
A-5000 Audio Console

TECHNICAL MANUAL



600 Industrial Drive, New Bern, North Carolina, USA 28562

A-5000 Audio Console Technical Manual - 1st Edition

©1998 Wheatstone Corporation

WHEATSTONE CORPORATION
600 Industrial Drive
New Bern, North Carolina 28562
tel 252-638-7000 / fax 252-637-1285

Attention!

Federal Communications Commission (FCC) Compliance Notice: Radio Frequency Notice

NOTE: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment, generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.



This is Class A product. In a domestic environment, this product may cause radio interference, in which case, the user may be required to take appropriate measures.

This equipment must be installed and wired properly in order to assure compliance with FCC regulations.

Caution! Any modifications not expressly approved in writing by Wheatstone could void the user's authority to operate this equipment.

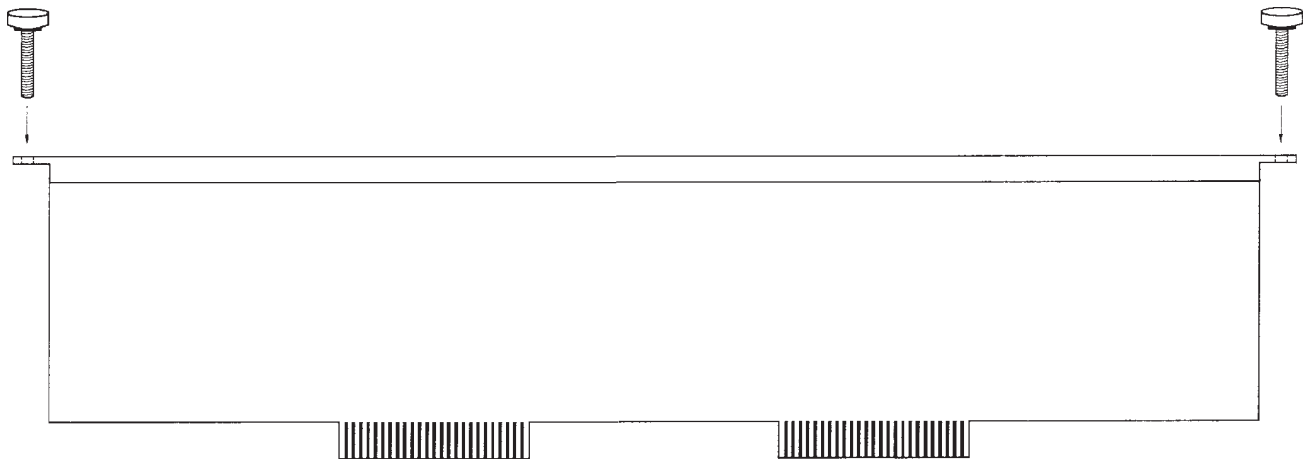
Module Removal Tools

Your Wheatstone A-5000 audio console is equipped with two "module extractor tools" which are mounted underneath the console armrest, to the far right (just above and to the left of the righthand mainframe headphone jack).

Main module faceplates are held into the console mainframe by two mounting screws (top and bottom). When removed the screws leave specially threaded holes that accept the two extractor tools.

To remove a module faceplate from the mainframe:

Remove the front top and bottom mounting screws. Remove the extractor tools from underneath the armrest, and screw each tool into a module faceplate mounting hole. *Use only four or five turns* (do not over-insert; you may damage the threaded mainframe hole underneath). Using the extractor tools as handles, pull the module straight up out of the mainframe.



A-5000 Technical Manual

Table of Contents

Chapter 1 – Installation and Power

Countertop Mounting	1-2
Clearances	1-2
System Ground	1-2
Power Supplies	1-4
The PSR Power Supply	1-5
Power Supply Cable Pinout	1-5
Failsafe Dual Redundant Supply	1-6
Energizing	1-6
Audio and Control Wiring	1-7
The Insulation Displacement Connector System	1-7
Connection Procedures	1-8
Insert Points	1-8
Unbalanced Connections	1-8
Wiring Procedure - Double Connection to One Pin	1-9

Chapter 2 - Mono Mic Inputs

Module Overview	2-2
Internal Programming Options	2-3
Insert Bypass	2-3
Phantom Power	2-3
Mutes	2-3
Mix-Minus	2-4
Timer Restart	2-4
Tallies	2-4
Talkback	2-4
Hook-ups	2-5
AUDIO CONNECTIONS	2-5
CONTROL CONNECTIONS	2-5
Remote ON & OFF	2-6
Talkback to Control Room	2-6
On Tally	2-6
Off Tally	2-6
DB Connector Pinout Drawing	2-7

Chapter 3 - Stereo Line Inputs

Module Overview	3-2
Internal Programming Options	3-3
Mutes	3-3
Mix-Minus	3-3
Timer Restart	3-3
Cue Dropout	3-3
Local/Ready	3-4
Remote ON/OFF-Constant vs. Pulse	3-4
Tallies	3-4
Remote Start/Stop	3-4
Hook-ups	3-5
AUDIO CONNECTIONS	3-5
CONTROL CONNECTIONS	3-5
Remote ON & OFF	3-5
On Tally	3-6
External START & STOP	3-6
Ready	3-6
Remote Cue	3-6
DB Connector Pinout Drawings	3-7

Chapter 4 - Output Modules

Module Overview	4-2
Internal Programming Options	4-3
Insert Bypass	4-3
Hook-ups	4-3
Master Output Module A (PGM and AUX)	
Upper DB-25 Connector — Analog Audio	4-3
Lower DB-25 Connector — Analog Outputs	4-4
Master Output Module B (AUD and UTL)	
Upper DB-25 Connector — Analog Audio	4-4
Lower DB-25 Connector — Analog Outputs	4-4
DB Connector Pinout Drawings	
Master Output A	4-5
Master Output B	4-6

Chapter 5 - Control Room Module

Module Overview	5-2
Internal Programming Options	5-3
Cue Interrupt	5-3
Cue Mute	5-3
Mono Cue	5-3

Hook-ups	5-4
Upper DB-25 Connector — AUDIO	5-4
Upper DB-25 Connector — CONTROL	5-4
On-Air Tally	5-4
Lower DB-25 Connector — AUDIO	5-5
DB Connector Pinout Drawing	5-6

Chapter 6 - Studio Control Module

Module Overview	6-2
Internal Programming Options	6-3
External Talkback Mute/Dim	6-3
Studio Dim	6-3
Hook-ups	6-4
Upper DB-25 Connector — AUDIO	6-4
Upper DB-25 Connector — CONTROL	6-4
Tally 2 and Tally 3	6-4
Lower DB-25 Connector — AUDIO	6-5
DB Connector Pinout Drawing	6-6

Chapter 7 - Meter Output Module

Module Overview	7-2
Internal Programming Options	7-3
Hook-ups	7-3
DB Connector Pinout Drawing	7-4

Chapter 8 - Superphone Input Module-optional

Module Overview	8-2
Caller Set-Ups	8-2
Automatic Features	8-3
Inputs and Outputs	8-3
External In	8-3
Cue Audio	8-4
Cain Trimpots	8-4
Phone System Control	8-4
Answer Caller Outputs	8-4
Drop caller Outputs	8-4
Drop caller LED Inputs	8-5
Typical Answer Call Sequence	8-5
To Drop Caller	8-5

Programming Options	8-6
Dipswitch SW1 Functions	8-6
Mutes	8-6
Timer Restart	8-6
Dipswitch SW2 Functions	8-6
Feed Follow	8-6
Drop Cue 1	8-6
Dipswitch SW3 Functions	8-6
Feed Follow	8-6
Drop Cue 2	8-7
Dipswitch SW4 Functions	8-7
Tallies	8-7
Cue Dropout	8-7
Hook-ups	8-7
AUDIO and CONTROL CONNECTIONS (Upper DB-25)	8-7
AUDIO and CONTROL CONNECTIONS (Lower DB-25)	8-8
DB Connector Pinout Drawing	8-9

Chapter 9 - Line Preselector (Analog)-optional

Overview	9-2
Internal Programming Options	9-3
Hook-ups	9-3
Audio Inputs	9-3
Outputs	9-4
DB Connector Pinout Drawing	9-5

Chapter 10 - Line Preselector (Analog/Digital)-optional

Overview	10-2
Internal Programming Options	10-2
LSR-500 (drawing)	10-3
Hook-ups - LSD-500	10-3
Hook-ups - LSR-500	10-3
Analog Audio Inputs	10-3
Digital Audio Inputs	10-4
Analog Outputs	10-5
Digital Outputs	10-5
DB Connector Pinout Drawing (LSD-500)	10-6
DB Connector Pinout Drawing (LSR-500)	10-7

Chapter 11 - Intercom Module-optional

Module Overview	11-2
Internal Programming Options	11-3
Cue Enable	11-3
Input Signal	11-3
Power for various ICMS	11-3
Station Select	11-3
Hook-ups	11-4
Upper DB-25 Connector - Audio	11-4
Upper DB-25 Connector - Control	11-4
Lower DB-25 Connector - Audio	11-5
Lower DB-25 Connector - Control	11-5
DB Connector Pinout Drawing	11-6

Chapter 12 - Meterbridge and Clock

Overview	12-2
Digital Timer	12-2
Console Clock	12-2
Controls	12-3
Setting the Time	12-3
Capacitor Backup	12-3
Operational Modes	12-3

Chapter 12a - Tape Remote Module-optional

Overview	12a-2
DB Connector Pinout Drawing	
Start/Stop Function Control	12a-3
Full-function Control	12a-4

Chapter 13 - Parts List

MM-5000 Mono Mic Input	13-2
SL-5000 Stereo Line Input	13-5
OM-5000 Master Output	13-8
CRD-500 Control Room Monitor (PCB_CRD500)	13-9
CRD-500 Control Room Monitor PCB_CUE500)	13-11
SCD-500 Studio Monitor	13-12
SPN-5000 Super Phone Input (optional)	13-14
LS-5000 Line Selector (optional)	13-17
LSD-500 Line Selector (optional)	13-19
LSR-500 Line Select Rackmount (optional)	13-20
ICMD-500 Intercom (optional)	13-22
TRD-500/FF Tape Remote (optional)	13-23

TRD-500/SS Tape Remote (optional)	13-24
MOD-500 Meter Output	13-25
CLK-5000 Clock	13-27
CLD-5000 Clock Display	13-29
TM-5000 Timer Display	13-30
A-5000 Frame	13-31
Sub Assembly	13-32

Chapter 14 - Schematic Drawings

Faceplate Drawings 14-3

Mono Mic Input (MM-5000)

flow diagram	14-4
schematic	14-5
bus chart	14-7
load sheet drawing	14-8

Stereo Line Input (SL-5000)

flow diagram	14-9
schematic	14-10
bus chart	14-12
load sheet drawing	14-13

Output Master (OM-5000)

flow diagram	14-14
schematic	14-15
load sheet drawing	14-16

Control Room (CRD-500 Main Card)

flow diagram	14-17
schematic	14-18
bus chart	14-20
load sheet drawing	14-21

Control Room (CUE-500 Card)

schematic	14-22
load sheet drawing	14-23

Studio Control (SCD-500)

flow diagram	14-24
schematic	14-25
bus chart	14-27
load sheet drawing	14-28

Meter Output (MOD-500)

flow diagram	14-29
schematic	14-30
bus chart	14-32
load sheet drawing	14-33

Tape Remote (TRD-500)

schematic	14-34
bus chart	14-34
load sheet drawing	14-35

Superphone (SPN-5000)

flow diagram	14-36
schematic	14-37
bus chart	14-39
load sheet drawing	14-40

Line Select (LS-5000)

flow diagram	14-41
schematic	14-42
load sheet drawing	14-43

Line Select (LSD-500)

flow diagram	14-44
schematic	14-45
bus chart	14-46
load sheet drawing	14-47

Line Select Rackmount (LSR-500)

schematic	14-48
bus chart	14-50
load sheet drawing	14-51

Intercom (ICMD-500)

flow diagram	14-52
schematic	14-53
load sheet drawing	14-54

Clock/Timer (CLK/CLD-5000)

schematic	14-55
CLK-5000 load sheet drawing	14-57
CLD-5000 load sheet drawing	14-58

Installation and Power

Chapter Contents

Countertop Mounting	1-2
Clearances	1-2
System Ground	1-2
Power Supplies	1-4
The PSR Power Supply	1-5
Power Supply Cable Pinout	1-5
Failsafe Dual Redundant Supply	1-6
Energizing	1-6
Audio and Control Wiring	1-7
The Insulation Displacement Connector System	1-7
Connection Procedures	1-8
Insert Points	1-8
Unbalanced Connections	1-8
Wiring Procedure - Double Connection to One Pin	1-9

Installation and Power

Countertop Mounting

The A-5000 audio console is designed for countertop drop-in mounting. Console placement should avoid proximity to any electromagnetic fields, such as large power transformers, motors, and fluorescent lighting fixtures. The required cut-out width is determined by the actual number of mainframe positions. The formula is:

$$(\text{console positions} \times 1.508") + 1.375" = \text{cut-out width}$$

Example: $(32 \times 1.508) = 48.256$, and $48.256 + 1.375 = 49.631$. Rounding this off we arrive at 49 5/8" for a cut-out width.

Cut-out front-to-back dimension is always 18 5/8". The front of the console will extend approximately one inch forward of the cut-out. The console's wooden sidepieces will extend about 7/8" on either side of the cut-out width.

Clearances

Note the two module extractor tools (black thumbwheel screws) mounted in the front surface of console's lower mainframe pan (just above and to the left of the righthand headphone jack). These must be removed before lowering the console into its cutout!



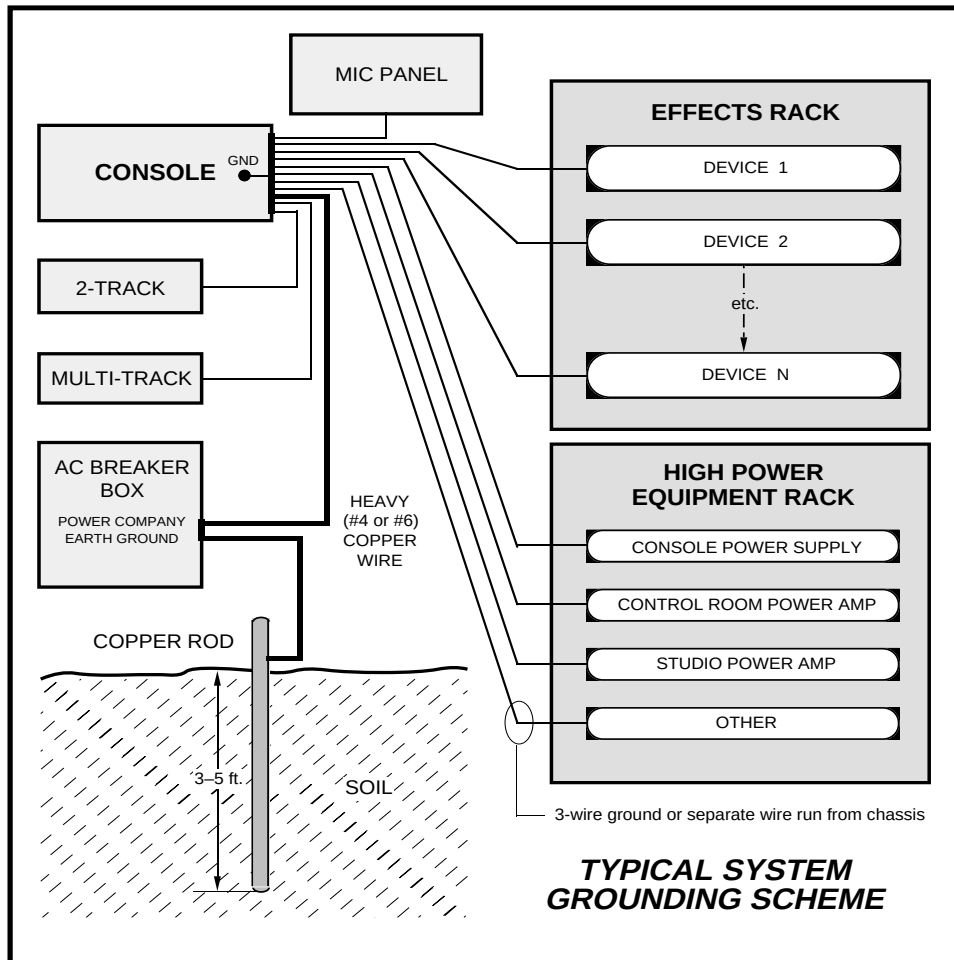
Once in place the console mainframe pan will extend approximately 5 1/2 inches below the countertop surface. Note the hinged meterbridge will require 8 1/2" above the countertop surface to open freely. When fully open the meterbridge will extend 5 1/2" behind the rear line of the cut-out. When closed, the meterbridge will extend 2 1/2" behind this rear cut-out line and 6 1/4" above the countertop surface.

Do not connect the A-5000 console to its power supply (and do not connect the power supply to the AC power line) until instructed to do so.

System Ground

The first step is to ground the console.

Note that as supplied from the factory, console rackmount power supply common, audio ground, and the A-5000 mainframe are connected together at the console, but are NOT connected to electrical ground and the chassis of the power supply. Safety requirements dictate that a positive connection from the console mainframe to



Tie the console ground lug terminal strip to the system earth ground. Tie every piece of equipment in the entire audio system to the console ground lug terminal strip.

electrical ground be made in the completed installation. Use one of the grounding lugs on the bottom of the mainframe to establish your system ground. The grounding lug terminal strip may be found at the rear of the console, along the bottom edge of the mainframe pan directly under the rightmost mainframe slots (to the lower left if you are looking at the rear of the console).

The system ground serves two important purposes:

- (1) It provides a zero signal reference point for the entire audio system;
- (2) It assures safety from electrical shock.

There exist two terms that one encounters in a discussion of ground:

(A) **EARTH GROUND**, which is usually a heavy copper rod driven into the soil adjacent to the building (around 6 feet down) or a connection to the copper water pipes leading into the building. Either is acceptable (unless, of course, the water pipe is made of plastic).

(B) **THE POWER COMPANY EARTH CONDUCTOR** that enters the building at the power line breaker box; this conductor should be (and is often by code) tied to the above-mentioned earth ground at one point. This point is the **SYSTEM EARTH GROUND**.

TIE THE CONSOLE GROUND LUG TERMINAL STRIP TO THE SYSTEM EARTH GROUND. TIE EVERY PIECE OF EQUIPMENT IN THE ENTIRE AUDIO SYSTEM TO THE CONSOLE GROUND LUG TERMINAL STRIP. If the system earth ground point is inaccessible, tie the console ground terminal strip to the power company earth conductor at the main breaker box (see drawing "Typical Grounding Scheme" on previous page).

Each piece of equipment should be connected by its own ground wire (usually the round third pin on the AC cord). This means that every AC outlet must have a separate conductor run to the console ground lug terminal strip; the outlets cannot be daisy-chained as is normally encountered in commercial and residential AC systems. Any equipment not supplied with 3-wire AC cables must have individual ground wires (16 gauge or larger) connected to their chassis grounds and then run to the console ground lug terminal strip.

Further Grounding Details

Check all equipment to be absolutely certain that each unit is power transformer isolated from the AC mains to prevent safety hazards.

It is assumed that in each piece of audio equipment the audio ground and the chassis are tied together at some point. Any piece of equipment lacking a grounded chassis is likely to be prone to interference problems.

Locate all unbalanced audio equipment in the same rack if possible, to minimize chassis ground potential differences. It may also be helpful to insulate each piece of unbalanced equipment from its mounting rails in the rack by means of nylon 10-32 screws and insulating washers between rails and faceplates.

Once the system is properly grounded, proceed with the console power supply installation and connection (next section).

Power Supplies

The A-5000 console is powered by a Wheatstone Model PSR rackmount power supply. The PSR unit occupies two 19" wide rack spaces (total height 3-1/2") and contains up to four SPS-180 power supply units. Do not mount heat generating devices in the same rack cabinet.

If failsafe redundant supplies have been ordered, you will be installing two SPS-180 units.

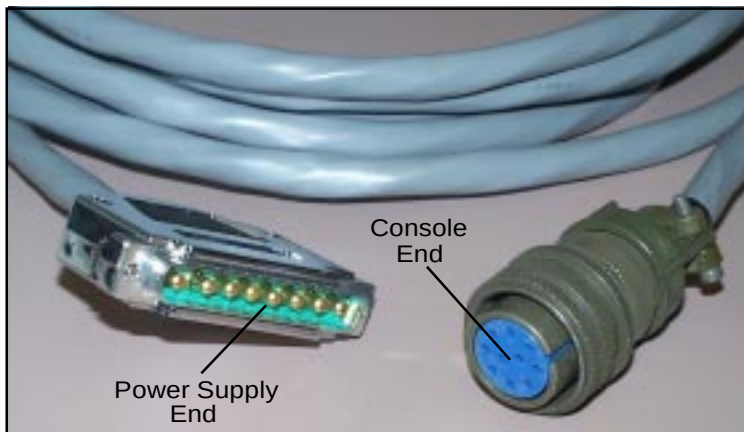
Note the power supply (supplies) should be mounted in an equipment rack within fifteen feet of the console (but no closer than 3 feet). Avoid locating any high gain equipment (such as phono preamps, tape recorders, etc.) too near the rackmount supplies, to avoid magnetic interference into that equipment.

This power supply contains high voltage circuits that are hazardous and potentially harmful. ***Under no circumstances should the metal cover be removed!*** If you have a problem with the power supply, the unit must be returned to Wheatstone Corporation for repair.

Once the supply is rackmounted, it should be connected to the console using the factory supplied cable. The console's two power supply connectors are located at the rear of the console, one at each end of the meterbridge bottom pan. If you are using two SPS-180 supplies (failsafe option) one supply will connect to each console connector; otherwise only one connector will be used (it does not matter which one). Note that the power supply cable's 10-pin female connector has to be rotated until its locating pins match the male connectors on the console. Do not force a connector on; it attaches easily when properly aligned. Connect the cable(s) first to the console, then to the rear of the rackmount power supply.



Front view of the PSR rackmount power supply



PS Cable Pinout

		PIN		PIN			
Power Supply End 8-pin Connector <i>Male</i>	VIO	1	← Phantom →	E	VIO	Console End 10-pin Connector <i>Female</i>	
	GRN	2	← Digital Ground →	D	GRN		
	BRN	3	← Digital Ground →	F	BRN		
	YEL	4	← Digital+ →	H	YEL		
	ORG	5	← Digital+ →	G	ORG		
	BLK	6	← Analog Ground →	A	BLK		
	BLU	7	← -V in →	C	BLU		
	RED	8	← +V in →	B	RED		

Note each power supply is fitted with a 3-wire grounded AC cord that should be plugged into a "clean" AC power source. That is, an AC source that feeds only the control room audio gear. This source should be a separate feed from those powering lighting, air-conditioning, or any other non-audio machinery. The third pin ground wire of the AC source should be tied to the central system ground point. *Note that while the AC power cord ground wire terminates at the power supply chassis, it does NOT connect to the A-5000 console common; the console itself must be grounded separately. (See previous section, "System Ground".)*

The power feed recommended in the text is often installed and referred to in studios as an "isolated AC ground" outlet. It is usually orange in color.

Failsafe Dual Redundant Supply

Wheatstone failsafe power supply systems use two SPS-180 power supplies for each piece of powered equipment. Though either is capable of running a full load on its own, in failsafe operation both units run in tandem: if one fails, the other takes over, assuring uninterrupted operation.

In order for failsafe systems to perform as designed, always have BOTH supplies powered up and connected to their associated equipment.

Energizing

Assuming the A-5000 console mainframe is properly placed and grounded, and its PSR power supply correctly rackmounted and connected to the console, you may now energize the PSR rackmount power supply by plugging it into the AC mains. The console's VU meters will illuminate and individual module switches will assume factory default settings.

Note: To de-energize the console, unplug the rackmount power supply's AC cord from the AC mains. ***Never de-energize the console by disconnecting the cable that connects the console and power supply together.***

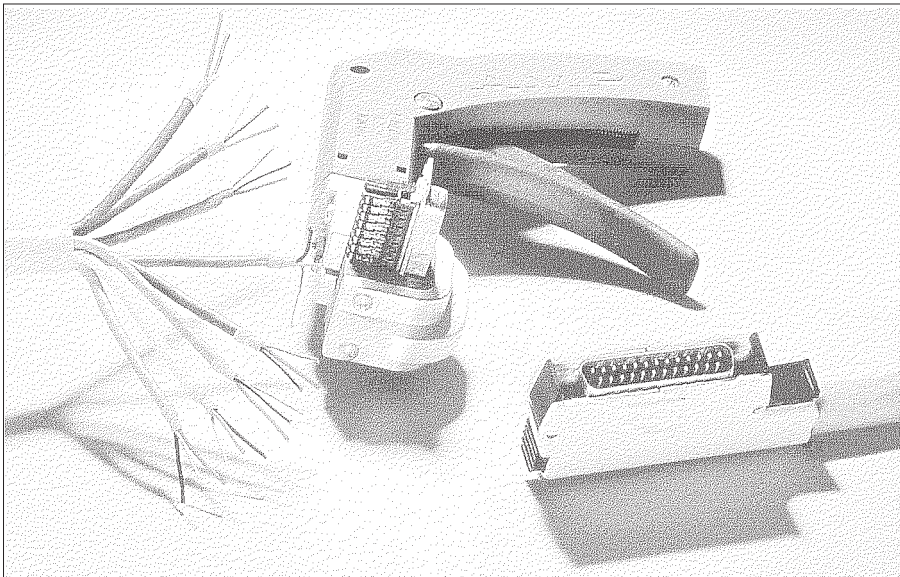
Once you have verified proper power-up, unplug the rackmount power supplies to de-energize the console. You may now proceed to wire up audio and control connections.

Audio and Control Wiring

All audio and control I/O connections to the A-5000 console are made through multipin DB-25 connectors located on the bottom of the console.

The Insulation Displacement Connector System

The I/O wiring interface system is based on insulation displacement technology. A special AMP wiring tool is included with each console; it is auto-indexing, and allows individual wire connections to be positively made with a single squeeze of the tool's trigger. The trigger action is ratchet controlled, and will not release until a full connection is made. Once released, the multipin connector held in the tool's jaw automatically indexes to the next connector pin. The technology is such that no stripping, soldering or tinning of



The AMP tool insulation displacement connector system. Note the right angle hood with self-locking tabs. The tool, multipin connectors (with gold plated pins) and latching hoods are supplied with each console.

wire ends is required; all that is needed is for the wires destined for the connector be snub cut and laid out in order (although tubing should be used on bare drain wires). An empty DB-25 (or in the case of the optional LSR-500 rackmount line switcher, a DB-9) connector is inserted into the tool, indexed to the first pin, and the wires are inserted one by one into the jaw and the trigger squeezed. In this way a single multipin connector can be completely wired up in a minute or two.

In the event of a wiring error, connector pins may easily be removed from the shell with the wire still attached, and inserted into the correct position. Observe the side of the connector, with the metal part down. You will see a row of "Vees"—simply press the top of the vee together with a scribe or other sharp instrument; this will unlock the pin from the shell, and it can be removed and inserted into the correct position. Spread the vee apart to lock the pin in the new position. It should never be necessary to discard a connector due to a wiring error.

Note that mating hoods for each connector are also supplied with the console. These have locking screws that hold the connectors securely to the bottom of the console mainframe.

Connection Procedures

As supplied from the factory, the console requires no logic connections to function. Therefore an orderly installation begins with the audio wiring. Note this manual is organized by module type (inputs, outputs, , monitor modules, etc.); each chapter contains detailed wiring instructions for its module type. Proceed through the manual, chapter by chapter, until all modules have been wired to suit your particular installation requirements. Once proper audio operation is verified, go back to each individual chapter and proceed with control wiring.

Insert Points

Certain module signals have insert patch points in their signal chains to allow outboard audio processing. These include MONO MIC INPUTS (MM-5000) and OUTPUT MODULES (OM-5000).

Normally these points are internally bridged at the factory (via PCB-mounted programming switches) prior to shipment. If you intend to use outboard signal loops at these points, you must reprogram these switches. See pages 2-3 (mic inputs) and 4-3 (output modules) for details.

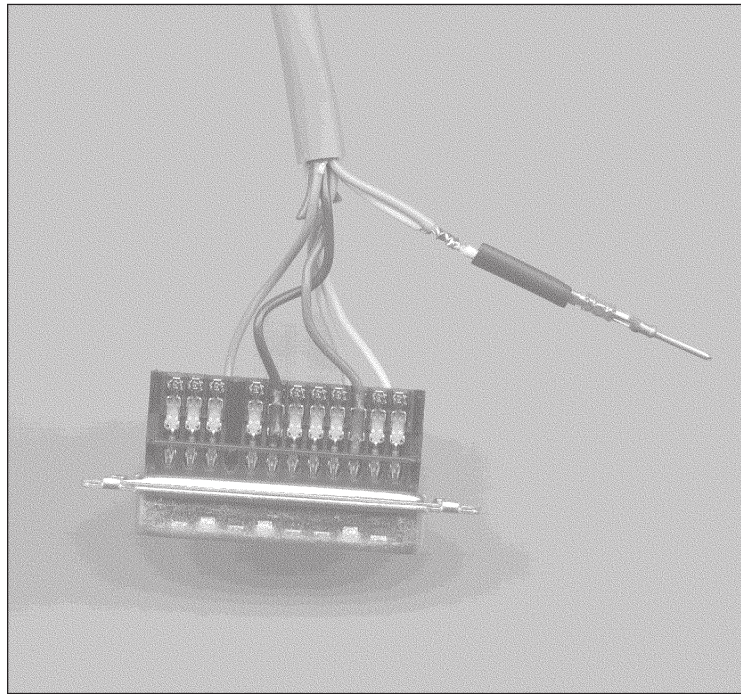
Unbalanced Connections (analog audio)

INPUTS — Wire to the console with typical shielded two conductor cable (like Belden 9451), just as if you were connecting a balanced source. At the unbalanced source machine's output, connect the black wire (LOW) to the shield. If the machine has a -10 dBv output, don't hesitate to turn module input gain as high as is needed.

OUTPUTS — A-5000 consoles use a balanced output circuit which behaves exactly like the secondary of a high-quality transformer, with no center tap—this output is both balanced and floating. Either the HIGH or LOW side of the output should be strapped to ground, with the output taken from the other side. (Normally you'd strap LOW to ground, and take HIGH to feed your unbalanced equipment.)

Wiring Procedure - Double Connection to One Pin

ref: DB-25 male multi-pin connector



Most audio equipment machine interfaces (as well as Wheatstone consoles) use subminiature D-type connectors. Sometimes the interfaces require making two connections to a single DB pin. If the wiring has been set up using punchblocks, this is not a problem; however, for situations where direct machine-to-console wiring is used, Wheatstone recommends the following procedure:

- 1) Connect the first wire to the desired pin as you normally would.
- 2) Note connector pins may easily be removed from the DB-25 shell with the wire still attached: Hold the connector with the metal part down and observe its side. You will see a row of "Vees"—simply press the top of the selected vee together with a scribe or other sharp instrument; this will unlock the pin from the shell, allowing it to be removed.
- 3) With the pin removed, strip out a short section of insulation from the connected wire and wrap and solder the second wire to the first as shown above.
- 4) A short piece of heatshrink tubing (pictured here before being slid into place) completes the connection.
- 5) Re-insert the pin into the DB-25 shell, spreading the vee apart to lock it in place.

Mono Mic Input (MM-5000)

Chapter Contents

Module Overview	2-2
Internal Programming Options	2-3
Insert Bypass	2-3
Phantom Power	2-3
Mutes	2-3
Mix-Minus	2-4
Timer Restart	2-4
Tallies	2-4
Talkback	2-4
Hook-ups	2-5
AUDIO CONNECTIONS	2-5
CONTROL CONNECTIONS	2-5
Remote ON & OFF	2-6
Talkback to Control Room	2-6
On Tally	2-6
Off Tally	2-6
DB Connector Pinout Drawing	2-7

Mono Mic Input (MM-5000)

Module Overview

MM-5000 modules are for microphone input signals (-50dBu nominal). Each module accepts two mono sources: A and B, switched at the top of the module. Phantom power (+40VDC) is available at both input ports; it may be selectively activated by an internal dipswitch (the factory default is OFF). Recessed front panel multi-turn trimpots (range 38dB) adjust input levels.

Example: with a microphone input of -60dBm @150Ω at the port, gain trim can set levels from -22dBu to +16dBu (note maximum preamp gain is +76dB).

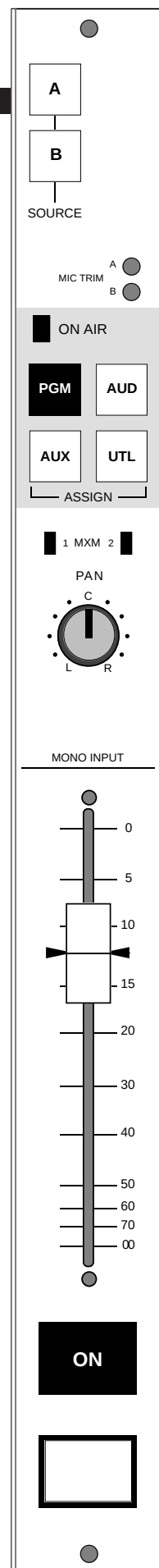
An insert point (+4dBu balanced) is provided: it is post-trim, pre-fader and may be internally bypassed, which is the factory default setting.

Output switches assign the selected source signal to any combination of the console's four stereo outputs: PGM (program), AUD (audition), AUX (auxiliary) and/or UTL (utility). When the module is assigned to PGM and turned ON, a red "On-Air" LED illuminates just above the output assign switches.

Each input module can feed one or both of the internal mix-minus busses and the selected send can be pre or post fader and ON/OFF switch. Front panel tallies let the operator know at a glance which busses are assigned.

The rotary PAN control pans the module's monophonic signal right and left within the assigned stereo output fields. Level is set by a Penny & Giles long-throw fader. The fader can be optionally equipped with an EFS ("European fader start") style bottom-of-travel switch which will automatically activate the module's channel ON and OFF switches when the fader is run up and down. Any functions these switches have been programmed to perform (see immediately following) will also take place when this happens

The channel ON (red) and OFF (amber) switches are at the bottom of the module. In addition to being controlled remotely, these can also be programmed (via internal PCB-mounted dipswitches) to perform a variety of console control functions, including control room and studio mutes, talkbacks, tallies, and timer restart.



