%	
C726	SMD 4.0mm	10uF	EL 16V 20%	
C727	RE2	2200uF	EL 25V 20%	
C731	SMD-0805	100nF	CP 50V 20%	
C732	SMD-0805	100nF	CP 50V 20%	
C733	SMD-0805	100nF	CP 50V 20%	
C734	SMD 5.0mm	22uF	EL 16V 20%	
C735	RE2	220uF	EL 16V 20%	
C736	RE2	470uF	EL 25V 20%	

Key:

CP = ceramic plate. EL = electrolytic. PE = polyester. PP = polypropylene. BP = bi-polar.

CAPSMD4.0 refers to surface mount device with 4.0mm pitch pads

SMD-0805 refers to surface mount device size code 0805

DIODES

D101			NOT FITTED	
D200	SOT-23	BAS16	300mA signal diode	
D201	SOT-23	BAS16	300mA signal diode	
D301	SOT-23	BAS16	300mA signal diode	
D400	SOT-23	BAS16	300mA signal diode	
D401	SOT-23	BAS16	300mA signal diode	

CYRUS dAD3 PCB PARTS LIST

D402	SOT-23	BAS16	300mA signal diode	
D403	SOT-23	BAS16	300mA signal diode	
D501	SOT-23	BAS16	300mA signal diode	
D702	Axial	1N4002	1A signal diode	
D703	Axial	1N4002	1A signal diode	
D704	Axial	1N4002	1A signal diode	
D706	Axial	1N4002	1A signal diode	
D707	Axial	1N4002	1A signal diode	
D710	Axial	1N4002	1A signal diode	
D711	Axial	1N4002	1A signal diode	
D712	SMD	1SR154-400	1A signal diode	
D713	SOT-23	BZX84-5V1	300mW 5V1 zener diode	
D714	SOT-23	BZX84-5V1	300mW 5V1 zener diode	
D715	Axial	1N4002	1A signal diode	
D716	Axial	1N4002	1A signal diode	
D717	SOT-23	BAS16	300mA signal diode	
D718	SOT-23	BAS16	300mA signal diode	

TRANSISTORS

T200	SOT-23	BC856BLT1	PNP signal transistor	
T201	SOT-23	BC856BLT1	PNP signal transistor	
T400	SOT-23	BC846BLT1	NPN signal transistor	
T401	SOT-23	BC846BLT1	NPN signal transistor	
T500	SOT-23	BC807	PNP signal transistor	
T501	SOT-23	BC807	PNP signal transistor	
T502	SOT-23	BC817	NPN signal transistor	
T503	SOT-23	BC817	NPN signal transistor	
T504	TO-92	BC327	PNP signal transistor	
T601	SOT-23	BC856BLT1	PNP signal transistor	
T602	SOT-23	BC817	NPN signal transistor	
T603	SOT-23	BC817	NPN signal transistor	
T700	SOT-23	BC846BLT1	NPN signal transistor	
T701	SOT-23	BC846BLT1	NPN signal transistor	
T702	TO-92	BC327	PNP signal transistor	
T703	SOT-23	BC846BLT1	NPN signal transistor	

INTEGRATED CIRCUITS

IC100	QFP44	OQ8868	CD servo controller	
IC101	SOL-16	TDA7073	Dual BTL power driver	
IC200	QFP44	LO9468	CD microcontroller	
IC300	QFP44-4	SAA7345	CD decoder	
IC301	SOL-16	TDA7073	Dual BTL power driver	
IC302	SO-14	74HC86	Quad XOR	
IC400	PLCC52	MC68HC11A1FN	Microcontroller	
IC401	SO-14	74HC00	Quad 2 input NAND gate	
IC402	SO-14	74HC14	Hex schmitt trigger	
IC500	SOL-20	74HC573	Octal latch	
IC501			DELETED	HA7Q1361 & HA7Q1362: UM6116
IC502	SO-16	74HC4094	Shift register	
IC503	DIL-28	28 Pin socket	27C256	
IC601	SOL-28	TDA1305T	DAC filter	
IC602	SO-08	BA15532F	Dual OP AMP	
IC603	SO-14	74HC08	Quad AND	

CYRUS dAD3 PCB PARTS LIST

IC604	SO-14	74HC08	Quad AND	
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REGULATORS

VR200	TO-220	LM317T	1A +ve adjustable regulator	
VR201	TO-220	LM317T	1A +ve adjustable regulator	
VR202	TO-220	LM7805T	1A +5V voltage regulator	
VR400	TO-220	LM7805T	1A +5V voltage regulator	
VR401	TO-220	LM7805T	1A +5V voltage regulator	
VR402	TO-220	LM7805T	1A +5V voltage regulator	
VR700	TO-220	LM7805T	1A +5V voltage regulator	
VR701	TO-220	LM7805T	1A +5V voltage regulator	
VR702	TO-220	LM7905T	1A -5V voltage regulator	

CONNECTORS

CON100	CONLIF16S	00-8370-167-000-800	16 way flex foil side entry	
CON301	CONLIF8S	00-8370-087-000-800	8 way flex foil side entry	
CON400			NOT FITTED	
CON401			NOT FITTED	
CON502	CON-2-JST	S-2B-PH-SM3-TB	2 way side entry header	
CON504	CONLIF15S	00-8370-157-000-800	15 way flex foil side entry	
CON601	SIL 2W	TSW-102-07-L-S	2 way SIL interconnect	
CON602	SIL 2W	TSW-102-07-L-S	2 way SIL interconnect	
CON603	SIL 2W	TSW-102-07-L-S	2 way SIL interconnect	
CON604	SIL 2W	TSW-102-07-L-S	2 way SIL interconnect	
CON700	Socket	MKS3475	5 Way Stocko Con.	
SK301			NOT FITTED	
SK602	Black RCA	RJ-1020-020	Dual vertical phono gold	
SK700	Black RCA	RJ-1020-020	Dual vertical phono gold	
TOTX301	TOTX176	TOTX176	Optical output	
PL601c	8 PIN SIL	TSW-108-07-L-S	8 way plug for DAC	
PL601b	10 PIN SIL	TSW-110-07-L-S	10 way plug for DAC	
PL601a	16 PIN SIL	TSW-116-07-L-S	16 way plug for DAC	
CON800	CON-2-JST	S-2B-PH-SM3-TB	2 way side entry header	
CON804	CON-6-JST	S-6B-PH-SM3-TB	6 way side entry header	
CON805	CONLIF8S	00-8370-087-000-800	8 way flex foil side entry	
CON806	CONLIF16S	00-8370-167-000-800	16 way flex foil side entry	
CON807	CONZIF16S	52207-1690	16 way flex foil side entry	