All audio and control input and output signals are made via two multi-pin DB-25 connectors mounted in the bottom of the console's mainframe, directly underneath each individual module

Internal Programming Options

All internal programming is made via printed circuit board (PCB) mounted switches on the module's main card. With the exception of insert bypass and mix-minus pre-post functions, which use single-throw slide switches, all programming is via 4-position dipswitches (total five).

For the purposes of this manual, we will assume you are holding the removed module upright, component side towards you, with gold-plated card fingers to the left and the module faceplate to the right. This will enable you to read the control legends silkscreened next to each programming switch. Note when a dipswitch position is thrown to the right (towards the module's faceplate) it is ON.

Insert Bypass

SW8 (a single throw slide switch right next to the card's short upper row of gold fingers) will click the module's insert point in and out of the audio signal chain. Note again that the factory default is "insert bypassed". In other words, when shipped from the factory SW8 is thrown in the direction of the silkscreened arrow on the PCB (to the left). To use the insert point (see "Audio Connections" page 2-5), throw the switch to the right, towards the module faceplate.

Phantom Power

Four-position dipswitch SW1 (upper right corner of card) turns +40VDC phantom power on and off for the module's two microphone input ports.

Dipswitch position 1 activates phantom power for microphone A
Dipswitch position 2 activates phantom power for microphone B

Note the factory default setting for phantom power is OFF.

Mutes

When a microphone is live in a room, that room's monitor speakers must be muted to prevent feedback. The A-5000 console has three mute control lines: control room, studio one and studio two. Each of these may be activated by either an A or B microphone input. The first three positions of dipswitches SW2 and SW3 (to the left of the fader) program these muting functions:

SW2 position 1 mutes the control room when mic A is live*
SW2 position 2 mutes studio one when mic A is live
SW2 position 3 mutes studio two when mic A is live
SW3 position 1 mutes the control room when mic B is live
SW3 position 2 mutes studio one when mic B is live
SW3 position 3 mutes studio two when mic B is live

*factory default setting

Mix-Minus

The mix-minus signal may be programmed to be pre or post fader:

SW6 assigned MXM1

SW7 assigned MXM2

The default setting is “post”.

The dipswitch SW5 turns ON/OFF the mix-minus feed:

SW5 position 3 assigned MXM1

SW5 position 4 assigned MXM2

Timer Restart

When the module is turned ON, the console’s digital timer can be programmed to automatically reset to zero and begin counting up.

SW2 position 4 activates timer restart when mic A is turned ON

SW3 position 4 activates timer restart when mic B is turned ON

Tallies

Turning the module ON can activate a remote tally indicator. There are three tally control lines: on-air, tally 2 and tally 3. The first two positions of dipswitch SW5 (to the left of the fader) program these functions:

SW5 position 1 activates tally 2

SW5 position 2 activates tally 3

The thirds position of dipswitch SW1 activates the on-air tally control line (factory default setting).

Remote tallies are hooked-up to the console at the Control Room module (CRD-500)

Talkback

Typically, one of the console’s MM-5000 input modules will be used for the control room (CR) console operator’s microphone. The fourth position of dipswitch SW1 allows that microphone to also function as a talkback mic. It places the signal (post-insert, pre-pan, pre-fader, pre-on/off) onto the console’s talkback bus. When the console operator presses a TB switch on the console’s SCD-500 Studio Control module, the talkback bus (which is carrying his microphone signal) will interrupt the regular monitor signal being fed to the studio and talent will hear his voice through the studio monitor speakers.

In order for the studio to reply to the console operator, the MM-5000 module controlling the studio’s microphone signal must be routed to the console’s cue bus, where it can interrupt the regular control room monitor feed and be heard by the operator. This is accomplished by a user-supplied TB switch in the studio. The switch provides a momentary closure between the module’s lower DB-25 connector “TB to CR A” or “TB to CR B” control pins and Digital Ground (see page 2-6 for wiring details). As long as this closure is maintained (i.e., as long as talent holds down the studio TB button) the module’s (post-insert, pre-pan, pre-fader, pre-on/off) signal will be placed on the console’s Cue bus. Simultaneously, the module’s regular output will be muted (i.e., Cough will be activated) so the

talkback signal doesn't go out over the air.

It is also desirable to mute the studio monitor speakers during talkback operations, not only to reduce ambient noise (i.e., the regular studio monitor signal) but also to prevent potential feedback if both the operator and the studio talent press their respective TB buttons at the same time. Dipswitch SW4 programs the appropriate muting:

- Dipswitch position 1 mutes studio one when microphone A is live
- Dipswitch position 2 mutes studio two when microphone A is live
- Dipswitch position 3 mutes studio one when microphone B is live
- Dipswitch position 4 mutes studio two when microphone B is live

Hook-Ups

As stated before, all user wiring to and from MM-5000 modules takes place at DB-25 multi-pin connectors mounted directly beneath each module on the console mainframe's bottom pan. There are two connectors per module: the upper one (towards the console meterbridge) handles audio signals; the lower (near the console armrest) control signals. A pinout drawing on page 2-7 shows all wiring connections at a glance.

Audio Connections (upper DB-25)

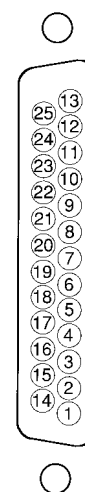
These include A and B mic inputs, and insert in and out. The mic input level is nominally -50dBu. Insert points are +4dBu balanced in and out. All signals are analog mono.

- Pin 25 – Mic A In SH
- Pin 24 – Mic A In HI
- Pin 12 – Mic A In LO
- Pin 11 – Mic B In SH
- Pin 10 – Mic B In HI
- Pin 23 – Mic B In LO
- Pin 16 – Insert Out SH
- Pin 15 – Insert Out HI
- Pin 3 – Insert Out LO
- Pin 2 – Insert In SH
- Pin 1 – Insert In HI
- Pin 14 – Insert In LO

Note the insert points are normally bypassed by PCB-mounted slide switch SW8 (see page 2-3). Regardless of this switch setting, the Insert Out pins may be used as a channel direct output if desired.

Control Connections (lower DB-25)

These include remote on and off, cough, talkback and tally functions. Note each function is available twice, for both A and B source ports, allowing it to follow the module's A/B mic selector switch.



Typical DB-25 connector

To Turn the Module ON & OFF from a Remote Location

REMOTE ON — Activates the module's channel ON switch. Provide a momentary closure between Pin 16 (Remote On A) or Pin 22 (Remote On B) and Digital Ground (Pins 4, 10, 17 or 23). This will latch the module ON. (User-supplied momentary contact switch required.)

REMOTE OFF — Activates the module's channel OFF switch. Provide a momentary closure between Pin 3 (Remote Off A) or Pin 9 (Remote Off B) and Digital Ground (Pins 4, 10, 17 or 23). This will latch the module OFF. (User-supplied momentary contact switch required.)

COUGH — Temporarily Mutes the module. Provide a closure between Pin 1 (Cough A) or Pin 7 (Cough B) and Digital Ground (Pins 4, 10, 17 or 23). This will turn the module OFF. Note this is a non-latching mode; the module will turn ON again as soon as the closure stops. (User-supplied momentary contact switch required.)

Talkback to Control Room

If an MM-5000 module is being used for a studio microphone, these ports allow talkback from that studio to the console operator. Provide a closure between Pin 14 (TB MIC A to CR) or Pin 20 (TB MIC B to CR) and Digital Ground (Pins 4, 10, 17 or 23). This will cause two things to happen: (1) the module's pre fader signal is sent to the console's Cue bus, where it may be heard by the console operator, and (2) the module's Cough function is activated, muting the module's post fader signal and preventing the TB signal from going out over other assigned busses (i.e., "live"). This non-latching condition continues until the closure is released. (Requires user-supplied momentary action TALKBACK switch at the studio microphone location.)

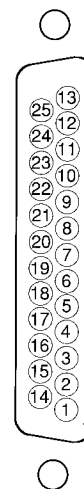
On Tally

Lets the module's channel ON switch control an on-air light or other "microphone on" indicator at a remote location. This control function provides a continuous closure between Pin 15 (On Tally A) or Pin 21 (On Tally B) and Digital Ground (Pins 4, 10, 17 or 23) whenever the module's channel ON switch is activated.

This closure can be used to control an externally powered tally light that requires a continuous closure to function. Or an external tally light (i.e., LED) can be powered from the input module by connecting the external LED to +5V Digital (Pins 5 or 11) and the A or B On Tally ports. In either case, current should not exceed 30 milliamps.

Off Tally

Identical to "On Tally" (preceding) only this function keys off the module's channel OFF switch. Off Tally A is Pin 2; Off Tally B is Pin 8.



Typical DB-25 connector

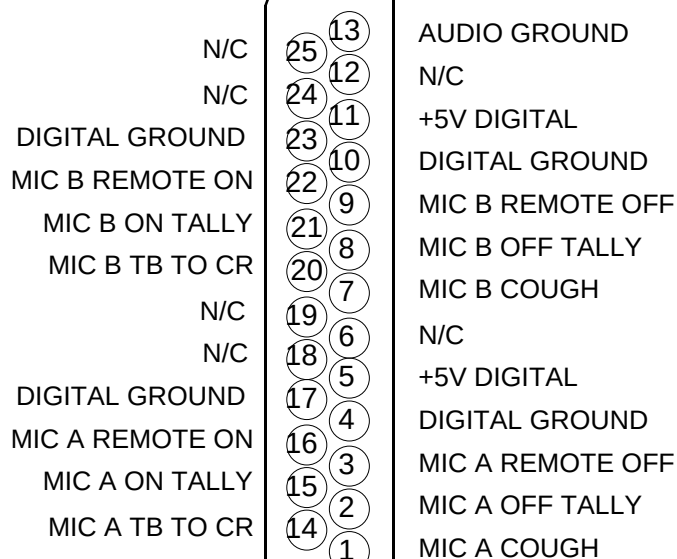
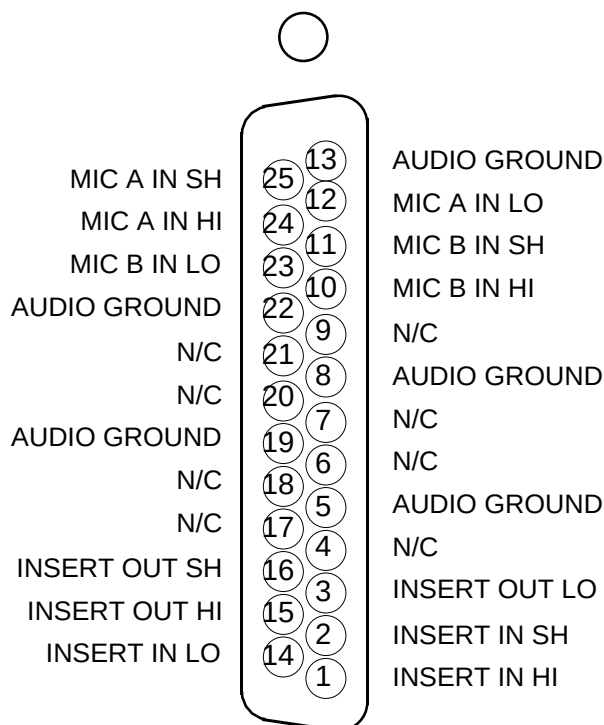
See also "Talkback" section earlier in this chapter, (page 2-4).

We recommend a series resistor between the LED and +5V digital when you are powering the external tally from the console; a value of 220Ω (1/4W 5%) is suggested.

MM-5000 Mono Mic Input

DB Connector Pinouts

ANALOG I/O PORTS (Upper DB-25)



LOGIC I/O PORTS (Lower DB-25)

Stereo Line Input (SL-5000)

Chapter Contents

Module Overview	3-2
Internal Programming Options	3-3
Mutes	3-3
Mix-Minus	3-3
Timer Restart	3-3
Cue Dropout	3-3
Local/Ready	3-4
Tallies	3-4
Remote ON/OFF — Constant vs. Pulse	3-4
Remote Start/Stop	3-4
Hook-ups	3-5
AUDIO CONNECTIONS	3-5
CONTROL CONNECTIONS	3-5
Remote ON & OFF	3-5
On Tally	3-6
External START & STOP	3-6
Ready	3-6
Remote CUE	3-6
DB Connector Pinout Drawing	3-7

Stereo Line Input (SL-5000)

Module Overview

SL-5000 modules are for stereo line input signals.

They are available in two different versions. Each module accepts two stereo sources: A and B, switched at the top of the module. The **MODE SELECTION** enables the module to operate in stereo, mono, left only, or right only. The **MODE** button illuminates red when set to **STEREO**; **MONO** (L+R to both channels), **LEFT** to both channels, and **RIGHT** to both channels. Being electronic, mode selection is lossless and click-free. When in **MONO** mode automatic gain compensation occurs to offset mono summation.

Output switches assign the selected source signal to any combination of the console's four stereo outputs: **PGM** (program), **AUD** (audition), **AUX** (auxiliary) and/or **UTL** (utility). When the module is assigned to **PGM** and turned **ON**, a red "On-Air" LED illuminates just above the output assign switches.

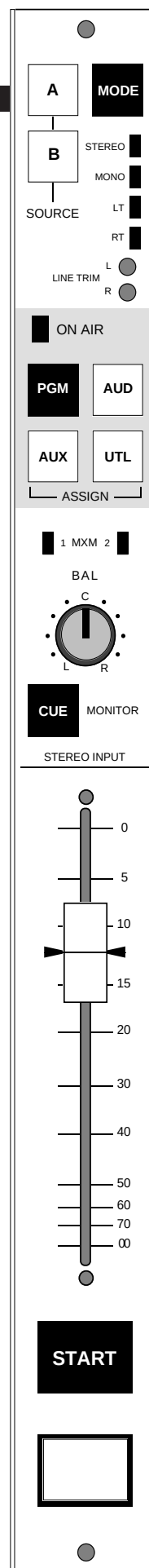
Each input module can feed one or both of the internal mix-minus busses and the selected send can be pre or post fader and **ON/OFF** switch. Front panel tallies let the operator know at a glance which busses are assigned.

A **CUE** switch places the module's signal on the console's stereo cue bus, where it may be heard on the meterbridge mounted cue speakers and/or as an interrupt to the console operator's headphones and control room monitor speakers. The various cue interrupt modes are programmed at the console's **CRD-500** (Control Room) module via internal PCB-mounted dipswitches. See page 5-3.

Channel **ON** (red) and **OFF** (amber) switches are at the bottom of the module. In addition to being controlled remotely, these can also be programmed (via internal PCB-mounted dipswitches) to perform a variety of functions, including starting and stopping external source machines, activating control room and studio mutes, external tallies, and timer restart. The **OFF** switch's LED can be controlled by an external source machine to act as a "ready" indicator.

All audio and control input and output signals are made via two multi-pin DB-25 connectors mounted in the bottom of the console's mainframe, directly underneath each individual module.

A Direct Output (post fader, post **ON/OFF**) is also available.



Internal Programming Options

All internal programming is made via PCB mounted switches on the module's two printed circuit boards.

For the purposes of this manual, we will assume you are holding the removed module upright, component side towards you, with gold-plated card fingers to the left and the module faceplate to the right. This will enable you to read the control legends silkscreened next to each programming switch. Note when a dipswitch position is thrown to the right (towards the module's faceplate) it is ON.

Mutes

Like MM-5000 inputs, SL-5000 modules can be programmed to mute studio speakers when it's channel ON switch is pressed. The A-5000 console has three mute control lines: control room, studio one and studio two. Each of these may be activated by either an A or B input source. The first three positions of dipswitches SW2 and SW3 (to the left of the fader) program these muting functions:

- SW2 position 1 mutes the control room when source A is ON
- SW2 position 2 mutes studio one when source A is ON
- SW2 position 3 mutes studio two when source A is ON
- SW3 position 1 mutes the control room when source B is ON
- SW3 position 2 mutes studio one when source B is ON
- SW3 position 3 mutes studio two when source B is ON

Mix-Minus

The mix-minus signal may be programmed to be pre or post fader:

- SW6 assigned MXM1
- SW7 assigned MXM2

The default setting is "post".

The dipswitch SW4 turns ON/OFF the mix-minus feed:

- SW4 position 3 assigned MXM1
- SW4 position 4 assigned MXM2

Timer Restart

When the module is turned ON, the console's digital timer can be programmed to automatically reset to zero and begin counting up.

- SW2 position 4 activates timer restart when source A is turned ON*
- SW3 position 4 activates timer restart when source B is turned ON

*factory default setting

Cue Dropout

Dipswitch SW4 position 1, when activated, will cause the module's CUE function to be de-activated whenever the channel ON switch is pressed. This is the factory default setting.

Local/Ready

The module's channel OFF switch normally has its LED indicator controlled by the switch itself ("local"). This is the factory default setting. However, should you wish to have the LED function as a "ready" light for an external source machine, dipswitch SW4 position 2, when thrown to the left (away from the faceplate) passes control to opto-isolated A and B "ready" ports on the module's lower DB-25 connector, where a simple closure will activate the OFF switch LED. As long as the closure is maintained, the LED will be lit.

Tallies

Turning the module ON can activate a remote tally indicator. There are three tally control lines: on-air, tally 2 and tally 3. The first three positions of dipswitch SW5 (to the left of the fader) program these functions:

- SW5 position 1 activates the on-air tally control line
- SW5 position 2 activates tally 2
- SW5 position 3 activates tally 3

Remote tallies are hooked-up to the console at the Control Room and Studio modules (see pages 5-4 and 6-4).

Remote ON/OFF — Constant vs. Pulse

Slide switch SW1, located just to the right of the main PCB's upper card fingers, allows you to correct for differing source machine ON/OFF control signals to the SL-5000 module. When set to CONST ("up"), the module will work with most standard source machines. Occasionally, however, the source machine, because of the way it is designed, will send overly long control closures to the module's remote ON and OFF ports—closures so long that they will hang up the module's ON/OFF logic. When this kind of problem manifests itself, setting SW1 to PULSE ("down") will convert the closures to pulses before they get to the channel ON/OFF switch logic.

The factory default setting for SW1 is PULSE (down)

Example: SW1 is set to default CONST (constant). The external source machine reaches end-of-play and sends a five second (or longer) OFF signal to the module, effectively holding it in an Off state. You press the module ON switch but nothing happens—because the OFF switch is locked up. With SW1 set to PULSE this type of problem is eliminated; the module is turned off and left immediately ready for further control input.

Remote START/STOP

Whenever the channel ON switch is pressed a single pulse closure takes place at the A or B START ports. When the OFF switch is subsequently pressed, a single pulse closure takes place at the A or B STOP ports.

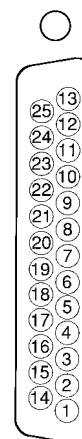
Hook-Ups

As stated before, all user wiring to and from SL-5000 modules takes place at DB-25 multi-pin connectors mounted directly beneath each module on the console mainframe's bottom pan. There are two connectors per module: the upper one (towards the console meterbridge) handles audio inputs; the lower (near the console armrest) control signals. Pinout drawings on pages 3-7 show all wiring connections at a glance.

Audio Connections (upper DB-25)

These include A and B source inputs; level is +4dBu balanced.

Pin 25 – A In Lt SH
 Pin 24 – A In Lt HI
 Pin 12 – A In Lt LO
 Pin 11 – A In Rt SH
 Pin 10 – A In Rt HI
 Pin 23 – A In Rt LO
 Pin 22 – B In Lt SH
 Pin 21 – B In Lt HI
 Pin 9 – B In Lt LO
 Pin 8 – B In Rt SH
 Pin 7 – B In Rt HI
 Pin 20 – B In Rt LO
 Pin 16 - Direct out Lt SH
 Pin 15 - Direct out Lt HI
 Pin 3 - Direct out Lt LO
 Pin 2 - Direct out Rt SH
 Pin 1 - Direct out Rt HI
 Pin 14 - Direct out Rt LO



Typical DB-25 connector

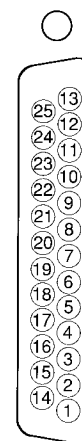
Control Connections (lower DB-25)

All control ports (except On Tally) are opto-isolated. Functions include remote on and off, on tally, channel on out, remote cue, ready, and start/stop for remote source machines. Except for channel On Out, Remote Cue, and On Tally, each function is available twice, for both A and B source ports, allowing it to follow the module's A/B source selector switch.

To Turn the Module ON & OFF from a Remote Location

In the case of stereo line input modules, "remote location" can also refer to a remote source machine that is feeding its audio to the module in question. A 5VDC signal, as indicated below, will activate the module's channel ON and OFF switches.

REMOTE ON — Activates the module's channel ON switch. Provide a momentary 5VDC signal between Pins 14 and 15 (Remote On A) or Pins 20 and 21 (Remote On B). This will latch the module ON. Be sure to observe the polarity as indicated on the pinout diagram on page 3-7.



Typical DB-25 connector

REMOTE OFF — Activates the module's channel OFF switch. Provide a momentary 5VDC signal between Pins 16 and 17 (Remote Off A) or Pins 18 and 19 (Remote Off B). This will latch the module OFF. Be sure to observe the polarity as indicated on the pinout diagram on page 3-7.

See also "Remote ON/OFF – Constant vs. Pulse" on page 3-4.

On Tally

Lets the module's channel ON switch control an on-air light or other indicator at a remote location. This control function provides a continuous 5V TTL level signal at Pin 12 (On Tally) relative to Pin 11 (Digital Ground) whenever the module's channel ON switch is activated.

This on-tally can be used to control an externally powered tally light that requires a continuous closure to function. OR an external tally light (i.e., LED) can be powered from the input module by connecting the external LED to +5V Digital (Pin 13) and the On Tally port (Pin 12). In either case, current should not exceed 30 milliamps.

An opto isolated Ch On Out closure is provided between Pins 24 and 25 whenever the module's channel On switch is activated. Your external circuit must be wired to coincide with the polarity indicated on the pinout diagram.

We recommend a series resistor between the LED and +5V digital when you are powering the external tally from the console; a value of 220Ω (1/4W 5%) is suggested.

To START and STOP Remote Source Machines Using Module ON/OFF Switches

EXTERNAL START — Hook up the remote machine's "start" control pins to the SL-5000 module's lower DB-25 connector control pins: for A START wire to pins 3 and 5; for B START wire to pins 8 and 6.

EXTERNAL STOP — Hook up the remote machine's "stop" control pins to the SL-5000 module's lower DB-25 connector control pins: for A STOP wire to pins 4 and 5; for B STOP wire to pins 7 and 6.

In all cases, observe the polarity as indicated on the pinout diagram.

See also "Remote START/STOP" on page 3-5.

To Control the Module's OFF Switch LED with an External Source Machine

READY — Hook up the remote machine's "ready" control pins to the SLD-500 module's lower DB-25 connector control pins: for A READY wire to pins 1 and 2; for B READY wire to pins 9 and 10. The module's Ready ports are looking for a 5V signal in the polarity indicated on the pinout diagram. As long as the signal is maintained, the OFF switch LED will be illuminated.

Remote Cue

Allows the module to be put into CUE in response to an external 5VDC signal, applied according to the polarity indicated on the pinout diagram. Remove the signal to take the module out of CUE. This control has no effect if the module has been placed in CUE by using the front panel CUE switch.

SL-5000 Stereo Line Input

DB Connector Pinouts

I/O PORTS (Upper DB-25) ANALOG

LINE A IN LT SH	25	13	AUDIO GROUND
LINE A IN LT HI	24	12	LINE A IN LT LO
LINE A IN RT LO	23	11	LINE A IN RT SH
LINE B IN LT SH	22	10	LINE A IN RT HI
LINE B IN LT HI	21	9	LINE B IN LT LO
LINE B IN RT LO	20	8	LINE B IN RT SH
AUDIO GROUND	19	7	LINE B IN RT HI
N/C	18	6	N/C
N/C	17	5	AUDIO GROUND
DIRECT OUT LT SH	16	4	N/C
DIRECT OUT LT HI	15	3	DIRECT OUT LT LO
DIRECT OUT RT LO	14	2	DIRECT OUT RT SH
		1	DIRECT OUT RT HI

CH ON OUT -	25	13	+5V DIGITAL
CH ON OUT +	24	12	ON TALLY +
REMOTE CUE -	23	11	DIGITAL GROUND
REMOTE CUE +	22	10	B READY -
B REMOTE ON -	21	9	B READY +
B REMOTE ON +	20	8	B START +
B REMOTE OFF -	19	7	B STOP +
B REMOTE OFF +	18	6	B START/STOP COM.-
A REMOTE OFF +	17	5	A START/STOP COM.-
A REMOTE OFF -	16	4	A STOP +
A REMOTE ON +	15	3	A START +
A REMOTE ON -	14	2	A READY +
		1	A READY -

I/O PORTS (Lower DB-25) LOGIC

Output Modules

(OM-5000)

Chapter Contents

Module Overview	4-2
Internal Programming Options	4-3
Insert Bypass	4-3
Hook-ups	4-3
Master Output Module A (PGM and AUX)	
Upper DB-25 Connector — Analog Audio	4-3
Lower DB-25 Connector — Analog Outputs	4-4
Master Output Module B (AUD and UTL)	
Upper DB-25 Connector — Analog Audio	4-4
Lower DB-25 Connector — Analog Outputs	4-4
DB Connector Pinout Drawings	
Master Output A	4-5
Master Output B	4-6

Output Modules

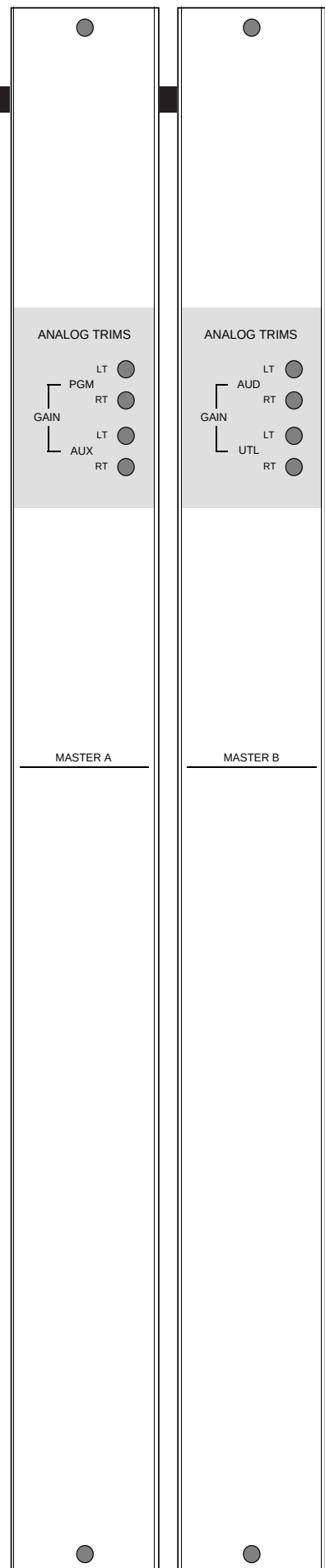
(OM-5000)

Module Overview

Each A-5000 console has two master output modules: the first handles the console's Program and Auxiliary outputs, the second Audition and Utility. Both modules output analog signal. Analog outputs may be adjusted using recessed front panel multi-turn trimpots.

OM-5000 modules also generate the console's monitor signals, which feed the Control Room, Studio and Meter Output modules. There are stereo insert points for PGM and AUD (these may be internally bypassed, which is the factory default setting). Regardless of the bypass switch setting, INSERT OUT may be used as an additional direct PGM (or AUD) output from a module. These outputs are not affected by the gain trims.

All user wiring to and from OM-5000 modules takes place at DB-25 multi-pin connectors mounted directly beneath the module on the console mainframe's bottom pan. There are two connectors: the upper one (towards the console meterbridge) handles analog outputs and insert points; the lower connector (near the console armrest) provides a stereo CUE output from master A and the MXM1 and MXM2 analog outputs from Master B. All analog audio is +4dBu balanced. Pinout drawings on pages 4-5 and 4-6 show all wiring connections at a glance.



Internal Programming Options

Insert Bypass

All internal programming jumpers on OM-5000 modules are for factory use only. The INSERT BYPASS slide switch SW1, located near the top of the PCB just above the four front panel analog trimpots is used to bypass the insert if it will not be wired externally. The factory default for this switch is “down”; i.e., the module’s PGM insert points are bridged. To use the PGM insert points (located on the upper DB-25 connector) throw the switch “up”.

For the purposes of this manual, we will assume you are holding the removed module upright, component side towards you, with gold-plated card fingers to the left and the module faceplate to the right.

Hook-Ups

As stated before, all user wiring to and from OM-5000 modules takes place at two DB-25 multi-pin connectors mounted directly beneath the module on the console mainframe’s bottom pan.

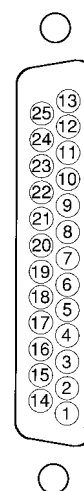
Master Output Module A:

Upper DB-25 Connector - Analog Audio

Includes Program, Auxiliary outputs and Program insert points. All signals are +4dBu balanced.

- Pin 25 – PGM Lt Out SH
- Pin 24 – PGM Lt Out HI
- Pin 12 – PGM Lt Out LO
- Pin 11 – PGM Rt Out SH
- Pin 10 – PGM Rt Out HI
- Pin 23 – PGM Rt Out LO
- Pin 22 – AUX Lt Out SH
- Pin 21 – AUX Lt Out HI
- Pin 9 – AUX Lt Out LO
- Pin 8 – AUX Rt Out SH
- Pin 7 – AUX Rt Out HI
- Pin 20 – AUX Rt Out LO
- Pin 19 – PGM Lt Insert Out SH
- Pin 18 – PGM Lt Insert Out HI
- Pin 6 – PGM Lt Insert Out LO
- Pin 5 – PGM Rt Insert Out SH
- Pin 4 – PGM Rt Insert Out HI
- Pin 17 – PGM Rt Insert Out LO
- Pin 16 – PGM Lt Insert In SH
- Pin 15 – PGM Lt Insert In HI
- Pin 3 – PGM Lt Insert In LO
- Pin 2 – PGM Rt Insert In SH
- Pin 1 – PGM Rt Insert In HI
- Pin 14 – PGM Rt Insert In LO

Insert points are normally bypassed at the factory. See “Insert Bypass” (preceding section) if you intend to use these points.



Typical DB-25 connector

Lower DB-25 Connector - Analog Outputs

Handles CUE output

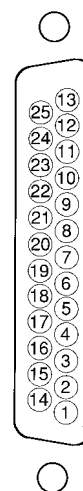
- Pin 25 – CUE PRE Lt Out SH
- Pin 24 – CUE PRE Lt Out HI
- Pin 12 – CUE PRE Lt Out LO
- Pin 11 – CUE PRE Rt Out SH
- Pin 10 – CUE PRE Rt Out HI
- Pin 23 – CUE PRE Rt Out LO

Master Output Module B:

Upper DB-25 Connector – Analog Audio

Includes Audition, Utility outputs and Audition insert points. All signals are +4dBu balanced.

- Pin 25 – AUD Lt Out SH
- Pin 24 – AUD Lt Out HI
- Pin 12 – AUD Lt Out LO
- Pin 11 – AUD Rt Out SH
- Pin 10 – AUD Rt Out HI
- Pin 23 – AUD Rt Out LO
- Pin 22 – UTL Lt Out SH
- Pin 21 – UTL Lt Out HI
- Pin 9 – UTL Lt Out LO
- Pin 8 – UTL Rt Out SH
- Pin 7 – UTL Rt Out HI
- Pin 20 – UTL Rt Out LO
- Pin 19 – AUD Lt Insert Out SH
- Pin 18 – AUD Lt Insert Out HI
- Pin 6 – AUD Lt Insert Out LO
- Pin 5 – AUD Rt Insert Out SH
- Pin 4 – AUD Rt Insert Out HI
- Pin 17 – AUD Rt Insert Out LO
- Pin 16 – AUD Lt Insert In SH
- Pin 15 – AUD Lt Insert In HI
- Pin 3 – AUD Lt Insert In LO
- Pin 2 – AUD Rt Insert In SH
- Pin 1 – AUD Rt Insert In HI
- Pin 14 – AUD Rt Insert In LO



Typical DB-25 connector

Insert points are normally bypassed at the factory. See "Insert Bypass" (preceding page) if you intend to use these points.