OTHERS

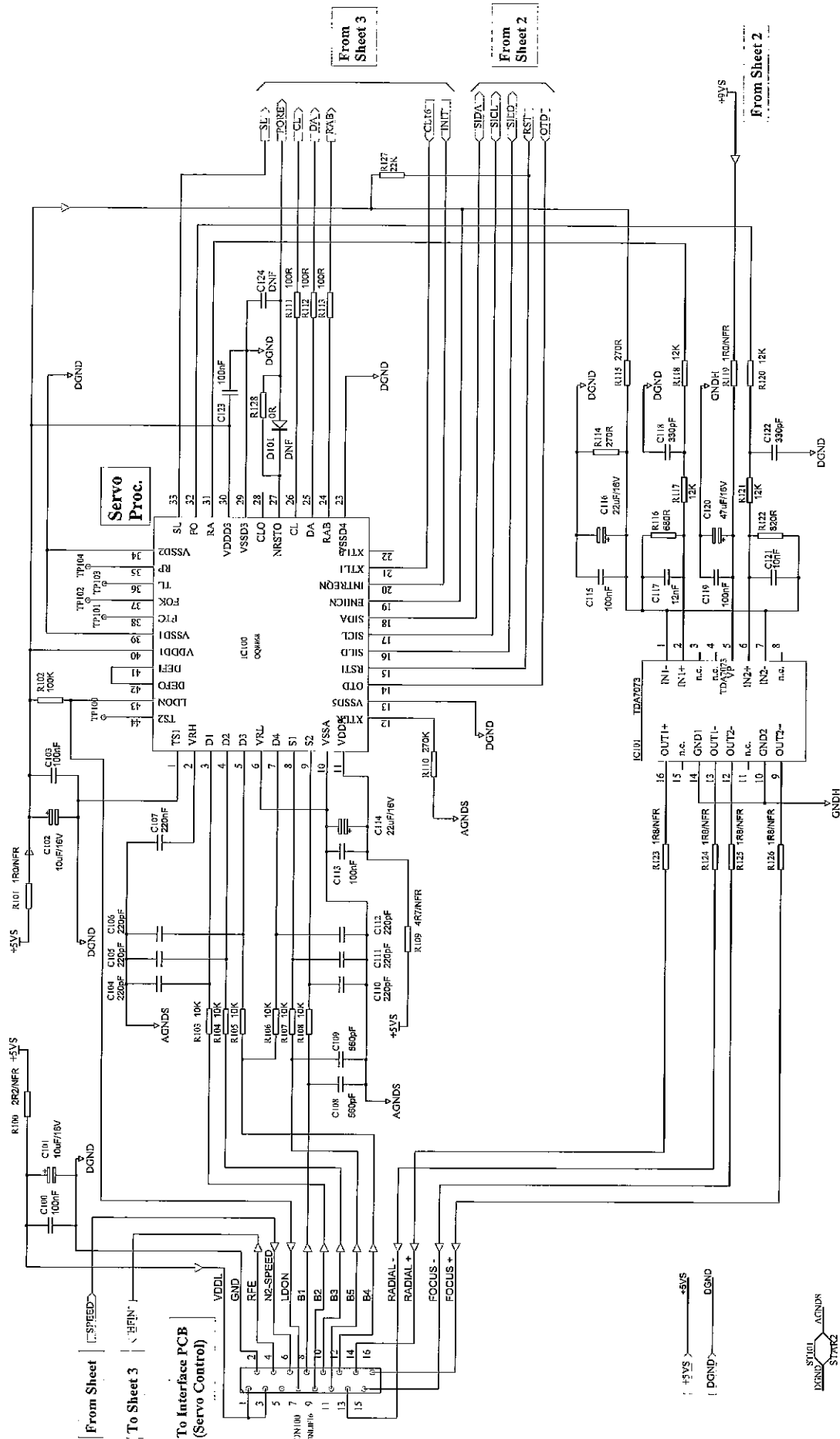
X200	XTAL1	KBRC12	12.0 MHz ceramic resonator	
X300	XTAL1	HCU49U	33.8688 MHz crystal	
X400	XTAL1	KBRC8.0	8.00 MHz ceramic resonator	
L300	1210	NIN-FA3R3KTR	3.3uH inductor	
L301			NOT FITTED	
L401	1210	NIN-FA1R5KTR	1.5uH inductor	

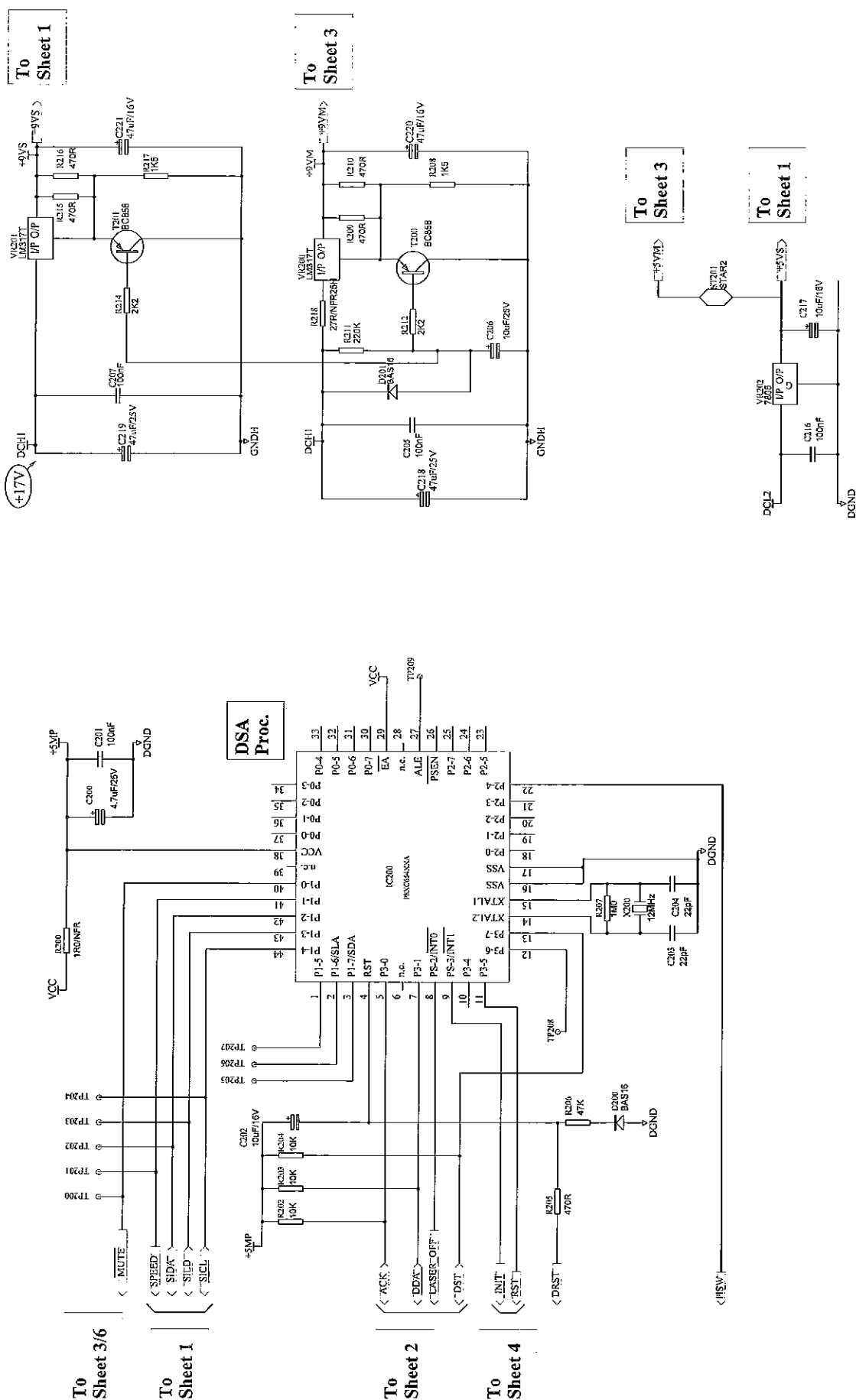
CYRUS dAD3 CIRCUIT DIAGRAMS

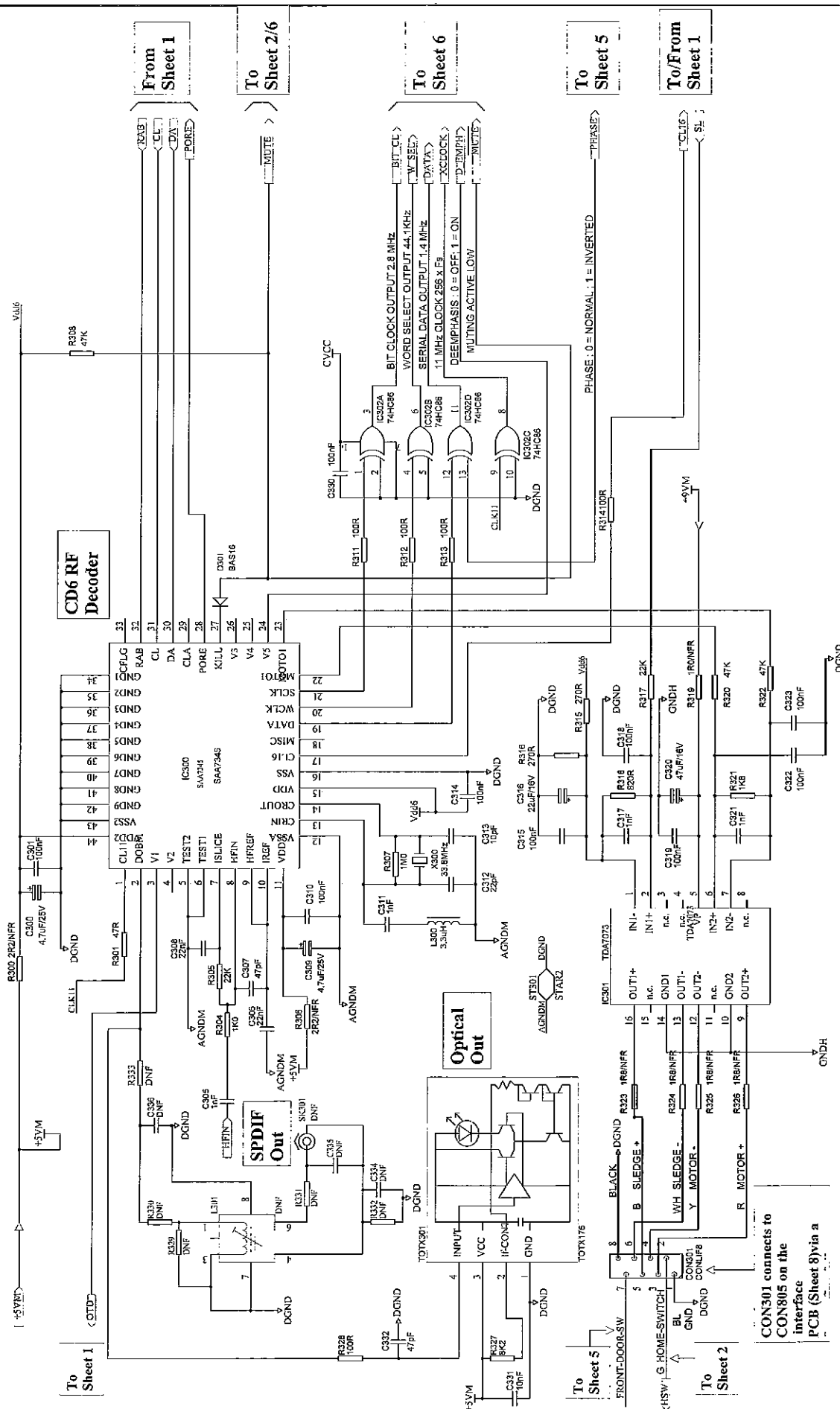
Circuit diagram index

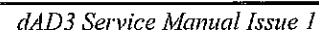
The Cyrus dAD3 circuit diagrams are listed below.