Lower DB-25 Connector – Analog Outputs

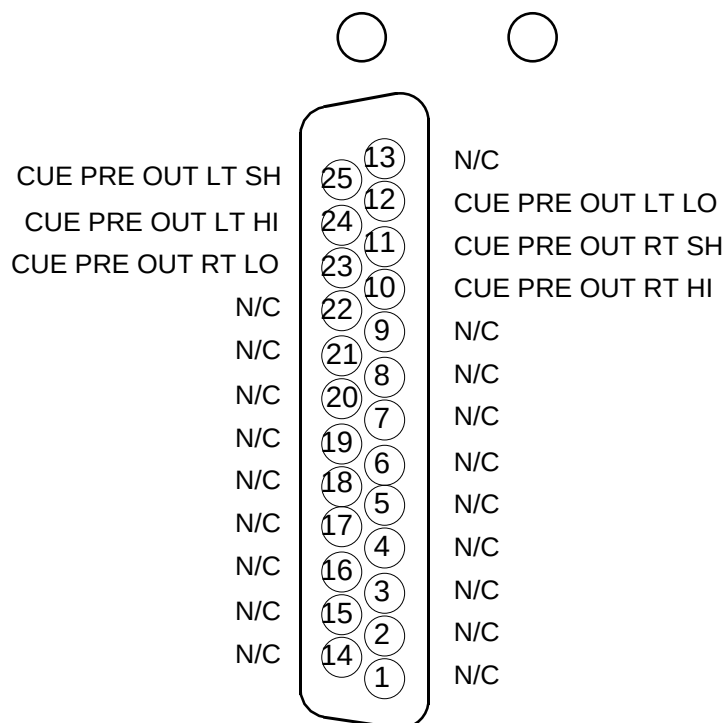
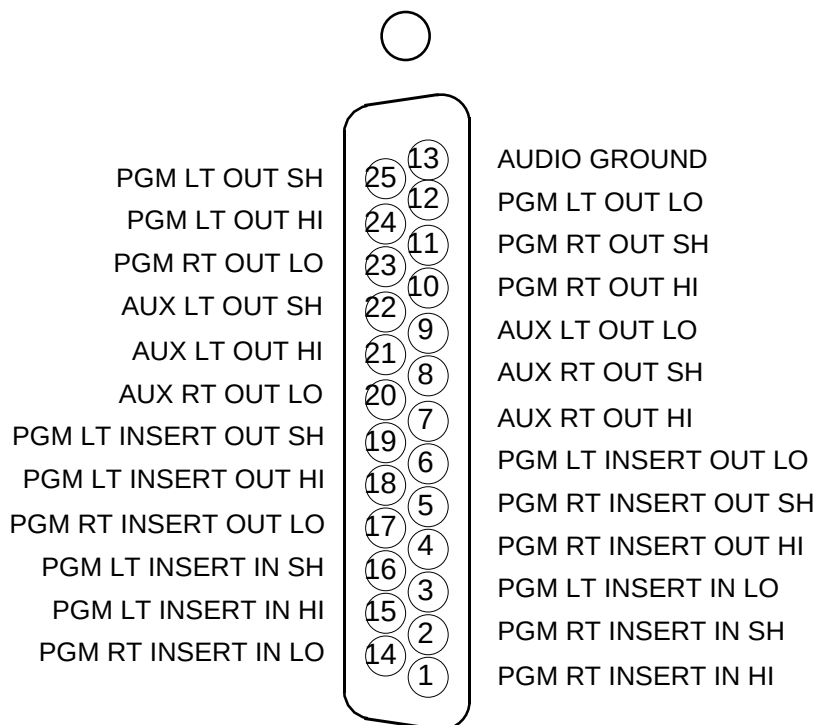
Handles Mix-minus output

- Pin 25 – MXM 1 Out SH
- Pin 24 – MXM 1 Out HI
- Pin 12 – MXM 1 Out LO
- Pin 11 – MXM 2 Out SH
- Pin 10 – MXM 2 Out HI
- Pin 23 – MXM 2 Out LO

OM-5000 (A): PGM-AUX Output

DB Connector Pinouts

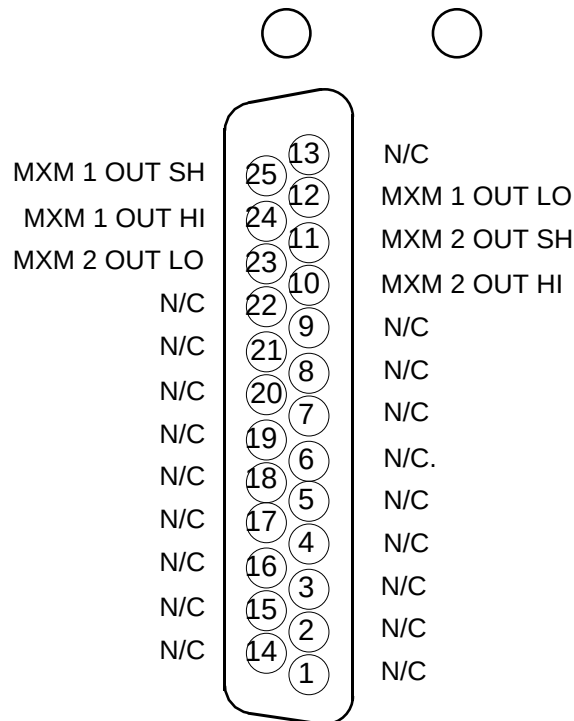
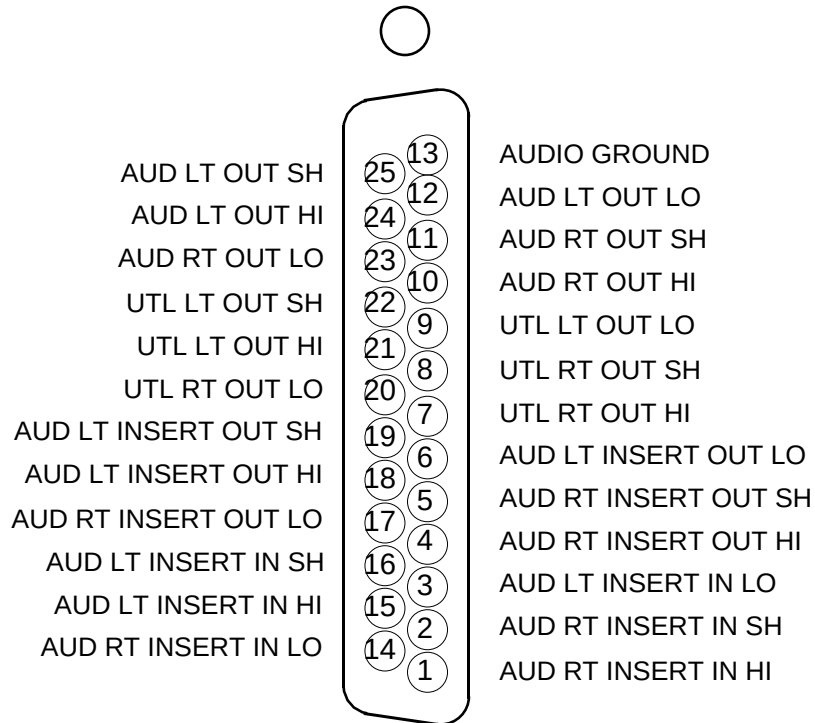
I/O PORTS (Upper DB-25) ANALOG



I/O PORTS (Lower DB-25) ANALOG

OM-5000(B): AUD-UTIL Output *DB Connector Pinouts*

I/O PORTS **(Upper DB-25)** **ANALOG**



I/O PORTS **(Lower DB-25)** **ANALOG**

Control Room Module

(CRD-500)

Chapter Contents

Module Overview	5-2
Internal Programming Options	5-3
Cue Interrupt	5-3
Cue Mute	5-3
Mono Cue	5-3
Hook-ups	5-4
Upper DB-25 Connector — AUDIO	5-4
Upper DB-25 Connector — CONTROL	5-4
On-Air Tally	5-4
Lower DB-25 Connector — AUDIO	5-5
DB Connector Pinout Drawing	5-6

Control Room Module

(CRD-500)

Module Overview

The CRD-500 module is the A-5000 console operator's monitor module. It allows him to listen to the console's four stereo outputs (PGM, AUD, AUX & UTL) as well as two external stereo line level inputs brought directly into the module. Source SELECT switching for these signals is at the top of the module.

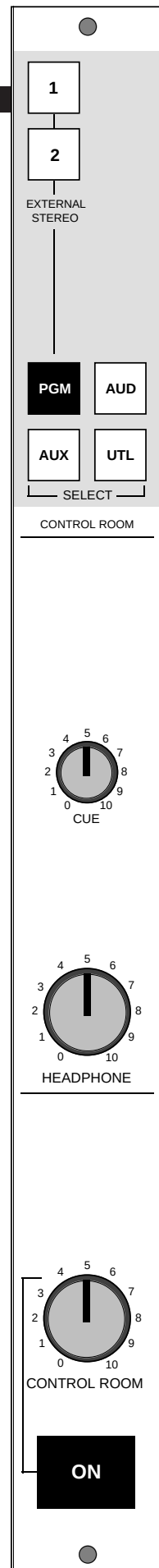
The CRD-500 also houses console HEADPHONE and CONTROL ROOM circuits, which follow the source selection switches.

There are two types of headphone output: the +4dBu balanced output at the module's upper DB-25 connector (pre-level control), and two headphone jacks mounted left and right on the front of the lower mainframe pan, which are actually outputs from a built-in headphone amplifier. It is this built-in amp that is controlled by the module's front panel HEADPHONE level control.

The CUE master level control is right in the center of the module; this sets the level of the console's cue signal.

Whenever CUE is activated elsewhere on the console (stereo line inputs, the superphone module or for studio talkback) its signal will appear at the console's built-in left and right cue speakers mounted in the meterbridge. Depending on how the CRD-500 module has been programmed, cue can also interrupt the control room monitor speakers and/or the console operator's headphone. The way Cue interrupts the module's headphone and CR outputs is determined by an internal PCB-mounted dipswitch. See "Cue Interrupt" on next page.

All user wiring to and from the CRD-500 module takes place at DB-25 multi-pin connectors mounted directly beneath the module on the console mainframe's bottom pan. There are two connectors: the upper one (towards the console meterbridge) handles audio outputs and the console on-air tally control signals; the lower (near the console armrest) accepts the two external source inputs. All audio connections are stereo line level analog signals (+4dBu balanced). A pinout drawing on page 5-6 shows all wiring connections at a glance.



Internal Programming Options

There are two user-programmable switches on the CRD-500. One is a 7-position dipswitch, SW1, located on the module's main PCB slightly above and to the left of the cue master level control. This sets various cue interrupt modes (see below).

There is also a single slide switch, located on the back edge of the module's piggyback PCB, which selects stereo or mono cue (see below).

For the purposes of this manual, we will assume you are holding the removed module upright, component side towards you, with gold-plated card fingers to the left and the module faceplate to the right. This will enable you to read the control legends silkscreened next to each programming switch. Note when a dipswitch position is thrown to the right (towards the module's faceplate) it is ON.

Cue Interrupt

Seven-position dipswitch SW1 determines how the console's Cue function will interrupt regular monitor signals:

- Dipswitch position 1 sends cue to CR left
- Dipswitch position 2 sends cue to CR right
- Dipswitch position 3 sends cue to HDPN left*
- Dipswitch position 4 sends cue to HDPN right*

*factory default settings

Cue Mute

As Cue is also fed to the console's built-in meterbridge speakers, where it can easily be picked up by the console operator's microphone, there is provision to mute Cue whenever that mic is live (i.e., whenever the control room mute function is activated).

- Dipswitch SW1 position 7 will mute cue whenever CR is muted (this is the factory default setting)

Mono Cue

Cue is normally a stereo signal; however, mono cue is possible. Simply throw slide switch SW1 on the piggyback "cue" card in the direction of the silkscreened arrow (down). This will send a summed L+R cue signal to both cue left and right signal paths. Note the factory default setting for this switch is stereo cue.

Hook-Ups

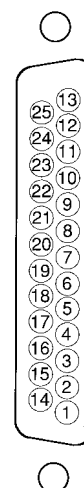
As stated before, all user wiring to and from the CRD-500 module takes place at two DB-25 multi-pin connectors mounted directly beneath the module on the console mainframe's bottom pan.

See pinout drawing on page 5-6 for all wiring connections at a glance.

Upper DB-25 Connector — Audio

Includes cue, headphone and control room outputs. All audio signals are +4dBu balanced, analog stereo.

Pin 25 – Lt Cue Out SH
 Pin 24 – Lt Cue Out HI
 Pin 12 – Lt Cue Out LO
 Pin 11 – Rt Cue Out SH
 Pin 10 – Rt Cue Out HI
 Pin 23 – Rt Cue Out LO
 Pin 22 – Lt Hdpn Out SH
 Pin 21 – Lt Hdpn Out HI
 Pin 9 – Lt Hdpn Out LO
 Pin 8 – Rt Hdpn Out SH
 Pin 7 – Rt Hdpn Out HI
 Pin 20 – Rt Hdpn Out LO
 Pin 19 – Lt CR Out SH
 Pin 18 – Lt CR Out HI
 Pin 6 – Lt CR Out LO
 Pin 5 – Rt CR Out SH
 Pin 4 – Rt CR Out HI
 Pin 17 – Rt CR Out LO



Typical DB-25 connector

Upper DB-25 Connector — Control

The console's on-air tally port is on the CRD-500 upper DB-25 connector. This is a simple relay closure that activates whenever programmed input modules are turned ON (see page 2-4). The port can be used to control an externally powered tally light that requires a continuous closure to function.

Pin 14 – On-Air Tally Relay COM
 Pin 1 – On-Air Tally Relay N.O.



Maximum current through the on-air tally relay closure is 2 amps @30VDC.

Lower DB-25 Connector — Audio

This connector handles the module's source select External Stereo and External CUE inputs.

Pin 25 – Ext Cue In SH

Pin 24 – Ext Cue In HI

Pin 19 – Lt Ext 1 In SH

Pin 18 – Lt Ext 1 In HI

Pin 6 – Lt Ext 1 In LO

Pin 5 – Rt Ext 1 In SH

Pin 4 – Rt Ext 1 In HI

Pin 17 – Rt Ext 1 In LO

Pin 16 – Lt Ext 2 In SH

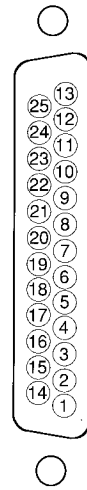
Pin 15 – Lt Ext 2 In HI

Pin 3 – Lt Ext 2 In LO

Pin 2 – Rt Ext 2 In SH

Pin 1 – Rt Ext 2 In HI

Pin 14 – Rt Ext 2 In LO

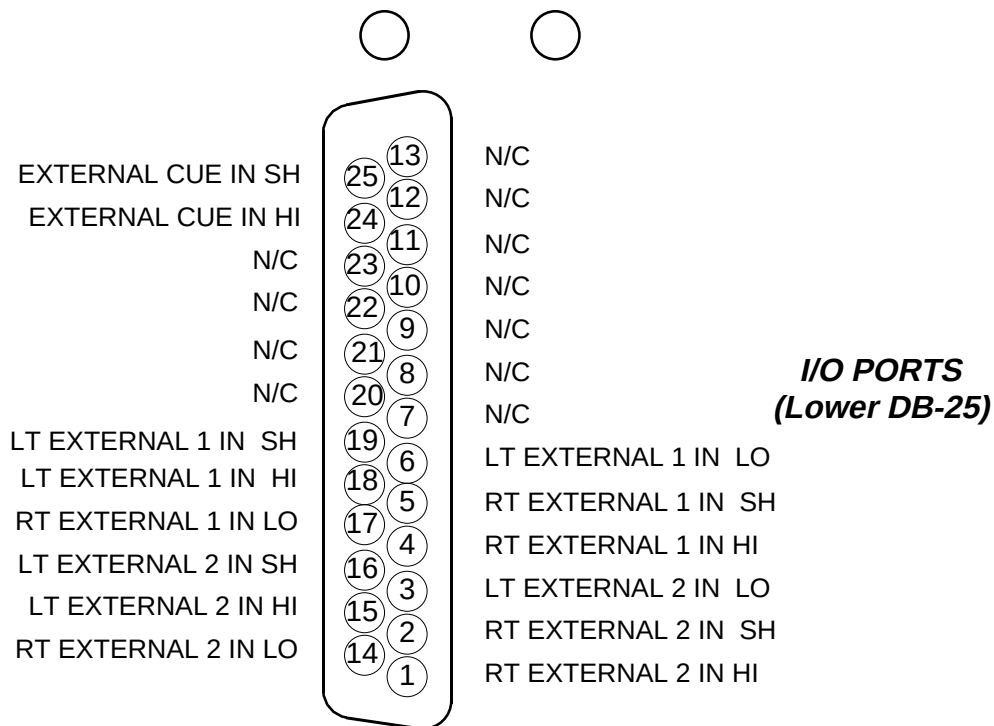
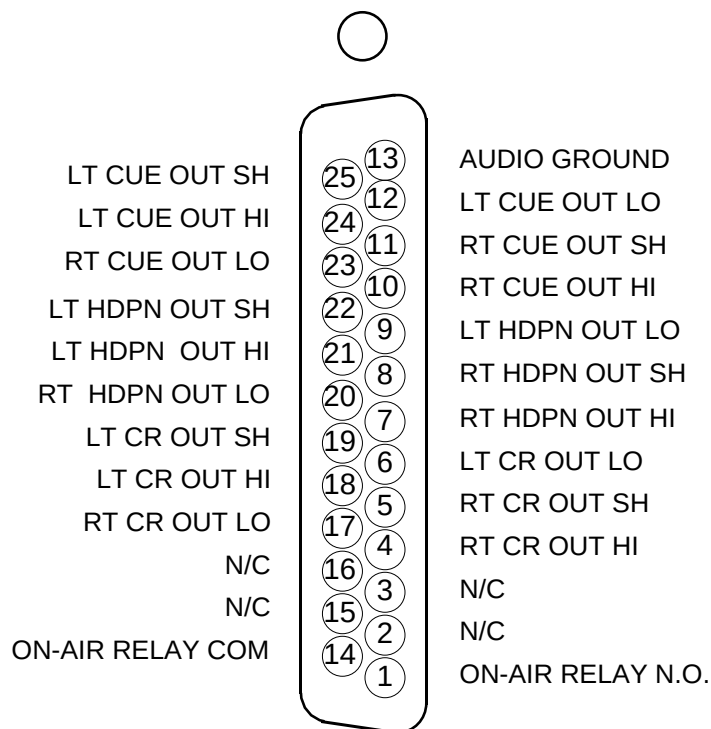


Typical DB-25
connector

CRD-500 Control Room

DB Connector Pinouts

I/O PORTS (Upper DB-25)



I/O PORTS (Lower DB-25)

Studio Control Module

(SCD-500)

Chapter Contents

Module Overview	6-2
Internal Programming Options	6-3
External Talkback Mute/Dim	6-3
Studio Dim	6-3
Hook-ups	6-4
Upper DB-25 Connector — AUDIO	6-4
Upper DB-25 Connector — CONTROL	6-4
Tally 2 and Tally 3	6-4
Lower DB-25 Connector — AUDIO	6-5
DB Connector Pinout Drawing	6-6

Studio Control Module

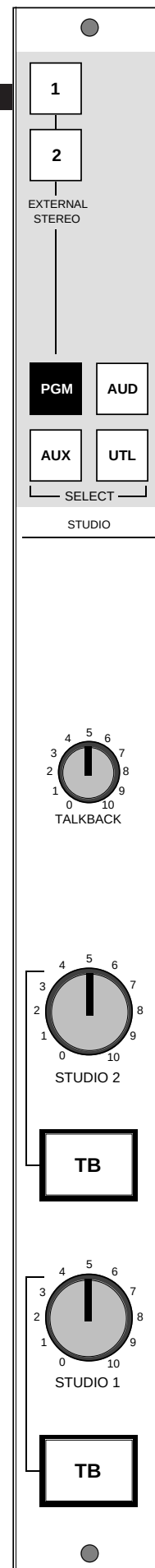
(SCD-500)

Module Overview

The SCD-500 module is similar to the CRD-500 control room module, only it controls monitor audio and talkback to two additional (“non-control room”) studios. The monitor signal being sent to these two studios following the source select switching at the top of the module (this switching is identical to the control room module’s and includes the console’s four stereo outputs (PGM, AUD, AUX & UTL) as well as two external stereo line level inputs brought directly into the module.

Each studio has its own level control and talkback switch. When a talkback switch is pressed (they are momentary action) the console operator’s microphone signal will interrupt the regular monitor signals being sent to the studio in question. The TALKBACK master level control in the center of the module sets the level of this talkback interrupt signal.

All user wiring to and from the SCD-500 module takes place at DB-25 multi-pin connectors mounted directly beneath the module on the console mainframe’s bottom pan. There are two connectors: the upper one (towards the console meterbridge) handles external talkback out and regular studio monitor outputs, plus the console’s Tally 1 and Tally 2 control signals; the lower connector (near the console armrest) accepts the module’s two external source inputs. It also outputs two additional pre-level control studio outputs. All audio connections are (+4dBu balanced) analog signals. A pinout drawing on page 6-6 shows all wiring connections at a glance.



Internal Programming Options

There is one user-programmable dipswitch on the SCD-500. It is a 7-position dipswitch, SW1, located on the module's main PCB slightly above and to the left of the talkback master level control.

For the purposes of this manual, we will assume you are holding the removed module upright, component side towards you, with gold-plated card fingers to the left and the module faceplate to the right. This will enable you to read the control legends silkscreened next to the programming switch. Note when a dipswitch position is thrown to the right (towards the module's faceplate) it is ON.

External Talkback Mute/Dim

There is an independent talkback output from the SCD-500 module (see upper DB-25 connector page 6-6). By programming the first two positions of dipswitch SW1, you can make this external talkback output MUTE whenever a studio is muted. You also have the option of making the output DIM (drop -20dB in level) instead of MUTE.

Dipswitch position 1 mutes external TB whenever Studio 1 is muted*

Dipswitch position 2 mutes external TB whenever Studio 2 is muted*

Dipswitch position 7 makes external TB DIM instead of MUTE

*factory default settings

Studio Dim

Input modules controlling studio microphones can be programmed to MUTE a studio whenever the module is turned on (i.e., it's microphone is live). If you wish, you can have a studio DIM (drop -20dB in level) instead of MUTE:

Dipswitch position 5 causes Studio 1 to DIM instead of MUTE

Dipswitch position 6 causes Studio 2 to DIM instead of MUTE

Note the DIM functions do not affect talkback interrupts, which always completely replace the studio's regular monitor feed with the console operator's TB signal. Note also if a studio is muted, talkback cannot be heard. However, if a studio is programmed to DIM instead of MUTE, talkback audio could presumably make it from the studio monitor speakers to the open studio mic.

Hook-Ups

As stated before, all user wiring to and from the SCD-500 module takes place at two DB-25 multi-pin connectors mounted directly beneath the module on the console mainframe's bottom pan.

Upper DB-25 Connector — Audio

Includes studio 1, studio 2 and (mono) talkback outputs. All audio signals are analog, +4dBu balanced.

Pin 25 – TB Out SH

Pin 24 – TB Out HI

Pin 12 – TB Out LO

Pin 22 – Lt Studio 2 Out SH

Pin 21 – Lt Studio 2 Out HI

Pin 9 – Lt Studio 2 Out LO

Pin 8 – Rt Studio 2 Out SH

Pin 7 – Rt Studio 2 Out HI

Pin 20 – Rt Studio 2 Out LO

Pin 19 – Lt Studio 1 Out SH

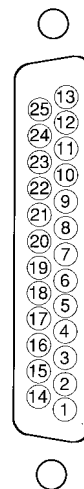
Pin 18 – Lt Studio 1 Out HI

Pin 6 – Lt Studio 1 Out LO

Pin 5 – Rt Studio 1 Out SH

Pin 4 – Rt Studio 1 Out HI

Pin 17 – Rt Studio 1 Out LO



Typical DB-25 connector

Upper DB-25 Connector — Control

The console's Tally 2 and Tally 3 control ports are on the SCD-500 upper DB-25 connector. These are simple relay closures that activate whenever programmed input modules are turned ON (see page 2-4). The ports can be used to control externally powered tally lights that requires a continuous closure to function.

Pin 14 – Tally 2 Relay COM

Pin 1 – Tally 2 Relay N.O.

Pin 3 – Tally 3 Relay COM

Pin 15 – Tally 3 Relay N.O.



Maximum current through the tally relay closures is 2 amps @30VDC.

Lower DB-25 Connector — Audio

This connector handles the module's source select External Stereo inputs. It also has a second set of studio outputs which are pre-level control. All signals are +4dBu balanced analog stereo.

Pin 25 – Lt Studio 2 Pre Out SH

Pin 24 – Lt Studio 2 Pre Out HI

Pin 12 – Lt Studio 2 Pre Out LO

Pin 11 – Rt Studio 2 Pre Out SH

Pin 10 – Rt Studio 2 Pre Out HI

Pin 23 – Rt Studio 2 Pre Out LO

Pin 22 – Lt Studio 1 Pre Out SH

Pin 21 – Lt Studio 1 Pre Out HI

Pin 9 – Lt Studio 1 Pre Out LO

Pin 8 – Rt Studio 1 Pre Out SH

Pin 7 – Rt Studio 1 Pre Out HI

Pin 20 – Rt Studio 1 Pre Out LO

Pin 19 – Lt Ext 1 In SH

Pin 18 – Lt Ext 1 In HI

Pin 6 – Lt Ext 1 In LO

Pin 5 – Rt Ext 1 In SH

Pin 4 – Rt Ext 1 In HI

Pin 17 – Rt Ext 1 In LO

Pin 16 – Lt Ext 2 In SH

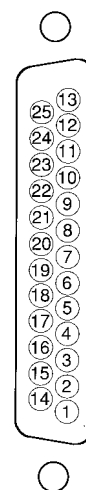
Pin 15 – Lt Ext 2 In HI

Pin 3 – Lt Ext 2 In LO

Pin 2 – Rt Ext 2 In SH

Pin 1 – Rt Ext 2 In HI

Pin 14 – Rt Ext 2 In LO

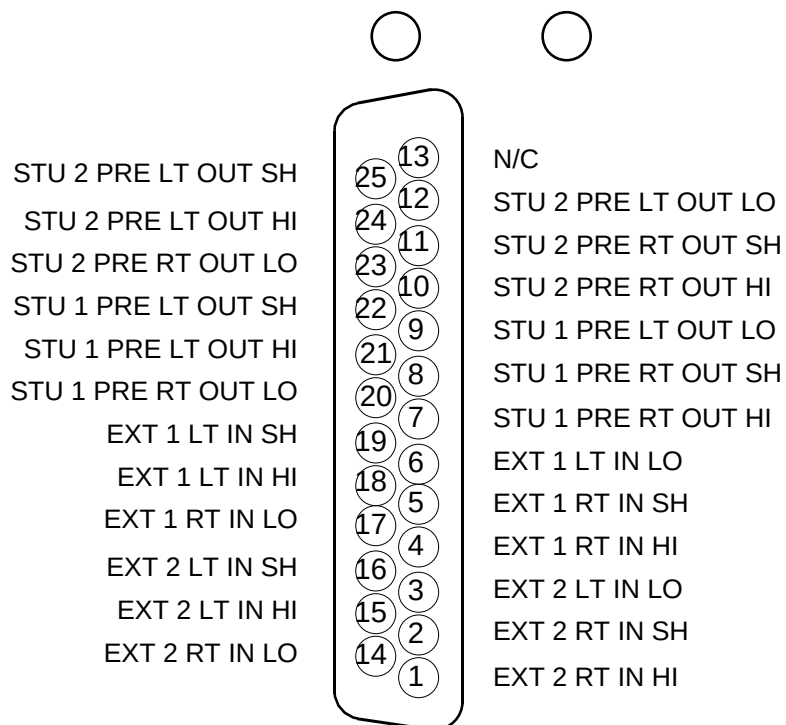
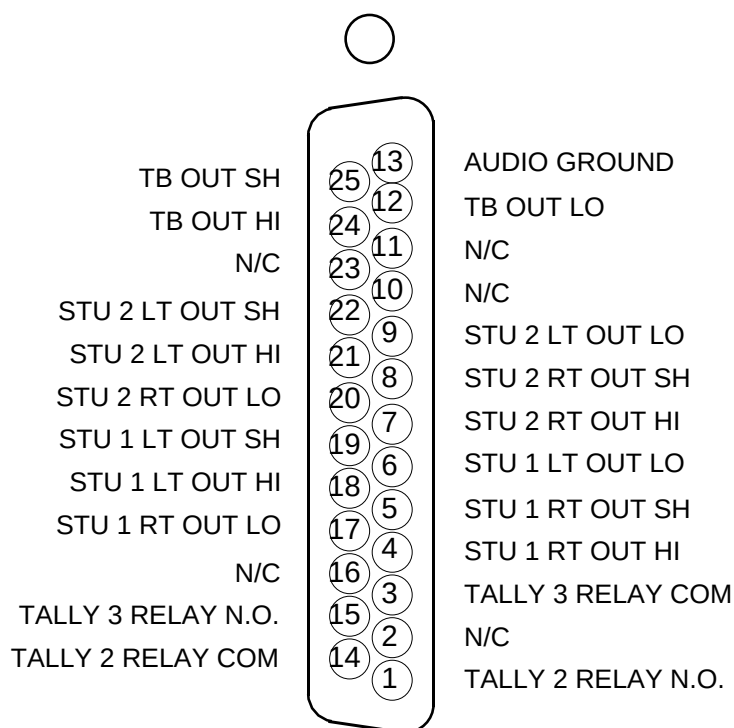


Typical DB-25
connector

SCD-500 Studio Control

DB Connector Pinouts

I/O PORTS (Upper DB-25)



I/O PORTS (Lower DB-25)

Meter Output Module

(MOD-500)

Chapter Contents

Module Overview	7-2
Internal Programming Options	7-3
Hook-ups	7-3
DB Connector Pinout Drawing	7-4

Meter Output Module

(MOD-500)

Module Overview

Each A-5000 console has one meter output module, which drives the console's three pairs of left-right VU meters: PGM, AUD and SWT (switched). (Note: Smaller frames will only have two parts of meters, PGM and SWT). The switched meter follows the SELECT switching at the top of the module, allowing the console operator to meter AUD, AUX, UTL and two external stereo line signals (analog, +4dBu balanced) which may be brought into the module on its lower DB-25 connector.

The MOD-500 module also houses the master CUE LED indicator. Whenever Cue is activated anywhere on the console this LED will illuminate and the CUE signal will automatically appear on the switched VU meter pair. When cue is de-activated, the switched meter pair goes back to it's previously selected signal.

Recessed front panel trim pots calibrate the three meter pairs. A VU TRIM cover strip (not shown) can be used to prevent trimpot access once calibration is set. (In the smaller frame with two parts of meters, the AUD trims will have no effect).

At the bottom of module are the timer control buttons (the timer display is mounted in the righthand end of the console meterbridge):

AUTO – enables timer restart functions from programmed input modules

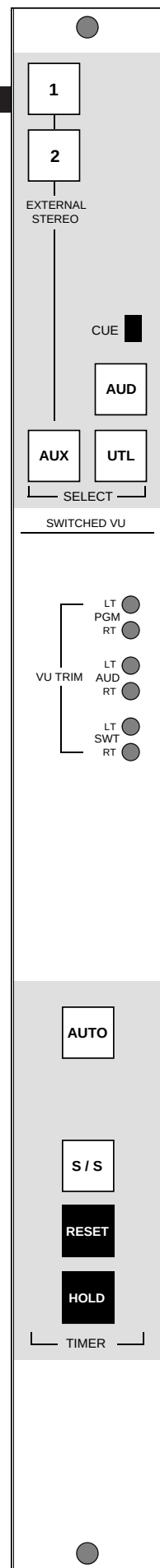
S/S – Start/Stop

RESET - return to zero (if the timer is stopped it will hold at zero; if it is running it will reset to zero and immediately begin counting up).

HOLD – when held down freezes the timer *display* (the counter keeps on going); when released the display catches up to the current count.

All user wiring to and from the MOD-500 module takes place at the lower DB-25 multi-pin connector mounted directly beneath the module on the console mainframe's bottom pan. This lower connector (near the console armrest) inputs the module's two external stereo line signals. See the pinout drawing on page 7-4.

While there are two DB-25 connectors, the upper one (towards the console meterbridge) is for factory use only. It sends the module's VU and timer control signals to the meterbridge (a factory-provided cable runs from this upper DB-25 to a matching connector mounted at the back of the meterbridge, in the center of the console).



Internal Programming Options

There are no internal programming options on the MOD-500 module.

Hook-Ups

As stated before, the only user wiring into the MOD-500 module is two external stereo line inputs (analog +4dBu balanced) on the module's LOWER DB-25 connector.

Pin 19 – Ext 1 Lt In SH

Pin 18 – Ext 1 Lt In HI

Pin 6 – Ext 1 Lt In LO

Pin 5 – Ext 1 Rt In SH

Pin 4 – Ext 1 Rt In HI

Pin 17 – Ext 1 Rt In LO

Pin 16 – Ext 2 Lt In SH

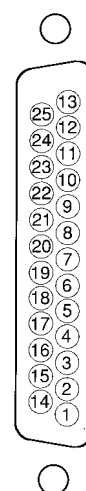
Pin 15 – Ext 2 Lt In HI

Pin 3 – Ext 2 Lt In LO

Pin 2 – Ext 2 Rt In SH

Pin 1 – Ext 2 Rt In HI

Pin 14 – Ext 2 Rt In LO



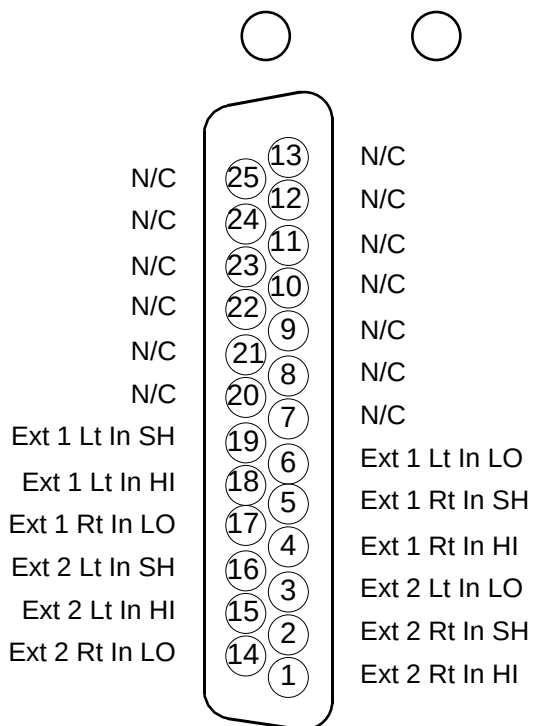
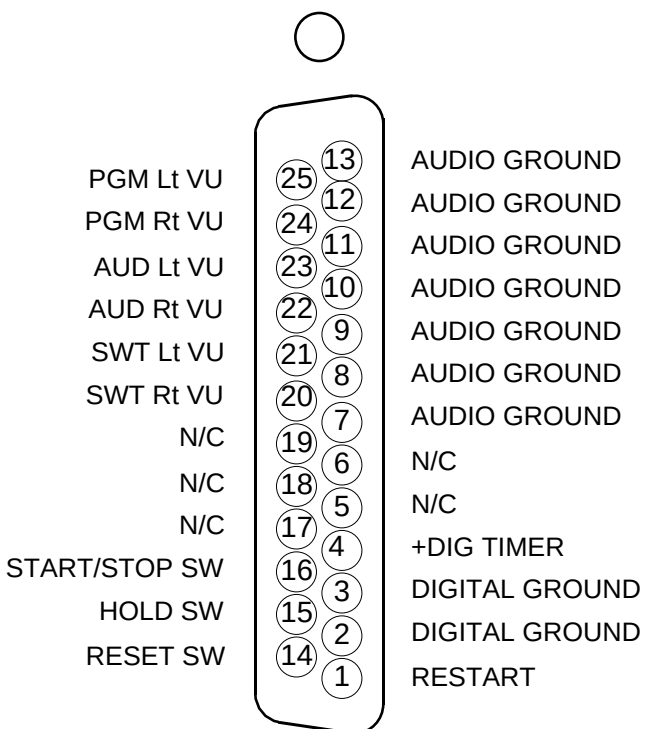
Typical DB-25
connector

MOD-500 Meter Output

DB Connector Pinouts

I/O PORTS (Upper DB-25)

**FACTORY
USE ONLY**



I/O PORTS (Lower DB-25)

Superphone Input

(SPN-5000; optional)

Chapter Contents

Module Overview	8-2
Caller Set-Ups	8-3
Automatic Features	8-3
Inputs and Outputs	8-3
External In	8-3
Cue Audio	8-4
Cain Trimpots	8-4
Phone System Control	8-4
Answer Caller Outputs	8-4
Drop Caller Outputs	8-4
Drop Caller LED Inputs	8-5
Typical Answer Call Sequence	8-5
To Drop Caller	8-5
Programming Options	8-6
Dipswitch SW1 Functions	8-6
Mutes	8-6
Timer Restart	8-6
Dipswitch SW2 Functions	8-6
Feed Follow	8-6
Drop Cue 1	8-6
Dipswitch SW3 Functions	8-6
Feed Follow	8-6
Drop Cue 2	8-7
Dipswitch SW4 Functions	8-7
Tallies	8-7
Cue Dropout	8-7
Hook-ups	8-7
AUDIO and CONTROL CONNECTIONS (Upper DB-25)	8-7
AUDIO and CONTROL CONNECTIONS (Lower DB-25)	8-8
DB Connector Pinout Drawing	8-9

Superphone Input (SPN-5000; optional)

Module Overview

SPN-5000 input modules are used for telephone call-ins. Each module can handle two callers; there can be two modules per console for a total of four callers. Caller signals enter the module from the station hybrid. Each caller has his own fader, and caller input gain trims are provided at the top of the module.