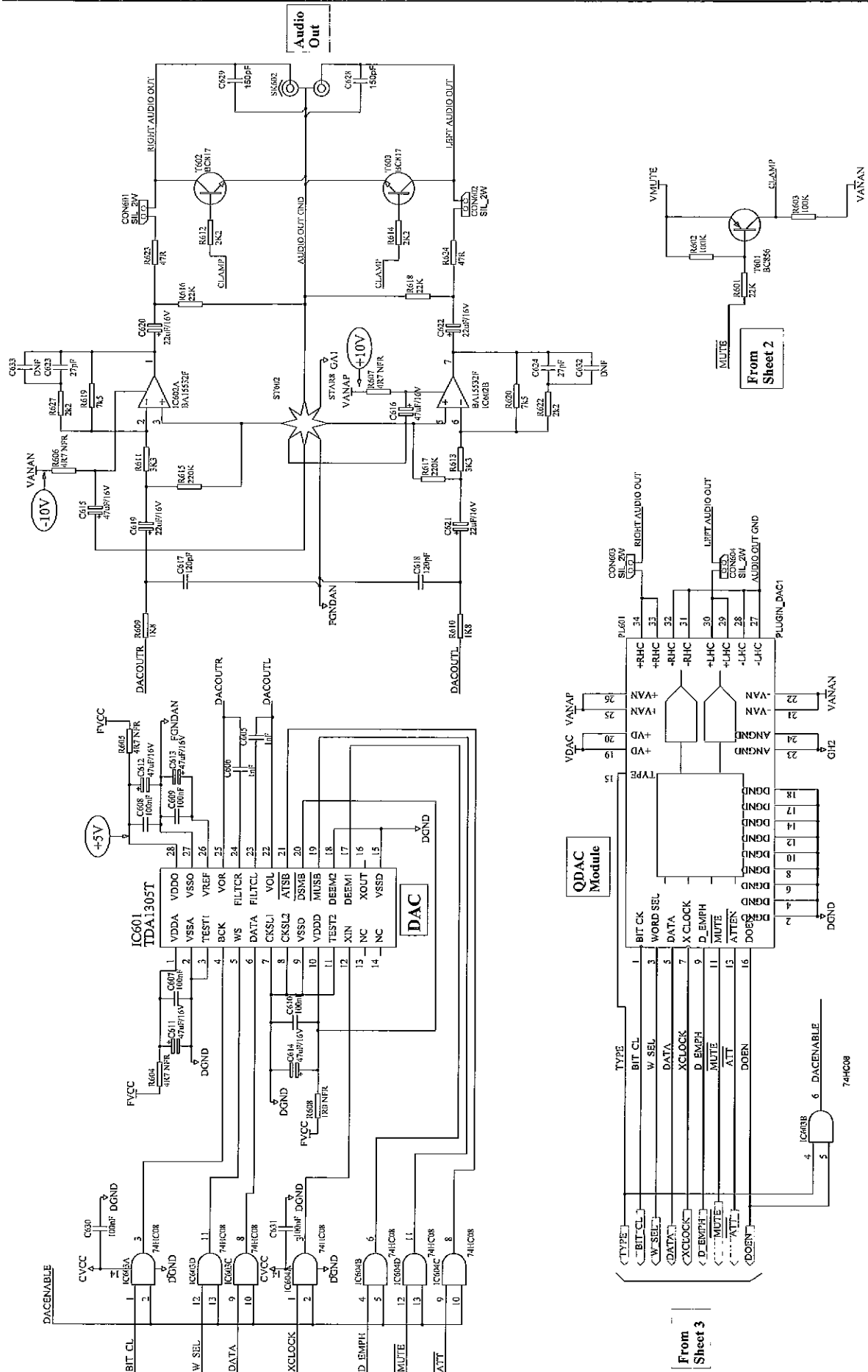
SHEET 1	Servo Control
SHEET 2	DSA Processor
SHEET 3	Motor Control
SHEET 4	Microcontroller
SHEET 5	Digital I/P
SHEET 6	DAC and DAC Reset
SHEET 7	Power Supply
SHEET 8	Interface PCB

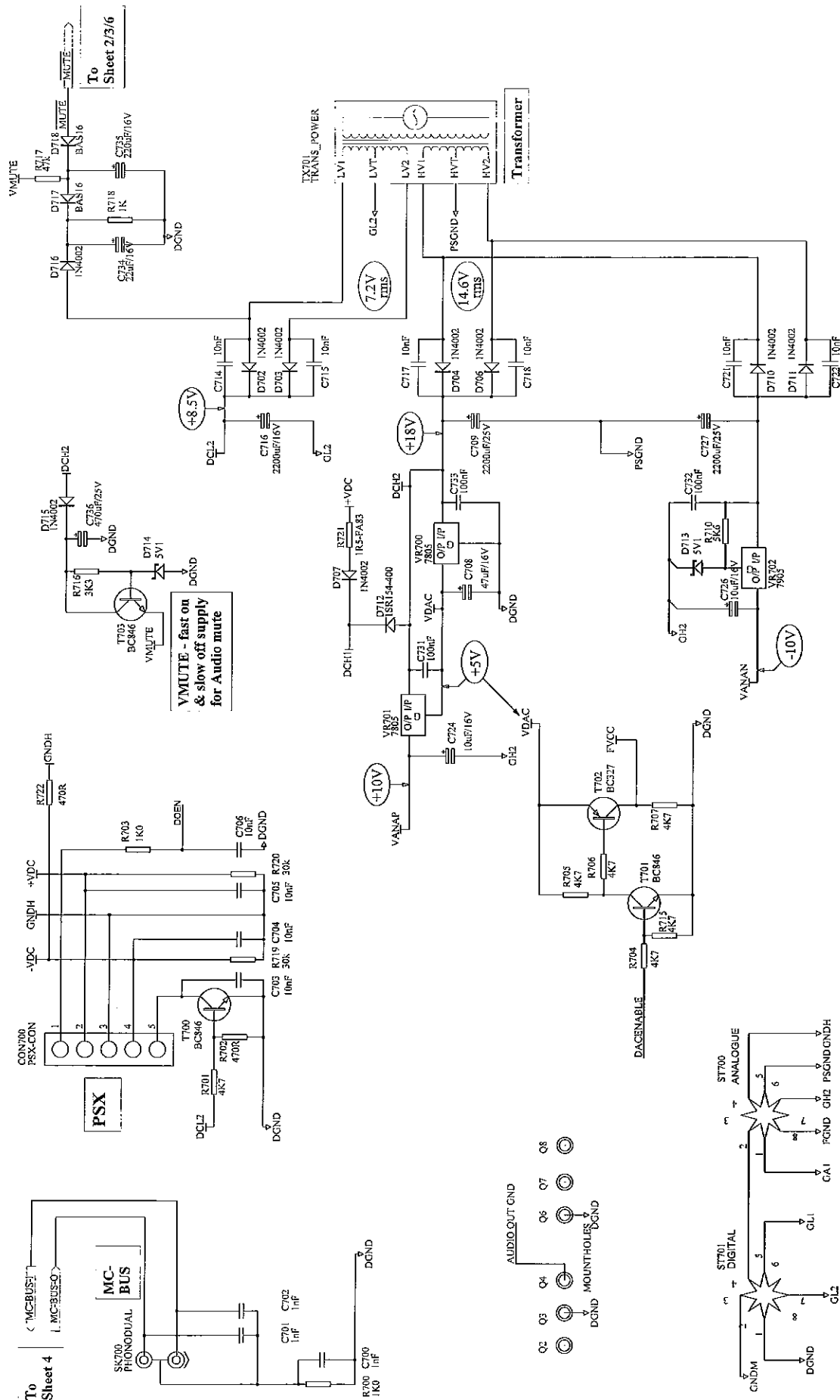


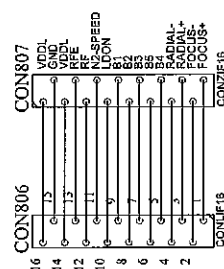
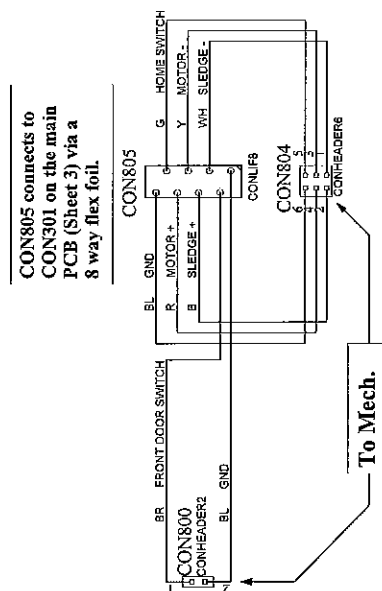












**CON806 connects to
CON100 on the main
PCB (Sheet1) via a
16 way flex foil.**