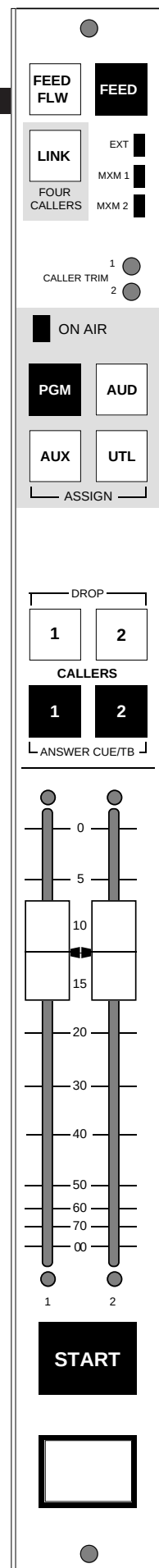
“FEED” - This button selects one of three audio sources for the caller to hear (EXT, MXM1, MXM2). Continually pressing the switch cycles through the choices. An LED indicates which choice is currently selected.

“FEED FLW” - Feed Follow switch selects 3 possible MXM sources (EXT, MXM1, MXM2) to follow start and stop buttons. You can select which combination of the 3 possible sources the callers will hear independently for both the ON and OFF states using internal dipswitches SW2 and SW3. For instance, you can setup the module so the callers hear the EXT input and the MXM 1 bus with the module OFF. Then when the module is turned ON (ON AIR), the callers can hear MXM 1 and MXM 2 (FEED LEDs change with START/STOP button push). Activating **“FEED FLW”**, defeats the **“FEED”** button function. After **“FEED FLW”** is turned off the source selected by the **“FEED”** button is active once again.

“LINK” - Caller Link switch links two SPN-5000 modules to allow four caller operations (module one - callers 1 and 2, module two - callers 3 and 4). In this mode, four callers can conference ON or OFF Air. The linked audio signals are POST-FADER/PRE-ON. Only one button needs to be pressed, both LINK switches go on/off simultaneously.

“ASSIGN” - Bus-assign switches assign callers to any combination of the console’s four stereo outputs: PGM (program), AUD (audition), AUX (auxiliary) and/or UTL (utility). When the module is assigned to PGM and turned ON, a red **“On-Air”** LED illuminates just above the output assign switches.

“CALLERS” - ANSWER CUE/TB and DROP switches provide a way to talk to callers off-air. Logic outputs from these switches can interface with an external hybrid for ANSWER and DROP control from the SPN-5000 module.



Caller Set-Ups

Pre-air segment communication between the console operator (DJ) and callers is via CALLER ANSWER buttons which place the caller's voice on the console's cue speakers and/or control room speakers/ operator's headphones if the CRD-500 module's cue interrupt function has been so programmed.

The caller automatically hears the console operator's pre-fader, pre-ON mic signal via the internal TB bus.

Note: During initial console installation, an internal TB monitor dipswitch must be set on the console operator's MM-5000 module. Note that only 1 MM-5000 module can be assigned to the TB monitor bus.

Automatic Features

The channel ON (red, usually labelled "START" for phone modules) and OFF (amber) switches are at the bottom of the module. These can be programmed (via internal PCB-mounted dipswitches) to activate control room and studio mutes, tallies, timer restart and automatic cue drop-out. The ON/START switch can also automatically trigger an external tape machine for recording purposes (see top of page 8-8).

Cue Dropout can be programmed internally, making it unnecessary to de-activate caller setup buttons before going live; simply pressing the module's ON/START switch will automatically do this for you.

Inputs and Outputs

All audio and control signals hook-ups are made via two multi-pin DB-25 connectors mounted in the bottom of the console's mainframe, directly underneath each module. The upper connector handles hybrid input signals (i.e., caller input) and the External input. The lower connector handles outputs, including the CALLER 1 and 2 feeds to your station hybrid (the phone signals going to your callers), drop caller and answer caller control signals.

The module also has three additional output feeds on the lower DB-25 connector. These are generally used for recording purposes:

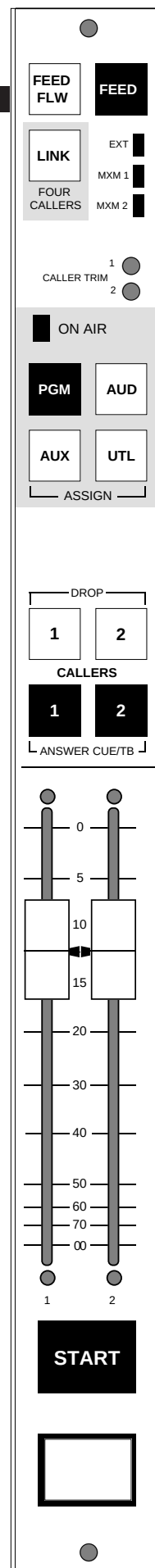
Composite Out – This includes everything: DJ, callers, music beds, etc. Generally used to record phone segments in advance of actual airplay.

Composite Minus Callers – This includes everything but the callers.

Callers Only – No talent, no DJs, no music; just caller voices.

External In

In addition to feeding the DJ's voice signal to the callers via the module's mix minus source select switching, it may also be brought directly in through an EXT IN port on the module's upper DB-25 connector.



Cue Audio

The module's CALLER CUE switches (ANSWER CUE/TB buttons 1 & 2) assign pre-fader CALLER 1(2) audio to the cue bus. This switch also picks up the pre-fader DJ mic channel assigned to the TB bus and routes it to caller.

Gain Trimpots

There are seven PCB-mounted trimpots. They are used as follows:

front panel trimmers	CR1 – sets the Caller 1 In port input gain
	CR2 – sets the Caller 2 In port input gain
internal trimmers	CR7 – sets the module's output level to Hybrid 1
	CR3 – sets the module's output level to Hybrid 2
	CR5 – sets the module's "composite" output level
	CR6 – sets the module's "composite minus callers" ("talent") output level (labeled FEED on PC card)
	CR4 – sets the module's "callers only" output level

Factory default setting for these trimpots is UNITY GAIN.

Phone System Control

The SPN-5000 includes four opto-isolated phone system control outputs that may be used to simplify answering and dumping callers. These control signal outputs are located on the module's LOWER DB-25 connector and are labeled ANSWER CALLER 1, ANSWER CALLER 2, DROP CALLER 1 and DROP CALLER 2.

Answer Caller Outputs

Whenever the CUE CALLER 1 switch is pressed on the SPN-5000, a corresponding opto-isolated, momentary closure is made across LDB pins 2 and 4 (for CUE CALLER 2, LDB Pins 3 and 4). These logic signals can be connected to your hybrid's ANSWER control input. Be sure to observe polarity when making these connections. ANSWER COM, LDB Pin 4, is the reference or negative side.

Drop Caller Outputs

Whenever the DROP CALLER 1 switch is pressed on the SPN-5000, a corresponding opto-isolated momentary closure is made across LDB Pins 15 and 17 (for DROP CALLER 2, LDB Pins 16 and 17). These logic signals can be connected to your hybrids DROP CALLER (i.e. hang up) control inputs. Be sure to observe polarity when making these connections. DROP COM, LDB Pin 17 is the reference or negative side.

Drop Caller LED Inputs

The DROP CALLER switch's internal LED's are accessible from the module's LDB-25 connector and can be wired as Active Caller tallies from your external hybrid. When a line is answered on the hybrid, the Tally for that line can light the corresponding DROP1 or DROP 2 LED. Note that the DROP LED com (anode, LDB Pin 5) requires a +5V input. DROP LED 1 (LDB Pin 1) and DROP LED 2 (LDB Pin 14) are connected to the LED's cathodes and require open collector to GND signals.

Typical Answer Call Sequence

1. Phone line rings.
2. DJ presses ANSWER CALLER 1 switch on SPN-5000.
3. a) Momentary opto closure at ANSWER CALLER 1 output picks up phone line on hybrid
 - b) Caller's voice is routed to A-5000 console CUE speaker
 - c) Pre fader on DJ mic is routed to caller
 - d) DROP 1 LED on SPN-5000 module is lit from the hybrid's Tally output.

To Drop Caller

1. DJ presses DROP 1 Button
2. a) Momentary opto closure at DROP 1 output disconnects the caller from the hybrid
 - b) DROP 1 LED goes out
 - c) CALLER 1 audio input is dropped from the CUE bus (provided the corresponding Cue Dropout Dipswitch SW2-4 for CALLER 1 or SW3-4 for CALLER 2 is ON).

Programming Options

The module's logic control programming is accomplished via four 4-position printed circuit board (PCB) mounted dipswitches mounted just to the left of the module's faders.

For main PCB programming, we will assume you are holding the removed module upright, component side towards you, with gold-plated card fingers to the left and the module faceplate to the right. This will enable you to read the control legends silkscreened next to each dipswitch. Note when a dipswitch position is thrown to the right (towards the module's faceplate) it is ON.

Dipswitch SW1 Functions

Mutes

When the SPN-5000 phone channel ON/START switch is pressed, it can activate console mute functions. The first three positions of dipswitch SW1 determines which of the console's three mute lines will be activated:

- SW1 position 1 mutes the control room when the phone module is ON* *factory default setting
- SW1 position 2 mutes studio one when the phone module is ON
- SW1 position 3 mutes studio two when the phone module is ON

Timer Restart

The console's digital timer can be programmed to automatically reset to zero and begin counting up when the module's ON button is pressed.

- SW1 position 4 activates timer restart when the phone module's ON/START switch is pressed* *factory default setting

Dipswitch SW2 Functions

Feed Follow Selectors

When SPN-5000 is Turned ON

- SW2 position 1 - Callers will hear the EXTERNAL INPUT
- SW2 position 2 - Callers will hear the MXM1 feed
- SW2 position 3 - Callers will hear the MXM2 feed

Drop Cue1

- SW2 position 4 - The DROP1 switch will also drop Caller 1 from CUE with this dipswitch active.

Dipswitch SW3 Functions

Feed Follow Selectors

When SPN-5000 is Turned OFF

- SW3 position 1 - Callers will hear the EXTERNAL INPUT
- SW3 position 2 - Callers will hear the MXM1 feed
- SW3 position 3 - Callers will hear the MXM2 feed

Drop Cue2

SW3 position 4 - The DROP2 switch will also drop Caller 2 from CUE with this dipswitch active.

Dipswitch SW4 Functions**Tallies**

Turning the module ON can activate a remote tally indicator. There are three tally control lines: on-air, tally 2 and tally 3. The first three positions of dipswitch SW4 (to the left of the fader) program these functions:

- SW4 position 1 activates the on-air tally control line
- SW4 position 2 activates tally 2 relay on the SCD-500 module
- SW4 position 3 activates tally 3 relay on the SCD-500 module

Remote tallies are hooked-up to the console at the Control Room module (CRD-500) and the Studio Control Module (SCD-500)

Cue Dropout

Dipswitch SW4 position 4, when activated, will cause CUE (i.e., Answer CUE/TB buttons 1 & 2) to turn off when the module's ON/START switch is pressed. This is the factory default setting.

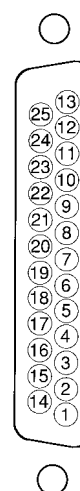
Hook-Ups

As stated before, all user wiring to and from SPN-5000 modules takes place at DB-25 multi-pin connectors mounted directly beneath each module on the console mainframe's bottom pan. There are two connectors per module: the upper one (towards the console meterbridge) handles audio input signals and logic control signals; the lower (near the console armrest) audio outputs and logic control signals. A pinout drawing on page 8-9 shows all wiring connections at a glance.

Audio and Control Connections (upper DB-25)

These include External In and station Hybrid 1 & 2 inputs. All are +4dBu balanced analog mono and remote tape machine START/STOP ports.

- Pin 25 – Ext In SH
- Pin 24 – Ext In HI
- Pin 12 – Ext In LO
- Pin 22 – Hybrid 1 In SH
- Pin 21 – Hybrid 1 In HI
- Pin 9 – Hybrid 1 In LO
- Pin 8 – Hybrid 2 In SH
- Pin 7 – Hybrid 2 In HI
- Pin 20 – Hybrid 2 In LO
- Pin 15 – Start/Stop Common
- Pin 14 – Stop
- Pin 1 – Start
- Pins 2,5,11,13,16 and 19 – Audio Ground



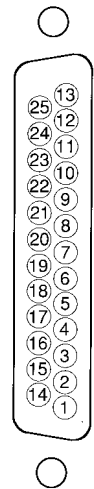
Typical DB-25 connector

When the module's ON/START switch is pressed, a closure takes place between start/stop common and START; when the module's OFF switch is pressed, a closure takes place between start/stop common and STOP. These may be used to control a remote tape machine for recording phone segments.

Audio and Control Connections (lower DB-25)

These include outputs to the station hybrid, module output composite feeds (for recording), drop caller and answer caller connections.

- Pin 25 – Composite Out SH
- Pin 24 – Composite Out HI
- Pin 12 – Composite Out LO
- Pin 11 – Composite Minus Callers Out SH
- Pin 10 – Composite Minus Callers Out HI
- Pin 23 – Composite Minus Callers Out LO
- Pin 22 – Callers Only Out SH
- Pin 21 – Callers Only Out HI
- Pin 9 – Callers Only Out LO
- Pin 8 – To Hybrid 1 Out SH
- Pin 7 – To Hybrid 1 Out HI
- Pin 20 – To Hybrid 1 Out LO
- Pin 19 – To Hybrid 2 Out SH
- Pin 18 – To Hybrid 2 Out HI
- Pin 6 – To Hybrid 2 Out LO
- Pin 5 – Drop LED Common
- Pin 17 – Drop Common
- Pin 16 – Drop Caller 2
- Pin 15 – Drop Caller 1
- Pin 14 – Drop Caller 2 LED
- Pin 1 – Drop Caller 1 LED
- Pin 4 – Answer Common
- Pin 3 – Answer Caller 2
- Pin 2 – Answer Caller 1

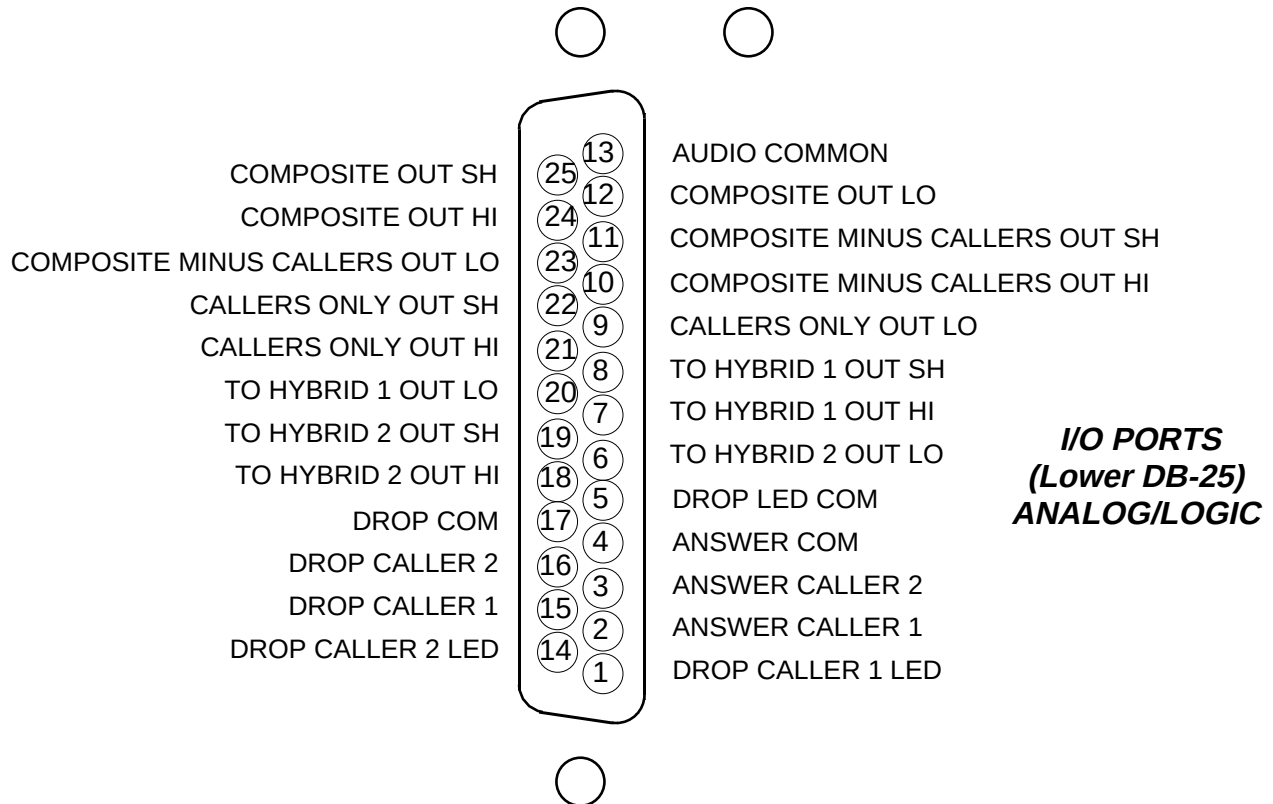
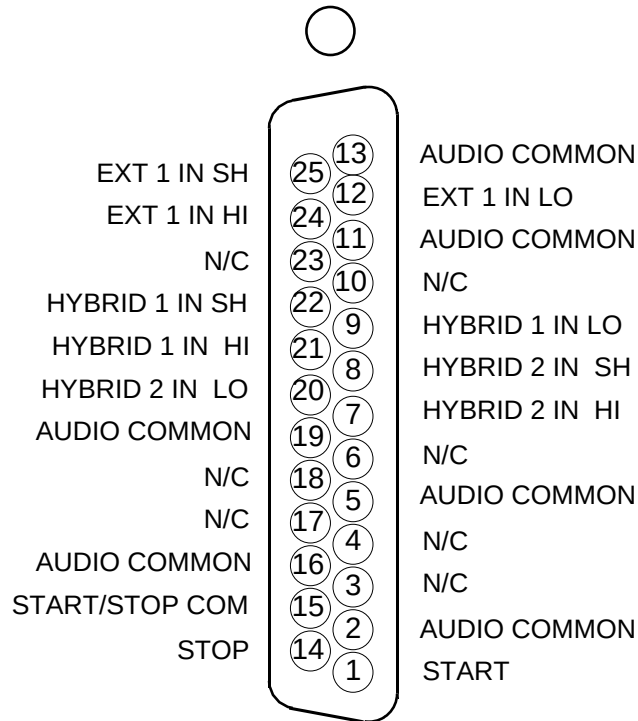


Typical DB-25 connector

SPN-5000 Superphone

DB Connector Pinouts

I/O PORTS (Upper DB-25) ANALOG



I/O PORTS (Lower DB-25) ANALOG/LOGIC

Line Preselector Module- Analog

(LS-5000; optional)

Chapter Contents

Overview	9-2
Internal Programming Options	9-3
Hook-ups	9-3
Audio Inputs	9-3
Outputs	9-4
DB Connector Pinout Drawing	9-5

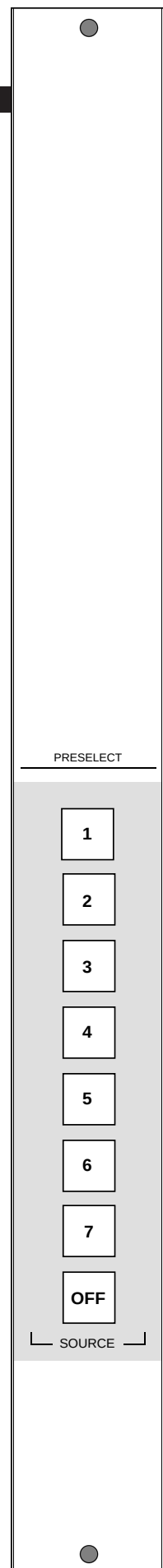
Line Preselector Module- Analog

(LS-5000; optional)

Overview

This optional module electronically selects one of seven stereo line sources and routes it to one stereo output, allowing you to expand the source capability of an input channel or monitor module.

All audio input and output signals are made via two multipin DB-25 connectors mounted in the bottom of the console's mainframe, directly underneath this module.



Internal Programming Options

There are no internal programming options on the LS-5000 module.

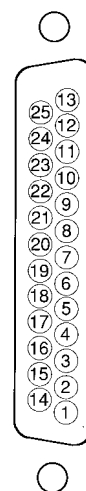
Hook-Ups

LS-5000 Audio Inputs 1-4 (upper DB-25)

Pin 25 – Line 1 Lt In SH
 Pin 24 – Line 1 Lt In HI
 Pin 12 – Line 1 Lt In LO
 Pin 11 – Line 1 Rt In SH
 Pin 10 – Line 1 Rt In HI
 Pin 23 – Line 1 Rt In LO
 Pin 22 – Line 2 Lt In SH
 Pin 21 – Line 2 Lt In HI
 Pin 9 – Line 2 Lt In LO
 Pin 8 – Line 2 Rt In SH
 Pin 7 – Line 2 Rt In HI
 Pin 20 – Line 2 Rt In LO
 Pin 19 – Line 3 Lt In SH
 Pin 18 – Line 3 Lt In HI
 Pin 6 – Line 3 Lt In LO
 Pin 5 – Line 3 Rt In SH
 Pin 4 – Line 3 Rt In HI
 Pin 17 – Line 3 Rt In LO
 Pin 16 – Line 4 Lt In SH
 Pin 15 – Line 4 Lt In HI
 Pin 3 – Line 4 Lt In LO
 Pin 2 – Line 4 Rt In SH
 Pin 1 – Line 4 Rt In HI
 Pin 14 – Line 4 Rt In LO

LS-5000 Audio Inputs 5-7 (lower DB-25)

Pin 25 – Line 5 Lt In SH
 Pin 24 – Line 5 Lt In HI
 Pin 12 – Line 5 Lt In LO
 Pin 11 – Line 5 Rt In SH
 Pin 10 – Line 5 Rt In HI
 Pin 23 – Line 5 Rt In LO
 Pin 22 – Line 6 Lt In SH
 Pin 21 – Line 6 Lt In HI
 Pin 9 – Line 6 Lt In LO
 Pin 8 – Line 6 Rt In SH
 Pin 7 – Line 6 Rt In HI

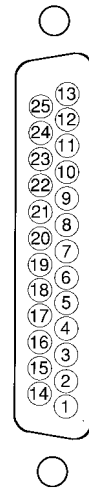


Typical DB-25
connector

Pin 20 – Line 6 Rt In LO
 Pin 19 – Line 7 Lt In SH
 Pin 18 – Line 7 Lt In HI
 Pin 6 – Line 7 Lt In LO
 Pin 5 – Line 7 Rt In SH
 Pin 4 – Line 7 Rt In HI
 Pin 17 – Line 7 Rt In LO

LS-5000 Audio Outputs

Pin 16 – Line Lt Out SH
 Pin 15 – Line Lt Out HI
 Pin 3 – Line Lt Out LO
 Pin 2 – Line Rt Out SH
 Pin 1 – Line Rt Out HI
 Pin 14 – Line Rt Out LO

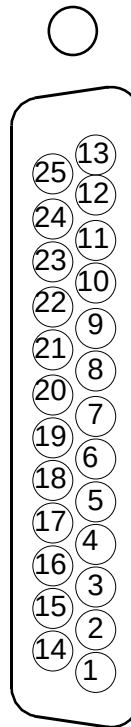


Typical DB-25
connector

LS-5000 Line Selector Module *DB Connector Pinouts*

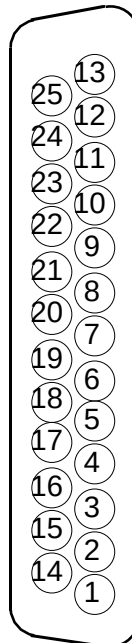
INPUT PORTS *(Upper DB-25)*

LINE 1 LT IN SH
 LINE 1 LT IN HI
 LINE 1 RT IN LO
 LINE 2 LT IN SH
 LINE 2 LT IN HI
 LINE 2 RT IN LO
 LINE 3 LT IN SH
 LINE 3 LT IN HI
 LINE 3 RT IN LO
 LINE 4 LT IN SH
 LINE 4 LT IN HI
 LINE 4 RT IN LO



N/C
 LINE 1 LT IN LO
 LINE 1 RT IN SH
 LINE 1 RT IN HI
 LINE 2 LT IN LO
 LINE 2 RT IN SH
 LINE 2 RT IN HI
 LINE 3 LT IN LO
 LINE 3 RT IN SH
 LINE 3 RT IN HI
 LINE 4 LT IN LO
 LINE 4 RT IN SH
 LINE 4 RT IN HI

LINE 5 LT IN SH
 LINE 5 LT IN HI
 LINE 5 RT IN LO
 LINE 6 LT IN SH
 LINE 6 LT IN HI
 LINE 6 RT IN LO
 LINE 7 LT IN SH
 LINE 7 LT IN HI
 LINE 7 RT IN LO
 LINE LT OUT SH
 LINE LT OUT HI
 LINE RT OUT LO



N/C
 LINE 5 LT IN LO
 LINE 5 RT IN SH
 LINE 5 RT IN HI
 LINE 6 LT IN LO
 LINE 6 RT IN SH
 LINE 6 RT IN HI
 LINE 7 LT IN LO
 LINE 7 RT IN SH
 LINE 7 RT IN HI
 LINE LT OUT LO
 LINE RT OUT SH
 LINE RT OUT HI

INPUT/OUTPUT PORTS *(Lower DB-25)*

Line Preselector Module

(LSD-500 Control Module and LSR-500 Rackmount Switcher; optional)

Chapter Contents

Overview	10-2
Internal Programming Options	10-2
LSR-500 (drawing)	10-3
Hook-ups – LSD-500	10-3
Hook-ups – LSR-500	10-3
Analog Audio Inputs	10-3
Digital Audio Inputs	10-4
Analog Outputs	10-5
Digital Outputs	10-5
DB Connector Pinout Drawing (LSD-500)	10-6
DB Connector Pinout Drawing (LSR-500)	10-7

Line Preselector Module

(LSD-500 Controller Panel)

(LSR-500 Rackmount Unit; optional)

Overview

This optional module consists of an 8-switch control module (LSD-500) mounted in the A-5000 console and an associated 19-inch rackmount switcher (LSR-500) that mounts in a remote location. All audio input and output wiring goes to the rackmount unit, which takes its control from the console module.

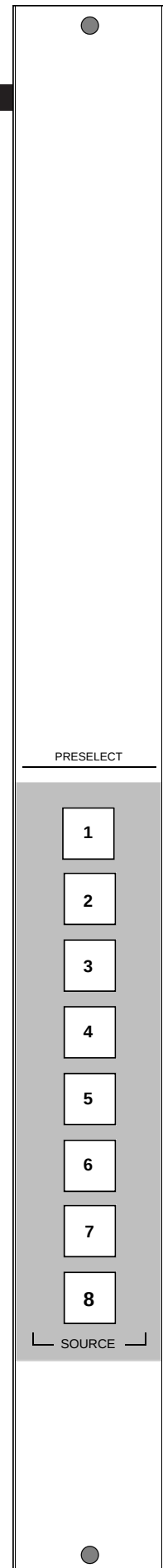
The rack unit accepts eight stereo analog and digital audio inputs (each input is dipswitch-selectable for either analog or digital) and outputs both an analog and digital stereo signal, which may be wired back to A-5000 console input ports. Wiring between the console's LSD-500 preselector module and the rackmount switcher is via two factory supplied pin-for-pin DB-25 connector cables: the module's upper DB is used for control; the lower for power.

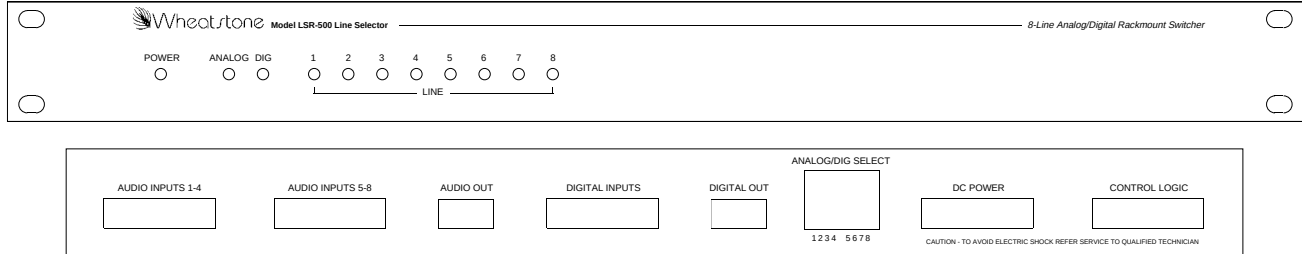
The LSR-500 rackmount unit faceplate has eight indicator LEDs which show which input has been selected at the console and also ANALOG and DIGITAL LEDs which light to show what kind of signal has been selected. A POWER LED is also included. (See drawing next page)

The rear of the LSR-500 has seven I/O connectors: two DB-9s (analog and digital output) and five DB-25s (control and power to the LSD-500 module, analog audio in (2) and digital audio in (1). In the center of the chassis rear is a cutout that allows access to eight dipswitch settings that determine what type of audio (analog or digital) each input accepts. The default setting ("off") is DIGITAL.

Internal Programming Options

There are no internal programming options on the LSD-500 module. The LSR-500 rackmount unit has the previously mentioned input select dipswitches (analog/digital).





The LSR-500 Rackmount Switcher Unit (front & rear)

Hook-Ups

LSD-500 Line Preselector Module

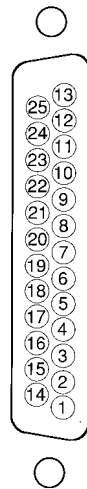
Two DB-25 connectors that wire pin-for-pin to matching DB-25s on the LSR-500 chassis rear. The upper connector is for control; the lower for power. See pinout drawing on page 10-6 for signals.

LSR-500 Audio Inputs

These are for analog stereo (+4dBu balanced) and digital (AES) signals; there are three DB-25 input connectors on the chassis rear:

ANALOG AUDIO INPUTS 1-4:

- Pin 25 – Line 1 Lt In SH
- Pin 24 – Line 1 Lt In HI
- Pin 12 – Line 1 Lt In LO
- Pin 11 – Line 1 Rt In SH
- Pin 10 – Line 1 Rt In HI
- Pin 23 – Line 1 Rt In LO
- Pin 22 – Line 2 Lt In SH
- Pin 21 – Line 2 Lt In HI
- Pin 9 – Line 2 Lt In LO
- Pin 8 – Line 2 Rt In SH
- Pin 7 – Line 2 Rt In HI
- Pin 20 – Line 2 Rt In LO
- Pin 19 – Line 3 Lt In SH
- Pin 18 – Line 3 Lt In HI
- Pin 6 – Line 3 Lt In LO
- Pin 5 – Line 3 Rt In SH
- Pin 4 – Line 3 Rt In HI
- Pin 17 – Line 3 Rt In LO
- Pin 16 – Line 4 Lt In SH
- Pin 15 – Line 4 Lt In HI
- Pin 3 – Line 4 Lt In LO
- Pin 2 – Line 4 Rt In SH
- Pin 1 – Line 4 Rt In HI
- Pin 14 – Line 4 Rt In LO



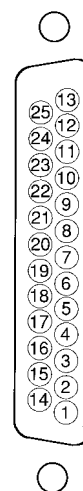
Typical DB-25 connector

ANALOG AUDIO INPUTS 5-8:

Pin 25 – Line 5 Lt In SH
 Pin 24 – Line 5 Lt In HI
 Pin 12 – Line 5 Lt In LO
 Pin 11 – Line 5 Rt In SH
 Pin 10 – Line 5 Rt In HI
 Pin 23 – Line 5 Rt In LO
 Pin 22 – Line 6 Lt In SH
 Pin 21 – Line 6 Lt In HI
 Pin 9 – Line 6 Lt In LO
 Pin 8 – Line 6 Rt In SH
 Pin 7 – Line 6 Rt In HI
 Pin 20 – Line 6 Rt In LO
 Pin 19 – Line 7 Lt In SH
 Pin 18 – Line 7 Lt In HI
 Pin 6 – Line 7 Lt In LO
 Pin 5 – Line 7 Rt In SH
 Pin 4 – Line 7 Rt In HI
 Pin 17 – Line 7 Rt In LO
 Pin 16 – Line 8 Lt In SH
 Pin 15 – Line 8 Lt In HI
 Pin 3 – Line 8 Lt In LO
 Pin 2 – Line 8 Rt In SH
 Pin 1 – Line 8 Rt In HI
 Pin 14 – Line 8 Rt In LO

DIGITAL AUDIO INPUTS 1-8:

Pin 25 – AES 1 In SH
 Pin 24 – AES 1 In HI
 Pin 12 – AES 1 In LO
 Pin 11 – AES 2 In SH
 Pin 10 – AES 2 In HI
 Pin 23 – AES 2 In LO
 Pin 22 – AES 3 In SH
 Pin 21 – AES 3 In HI
 Pin 9 – AES 3 In LO
 Pin 8 – AES 4 In SH
 Pin 7 – AES 4 In HI
 Pin 20 – AES 4 In LO
 Pin 19 – AES 5 In SH
 Pin 18 – AES 5 In HI
 Pin 6 – AES 5 In LO
 Pin 5 – AES 6 In SH
 Pin 4 – AES 6 In HI
 Pin 17 – AES 6 In LO
 Pin 16 – AES 7 In SH
 Pin 15 – AES 7 In HI
 Pin 3 – AES 7 In LO
 Pin 2 – AES 8 In SH
 Pin 1 – AES 8 In HI
 Pin 14 – AES 8 In LO



Typical DB-25 connector

LSR-500 Audio Outputs

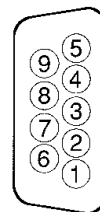
These are for analog stereo (+4dBu balanced) and digital (AES); there are two DB-9 output connectors on the chassis rear:

ANALOG OUTPUTS (DB-9):

- Pin 8 – Line Lt Out SH
- Pin 7 – Line Lt Out HI
- Pin 3 – Line Lt Out LO
- Pin 2 – Line Rt Out SH
- Pin 1 – Line Rt Out HI
- Pin 6 – Line Rt Out LO

DIGITAL OUTPUTS (DB-9):

- Pin 2 – AES Out SH
- Pin 1 – AES Out HI
- Pin 6 – AES Out LO

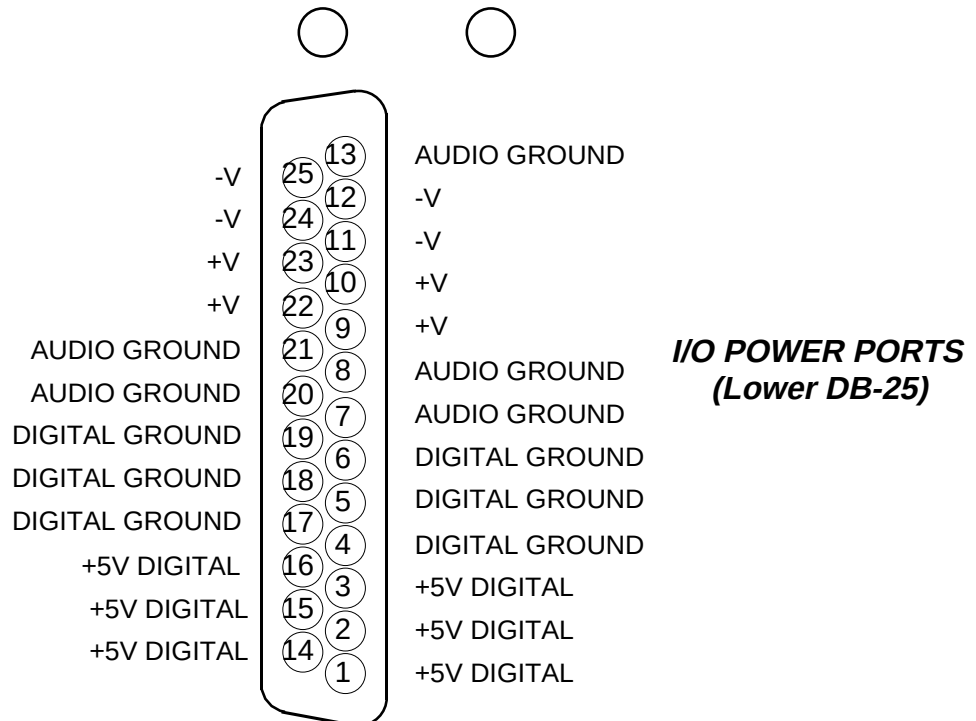
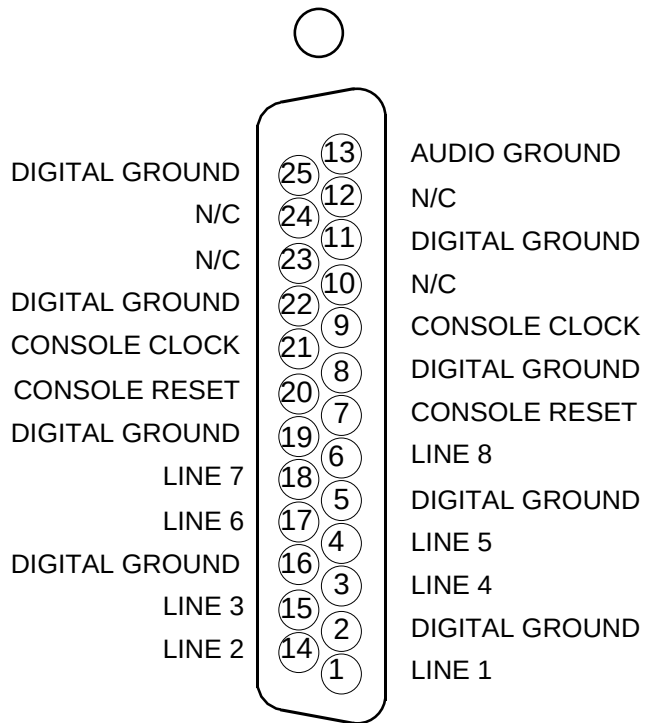


Typical DB-9
connector

LSD-500 Line Preselector Module

DB Connector Pinouts

I/O CONTROL PORTS (Upper DB-25)

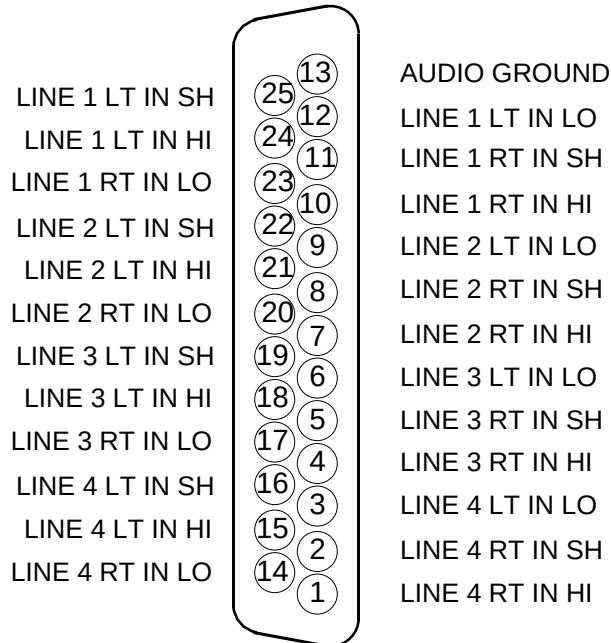


I/O POWER PORTS (Lower DB-25)

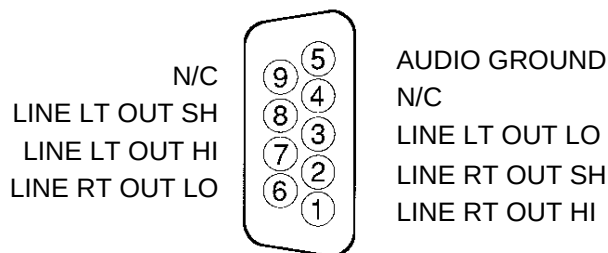
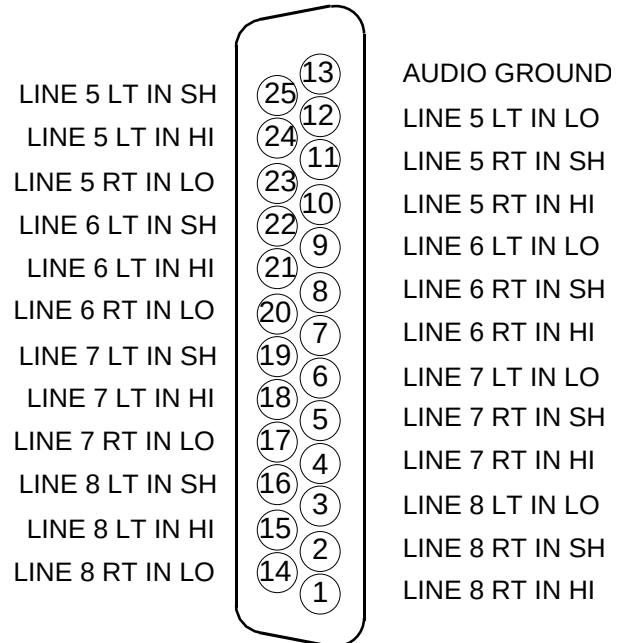
LSR-500 Rackmount Switcher

DB Connector Pinouts

ANALOG INPUTS 1-4 (DB-25)

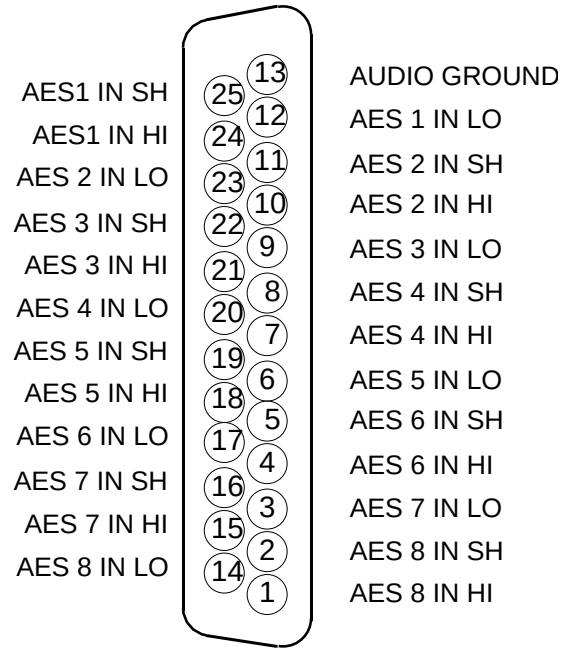
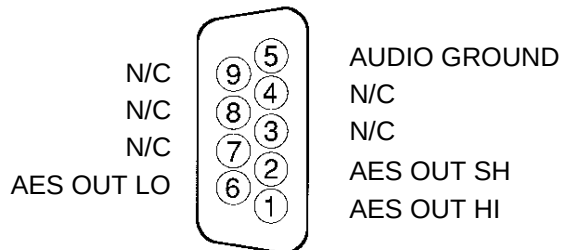


ANALOG INPUTS 5-8 (DB-25)



ANALOG AUDIO OUTPUT (DB-9)

DIGITAL AUDIO OUTPUT (DB-9)



DIGITAL INPUTS (DB-25)

Intercom Module

(ICMD-500; optional)

Chapter Contents

Module Overview	11-2
Internal Programming Options	11-3
Cue Enable	11-3
Input Signal	11-3
Power for various ICMS	11-3
Station Select	11-3
Hook-ups	11-4
Upper DB-25 Connector — AUDIO	11-4
Upper DB-25 Connector — CONTROL	11-4
Lower DB-25 Connector — AUDIO	11-5
Lower DB-25 Connector — CONTROL	11-5
DB Connector Pinout Drawing	11-6

Intercom Module

(ICMD-500; optional)

Module Overview

The ICMD-500 Intercom Module is used to communicate with other studios and locations within a broadcast facility. It is designed to interface with other Wheatstone consoles and rackmount intercom units. Up to eight different stations may be connected via a simple daisy-chain hookup. The system is a party line; power for various units can come from their own locations or from other units. A red BUSY LED lights up whenever the system is in use.

The eight station call buttons on the lower half of the module are used to initiate a call; when you press a call button, the button corresponding to your location will illuminate at the other end to let the receiver know who's calling. He can then reply immediately, hands-free, and you will hear him through your console's cue speakers.

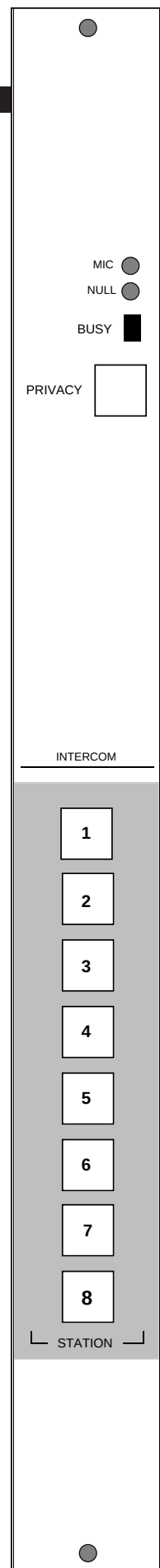
Normally you hear callers over your console's cue speakers. However you can also program the ICMD-500 module (via an internal dipswitch) to perform a cue interrupt function. The caller's voice will then appear at the control room speakers and/or operator headphones, depending on how you have programmed your CRD-500 module to handle CUE.

As the default mode for the system is hands-free reply, a red PRIVACY button is provided to prevent potential eavesdropping. When activated you can hear incoming calls but your own microphone remains off until you disengage the button.

Your microphone signal can tap from the console's talkback bus, where it picks up the regular console operator's microphone, or it can be a separate line level input coming into the ICMD-500 module (internally programmable). In either case, a recessed MIC trimpot at the top of the module sets the level of your voice.

Right next to the MIC trim is a NULL trimpot. This is used to null out your own microphone signal at your location. It is initially set at the factory for a two-station system. However, system loading will vary depending on configuration, and some adjustment may be necessary during initial set-up at your location. Once set however (assuming you don't change the number of stations installed) this control can be left alone.

All wiring to and from the ICMD-500 module takes place at DB-25 multi-pin connectors mounted directly beneath the module on the console mainframe's bottom pan. There are two connectors: the upper one (towards the console meterbridge) handles inputs; the lower connector (near the console armrest) outputs.



Internal Programming Options

All internal programming, except for address selections (see below), is made via printed circuit board (PCB) mounted 4-position dipswitches (total two) on the module's main card.

For the purposes of this manual, we will assume you are holding the removed module upright, component side towards you, with gold-plated card fingers to the left and the module faceplate to the right. This will enable you to read the control legends silkscreened next to the programming switch. Note when a dipswitch position is thrown to the right (towards the module's faceplate) it is ON.

CUE Enable

You can program the ICMD-500 module (via dipswitch SW10) to perform a cue interrupt function. The caller's voice will appear at the control room speakers and/or operator headphones, depending on how you have programmed your CRD-500 module to handle CUE.

Dipswitch SW10 position 1 assign CUE Logic Enable

Input Signal

Your microphone signal can tap from the console's talkback bus, where it picks up the regular console operator's microphone, or it can be a separate line level input coming into the ICMD-500 module.

Dipswitch SW 1 position 1 assign line level input into ICMD module

Dipswitch SW 1 position 4 allows microphone signal tap from the console's talkback bus

Power for Various ICMs

You can provide power for other Wheatstone rackmount ICM (via dipswitch SW10)

position 2 - Ext +V

position 3 - Ext -V

position 4 - Ext +D

Station Select

Each ICM in daisy-chain hookup has own address, which is programmed with "stations" slide switches SW2-SW9. Each ICM has only one slide switch "ON".

Hook-Ups

All user wiring to and from the ICMD-500 module takes place at two DB-25 multi-pin connectors mounted directly beneath the module on the console mainframe's bottom pan.

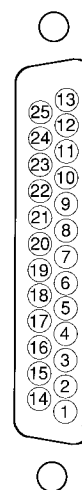
Upper DB-25 Connector — Input Audio

This connector handles the module's source select External Stereo inputs. All audio signals are analog, +4dBu balanced.

- Pin 15 - 2-way audio in HIGH
- Pin 3 - 2-way audio in LOW
- Pin 16 - 2-way audio in SHIELD
- Pin 1 - External Line in HIGH
- Pin 14 - External Line in LOW
- Pin 2 - External Line in SHIELD

Upper DB-25 Connector — Control

- Pin 10 - External digital + power feed
- Pin 23 - External digital common
- Pin 4 - Station call line 1
- Pin 17 - Station call line 2
- Pin 18 - Station call line 3
- Pin 6 - Station call line 4
- Pin 7 - Station call line 5
- Pin 20 - Station call line 6
- Pin 21 - Station call line 7
- Pin 9 - Station call line 8
- Pin 24 - +16V
- Pin 12 - -16V
- Pins 5,8,11,19,22,25 - Audio Common
- Pin 13 - N/C



Typical DB-25
connector

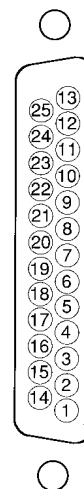
Lower DB-25 Connector — Output Audio

All signals are +4dBu balanced analog stereo.

- Pin 15 - 2-way audio out HIGH
- Pin 3 - 2-way audio out LOW
- Pin 16 - 2-way audio out SHIELD
- Pins 2 - Audio Common

Lower DB-25 Connector — Control

- Pin 10 - External digital + power feed
- Pin 23 - External digital common
- Pin 4 - Station call line 1
- Pin 17 - Station call line 2
- Pin 18 - Station call line 3
- Pin 6 - Station call line 4
- Pin 7 - Station call line 5
- Pin 20 - Station call line 6
- Pin 21 - Station call line 7
- Pin 9 - Station call line 8
- Pin 24 - +16V
- Pin 12 - -16V
- Pins 5,8,11,19,22,25 - Audio Common
- Pin 13 - N/C



Typical DB-25
connector

ICMD-500 Intercom Module

DB Connector Pinouts

I/O PORTS (Upper DB-25)

AUDIO GROUND	25	13	N/C
+16V	24	12	-16v
DIGITAL GROUND	23	11	AUDIO GROUND
AUDIO GROUND	22	10	+V DIGITAL
STATION CALL LINE 7	21	9	STATION CALL LINE 8
STATION CALL LINE 6	20	8	AUDIO GROUND
AUDIO GROUND	19	7	STATION CALL LINE 5
STATION CALL LINE 3	18	6	STATION CALL LINE 4
STATION CALL LINE 2	17	5	AUDIO GROUND
2-WAY AUDIO IN SH	16	4	STATION CALL LINE 1
2-WAY AUDIO IN HI	15	3	2-WAY AUDIO IN LO
EXT LINE IN LO	14	2	EXT LINE IN SH
		1	EXT LINE IN HI

AUDIO GROUND	25	13	N/C
+16V	24	12	-16V
DIGITAL GROUND	23	11	AUDIO GROUND
AUDIO GROUND	22	10	+V DIGITAL
STATION CALL LINE 7	21	9	STATION CALL LINE 8
STATION CALL LINE 6	20	8	AUDIO GROUND
AUDIO GROUND	19	7	STATION CALL LINE 5
STATION CALL LINE 3	18	6	STATION CALL LINE 4
STATION CALL LINE 2	17	5	AUDIO GROUND
2-WAY AUDIO OUT SH	16	4	STATION CALL LINE 1
2-WAY AUDIO OUT HI	15	3	2-WAY AUDIO OUT LO
N/C	14	2	AUDIO GROUND
		1	N/C

I/O PORTS (Lower DB-25)

Meterbridge and Clock

Chapter Contents

Overview	12-2
Digital Timer	12-2
Console Clock	12-2
Controls	12-3
Setting the Time	12-3
Capacitor Backup	12-3
Operational Modes	12-3

Meterbridge and Clock

Overview

The console's meterbridge houses three pairs of left-right VU meters (Program, Audition and Switched; see "Meter Output Module" Chapter 7), the digital timer display, left and right cue speakers (controlled by the CRD-500 Control Room Module; see page 5-2), and the console clock.

The meterbridge assembly hinges open for easy access (VU meter lamp replacement, setting the clock). Simply remove the three black #4 flathead screws along the bottom lip of the meterbridge, just above the tops of the console modules and swing the bridge up and back until it rests in a fully opened position.

Digital Timer

The console timer control buttons are located on the MOD-500 Meter Output Module (see page 7-2).

The timer is provided with an AUTO-RESTART function so programmed input modules can automatically reset the timer display to zero and start a new count, allowing the announcer to easily track his own pace.

The START/STOP button halts the timer, holds the last count, and then restarts and accumulates the count when depressed again—perfect for compiling tapes of desired duration.

RESET has a dual-mode capability:

- if you depress it while the timer is counting, the display will instantly reset to zero and start a fresh count;
- if the timer is already stopped, depressing this button will reset the timer to zero, where it will hold until start is pressed.

HOLD button allows you to hold the display for a longer viewing duration, while still allowing the counter to continue in the background. Releasing the button will then display the current count.

Console Clock

The Wheatstone digital clock is a six-digit time-of-day clock with LED display. The clock is designed with CMOS circuits and an on-board crystal-controlled time base oscillator. There are two basic parts to the clock: a main PCB containing the clock circuits and clock set controls (also may include capacitor backup) and a second PCB containing displays. Clock set controls may be accessed by removing the meterbridge cover.

Controls

The clock is controlled by a trimmer and two switches; the trimmer and switches are mounted on the main clock PCB assembly.

The trimmer alters the frequency of the quartz-controlled oscillator, which in turn causes the clock to run slightly slower or faster. In order to keep accurate time, the oscillator must run at 4.096 MHz. The oscillator is set to this frequency at the factory. However, due to the nature of quartz/crystal-controlled oscillators, there may be a slight change in the frequency of the oscillator during the first few months of operation due to the aging effect of quartz crystals. A minor readjustment of the trimmer will compensate for this effect.

A divided by 4 buffered output of the oscillator is available at pin #7 of IC #U1 to assist in adjusting the oscillator.

Setting the Time

The setting controls consists of two switches: MODE and SET. To set the clock, open the meterbridge cover and stand behind the console:

- 1) The control switches (mounted inside the meterbridge bottom) are labelled "M" and "S". "M" (Mode) is used to scroll from seconds to minutes to hours; "S" is used to Set the time. The procedure is to set the clock slightly ahead of the current time, hold the second count at "00" until the current time catches up, and then release the count.
- 2) Press the MODE button until the hour digits blink. Depress the SET button until the desired hour is displayed.
- 3) Press the MODE button until the minute digits blink. Depress the SET button until the desired minute count is displayed.
- 4) Press the MODE button until the second digits blink. Depress and hold the SET button; the seconds display will hold at "00". When the current time catches up to the display, release the SET button. The clock will start counting. Hit the MODE button three more times to place the clock into working mode.

Capacitor Backup

With the meterbridge open note the super capacitor at C25. This super capacitor is self charging. Note that the super capacitor does NOT light up the clock display; it powers the clock crystal to keep it from losing count (it will do this about one hour).

Operational Modes

The standard factory default clock configuration is crystal-controlled, 12 hour mode, stand-alone operation. However, the clock will operate either from the internal crystal controlled time base or from an ESE master (TC-76, TC-89, TC-90, autodetect) signal. Because crystal time bases are subject to drift over time, Wheatstone recommends operating the clock in the ESE slave mode for those applications where the exact time is critical.

It can also be programmed to count in either 12 hour or 24 hour modes. Connect an ESE master at connector CT3 (Pin 1 - Signal, Pin 2 - Shield). Switch #4 on SW3 sets 12/24 hour mode (Off - 12 hour, On - 24 hour).

Tape Remote Module

(TRD-500; optional)

Chapter Contents

Module Overview 12a-2

DB Connector Pinout Drawing

START/STOP Function Control 12a-3

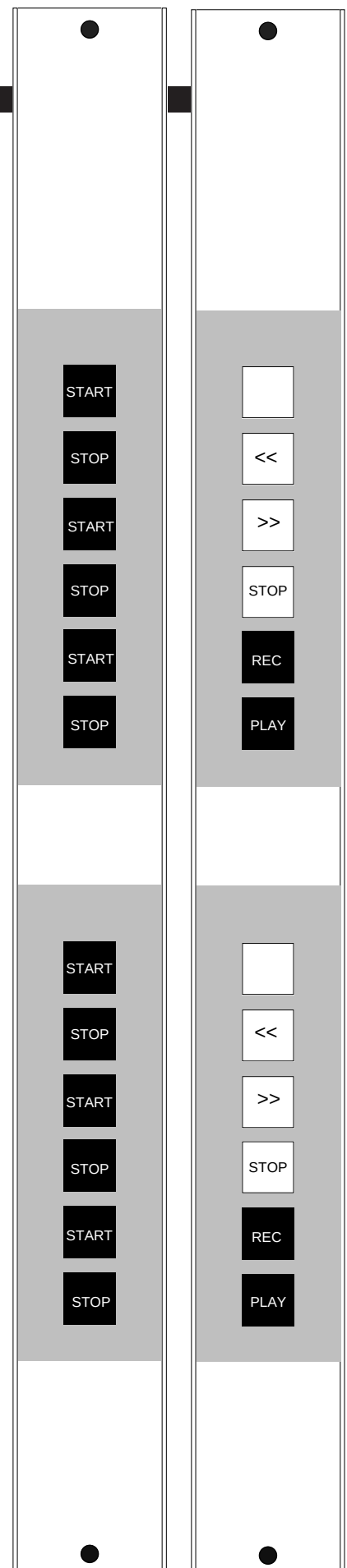
Full-function Control 12a-4

Tape Remote Module

(TRD-500; optional)

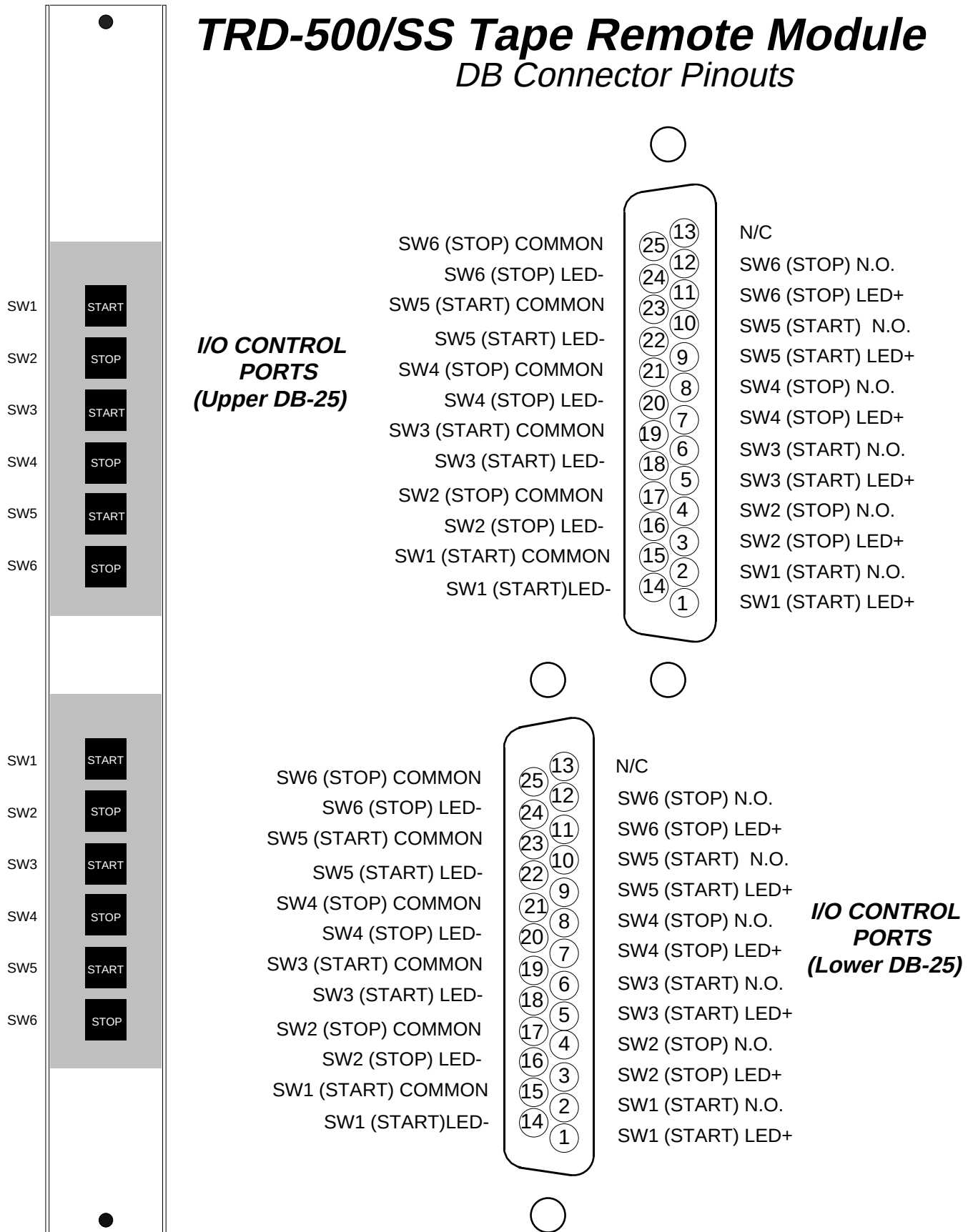
Module Overview

This optional module offers start-stop control of six remote reel-to-reel tape machines using six pairs of START/STOP buttons. LED indicators in each switch function as tallyback indicators and are powered by the source machines. There are no internal connections between the tape remote panel and the console's power rails. Note the switch cap legends can also be ordered to read blank (for RTZ), << (for RW), >> (for FF), STOP, REC, and PLAY for full-function control of two tape machines.



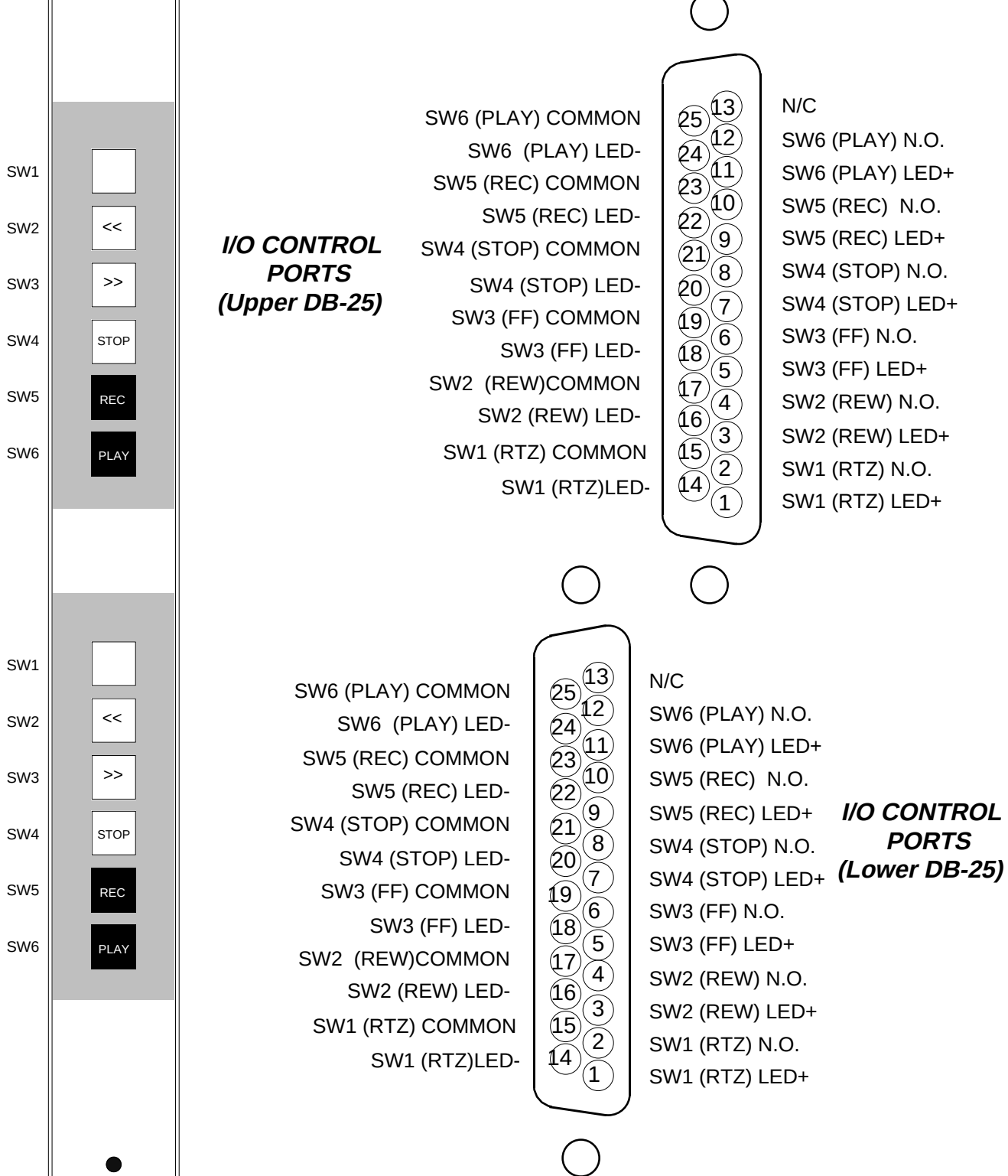
TRD-500/SS Tape Remote Module

DB Connector Pinouts



TRD-500/FF Tape Remote Module

DB Connector Pinouts



Parts List

Chapter Contents

MM-5000 Mono Mic Input	13-2
SL-5000 Stereo Line Input	13-5
OM-5000 Master Output	13-8
CRD-500 Control Room Monitor (PCB_CRD500)	13-9
CRD-500 Control Room Monitor (PCB_CUE500)	13-11
SCD-500 Studio Monitor	13-12
SPN-5000 Super Phone Input (optional)	13-14
LS-5000 Line Selector (optional)	13-17
LSD-500 Line Selector (optional)	13-19
LSR-500 Line Select Rackmount (optional)	13-20
ICMD-500 Intercom (optional)	13-22
TRD-500/FF Tape Remote (optional)	13-23
TRD-500/SS Tape Remote (optional)	13-24
MOD-500 Meter Output	13-25
CLK-5000 Clock	13-27
CLD-5000 Clock Display	13-29
TMD-5000 Timer Display	13-30
A-5000 Frame	13-31
Sub Assembly	13-32

MM-5000 MONO MIC MODULE PARTS LIST

ITEM#	DESCRIPTION	QTY	W#
MM-5000 FACEPLATE	FACEPLATE	1	001822
	6 PIN .098" PLUG FOR #26 AWG	3	230031
	9 PIN .098" PLUG FOR #26 AWG	1	230032
	8 PIN .3" DIP SMT SOCKET	5	245001
	16 PIN .3" DIP SMT SOCKET	6	245003
CT1, CT2	5 PIN .1" STRAIGHT HEADER	6	250023
	15 POSITION FLEX STRIP	2	250055
CT4	3 PIN .098" HEADER	1	250062
CT5, CT6, CT7	6 PIN .098" HEADER	3	250065
	9 PIN .098" HEADER	1	250066
U6, U9, U11	74ACT08 TTL SMT	3	305006
U15, U16	74ALS09 TTL SMT	2	305007
U3, U12	74ACT32 TTL SMT	2	305010
U10, U14	74ACT157 TTL SMT	2	305024
U1, U2, U5, U13	74AC14 TTL SMT TAPE & REEL ONLY	4	305027
U4, U7, U8	74LS74 TTL SMT	3	305029
U23, U24	2017 MIC PREAMP IC	2	320003
U25	2142 BALANCED LINE DRIVER IC	1	320004
U18, U21, U22	NE5532 DUAL OP-AMP	3	320008
U30	PQ05SZ1 5V 1A REGULATOR SMT T/R	1	335001
Q1-Q6	MMBTA05 NPN SMT TRANSISTOR	6	345001
Z1-Z10	5.1V SMT ZENER DIODE C5V1	10	355002
D1, D2	1N4148 FAST SWITCHING SMT DIODE	2	355003
U17, U19, U26-U29	74VHC4053	6	380008
L1, L2	FERRITE CHOKE	2	400025
C1, C54, C57, C72, C73, C90	CAPACITOR, 10μF 50V ELECTROLYTIC SMT	6	405001
C39, C40, C47, C64	CAPACITOR, 22μF 25V ELECTROLYTIC SMT	4	405002
C19-C21, C28-C32, C41, C42, C52, C62, C63, C65	CAPACITOR, 100μF 25V ELECTROLYTIC SMT	14	405003
C22-C27, C33, C34, C49, C51, C85, C86, C88, C89	CAPACITOR, 1μF 35V ELECTROLYTIC SMT TANTALUM	14	405005
C36, C44, C45, C53, C56, C60, C61	CAPACITOR, 10pF 100V CERAMIC SMT	7	415001
C76, C93	CAPACITOR, 68pF 100V CERAMIC SMT	2	415003
C67, C70	CAPACITOR, 330pF 100V CERAMIC SMT	2	415004
C74, C75, C91, C92, C94, C95	CAPACITOR, .001μF 50V CERAMIC SMT	6	415005
C2-C18, C35, C38, C43, C46, C48, C50, C55, C59, C66, C68, C69, C71, C77-C84, C87	CAPACITOR, .1μF 50V CERAMIC SMT	38	415007
R2, R3, R68, R74, R111, R114, R117, R120	10 OHM 5% .25W MC1206 RESISTOR	8	435002
R142	100 OHM 5% .25W MC1206 RESISTOR	1	435007

MM-5000 MONO MIC MODULE PARTS LIST

ITEM#	DESCRIPTION	QTY	W#
R19, R20, R22-R24, R26, R27, R29, R30, R32-R34, R36-R38, R66, R72, R123, R126, R128	220 OHM 5% .25W MC1206 RESISTOR	20	435009
R129, R132, R134, R135, R137	220 OHM 5% .25W MC1206 RESISTOR	5	435009
R10, R14-R17	475 OHM 1% .25W MC1206 RESISTOR	5	435011
R5, R11-R13, R18, R21, R25, R28, R31, R35, R39, R40, R65, R69, R71, R75	1.00 KOHM 1% .25W MC1206 RESISTOR	16	435015
R1, R78, R83, R88	1.30 KOHM 1% .25W MC1206 RESISTOR	4	435016
R113, R116, R119, R122	2.43 KOHM 1% .25W MC1206 RESISTOR	4	435020
R89, R91	3.32 KOHM 1% .25W MC1206 RESISTOR	2	435021
R79, R80	3.92 KOHM 1% .25W MC1206 RESISTOR	2	435022
R4, R7-R9, R41-R50, R53-R60, R62, R85-R87, R92, R94-R105, R124, R125, R127, R130, R131,	4.99 KOHM 1% .25W MC1206 RESISTOR	44	435023
R133, R136, R138-R141	4.99 KOHM 1% .25W MC1206 RESISTOR	6	435023
R6, R51, R52, R70, R76, R84, R106-R110, R112, R115, R118, R121	10.0 KOHM 1% .25W MC1206 RESISTOR	15	435028
R64	22.1 KOHM 1% .25W MC1206 RESISTOR	1	435036
R61, R77, R81, R82, R90, R93	40.2 KOHM 1% .25W MC1206 RESISTOR	6	435039
R63, R67, R73	88.7 KOHM 1% .25W MC1206 RESISTOR	3	435043
CT3	DUAL 10K LINEAR POT, 1/8" SHAFT WITH DETENT	1	500023
CR1, CR2	1K 15 TURN TRIM POT	2	500025
"AUD"/"A" SWITCH	PUSHBUTTON SWITCH GREEN LED/ NO CAP	2	510094
"PGM" SWITCH	PUSHBUTTON SWITCH RED LED/ NO CAP	1	510095
"AUX"/"UTL"/"B" SWITCH	PUSHBUTTON SWITCH YELLOW LED/ NO CAP	3	510096
"ON"/"OFF" BUTTON	31 SERIES PUSHBUTTON ON/OFF SWITCH	2	510112
SW1-SW5	4 POSITION SMT DIP SWITCH, TAPE SEALED	5	515001
SW6-SW8	DPDT SMT SLIDE SWITCH	3	515003
	15mm GREY COLLET KNOB FOR 1/8" SHAFT	1	520022
FADER KNOB	RED FADER KNOB WITH WHITE LINE	1	520046
"A"/"B"/"PGM"/"AUD"/"AUX"/"UTL" SWITCH CAP	WHITE SWITCH CAP	6	530004
FADER KNOB	11mm BLUE/105 CAP W/BLACK LINE FOR 15mm KNOB	1	530043
"ON" SWITCH CAP	RECTANGULAR TRANSPARENT RED CAP FOR 31 SERIES SWITCH	1	530101
"OFF" SWITCH CAP	RECTANGULAR TRANSPARENT YELLOW CAP FOR 31 SERIES SWITCH	1	530102
	"D" HEIGHT KNOB BRACKET FOR 8122 FADER	1	540018
CT5	10K FADER,SINGLE AUDIO TAPER, 3000 SERIES	1	540020
"MXM1"/"MXM2" BUTTON	RECTANGULAR YELLOW DIFFUSED LED, TRANSPARENT SIDES	2	600002
"ON AIR" BUTTON	RECTANGULAR RED LED	1	600004
"ON" LAMP	T 1 3/4 MIDGET GROOVED BASE SINGLE CHIP RED LED 5V	1	600026
"OFF" LAMP	T 1 3/4 MIDGET GROOVED BASE SINGLE CHIP YELLOW LED LAMP REPLACEMENT	1	600030
PCB_MM5000A	PRINTED CIRCUIT BOARD SMT	1	700319
PCB_IPS5000	PRINTED CIRCUIT BOARD	1	700324

MM-5000 MONO MIC MODULE PARTS LIST			
ITEM#	DESCRIPTION	QTY	W#
	PEM FASTENERS	4	<i>821012</i>
	4-40 X .375 HEX BRASS M/F SPACER	3	<i>823034</i>
	BRACKET FOR EAO SWITCH	2	<i>823042</i>
F1-F4	FUSE/ POLYSWITCH .3AMP SMT RESETABLE	4	<i>835001</i>

SL-5000 STEREO LINE INPUT MODULE PARTS LIST

ITEM#	DESCRIPTION	QTY	W#
SL-5000 FACEPLATE	FACEPLATE	1	001821
	6 PIN .098" PLUG FOR #26 AWG	3	230031
	9 PIN .098" PLUG FOR #26 AWG	1	230032
U1, U22-U30	8 PIN .3" DIP SMT SOCKET	10	245001
U18-U21, U31-U37	16 PIN .3" DIP SMT SOCKET	11	245003
CT1, CT2	5 PIN .1" STRAIGHT HEADER	6	250023
	15 POSITION FLEX STRIP	2	250055
CT4, CT5	3 PIN .098" HEADER	2	250062
CT3, CT7, CT8	6 PIN .098" HEADER	3	250065
CT6	9 PIN .098" HEADER	1	250066
U3	74ACT00 TTL SMT Quad 2-Input NAND	1	305004
U7, U10	74ACT08 TTL SMT Quad 2-Input AND	2	305006
U16, U17	74ALS09 TTL SMT Quad 2-Input AND Open Collector Outputs	2	305007
U4, U11, U13, U14	74ACT32 TTL SMT Quad 2-Input OR	4	305010
U15	74ACT157 TTL SMT Quad 1-of-2 Mux Non-Inverting Outputs	1	305024
U6	74AC14 TTL SMT TAPE & REEL ONLY Hex Schmitt Trigger	1	305027
U2, U5, U8, U9, U12	74LS74 TTL SMT Dual D-Type Pos-Edge-Triggered Flip-Flop	5	305029
U22, U23	2142 BALANCED LINE DRIVER IC	2	320004
U1, U24-U26	NE5532 DUAL OP-AMP	4	320008
U27-U30	2143 BALANCED LINE RECEIVER IC	4	320012
U38	PQ05SZ1 5V 1A REGULATOR SMT T/R	1	335001
U31-U33	PS2502-4 QUAD OPTO COUPLER (PS25-2 DUAL)	3	340019
Q1, Q2	MMBTA05 NPN SMT TRANSISTOR	2	345001
Z1, Z2	5.1V SMT ZENER DIODE C5V1	2	355002
D1-D4	1N4148 FAST SWITCHING SMT DIODE	4	355003
U18-U21, U34-U37	74VHC4053	8	380008
C3, C4, C25, C29-C31, C49, C54, C59, C71	CAPACITOR, 22μF 25V ELECTROLYTIC SMT	10	405002
C1, C23, C27, C40-C44, C63, C66, C68-C70, C72, C77, C80, C83, C86	CAPACITOR, 100μF 25V ELECTROLYTIC SMT	18	405003
C32-C39, C56, C58, C95, C96, C98, C99	CAPACITOR, 1μF 35V ELECTROLYTIC SMT TANTALUM	14	405005
C5, C24, C48, C51, C52, C64, C65, C67	CAPACITOR, 10pF 100V CERAMIC SMT	8	415001
C45, C47, C60, C62	CAPACITOR, 68pF 100V CERAMIC SMT	4	415003
C75, C76, C78, C79, C81, C82, C84, C85	CAPACITOR, .001μF 50V CERAMIC SMT	8	415005
C2, C6-C22, C26, C46, C50, C53, C55, C57, C61, C73, C74, C87-C94, C97, C100	CAPACITOR, .1μF 50V CERAMIC SMT	37	415007
C28	CAPACITOR, .22μF 50V CERAMIC SMT	1	415009
R93, R99, R143	10 OHM 5% .25W MC1206 RESISTOR	3	435002
R36	47 OHM 5% .25W MC1206 RESISTOR	1	435005

SL-5000 STEREO LINE INPUT MODULE PARTS LIST

ITEM#	DESCRIPTION	QTY	W#
R7, R91, R97	100 OHM 5% .25W MC1206 RESISTOR	3	435007
R10-R13, R31, R32, R34, R35, R38-R43, R45, R46, R48, R49, R51-R53, R55-R58, R60, R146	220 OHM 5% .25W MC1206 RESISTOR	27	435009
R15, R19-R22, R144, R147, R153, R154, R159-R161	475 OHM 1% .25W MC1206 RESISTOR	12	435011
R2-R4, R6, R16-R18, R26, R29, R30, R33, R37, R44, R47, R50, R54, R59, R61, R62, R80, R94	1.00 KOHM 1% .25W MC1206 RESISTOR	21	435015
R100	1.00 KOHM 1% .25W MC1206 RESISTOR	1	435015
R81, R82	1.30 KOHM 1% .25W MC1206 RESISTOR	2	435016
R102, R104, R106, R115	2.00 KOHM 1% .25W MC1206 RESISTOR	4	435018
R124, R126	3.32 KOHM 1% .25W MC1206 RESISTOR	2	435021
R8, R14, R63-R72, R75-R78, R84, R85, R90, R96, R108, R109, R112, R113, R118, R119, R121	4.99 KOHM 1% .25W MC1206 RESISTOR	27	435023
R122, R129-R134, R139-R142, R145, R148-R152, R155-R158, R162-R165	4.99 KOHM 1% .25W MC1206 RESISTOR	25	435023
R5, R73, R74, R95, R101, R135-R138	10.0 KOHM 1% .25W MC1206 RESISTOR	9	435028
R23, R24	20.0 KOHM 1% .25W MC1206 RESISTOR	2	435034
R86, R89	22.1 KOHM 1% .25W MC1206 RESISTOR	2	435036
R1, R25, R28, R79, R103, R105, R107, R110, R111, R114, R116, R117, R120, R123, R125	40.2 KOHM 1% .25W MC1206 RESISTOR	15	435039
R127	40.2 KOHM 1% .25W MC1206 RESISTOR	1	435039
R9, R27, R87, R88, R92, R98	88.7 KOHM 1% .25W MC1206 RESISTOR	6	435043
R83, R128	1.0 MOHM 5% .25W MC1206 RESISTOR	2	435049
CR1, CR2	10K 15 TURN TRIM POT	2	500014
"BAL" POT	DUAL 10K LINEAR POT, 1/8" SHAFT WITH DETENT	1	500023
"AUD"/"A" SWITCH	PUSHBUTTON SWITCH GREEN LED/ NO CAP	2	510094
"PGM"/"CUE"/"MODE" SWITCH	PUSHBUTTON SWITCH RED LED/ NO CAP	3	510095
"AUX"/"UTL"/"B" SWITCH	PUSHBUTTON SWITCH YELLOW LED/ NO CAP	3	510096
"START"/"OFF" SWITCH	31 SERIES PUSHBUTTON ON/OFF SWITCH	2	510112
SW2-SW5	4 POSITION SMT DIP SWITCH, TAPE SEALED	4	515001
SW1, SW6, SW7	DPDT SMT SLIDE SWITCH	3	515003
FADER KNOB	WHITE FADER KNOB, 11mm FOR 3000 SERIES FADER	1	520007
"BAL" KNOB	15mm GREY COLLET KNOB FOR 1/8" SHAFT	1	520022
"MODE"/"CUE" SWITCH CAP	RED SWITCH CAP	2	530003
"A"/"B"/"PGM"/"AUD"/"UTL" SWITCH CAP	WHITE SWITCH CAP	6	530004
"BAL" CAP	11mm BLUE/105 CAP W/BLACK LINE FOR 15mm KNOB	1	530043
"START" SWITCH CAP	RECTANGULAR TRANSPARENT RED CAP FOR 31 SERIES SWITCH	1	530101
"OFF" SWITCH CAP	RECTANGULAR TRANSPARENT YELLOW CAP FOR 31 SERIES SWITCH	1	530102
CT6	10K FADER, DUAL AUDIO TAPER, 3000 SERIES	1	540021
"MONO" BUTTON	RECTANGULAR GREEN DIFFUSED LED, TRANSPARENT SIDES	1	600000
"STEREO" BUTTON	RECTANGULAR RED DIFFUSED LED, TRANSPARENT SIDES	1	600001
"LT"/"RT"/"MXM1"/"MXM2" BUTTON	RECTANGULAR YELLOW DIFFUSED LED, TRANSPARENT SIDES	4	600002

SL-5000 STEREO LINE INPUT MODULE PARTS LIST

ITEM#	DESCRIPTION	QTY	W#
"ON AIR" BUTTON	RECTANGULAR RED LED	1	600004
"START" LAMP	T 1 3/4 MIDGET GROOVED BASE SINGLE CHIP RED LED 5V	1	600026
"OFF" LAMP	T 1 3/4 MIDGET GROOVED BASE SINGLE CHIP YELLOW LED LAMP REPLACEMENT	1	600030
PCB_SL5000C	PRINTED CIRCUIT BOARD SMT	1	700318
PCB_IPS5000	PRINTED CIRCUIT BOARD	1	700324
	PEM FASTENERS	4	821012
	4-40 X .375 HEX BRASS M/F SPACER	3	823034
	BRACKET FOR EAO SWITCH	2	823042
F1, F2, F4	FUSE/ POLYSWITCH .3AMP SMT RESETABLE	3	835001

OM-5000 MASTER OUTPUT MODULE PARTS LIST

ITEM#	DESCRIPTION	QTY	W#
OMD-500/1 FACEPLATE	FACEPLATE	1	001525
	8 PIN .3" DIP SMT SOCKET	18	245001
U1-U4, U11, U13, U17, U18	2142 BALANCED LINE DRIVER IC	8	320004
U5-U10, U15, U16	NE5532 DUAL OP-AMP	8	320008
U12, U14	2143 BALANCED LINE RECEIVER IC	2	320012
C7, C8, C16, C19, C41-C44, C56, C57	CAPACITOR, 100µF 25V ELECTROLYTIC SMT	10	405003
C13, C15, C18, C27, C29, C30, C48, C49, C51, C52, C59, C60, C62, C63	CAPACITOR, 10pF 100V CERAMIC SMT	14	415001
C21, C22, C24, C32, C34, C36	CAPACITOR, 33pF 100V CERAMIC SMT	6	415002
C1, C2, C4, C5, C9, C11, C25, C26, C37, C38, C45, C53, C55, C58, C64, C66	CAPACITOR, 68pF 100V CERAMIC SMT	16	415003
C3, C6, C10, C12, C14, C17, C20, C23, C28, C31, C33, C35, C39, C40, C46, C47, C50, C54	CAPACITOR, .1µF 50V CERAMIC SMT	18	415007
C61, C65, C67, C68	CAPACITOR, .1µF 50V CERAMIC SMT	4	415007
R5, R16, R23, R30, R31, R40	10 OHM 5% .25W MC1206 RESISTOR	6	435002
R7-R9, R18-R20, R25, R26, R35, R36	4.99 KOHM 1% .25W MC1206 RESISTOR	10	435023
R1-R4, R6, R15	6.19 KOHM 1% .25W MC1206 RESISTOR	6	435025
R10-R14, R17, R22, R24, R27, R28, R32, R34, R37, R38	10.0 KOHM 1% .25W MC1206 RESISTOR	14	435028
R21, R29, R33, R39	20.0 KOHM 1% .25W MC1206 RESISTOR	4	435034
CR1-CR4	10K 15 TURN TRIM POT	4	500014
CR5, CR6	10K TRIM POT SMT	2	505002
SW1	DPDT SMT SLIDE SWITCH	1	515003
PCB_OM5000	PRINTED CIRCUIT BOARD SMT	1	700320
	PEM FASTENERS	4	821012
F1, F2	FUSE/ POLYSWITCH .3AMP SMT RESETABLE	2	835001

CRD-500 CONTROL ROOM MODULE PARTS LIST (PCB_CRD500E)

ITEM#	DESCRIPTION	QTY	W#
CRD-500 FACEPLATE	FACEPLATE	1	001528
	3 PIN .098" PLUG FOR #26 AWG	2	230028
	6 PIN .098" PLUG FOR #26 AWG	4	230031
	8 PIN .3" DIP SMT SOCKET	20	245001
CT8	20 PIN .3" DIP SMT SOCKET	1	245004
CT4, CT5	5 PIN .1" STRAIGHT HEADER	6	250023
	15 POSITION FLEX STRIP	2	250055
	20 PIN DIP CONNECTOR .3 SPACING	1	250060
CT1, CT7	3 PIN .098" HEADER	2	250062
CT6	6 PIN .098" HEADER	4	250065
U10	74ACT00 TTL SMT	1	305004
U11, U12, U14	74ACT32 TTL SMT	3	305010
U3, U8	74AC14 TTL SMT TAPE & REEL ONLY	2	305027
U7	74HC30 TTL SMT	1	305028
U1, U4, U6, U9	74LS74 TTL SMT	4	305029
U2, U5, U13	74ACT02 TTL SMT	3	305040
U36-U41	2142 BALANCED LINE DRIVER IC	6	320004
U32-U35	LM675 POWER OP AMP	4	320007
U15-U20, U31	NE5532 DUAL OP-AMP	7	320008
U42-U45	2143 BALANCED LINE RECEIVER IC	4	320012
U46	PQ05SZ1 5V 1A REGULATOR SMT T/R	1	335001
Q1	MMBTA05 NPN SMT TRANSISTOR	1	345001
Q2	MMBTA55 PNP SMT TRANSISTOR	1	345002
D3	1N4002W RECTIFYING 1AMP SMT DIODE	1	355001
Z1, Z2	5.1V SMT ZENER DIODE C5V1	2	355002
D1, D2	1N4148 FAST SWITCHING SMT DIODE	2	355003
U21-U30	74VHC4053 SMT	10	385001
C18, C19, C40, C41, C49, C50, C113-C121, C125-C128	CAPACITOR, 22μF 25V ELECTROLYTIC SMT	19	405002
C1, C11, C30, C42-C48, C51, C55, C56, C59, C60, C63, C64, C92	CAPACITOR, 100μF 25V ELECTROLYTIC SMT	18	405003
C31, C32, C78, C79	CAPACITOR, 330μF 25V ELECTROLYTIC SMT	4	405004
C33-C39, C80, C82, C83, C85, C86, C88, C89, C91, C138, C139	CAPACITOR, 1μF 35V ELECTROLYTIC SMT TANTALUM	17	405005
C20, C21, C24, C25, C28, C29, C53, C67	CAPACITOR, 10pF 100V CERAMIC SMT	8	415001
C57, C61, C65, C71, C73, C75, C81, C84, C87, C90	CAPACITOR, 33pF 100V CERAMIC SMT	10	415002
C93-C96, C99-C102, C105-C108	CAPACITOR, 68pF 100V CERAMIC SMT	12	415003
C69, C122-C124	CAPACITOR, 330pF 100V CERAMIC SMT	4	415004
C9	CAPACITOR, .001μF 50V CERAMIC SMT	1	415005

CRD-500 CONTROL ROOM MODULE PARTS LIST (PCB_CRD500)

ITEM#	DESCRIPTION	QTY	W#
C2-C8, C10, C12-C17, C22, C23, C26, C27, C52, C54, C58, C62, C66, C68, C70, C72, C74, C76	CAPACITOR, .1μF 50V CERAMIC SMT	28	415007
R111, R113, R115, R116, R119-R122, R127	3.3 OHM 5% .25W MC1206 RESISTOR	9	435001
R96	10 OHM 5% .25W MC1206 RESISTOR	1	435002
R20-R23, R26-R28, R30, R31, R33, R34, R36, R39	220 OHM 5% .25W MC1206 RESISTOR	13	435009
R1, R19, R24, R25, R29, R32, R35, R40, R98, R105-R108	1.00 KOHM 1% .25W MC1206 RESISTOR	13	435015
R48, R90, R93	2.43 KOHM 1% .25W MC1206 RESISTOR	3	435020
R2, R37, R38, R41-R45, R49, R51, R53, R55-R89, R91, R92, R99, R101, R103	4.99 KOHM 1% .25W MC1206 RESISTOR	51	435023
R3, R4, R7-R10, R12, R15, R16, R97, R117, R123	10.0 KOHM 1% .25W MC1206 RESISTOR	12	435028
R5, R6, R17, R18	20.0 KOHM 1% .25W MC1206 RESISTOR	4	435034
R11, R13, R14, R50, R52, R54, R100, R102, R104, R109, R110, R112, R114, R118, R124	40.2 KOHM 1% .25W MC1206 RESISTOR	15	435039
CT2, CT3	ROTARY POTENTIOMETER W/15MM SHAFT	2	500024
"AUD"/"1" SWITCH	PUSHBUTTON SWITCH GREEN LED/ NO CAP	2	510094
"PGM" SWITCH	PUSHBUTTON SWITCH RED LED/ NO CAP	1	510095
"AUX"/"UTL"/"2" SWITCH	PUSHBUTTON SWITCH YELLOW LED/ NO CAP	3	510096
"ON" SWITCH	31 SERIES PUSHBUTTON ON/OFF SWITCH	1	510112
SW1	7 POSITION SMT DIP SWITCH, TAPE SEALED	1	515002
"CR"/"HDPN" KNOB	21mm GRAY COLLET KNOB FOR 6mm SHAFT	2	520023
"CUE" KNOB	15mm GREY COLLET KNOB FOR 1/4" SHAFT	1	520038
"1"/"2"/"PGM"/"AUD"/"AUX"/"UTL" SWITCH CAP	WHITE SWITCH CAP	6	530004
"CR"/"HDPN" CAP	GRAY CAP W/BLACK LINE FOR 21mm COLLET KNOB	2	530035
"CUE" CAP	11mm BLUE/105 CAP W/BLACK LINE FOR 15mm KNOB	1	530043
"ON" SWITCH CAP	RECTANGULAR TRANSPARENT RED CAP FOR 31 SERIES SWITCH	1	530101
K1	DPDT RELAY, 5V	1	550006
"ON" LAMP	T 1 3/4 MIDGET GROOVED BASE SINGLE CHIP RED LED 5V	1	600026
PCB_IPS500	PRINTED CIRCUIT BOARD	1	700208
PCB_CRD500F	PRINTED CIRCUIT BOARD SMT	1	700220
	PEM FASTENERS	4	821012
	4-40 X .375 HEX BRASS M/F SPACER	3	823034
	#4 X 3/4" ALUMINUM HEX SPACER	6	823036
	HEATSINK FOR T-220 WITHOUT MOUNTING PIN	4	825004
F1-F4, F6	FUSE/ POLY SWITCH .3AMP SMT RESETABLE	5	835001
C77, C97, C98, C103, C104, C109-C112, C129-C137	CAPACITOR, .1μF 50V CERAMIC SMT	18	415007
R125, R126	100 OHM 5% .25W MC1206 RESISTOR	2	435007
R46, R47, R94, R95	FUSE/ POLY SWITCH .17 AMP RESETABLE	4	830043

CRD-500 CONTROL ROOM MODULE PARTS LIST (PCB_CUE500)

ITEM#	DESCRIPTION	QTY	W#
CT2	20 PIN DIP SOCKET	1	250002
U1, U2, U3	NE5532 DUAL OP-AMP	3	320008
C1, C3, C8, C12, C13	CAPACITOR, 22 μ F 25V ELECTROLYTIC SMT	5	405002
C2, C9, C19-C22	CAPACITOR, 100 μ F 25V ELECTROLYTIC SMT	7	405003
C5, C7, C10, C14, C17	CAPACITOR, 10pF 100V CERAMIC SMT	5	415001
C16	CAPACITOR, 33pF 100V CERAMIC SMT	1	415002
C4, C6, C11, C15	CAPACITOR, .1 μ F 50V CERAMIC SMT	4	415007
R13	4.99 KOHM 1% .25W MC1206 RESISTOR	1	435023
R1-R6, R9, R10	10.0 KOHM 1% .25W MC1206 RESISTOR	8	435028
R7, R8	20.0 KOHM 1% .25W MC1206 RESISTOR	2	435034
R11, R12, R14	40.2 KOHM 1% .25W MC1206 RESISTOR	3	435039
CT1	10K POT, DUAL AUDIO	1	500029
SW1	DPDT SMT SLIDE SWITCH	1	515003
PCB_CUE500	PRINTED CIRCUIT BOARD SMT	1	700302
F1, F2	FUSE/ POLYSWITCH .3AMP SMT RESETABLE	2	835001

SCD-500 STUDIO MONITOR MODULE PARTS LIST

ITEM#	DESCRIPTION	QTY	W#
SCD-500 FACEPLATE	FACEPLATE	1	001531
	3 PIN .098" PLUG FOR #26 AWG	1	230028
	6 PIN .098" PLUG FOR #26 AWG	4	230031
	8 PIN .3" DIP SMT SOCKET	18	245001
CT4, CT5	5 PIN .1" STRAIGHT HEADER	6	250023
	15 POSITION FLEX STRIP	2	250055
CT1	3 PIN .098" HEADER	1	250062
CT2, CT3, CT6, CT7	6 PIN .098" HEADER	4	250065
U3, U8	74AC14 TTL SMT TAPE & REEL ONLY	2	305027
U7	74HC30 TTL SMT	1	305028
U1, U4, U6	74LS74 TTL SMT	3	305029
U2, U5	74ACT02 TTL SMT	2	305040
U25-U33	2142 BALANCED LINE DRIVER IC	9	320004
U9-U13, U24	NE5532 DUAL OP-AMP	6	320008
U34-U37	2143 BALANCED LINE RECEIVER IC	4	320012
U38	PQ05SZ1 5V 1A REGULATOR SMT T/R	1	335001
Q1, Q2	MMBTA55 PNP SMT TRANSISTOR	2	345002
D2, D3	1N4002W RECTIFYING 1AMP SMT DIODE	2	355001
Z1, Z2	5.1V SMT ZENER DIODE C5V1	2	355002
D1	1N4148 FAST SWITCHING SMT DIODE	1	355003
U14-U23	74VHC4053 SMT	10	385001
C12-C15, C34, C35, C75, C76, C98-C110	CAPACITOR, 22μF 25V ELECTROLYTIC SMT	21	405002
C10, C24, C31-C33, C36, C40, C43, C44, C47, C48, C53, C54, C77	CAPACITOR, 100μF 25V ELECTROLYTIC SMT	14	405003
C69, C81	CAPACITOR, 330μF 25V ELECTROLYTIC SMT	2	405004
C25-C30, C112, C113	CAPACITOR, 1μF 35V ELECTROLYTIC SMT TANTALUM	8	405005
C16, C17, C22, C23, C38, C41, C51	CAPACITOR, 10pF 100V CERAMIC SMT	7	415001
C45, C49, C67, C70, C72	CAPACITOR, 33pF 100V CERAMIC SMT	5	415002
C55, C56, C58, C60-C62, C64, C66, C79, C80, C84-C87, C90-C93	CAPACITOR, 68pF 100V CERAMIC SMT	18	415003
C8	CAPACITOR, .001μF 50V CERAMIC SMT	1	415005
C1-C7, C9, C11, C18-C21, C37, C39, C42, C46, C50, C52, C57, C59, C63, C65, C68, C71, C73	CAPACITOR, .1μF 50V CERAMIC SMT	26	415007
C74, C78, C82, C83, C88, C89, C94-C97, C111	CAPACITOR, .1μF 50V CERAMIC SMT	11	415007
R82, R85	10 OHM 5% .25W MC1206 RESISTOR	2	435002
R81, R84	100 OHM 5% .25W MC1206 RESISTOR	2	435007
R19-R22, R25-R27, R29, R30, R32, R33, R35	220 OHM 5% .25W MC1206 RESISTOR	12	435009
R2, R18, R23, R24, R28, R31, R34	1.00 KOHM 1% .25W MC1206 RESISTOR	7	435015
R38, R78, R93, R95	2.43 KOHM 1% .25W MC1206 RESISTOR	4	435020

SCD-500 STUDIO MONITOR MODULE PARTS LIST

ITEM#	DESCRIPTION	QTY	W#
R1, R4-R9, R36, R37, R39, R43, R45, R47-R49, R51-R56, R58, R60, R62, R64, R66-R77, R79	4.99 KOHM 1% .25W MC1206 RESISTOR	38	435023
R80, R83, R86, R88, R90, R92, R94	4.99 KOHM 1% .25W MC1206 RESISTOR	7	435023
R3, R87	10.0 KOHM 1% .25W MC1206 RESISTOR	2	435028
R12-R15	20.0 KOHM 1% .25W MC1206 RESISTOR	4	435034
R10, R11, R16, R17, R40-R42, R44, R46, R50, R89, R91	40.2 KOHM 1% .25W MC1206 RESISTOR	12	435039
R57, R59, R61, R63, R65	49.9 KOHM 1% .25W MC1206 RESISTOR	5	435040
CT2, CT3	ROTARY POTENTIOMETER W/15MM SHAFT	2	500024
	10K POT, DUAL AUDIO	1	500029
"1"/"AUD" SWITCH	PUSHBUTTON SWITCH GREEN LED/ NO CAP	2	510094
"PGM" SWITCH	PUSHBUTTON SWITCH RED LED/ NO CAP	1	510095
"2"/"AUX"/"UTL" SWITCH	PUSHBUTTON SWITCH YELLOW LED/ NO CAP	3	510096
"TB" BUTTON	31 SERIES PUSHBUTTON ON/OFF SWITCH	2	510112
SW1	7 POSITION SMT DIP SWITCH, TAPE SEALED	1	515002
"STUDIO 1"/"STUDIO 2" KNOB	21mm GRAY COLLET KNOB FOR 6mm SHAFT	2	520023
"TALKBACK" KNOB	15mm GREY COLLET KNOB FOR 1/4" SHAFT	1	520038
"1"/"2"/"PGM"/"AUD"/"AUX"/"UTL" SWITCH CAP	WHITE SWITCH CAP	6	530004
"STUDIO 1"/"STUDIO 2" CAP	GRAY CAP W/BLACK LINE FOR 21mm COLLET KNOB	2	530035
"TALKBACK" CAP	11mm BLUE/105 CAP W/BLACK LINE FOR 15mm KNOB	1	530043
"TB" SWITCH CAP	RECTANGULAR TRANSPARENT YELLOW CAP FOR 31 SERIES SWITCH	2	530102
K1, K2	DPDT RELAY, 5V	2	550006
"TB" LAMP	T 1 3/4 MIDGET GROOVED BASE SINGLE CHIP YELLOW LED LAMP REPLACEMENT	2	600030
PCB_IPS500	PRINTED CIRCUIT BOARD	1	700208
PCB_SCD500	PRINTED CIRCUIT BOARD SMT	1	700308
	PEM FASTENERS	4	821012
	4-40 X .375 HEX BRASS M/F SPACER	3	823034
F1, F2, F4	FUSE/ POLYSWITCH .3AMP SMT RESETABLE	3	835001

SPN-5000 SUPER PHONE MODULE PARTS LIST(optional)

ITEM#	DESCRIPTION	QTY	W#
SPN-5000 FACEPLATE	FACEPLATE	1	001826
	6 PIN .098" PLUG FOR #26 AWG	2	230031
	9 PIN .098" PLUG FOR #26 AWG	2	230032
	8 PIN .3" DIP SMT SOCKET	16	245001
	14 PIN .3" DIP SMT SOCKET	1	245002
	16 PIN .3" DIP SMT SOCKET	7	245003
CT1, CT2	5 PIN .1" STRAIGHT HEADER	6	250023
	15 POSITION FLEX STRIP	2	250055
CT5, CT6	6 PIN .098" HEADER	2	250065
CT3, CT4	9 PIN .098" HEADER	2	250066
U2	4066	1	300005
U6	74ACT00 TTL SMT	1	305004
U10, U13	74ACT08 TTL SMT	2	305006
U14, U15	74ALS09 TTL SMT	2	305007
U7	74ACT32 TTL SMT	1	305010
U16	74ACT157 TTL SMT	1	305024
U3, U9	74AC14 TTL SMT TAPE & REEL ONLY	2	305027
U1, U5, U8, U11, U12	74LS74 TTL SMT	5	305029
U27-U31	2142 BALANCED LINE DRIVER IC	5	320004
U4, U20-U24, U26	NE5532 DUAL OP-AMP	7	320008
U25	2143 BALANCED LINE RECEIVER IC	1	320012
U39	PQ05SZ1 5V 1A REGULATOR SMT T/R	1	335001
U32-U34	8 PIN DUAL OPTO COUPLER	3	340021
Q1, Q2	MMBTA05 NPN SMT TRANSISTOR	2	345001
Z1, Z2	5.1V SMT ZENER DIODE C5V1	2	355002
D1-D8	1N4148 FAST SWITCHING SMT DIODE	8	355003
U17-U19, U35-U38	74VHC4053	7	380008
C20, C21, C33, C34, C42, C47, C58, C62	CAPACITOR, 22μF 25V ELECTROLYTIC SMT	8	405002
C12, C35, C56, C57, C59, C65, C74-C77	CAPACITOR, 100μF 25V ELECTROLYTIC SMT	10	405003
C22-C30, C36, C85, C86, C88, C89	CAPACITOR, 1μF 35V ELECTROLYTIC SMT TANTALUM	14	405005
C2, C18, C32, C38, C40, C41, C44, C45, C50, C52, C54, C55, C68-C71	CAPACITOR, 10pF 100V CERAMIC SMT	16	415001
C78-C80, C82, C83, C90-C92, C94, C95	CAPACITOR, 68pF 100V CERAMIC SMT	10	415003
C13	CAPACITOR, 330pF 100V CERAMIC SMT	1	415004
C60, C61, C66, C67, C72, C73	CAPACITOR, .001μF 50V CERAMIC SMT	6	415005
C1, C3-C11, C14-C17, C19, C31, C37, C39, C43, C46, C48, C49, C51, C53, C63, C64, C81, C84	CAPACITOR, .1μF 50V CERAMIC SMT	28	415007
C87, C93, C96	CAPACITOR, .1μF 50V CERAMIC SMT	3	415007

SPN-5000 SUPER PHONE MODULE PARTS LIST(optional)

ITEM#	DESCRIPTION	QTY	W#
J2	3.3 OHM 5% .25W MC1206 RESISTOR	1	435001
R86, R91	10 OHM 5% .25W MC1206 RESISTOR	2	435002
R28, R108	47 OHM 5% .25W MC1206 RESISTOR	2	435005
R2, R3	100 OHM 5% .25W MC1206 RESISTOR	2	435007
R23, R24, R26, R27, R30-R35, R37, R38, R40, R41, R43-R45, R47, R48, R50, R52, R53, R84	220 OHM 5% .25W MC1206 RESISTOR	23	435009
R90, R146-R153	220 OHM 5% .25W MC1206 RESISTOR	9	435009
R61, R66-R69	475 OHM 1% .25W MC1206 RESISTOR	5	435011
R4, R5, R22, R25, R29, R36, R39, R42, R46, R49, R51, R60, R62-R65, R85, R87, R89, R92	1.00 KOHM 1% .25W MC1206 RESISTOR	20	435015
R70, R71	1.30 KOHM 1% .25W MC1206 RESISTOR	2	435016
R136, R139, R141, R142	1.69 KOHM 1% .25W MC1206 RESISTOR	4	435017
R54, R55	2.43 KOHM 1% .25W MC1206 RESISTOR	2	435020
R1, R7, R9-R21, R56, R57, R59, R72, R75, R94, R96, R98, R103-R107, R112, R116, R121-R133	4.99 KOHM 1% .25W MC1206 RESISTOR	43	435023
R137, R138, R140, R143	8.45 KOHM 1% .25W MC1206 RESISTOR	4	435026
R6, R8, R58, R73, R74, R76-R79, R88, R93, R101, R102, R109-R111, R113-R115, R117-R120	10.0 KOHM 1% .25W MC1206 RESISTOR	23	435028
R80, R83	22.1 KOHM 1% .25W MC1206 RESISTOR	2	435036
R95, R97, R99, R100	40.2 KOHM 1% .25W MC1206 RESISTOR	4	435039
R134, R135, R144, R145	53.6 KOHM 1% .25W MC1206 RESISTOR	4	435041
R81, R82	88.7 KOHM 1% .25W MC1206 RESISTOR	2	435043
CR1, CR2	10K 15 TURN TRIM POT	2	500014
CR3-CR7	10K TRIM POT SMT	5	505002
"FEED FLW"/"AUD" SWITCH	PUSHBUTTON SWITCH GREEN LED/ NO CAP	2	510094
"PGM"/"CALLERS"/"FEED" SWITCH	PUSHBUTTON SWITCH RED LED/ NO CAP	4	510095
"AUX"/"UTL"/"LINK"/"DROP" SWITCH	PUSHBUTTON SWITCH YELLOW LED/ NO CAP	5	510096
"START"/"OFF" SWITCH	31 SERIES PUSHBUTTON ON/OFF SWITCH	2	510112
SW1-SW4	4 POSITION SMT DIP SWITCH, TAPE SEALED	4	515001
FADER KNOB	BLUE FADER KNOB, 11mm FOR 3000 SERIES FADER	2	520002
"FEED FLW"/"CALLERS" SWITCH CAP	RED SWITCH CAP	3	530003
"FEED FLW"/"LINK"/"PGM"/"AUD"/"AUX"/"UTL" SWITCH CAP	WHITE SWITCH CAP	6	530004
"DROP" SWITCH CAP	YELLOW SWITCH CAP	2	530005
"START" SWITCH	RECTANGULAR TRANSPARENT RED CAP FOR 31 SERIES SWITCH	1	530101
"OFF" SWITCH	RECTANGULAR TRANSPARENT YELLOW CAP FOR 31 SERIES SWITCH	1	530102
CT3, CT4	10K FADER,SINGLE AUDIO TAPER, 3000 SERIES	2	540020
"MXM 1" BUTTON	RECTANGULAR GREEN DIFFUSED LED, TRANSPARENT SIDES	1	600000
"EXT" BUTTON	RECTANGULAR RED DIFFUSED LED, TRANSPARENT SIDES	1	600001
"MXM 2" BUTTON	RECTANGULAR YELLOW DIFFUSED LED, TRANSPARENT SIDES	1	600002
"ON AIR" BUTTON	RECTANGULAR RED LED	1	600004

SPN-5000 SUPER PHONE MODULE PARTS LIST(optional)			
ITEM#	DESCRIPTION	QTY	W#
"START" LAMP	T 1 3/4 MIDGET GROOVED BASE SINGLE CHIP RED LED 5V	1	600026
"OFF" LAMP	T 1 3/4 MIDGET GROOVED BASE SINGLE CHIP YELLOW LED LAMP REPLACEMENT	1	600030
PCB_SPN5000	PRINTED CIRCUIT BOARD SMT	1	700356
PCB_PNS5000	PRINTED CIRCUIT BOARD	1	700357
	PEM FASTENERS	4	821012
	4-40 X .375 HEX BRASS M/F SPACER	3	823034
	BRACKET FOR EAO SWITCH	2	823042
F1-F3	FUSE/ POLYSWITCH .3AMP SMT RESETABLE	3	835001

LS-5000 LINE SELECTOR MODULE PARTS LIST (optional)

ITEM#	DESCRIPTION	QTY	W#
LS-5000 FACEPLATE	FACEPLATE	1	001529
U1, U16-U31	8 PIN .3" DIP SMT SOCKET	17	245001
	14 PIN .3" DIP SMT SOCKET	10	245002
U11-U15	16 PIN .3" DIP SMT SOCKET	5	245003
CT1, CT2	5 PIN .1" STRAIGHT HEADER	6	250023
	15 POSITION FLEX STRIP	2	250055
U5	74HC30	1	300028
U4, U6, U8, U9	74HC74	4	300035
U2, U3, U10	74HC14	3	300053
U30, U31	2142 BALANCED LINE DRIVER IC	2	320004
U1	NE5532 DUAL OP-AMP	1	320008
U16-U29	2143 BALANCED LINE RECEIVER IC	14	320012
Q1	PQ05SZ1 5V 1A REGULATOR SMT T/R	1	335001
Z1, Z2	5.1V SMT ZENER DIODE C5V1	2	355002
D1	1N4148 FAST SWITCHING SMT DIODE	1	355003
U11-U15	74VHC4053	5	380008
C18, C19, C66	CAPACITOR, 22μF 25V ELECTROLYTIC SMT	3	405002
C1, C6, C21, C30, C32, C33, C35, C36, C38, C39, C41, C42, C44, C45, C47, C48, C50, C64, C65, C67	CAPACITOR, 100μF 25V ELECTROLYTIC SMT	18	405003
C65, C67	CAPACITOR, 100μF 25V ELECTROLYTIC SMT	2	405003
C16, C17, C22-C29	CAPACITOR, 1μF 35V ELECTROLYTIC SMT TANTALUM	10	405005
C3, C4	CAPACITOR, 10pF 100V CERAMIC SMT	2	415001
C51, C53, C61, C63	CAPACITOR, 68pF 100V CERAMIC SMT	4	415003
C20	CAPACITOR, .001μF 50V CERAMIC SMT	1	415005
C2, C5, C7-C15, C31, C34, C37, C40, C43, C46, C49, C52, C54-C60, C62, C68, C69	CAPACITOR, .1μF 50V CERAMIC SMT	29	415007
R7-R14, R17-R24	220 OHM 5% .25W MC1206 RESISTOR	16	435009
R15, R39-R46	1.00 KOHM 1% .25W MC1206 RESISTOR	9	435015
R5, R6	1.30 KOHM 1% .25W MC1206 RESISTOR	2	435016
R2, R3, R16, R25-R38	4.99 KOHM 1% .25W MC1206 RESISTOR	17	435023
R1, R4	40.2 KOHM 1% .25W MC1206 RESISTOR	2	435039
"OFF"/"1"- "7" SWITCH	PUSHBUTTON SWITCH RED LED/ NO CAP	8	510095
"OFF" SWITCH CAP	RED SWITCH CAP	1	530003
"1"- "7" SWITCH CAP	WHITE SWITCH CAP	7	530004
PCB_UTS6000	PRINTED CIRCUIT BOARD	1	700129
PCB_LS5000	PRINTED CIRCUIT BOARD SMT	1	700350
	PEM FASTENERS	4	821012
	4-40 X .375 HEX BRASS M/F SPACER	6	823034

LS-5000 LINE SELECTOR MODULE PARTS LIST (optional)			
ITEM#	DESCRIPTION	QTY	W#
F1, F2	FUSE/ POLYSWITCH .3AMP SMT RESETABLE	3	<i>835001</i>

LSD-500 LINE SELECT (DIGITAL) MODULE PARTS LIST (optional)

ITEM#	DESCRIPTION	QTY	W#
LSD-500 FACEPLATE	FACEPLATE	1	001529
J1	40 PIN BREAKAWAY HEADER STRIPS, STRAIGHT .1" SIL	.05	250016
CT1, CT2	5 PIN .1" STRAIGHT HEADER	6	250023
	15 POSITION FLEX STRIP	2	250055
U1, U12	74ABT244 TTL SMT	2	305002
U4, U9	74AC14 TTL SMT TAPE & REEL ONLY	2	305027
U6	74HC30 TTL SMT	1	305028
U2, U5, U7, U11	74LS74 TTL SMT	4	305029
U3, U8, U10	74ACT02 TTL SMT	3	305040
U13	PQ05SZ1 5V 1A REGULATOR SMT T/R	1	335001
Z1	6.2V 1W ZENER DIODE	1	350013
D1, D26	1N4148 FAST SWITCHING SMT DIODE	2	355003
D2-D25	SS14 SCHOTTKY SMT DIODE	24	355004
C25	CAPACITOR, 22μF 25V ELECTROLYTIC SMT	1	405002
C6, C23, C24, C26	CAPACITOR, 100μF 25V ELECTROLYTIC SMT	4	405003
C1-C4, C7-C10	CAPACITOR, 1μF 35V ELECTROLYTIC SMT TANTALUM	8	405005
C11-C22, C27-C30	CAPACITOR, .1μF 50V CERAMIC SMT	16	415007
R31-R42	10 OHM 5% .25W MC1206 RESISTOR	12	435002
R1-R8, R10-R17, R29	220 OHM 5% .25W MC1206 RESISTOR	17	435009
R28	332 OHM 1% .25W MC1206 RESISTOR	1	435010
R18-R24, R26, R27	1.00 KOHM 1% .25W MC1206 RESISTOR	9	435015
R9, R30, R43-R45	4.99 KOHM 1% .25W MC1206 RESISTOR	5	435023
R25	10.0 KOHM 1% .25W MC1206 RESISTOR	1	435028
"1"-8" SWITCH	PUSHBUTTON SWITCH RED LED/ NO CAP	8	510095
"1"-8" SWITCH CAP	WHITE SWITCH CAP	8	530004
PCB_UTS6000	PRINTED CIRCUIT BOARD	1	700129
PCB_LSD500	PRINTED CIRCUIT BOARD SMT	1	700224
	LSD-500 "MYDATA" LOADING PROGRAM	1	750014
	LSD-500 "CAMELOT" PASTING PROGRAM	1	751014
	LSD-500 "ASYMTEK" PASTING PROGRAM	1	752014
	PEM FASTENERS	4	821012
	4-40 X .375 HEX BRASS M/F SPACER	6	823034
F2, F3, F5	FUSE/ POLY SWITCH 1.1AMP RESETABLE	3	830027
F7	FUSE/ POLY SWITCH .3AMP SMT RESETABLE	1	835001
C5	CAPACITOR, .001μF 50V CERAMIC SMT	1	415005
F1, F4, F6	FUSE/ POLY SWITCH 1.0AMP SMT RESETABLE	3	835002

LSR-500 LINE SELECT RACKMOUNT MODULE PARTS LIST (optional)			
ITEM#	DESCRIPTION	QTY	W#
LSR-500 FACEPLATE	FACEPLATE	1	001530
CT3, CT5	DB-9 RIGHT ANGLE PC MOUNT CONNECTOR	2	220016
CT1, CT2, CT4, CT6, CT7	RIGHT ANGLE IDD 25 PIN PC MOUNT CONNECTOR	5	220017
U1-U5, U9-U13, U18-U22, U27-U31, U37-U39, T1-T9	8 PIN .3" DIP SMT SOCKET	33	245001
CT9	14 PIN .3" DIP SMT SOCKET	1	245002
U40-U45	16 PIN .3" DIP SMT SOCKET	6	245003
U15	44 PIN PLCC SMT SOCKET	1	245013
J1-J4, J6	40 PIN BREAKAWAY HEADER STRIPS, STRAIGHT .1" SIL	.25	250016
U26	74ABT244 TTL SMT Octal Buffer	1	305002
U23, U24, U32	74ACT32 TTL SMT Quad 2-Input OR	3	305010
U8, U17, U34	AM26C32 TTL SMT	3	305023
U14	74HC148 TTL SMT Priority Encoder	1	305046
U6, U25	74HC251 TTL SMT 1-of-8 Mux	2	305047
U35	CS4390 24 BIT DAC	1	310067
U16	CS8412 AES RECEIVER SMT	1	315008
U7	CS8402 AES TRANSMITTER SMT	1	315011
U15	XC9536 EPROM SMT	1	315017
U33	AK5392 24 BIT 48 KHZ ADC SMT	1	315035
U1, U9	2142 BALANCED LINE DRIVER IC	2	320004
U18, U27, U36-U39	NE5532 DUAL OP-AMP	6	320008
U2-U5, U10-U13, U19-U22, U28-U31	2143 BALANCED LINE RECEIVER IC	16	320012
Q1	LM2940 5V LOW DROP OUT VOLTAGE REGULATOR 2940	1	330017
Q2, Q3	PQ05SZ1 5V 1A REGULATOR SMT T/R	2	335001
Z1, Z4	6.2V 1W ZENER DIODE	2	350013
D14, D15, D17	1N4002W RECTIFYING 1AMP SMT DIODE	3	355001
Z2, Z3	5.1V SMT ZENER DIODE C5V1	2	355002
D39	1N4148 FAST SWITCHING SMT DIODE	2	355003
D1-D13, D16, D18-D38	SS14 SCHOTTKY SMT DIODE	35	355004
CT9	24.576 MHZ CRYSTAL (OSCILLATOR)	1	370012
U40-U45	74VHC4053	6	380008
L1	FERRITE BEAD	1	400024
C61, C81	CAPACITOR, 10μF 50V ELECTROLYTIC SMT	2	405001
C12-C15, C36-C39, C55-C58, C86-C89, C115, C127, C128	CAPACITOR, 22μF 25V ELECTROLYTIC SMT	19	405002
C47, C50, C67, C69, C84, C91, C107, C110-C112, C121-C123, C126, C138	CAPACITOR, 100μF 25V ELECTROLYTIC SMT	15	405003
C8, C9	CAPACITOR, 330μF 25V ELECTROLYTIC SMT	2	405004
C60, C94, C114, C117, C118, C130, C132	CAPACITOR, 1μF 35V ELECTROLYTIC SMT TANTALUM	7	405005

LSR-500 LINE SELECT RACKMOUNT MODULE PARTS LIST (optional)			
ITEM#	DESCRIPTION	QTY	W#
C48, C54, C68, C85, C108, C125	CAPACITOR, 10pF 100V CERAMIC SMT	6	415001
C6, C7, C21, C22	CAPACITOR, 68pF 100V CERAMIC SMT	4	415003
C104, C105, C119, C120	CAPACITOR, 330pF 100V CERAMIC SMT	4	415004
C51, C63	CAPACITOR, .01μF 50V CERAMIC SMT	2	415006
C1-C5, C10, C11, C16-C20, C23-C35, C40-C46, C49, C52, C53, C59, C62, C64-C66, C70-C78	CAPACITOR, .1μF 50V CERAMIC SMT	49	415007
C80, C82, C90, C95, C96, C103, C106, C109, C113, C124, C129, C131	CAPACITOR, .1μF 50V CERAMIC SMT	12	415007
C79, C83	CAPACITOR, .22μF 50V CERAMIC SMT	2	415009
C97, C98, C101, C102, C116, C133, C136, C137	CAPACITOR, 390pF 50V FILM SMT	8	425001
C99, C100, C134, C135	CAPACITOR, 2200pF 50V FILM SMT	4	425003
C92, C93	CAPACITOR, 3900pF 50V FILM SMT	2	425004
R90, R91, R93, R94, J5	10 OHM 5% .25W MC1206 RESISTOR	5	435002
R19, R21, R23, R25, R27, R29, R31, R33, R36, R37, R40, R41, R103, R106, R144, R148	39 OHM 5% .25W MC1206 RESISTOR	16	435004
R9-R11, R13-R18, R50-R55, R66-R71, R75, R76, R83-R89, R105, R107, R108, R110, R111, R112	220 OHM 5% .25W MC1206 RESISTOR	36	435009
R143, R147, R152	220 OHM 5% .25W MC1206 RESISTOR	3	435009
R154, R155	475 OHM 1% .25W MC1206 RESISTOR	2	435011
R20, R22, R24, R26, R28, R30, R32, R34, R35, R38, R39, R42, R47, R60, R65, R72, R78-R80	1.00 KOHM 1% .25W MC1206 RESISTOR	19	435015
R82	1.00 KOHM 1% .25W MC1206 RESISTOR	1	435015
R97, R100, R131, R135, R158, R161	1.30 KOHM 1% .25W MC1206 RESISTOR	6	435016
R104, R109, R145, R149	2.43 KOHM 1% .25W MC1206 RESISTOR	4	435020
R12, R43-R46, R48, R49, R58, R59, R61-R64, R73, R77, R92, R113, R114, R116-R130	4.99 KOHM 1% .25W MC1206 RESISTOR	33	435023
R132-R134, R136-R138, R140-R142, R146, R151, R153	4.99 KOHM 1% .25W MC1206 RESISTOR	12	435023
R95, R98, R156, R159	5.49 KOHM 1% .25W MC1206 RESISTOR	4	435024
R1-R8, R101	10.0 KOHM 1% .25W MC1206 RESISTOR	9	435028
R96, R99, R102, R157, R160	16.5 KOHM 1% .25W MC1206 RESISTOR	5	435033
R56, R57, R74, R81, R115, R139, R150	40.2 KOHM 1% .25W MC1206 RESISTOR	7	435039
CR1-CR6	10K TRIM POT SMT	6	505002
SW1, SW2	4 POSITION SMT DIP SWITCH, TAPE SEALED	2	515001
SW3-SW10	DPDT SMT SLIDE SWITCH	8	515003
DS1-DS11	RED LED	11	600017
PCB_LSR500	PRINTED CIRCUIT BOARD SMT	1	700223
T1, T2, T4-T9	PULSE TRANSFORMER	8	810004
T3	PULSE TRANSFORMER SMT	1	815000
	D SUB STANDOFFJACK HARDWARE 3/16" LONG	14	820047
	MOUNTING BRACKET	3	823002
F1-F3	FUSE/ POLYSWITCH 1.0AMP SMT RESETABLE	3	835002

ICMD-500 INTERCOM MODULE PARTS LIST (optional)

ITEM#	DESCRIPTION	QTY	W#
ICMD-500 FACEPLATE	FACEPLATE	1	001536
CT1-CT4	5 PIN .1" STRAIGHT HEADER	12	250023
U1	74LS74	1	300046
U3, U4	NE5532 DUAL OP-AMP	2	320008
U5, U6	2143 BALANCED LINE RECEIVER IC	2	320012
Q7	PQ05SZ1 5V 1A REGULATOR SMT T/R	1	335001
D5-D28	PQ05SZ1 5V 1A REGULATOR SMT T/R	24	335001
Q2, Q3	MMBTA05 NPN SMT TRANSISTOR	2	345001
Q1, Q4-Q6	MMBTA55 PNP SMT TRANSISTOR	4	345002
Z1, Z2	5.1V SMT ZENER DIODE C5V1	2	355002
D1-D4, D29-D36	1N4148 FAST SWITCHING SMT DIODE	12	355003
U2	74VHC4053	1	380008
C11, C12, C36	CAPACITOR, 22 μ F 25V ELECTROLYTIC SMT	3	405002
C3, C4, C10, C14, C17, C23, C26, C28, C30, C34, C35, C37	CAPACITOR, 100 μ F 25V ELECTROLYTIC SMT	12	405003
C7	CAPACITOR, 1 μ F 35V ELECTROLYTIC SMT TANTALUM	1	405005
C2	TRIMMER CAPACITOR	1	410001
C15, C18, C21, C24	CAPACITOR, 10pF 100V CERAMIC SMT	4	415001
C1, C19, C27	CAPACITOR, .001 μ F 50V CERAMIC SMT	3	415005
C5, C6, C8, C9, C13, C16, C20, C22, C25, C29, C31-C33, C38, C39	CAPACITOR, .1 μ F 50V CERAMIC SMT	15	415007
R13, R16	10 OHM 5% .25W MC1206 RESISTOR	2	435002
R20	47 OHM 5% .25W MC1206 RESISTOR	1	435005
R3	150 OHM 5% .25W MC1206 RESISTOR	1	435008
R5, R11	220 OHM 5% .25W MC1206 RESISTOR	2	435009
R1, R10, R32, R38	1.00 KOHM 1% .25W MC1206 RESISTOR	4	435015
R4, R17, R26, R27	1.30 KOHM 1% .25W MC1206 RESISTOR	4	435016
R2	1.69 KOHM 1% .25W MC1206 RESISTOR	1	435017
R7, R9, R28	2.43 KOHM 1% .25W MC1206 RESISTOR	3	435020
R6, R8, R12, R14, R15, R18, R22, R23, R25, R35	4.99 KOHM 1% .25W MC1206 RESISTOR	10	435023
R19, R33, R34, R36, R37, R40	10.0 KOHM 1% .25W MC1206 RESISTOR	6	435028
R21, R24, R29-R31, R39	40.2 KOHM 1% .25W MC1206 RESISTOR	6	435039
CR2	10K 15 TURN TRIM POT	1	500014
CR1	50K 15 TURN TRIM POT	1	500015
SW1, SW10	4 POSITION SMT DIP SWITCH, TAPE SEALED	2	515001
SW2-SW9	DPDT SMT SLIDE SWITCH	8	515003
F1, F4-F6	FUSE/ POLYSWITCH .3AMP SMT RESETABLE	4	835001
F2, F3	FUSE/ POLYSWITCH 1.0AMP SMT RESETABLE	2	835002

TRD-500/FF TAPE REMOTE MODULE PARTS LIST (optional)

ITEM#	DESCRIPTION	QTY	W#
TRD-500 FACEPLATE	FACEPLATE	1	001535
CT1-CT4	5 PIN .1" STRAIGHT HEADER	12	250023
	15 POSITION FLEX STRIP	4	250055
R1-R12	1.0 KOHM 5% .25W CARBON FILM RESISTOR	12	430221
REW/"STOP"/"PLAY" SWITCH	PUSHBUTTON SWITCH GREEN LED/ NO CAP	6	510094
RTZ/FF/"REC" SWITCH	PUSHBUTTON SWITCH RED LED/ NO CAP	6	510095
"PLAY" SWITCH CAP	GREEN SWITCH CAP	2	530001
"REC" SWITCH CAP	RED SWITCH CAP	2	530003
RTZ/FF/REW SWITCH CAP	WHITE SWITCH CAP	6	530004
"STOP" SWITCH CAP	YELLOW SWITCH CAP	2	530005
PCB_UTS6000	PRINTED CIRCUIT BOARD	2	700129
PCB_TRD500	PRINTED CIRCUIT BOARD	1	700225
	PEM FASTENERS	3	821012
	4-40 X .375 HEX BRASS M/F SPACER	12	823034

TRD-500/SS TAPE REMOTE MODULE PARTS LIST (optional)

ITEM#	DESCRIPTION	QTY	W#
TRD-500 FACEPLATE	FACEPLATE	1	001535
CT1-CT4	5 PIN .1" STRAIGHT HEADER	12	250023
	15 POSITION FLEX STRIP	4	250055
R1-R12	1.0 KOHM 5% .25W CARBON FILM RESISTOR	12	430221
"STOP" SWITCH	PUSHBUTTON SWITCH GREEN LED/ NO CAP	6	510094
"START" SWITCH	PUSHBUTTON SWITCH RED LED/ NO CAP	6	510095
"STOP" SWITCH CAP	GREEN SWITCH CAP	6	530001
"START" SWITCH CAP	YELLOW SWITCH CAP	6	530005
PCB_UTS6000	PRINTED CIRCUIT BOARD	2	700129
PCB_TRD500	PRINTED CIRCUIT BOARD	1	700225
	PEM FASTENERS	4	821012
	4-40 X .375 HEX BRASS M/F SPACER	12	823034

MOD-500 METER OUTPUT MODULE PARTS LIST

ITEM#	DESCRIPTION	QTY	W#
MOD-500 FACEPLATE	FACEPLATE	1	001527
	8 PIN .3" DIP SMT SOCKET	7	245001
CT1-CT3	5 PIN .1" STRAIGHT HEADER	9	250023
	15 POSITION FLEX STRIP	3	250055
U1	74ACT32 TTL SMT	1	305010
U10, U16	74AC14 TTL SMT TAPE & REEL ONLY	2	305027
U11	74HC30 TTL SMT	1	305028
U12, U14, U15	74LS74 TTL SMT	3	305029
U5, U13, U17	74ACT02 TTL SMT	3	305040
U2-U4	TL072 DUAL BIFET OP-AMP	3	320006
U18-U21	2143 BALANCED LINE RECEIVER IC	4	320012
U22	PQ05SZ1 5V 1A REGULATOR SMT T/R	1	335001
Z1, Z2	5.1V SMT ZENER DIODE C5V1	2	355002
D1	1N4148 FAST SWITCHING SMT DIODE	1	355003
U6-U9	4053 SMT	4	385000
C19, C20, C32-C35, C41-C50, C53	CAPACITOR, 22μF 25V ELECTROLYTIC SMT	17	405002
C36, C51, C52, C54	CAPACITOR, 100μF 25V ELECTROLYTIC SMT	4	405003
C13-C17, C30	CAPACITOR, 1μF 35V ELECTROLYTIC SMT TANTALUM	6	405005
C2, C3, C5, C6, C9, C10	CAPACITOR, 33pF 100V CERAMIC SMT	6	415002
C31	CAPACITOR, .001μF 50V CERAMIC SMT	1	415005
C1, C4, C7, C8, C11, C12, C18, C21-C29, C37-C40, C55, C56	CAPACITOR, .1μF 50V CERAMIC SMT	22	415007
R11, R13-R15, R17, R18, R20-R22, R24, R25, R27, R45	220 OHM 5% .25W MC1206 RESISTOR	13	435009
R12, R16, R19, R23, R26, R44, R46	1.00 KOHM 1% .25W MC1206 RESISTOR	7	435015
R28, R29	2.43 KOHM 1% .25W MC1206 RESISTOR	2	435020
R50-R55	3.92 KOHM 1% .25W MC1206 RESISTOR	6	435022
R1, R4, R5, R7, R9, R10, R30, R31, R48, R49	4.99 KOHM 1% .25W MC1206 RESISTOR	10	435023
R47	10.0 KOHM 1% .25W MC1206 RESISTOR	1	435028
R2, R3, R6, R8, R32-R43	15.0 KOHM 1% .25W MC1206 RESISTOR	16	435032
CR1-CR6	50K 15 TURN TRIM POT	6	500015
"1"/"AUD" SWITCH	PUSHBUTTON SWITCH GREEN LED/ NO CAP	2	510094
"S/S"/"RESET"/"HOLD" SWITCH	PUSHBUTTON SWITCH RED LED/ NO CAP	3	510095
"2"/"AUX"/"UTL"/"AUTO" SWITCH	PUSHBUTTON SWITCH YELLOW LED/ NO CAP	4	510096
"HOLD" SWITCH CAP	BLUE SWITCH CAP	1	530002
"RESET" SWITCH CAP	RED SWITCH CAP	1	530003
"1"/"2"/"AUD"/"AUX"/"UTL"/"S/S" SWITCH CAP	WHITE SWITCH CAP	6	530004
"AUTO" SWITCH CAP	YELLOW SWITCH CAP	1	530005

MOD-500 METER OUTPUT MODULE PARTS LIST

ITEM#	DESCRIPTION	QTY	W#
"CUE" BUTTON	RECTANGULAR RED LED	1	600004
PCB_UTS6000	PRINTED CIRCUIT BOARD	1	700129
PCB_IPS500	PRINTED CIRCUIT BOARD	1	700208
PCB_MOD500	PRINTED CIRCUIT BOARD SMT	1	700216
	MOD-500 "MYDATA" LOADING PROGRAM	1	750008
	MOD-500 "CAMELOT" PASTING PROGRAM	1	751008
	MOD-500 "ASYMTEK" PASTING PROGRAM	1	752008
	PEM FASTENERS	4	821012
	4-40 X .375 HEX BRASS M/F SPACER	9	823034
F1, F2, F4	FUSE/ POLYSWITCH .3AMP SMT RESETABLE	3	835001
F3	FUSE/ POLYSWITCH 1.1AMP SMT RESETABLE	1	835002

CLK-5000 CLOCK PARTS LIST

ITEM#	DESCRIPTION	QTY	W#
U1, U4	8 PIN .3" DIP SMT SOCKET	2	245001
U6	14 PIN .3" DIP SMT SOCKET	1	245002
U1	20 PIN .3" DIP SMT SOCKET	1	245004
CT4, CT5	20 PIN DIL SOCKET	2	250057
CT1	10PIN BOXED HEADER, STRAIGHT	1	250077
U4	74AC14 TTL SMT TAPE & REEL ONLY Hex Schmitt Trigger	1	305027
U2	74LS74 TTL SMT Dual D-Type Pos-Edge-Triggered Flip-Flop	1	305029
U3	DS90C031 LVD DIFF LINE DRIVER SMT	1	305051
U6	LTC491 RS485/ RS422 INTERFACE	1	310041
U1	IC PIC16LC66-04/SP MICRO	1	310064A
U5	IC ADM690 POWER SUPERVISORY	1	310065A
Q2	LM2940 5V LOW DROP OUT VOLTAGE REGULATOR 2940	1	330017
Q1	MMBTA05 NPN SMT TRANSISTOR	1	345001
D7, D9, D10	1N4002W RECTIFYING 1AMP SMT DIODE	3	355001
D2-D6	1N4148 FAST SWITCHING SMT DIODE	5	355003
D1	SS14 SCHOTTKY SMT DIODE	1	355004
Y1	CRYSTAL 4.096 MHZ	1	370022A
E1	CAP 2.2F SUPERCAP 5.5V	1	400069A
C5, C9, C10, C16	CAPACITOR, 22μF 25V ELECTROLYTIC SMT	4	405002
C13, C14	CAPACITOR, 330μF 25V ELECTROLYTIC SMT	2	405004
C11, C17, C19	CAPACITOR, 1μF 35V ELECTROLYTIC SMT TANTALUM	3	405005
C3	TRIMMER CAPACITOR	1	410001
C4	CAPACITOR, 10pF 100V CERAMIC SMT	1	415001
C2	CAPACITOR, 33pF 100V CERAMIC SMT	1	415002
C1	CAPACITOR, 68pF 100V CERAMIC SMT	1	415003
C21-C26	CAPACITOR, .01μF 50V CERAMIC SMT	6	415006
C6-C8, C15, C18, C20	CAPACITOR, .1μF 50V CERAMIC SMT	6	415007
R21	100 OHM 5% .25W MC1206 RESISTOR	1	435007
R22, R23	619 OHM 1% .25W MC1206 RESISTOR	2	435013
R1	49.9 KOHM 1% .25W MC1206 RESISTOR	1	435040
R24	100 KOHM 1% .25W MC1206 RESISTOR	1	435044
R15, R20	10 MOHM 5% .25W MC1206 RESISTOR	2	435050
R13, R14, R19, R25, R27, R28, R31, R34, R35	20.0 KOHM 1% .25W MC1206 RESISTOR	9	435058
R2-R8, R10, R26, R29, R30, R32, R33, R36	53.6 KOHM 1% .25W MC1206 RESISTOR	14	435060
R9, R12	100 KOHM 1% .25W MC1206 RESISTOR	2	435061
R11, R16, R17	10 MOHM 5% .25W MC1206 RESISTOR	3	435062

CLK-5000 CLOCK PARTS LIST

ITEM#	DESCRIPTION	QTY	W#
SW1	PUSHBUTTON SWITCH GREEN LED/ NO CAP	1	<i>510094</i>
SW2	PUSHBUTTON SWITCH RED LED/ NO CAP	1	<i>510095</i>
SW3, SW4	4 POSITION SMT DIP SWITCH, TAPE SEALED	2	<i>515001</i>
	GREEN SWITCH CAP	1	<i>530001</i>
	CLEAR BUTTON WITH WHITE FRAME	1	<i>530266</i>
PCB_CLK220E	PRINTED CIRCUIT BOARD SMT	1	<i>700575</i>
Q2	HEATSINK FOR T-220 WITHOUT MOUNTING PIN	1	<i>825004</i>
F1	FUSE/ POLYSWITCH 1.0AMP SMT RESETABLE	1	<i>835002</i>

CLD-5000 CLOCK DISPLAY PARTS LIST

ITEM#	DESCRIPTION	QTY	W#
DS1-DS5	20 POSITION SNAP APART SOCKET, .1" SIL	3	<i>250014</i>
CT2	20 PIN BOXED HEADER, STRAIGHT	1	<i>250074</i>
U2	DS90C032 LVD DIFF LINE RECEIVER SMT	1	<i>305052</i>
U1	IC ADSP2115 DSP PROCESSOR	1	<i>315044</i>
C1, C4	CAPACITOR, 100μF 25V ELECTROLYTIC SMT	2	<i>405003</i>
C2, C3, C5-C8	CAPACITOR, .1μF 50V CERAMIC SMT	6	<i>415007</i>
R6	10 OHM 5% .25W MC1206 RESISTOR	1	<i>435002</i>
R2, R3, R5, R8	100 OHM 5% .25W MC1206 RESISTOR	4	<i>435007</i>
R1, R4	22.1 KOHM 1% .25W MC1206 RESISTOR	2	<i>435036</i>
DS1-DS6	SINGLE DIGIT LED DISPLAY	6	<i>610004</i>
PCB_CLD220	PRINTED CIRCUIT BOARD	1	<i>700590</i>

TMD-5000 TIMER DISPLAY PARTS LIST

ITEM#	DESCRIPTION	QTY	W#
DS1-DS5	20 POSITION SNAP APART SOCKET, .1" SIL	3	<i>250014</i>
CT1, CT2	40 PIN BREAKAWAY HEADER STRIPS, STRAIGHT .1" SIL	1	<i>250016</i>
U2	DS90C032 LVD DIFF LINE RECEIVER SMT	1	<i>305052</i>
U1	IC ADSP2115 DSP PROCESSOR	1	<i>315044</i>
C1, C4	CAPACITOR, 100μF 25V ELECTROLYTIC SMT	2	<i>405003</i>
C2, C3, C5-C8	CAPACITOR, .1μF 50V CERAMIC SMT	6	<i>415007</i>
R6	10 OHM 5% .25W MC1206 RESISTOR	1	<i>435002</i>
R9-R12	220 OHM 5% .25W MC1206 RESISTOR	4	<i>435009</i>
R1, R4	22.1 KOHM 1% .25W MC1206 RESISTOR	2	<i>435036</i>
DS1-6	SINGLE SEGMENT GREEN LED DISPLAY	1	<i>610018</i>
PCB_CLD220D	PRINTED CIRCUIT BOARD	1	<i>700590</i>

A-5000 FRAME PARTS LIST

ITEM#	DESCRIPTION	QTY	W#
	CHERRY ARMREST LENGTHS, L=60"	1	100028
	RIGHT CHERRY SIDEPLATE	1	100055
	LEFT CHERRY SIDEPLATE	1	100056
	25 PIN DB CONNECTOR	39	200021
	25 PIN DB CONNECTOR HOOD	39	200025
	MALE SCREW RETAINER KIT	39	200035
	VU METER	6	630003
	CARD GUIDES	68	827000
	TOOL DIE	1	850031
	TOOL HANDLE	1	850033
	SPEAKER	2	960000
	12V R32AF METER LAMP	6	620008

A-5000 SUB ASSEMBLY PARTS LIST

ITEM#	DESCRIPTION	QTY	W#
SPARE PARTS LIST	OPTIONAL SPARE PARTS FOR A5000		<i>051875</i>
STEREO FADER	WIRED 3222 FADER FOR SL-5000		<i>054662</i>
MONO FADER	WIRED 3220 MONO FADER FOR MM-5000, SPN-5000		<i>054660</i>
STEREO POT	WIRED P&G STEREO POT FOR CR OR SC		<i>051302</i>
ON/OFF SWITCH KIT	WIRED EAO SWITCH FOR INPUT MODULE "ON" OR "OFF"		<i>051305</i>

Schematic Drawings

Chapter Contents

Faceplate Drawings 14-3

Mono Mic Input (MM-5000)

flow diagram	14-4
schematic	14-5
bus chart	14-7
load sheet drawing.....	14-8

Stereo Line Input (SL-5000)

flow diagram	14-9
schematic	14-10
bus chart	14-12
load sheet drawing.....	14-13

Output Master (OM-5000)

flow diagram	14-14
schematic	14-15
load sheet drawing.....	14-16

Control Room (CRD-500 Main Card)

flow diagram	14-17
schematic	14-18
bus chart	14-20
load sheet drawing.....	14-21

Control Room (CUE-500 Card)

schematic	14-22
load sheet drawing.....	14-23

Studio Control (SCD-500)

flow diagram	14-24
schematic	14-25
bus chart	14-27
load sheet drawing.....	14-28

Meter Output (MOD-500)

flow diagram	14-29
schematic	14-30
bus chart	14-32
load sheet drawing.....	14-33

Tape Remote (TRD-500)

schematic	14-34
bus chart	14-34
load sheet drawing	14-35

Superphone (SPN-5000)

flow diagram	14-36
schematic	14-37
bus chart	14-39
load sheet drawing	14-40

Line Select (LS-5000)

flow diagram	14-41
schematic	14-42
load sheet drawing	14-43

Line Select (LSD-500)

flow diagram	14-44
schematic	14-45
bus chart	14-46
load sheet drawing	14-47

Line Select Rackmount (LSR-500)

schematic	14-48
bus chart	14-50
load sheet drawing	14-51

Intercom (ICMD-500)

flow diagram	14-52
schematic	14-53
load sheet drawing	14-54

Clock/Timer (CLK/CLD-5000)

schematic	14-55
CLK-5000 load sheet drawing	14-57
CLD-5000 load sheet drawing	14-58

A

B

SOURCE

MIC TRIM

A

B

ON AIR

PGM

AUD

AUX

UTL

ASSIGN

1

2

PAN

C

L

R

MONO INPUT

0

5

10

15

20

30

40

50

60

70

80

ON

MM-5000

MONO MIC INPUT

A5000 module #001802

A5000 faceplate #001822

A

MODE

B

STEREO

MONO

LT

RT

L

R

LINE TRIM

ON AIR

PGM

AUD

AUX

UTL

ASSIGN

1

2

BAL

C

L

R

STEREO INPUT

0

5

10

15

20

30

40

50

60

70

80

START

SL-5000

STEREO LINE INPUT

A5000 module #001801

A5000 faceplate #001821

FEED FLW

FEED

LINK

EXT

MXM 1

MXM 2

FOUR CALLERS

ON AIR

PGM

AUD

AUX

UTL

ASSIGN

1

2

DROP

1

2

CALLERS

1

2

ANSWER CUE/TB

0

5

10

15

20

30

40

50

60

70

80

START

SPN-5000

SUPERPHONE INPUT

A5000 module #001806

A5000 faceplate #001826

ANALOG TRIMS

LT

PGM

RT

GAIN

LT

AUX

RT

MASTER A

OM-5000/A

PGM/AUX OUTPUT

A5000 module #001803

D500 faceplate #001525

ANALOG TRIMS

LT

AUD

RT

GAIN

LT

UTL

RT

MASTER B

OM-5000/B

AUDI/UTL OUTPUT

A5000 module #001804

D500 faceplate #001526

1

2

EXTERNAL STEREO

PGM

AUD

AUX

UTL

SELECT

CONTROL ROOM

4

5

6

7

8

9

10

CUE

3

2

1

0

4

5

6

7

8

9

10

HEADPHONE

3

2

1

0

4

5

6

7

8

9

10

CONTROL ROOM

ON

CRD-500

(D500 CONTROL ROOM)

D500 module #001508

D500 faceplate #001528

1

2

EXTERNAL STEREO

PGM

AUD

AUX

UTL

SELECT

STUDIO

4

5

6

7

8

9

10

TALKBACK

3

2

1

0

4

5

6

7

8

9

10

STUDIO 2

TB

3

2

1

0

4

5

6

7

8

9

10

STUDIO 1

TB

SCD-500

(D500 STUDIO MONITOR)

D500 module #001511

D500 faceplate #001531

1

2

EXTERNAL STEREO

CUE

AUD

AUX

UTL

SELECT

SWITCHED VU

LT

PGM

RT

LT

AUD

RT

LT

SWT

RT

VU TRIM

AUTO

S / S

RESET

HOLD

TIMER

MOD-500

(D500 METER OUTPUT)

D500 module #001507

D500 faceplate #001527

PRESELECT

1

2

3

4

5

6

7

OFF

SOURCE

LS-5000

A-5000 LINE SELECTOR

(stand-alone analog module)

A5000 module #001805

D500 faceplate #001529

PRESELECT

1

2

3

4

5

6

7

8

SOURCE

LSD-500

(D500 LINE SELECT)

(controls LSR-500 rackmount unit)

D500 module #001509

D500 faceplate #001529

STOP

<<

>>

STOP

REC

PLAY

TRD-500/FF

(D500 TAPE REMOTE)

D500 module #001515

D500 faceplate #001535

START

STOP

START

STOP

START

STOP

TRD-500/SS

(D500 TAPE REMOTE)

D500 module #001517

D500 faceplate #001535

MIC

NULL

BUSY

PRIVACY

INTERCOM

1

2

3

4

5

6

7

8

STATION

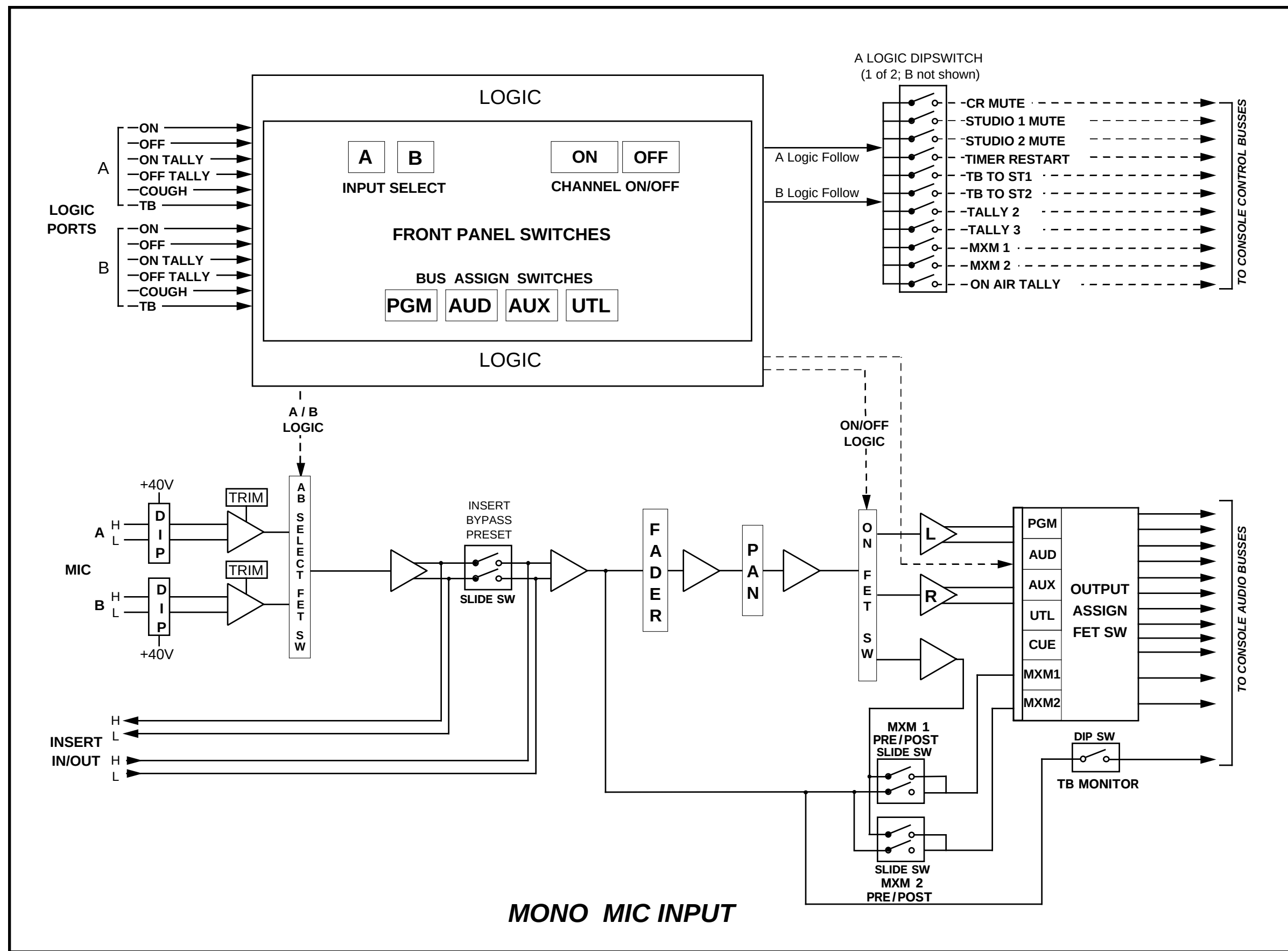
ICMD-500

(D500 INTERCOM)

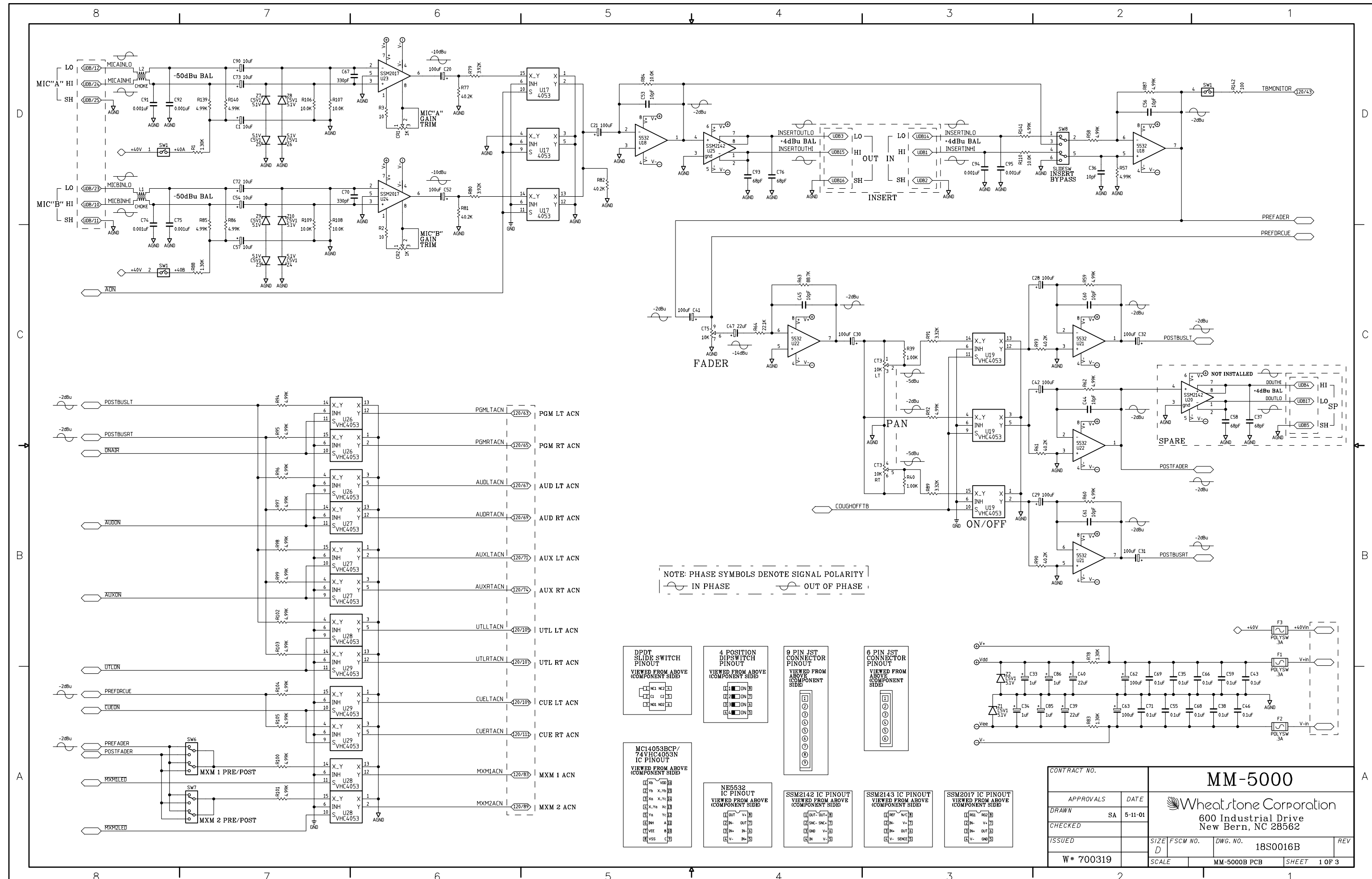
D500 module #001516

D500 faceplate #001536

A-5000 Audio Console - Module Faceplates



MM-5000 Mono Mic Input Module - Signal Flow Diagram



MM-5000 Mono Mic Input Module Schematic -
Sheet 1 of 3

74AC08
IC PINOUT
VIEWED FROM ABOVE
(COMPONENT SIDE)

1a

2a

3a

4a

5a

6a

7a

8a

9a

10a

11a

12a

13a

14a

15a

16a

17a

18a

19a

20a

21a

22a

23a

24a

25a

26a

27a

28a

29a

30a

31a

32a

33a

34a

35a

36a

37a

38a

39a

40a

41a

42a

43a

44a

45a

46a

47a

48a

49a

50a

51a

52a

53a

54a

55a

56a

57a

58a

59a

60a

61a

62a

63a

64a

65a

66a

67a

68a

69a

70a

71a

72a

73a

74a

75a

76a

77a

78a

79a

80a

81a

82a

83a

84a

85a

86a

87a

88a

89a

90a

91a

92a

93a

94a

95a

96a

97a

98a

99a

100a

74LS09
IC PINOUT
VIEWED FROM ABOVE
(COMPONENT SIDE)

1a

2a

3a

4a

5a

6a

7a

8a

9a

10a

11a

12a

13a

14a

15a

16a

17a

18a

19a

20a

21a

22a

23a

24a

25a

26a

27a

28a

29a

30a

31a

32a

33a

34a

35a

36a

37a

38a

39a

40a

41a

42a

43a

44a

45a

46a

47a

48a

49a

50a

51a

52a

53a

54a

55a

56a

57a

58a

59a

60a

61a

62a

63a

64a

65a

66a

67a

68a

69a

70a

71a

72a

73a

74a

75a

76a

77a

78a

79a

80a

81a

82a

83a

84a

85a

86a

87a

88a

89a

90a

91a

92a

93a

94a

95a

96a

97a

98a

99a

100a

74AC32
IC PINOUT
VIEWED FROM ABOVE
(COMPONENT SIDE)

1a

2a

3a

4a

5a

6a

7a

8a

9a

10a

11a

12a

13a

14a

15a

16a

17a

18a

19a

20a

21a

22a

23a

24a

25a

26a

27a

28a

29a

30a

31a

32a

33a

34a

35a

36a

37a

38a

39a

40a

41a

42a

43a

44a

45a

46a

47a

48a

49a

50a

51a

52a

53a

54a

55a

56a

57a

58a

59a

60a

61a

62a

63a

64a

65a

66a

67a

68a

69a

70a

71a

72a

73a

74a

75a

76a

77a

78a

79a

80a

81a

82a

83a

84a

85a

86a

87a

88a

89a

90a

91a

92a

93a

94a

95a

96a

97a

98a

99a

100a

74AC14
IC PINOUT
VIEWED FROM ABOVE
(COMPONENT SIDE)

1a

2a

3a

4a

5a

6a

7a

8a

9a

10a

11a

12a

13a

14a

15a

16a

17a

18a

19a

20a

21a

22a

23a

24a

25a

26a

27a

28a

29a

30a

31a

32a

33a

34a

35a

36a

37a

38a

39a

40a

41a

42a

43a

44a

45a

46a

47a

48a

49a

50a

51a

52a

53a

54a

55a

56a

57a

58a

59a

60a

61a

62a

63a

64a

65a

66a

67a

68a

69a

70a

71a

72a

73a

74a

75a

76a

77a

78a

79a

80a

81a

82a

83a

84a

85a

86a

87a

88a

89a

90a

91a

92a

93a

94a

95a

96a

97a

98a

99a

100a

74LS74
IC PINOUT
VIEWED FROM ABOVE
(COMPONENT SIDE)

1a

2a

3a

4a

5a

6a

7a

8a

9a

10a

11a

12a

13a

14a

15a

16a

17a

18a

19a

20a

21a

22a

23a

24a

25a

26a

27a

28a

29a

30a

31a

32a

33a

34a

35a

36a

37a

38a

39a

40a

41a

42a

43a

44a

45a

46a

47a

48a

49a

50a

51a

52a

53a

54a

55a

56a

57a

58a

59a

60a

61a

62a

63a

64a

65a

66a

67a

68a

69a

70a

71a

72a

73a

74a

75a

76a

77a

78a

79a

80a

81a

82a

83a

84a

85a

86a

87a

88a

89a

90a

91a

92a

93a

94a

95a

96a

97a

98a

99a

100a

4 POSITION
DIPSWITCH
PINOUT
VIEWED FROM ABOVE
(COMPONENT SIDE)

1

2

3

4

PO05SZ1
IC PINOUT
VIEWED FROM ABOVE
(COMPONENT SIDE)

1

2

3

4

5

6

3 PIN JST
CONNECTOR
PINOUT
VIEWED FROM
ABOVE
(COMPONENT
SIDE)

1

2

3

6 PIN JST
CONNECTOR
PINOUT
VIEWED FROM
ABOVE
(COMPONENT
SIDE)

1

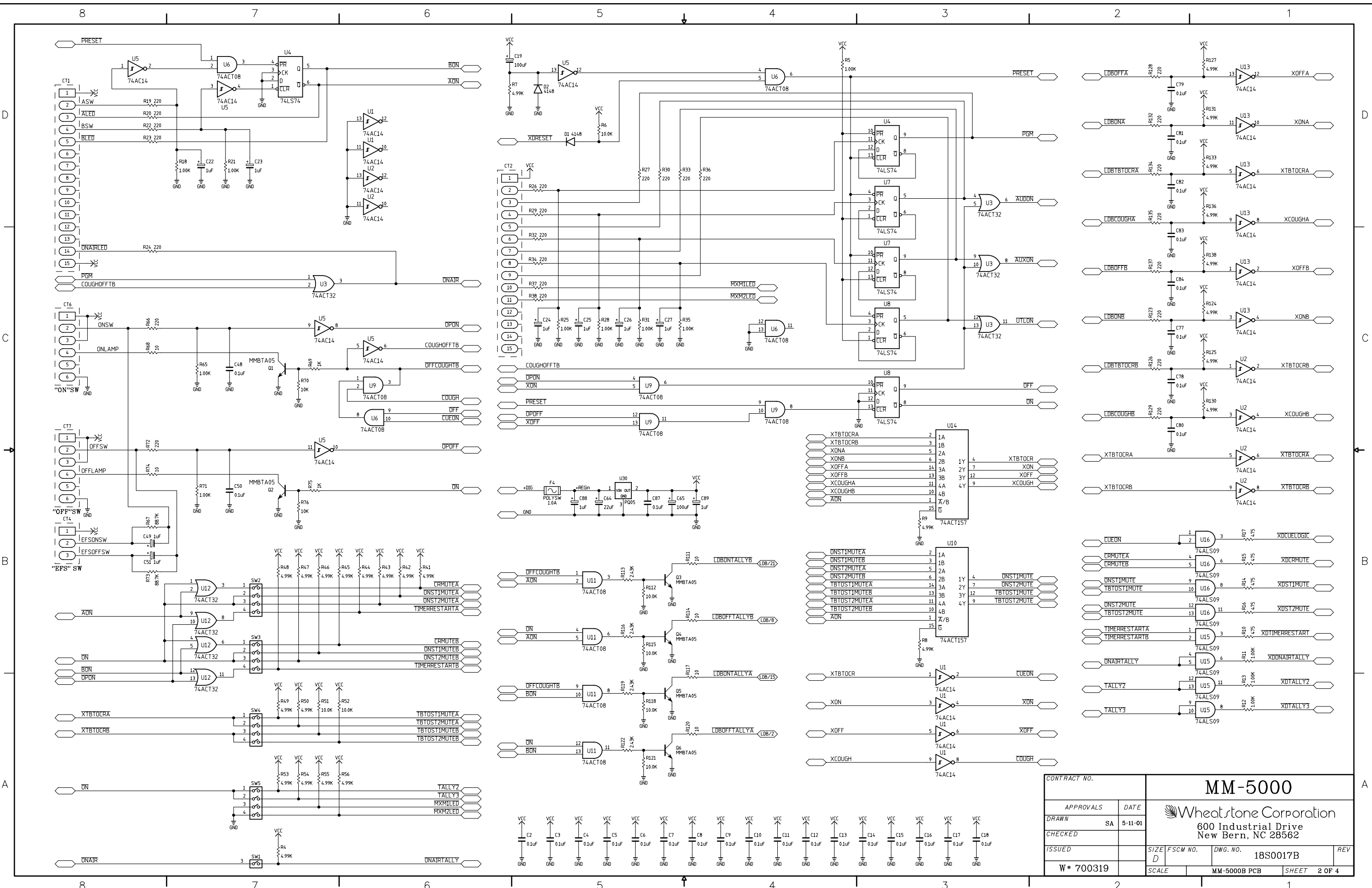
2

3

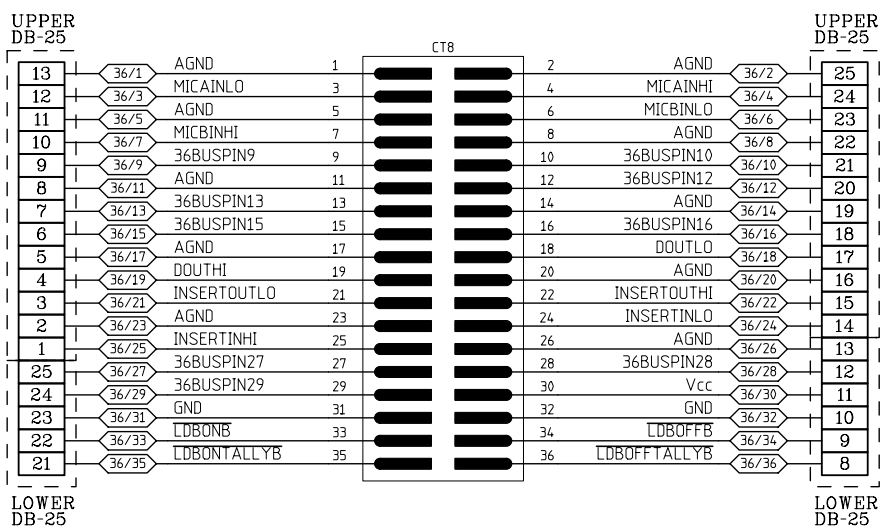
4

5

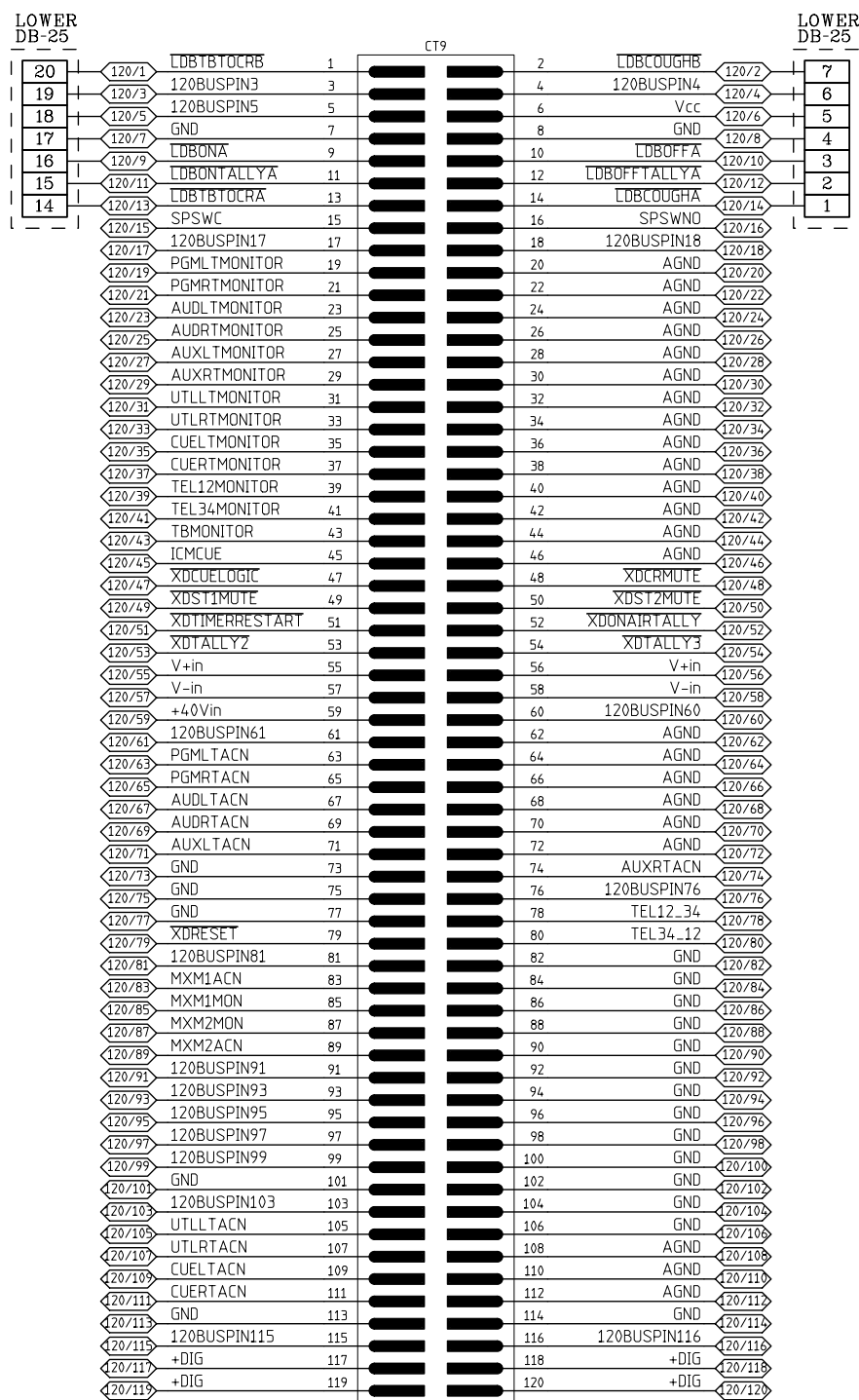
6



36 PIN EDGE CONNECTOR



120 PIN EDGE CONNECTOR



CONNECTORS
BUSS CHART

CONTRACT NO.		MM-5000			
APPROVALS	DATE	Wheatstone Corporation 600 Industrial Drive New Bern, NC 28562			
DRAWN SA	5-11-01				
CHECKED					
ISSUED		SIZE C	FSCM NO.	DWG. NO. 18S0018B	REV -
W* 700319		SCALE	MM-5000B PCB	SHEET	3 OF 4

A

B

1 MIC

2

ON AIR

PGM

AUD

AUX

UTL

ASSIGN

MONO INPUT

0

5

10

15

20

30

40

50

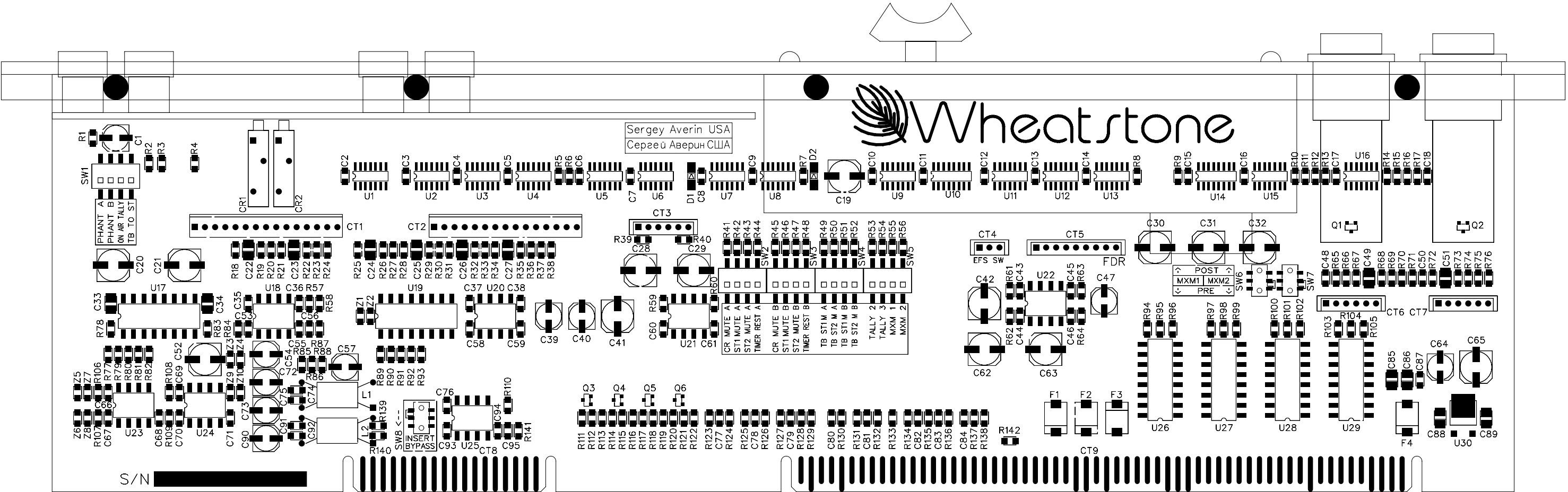
60

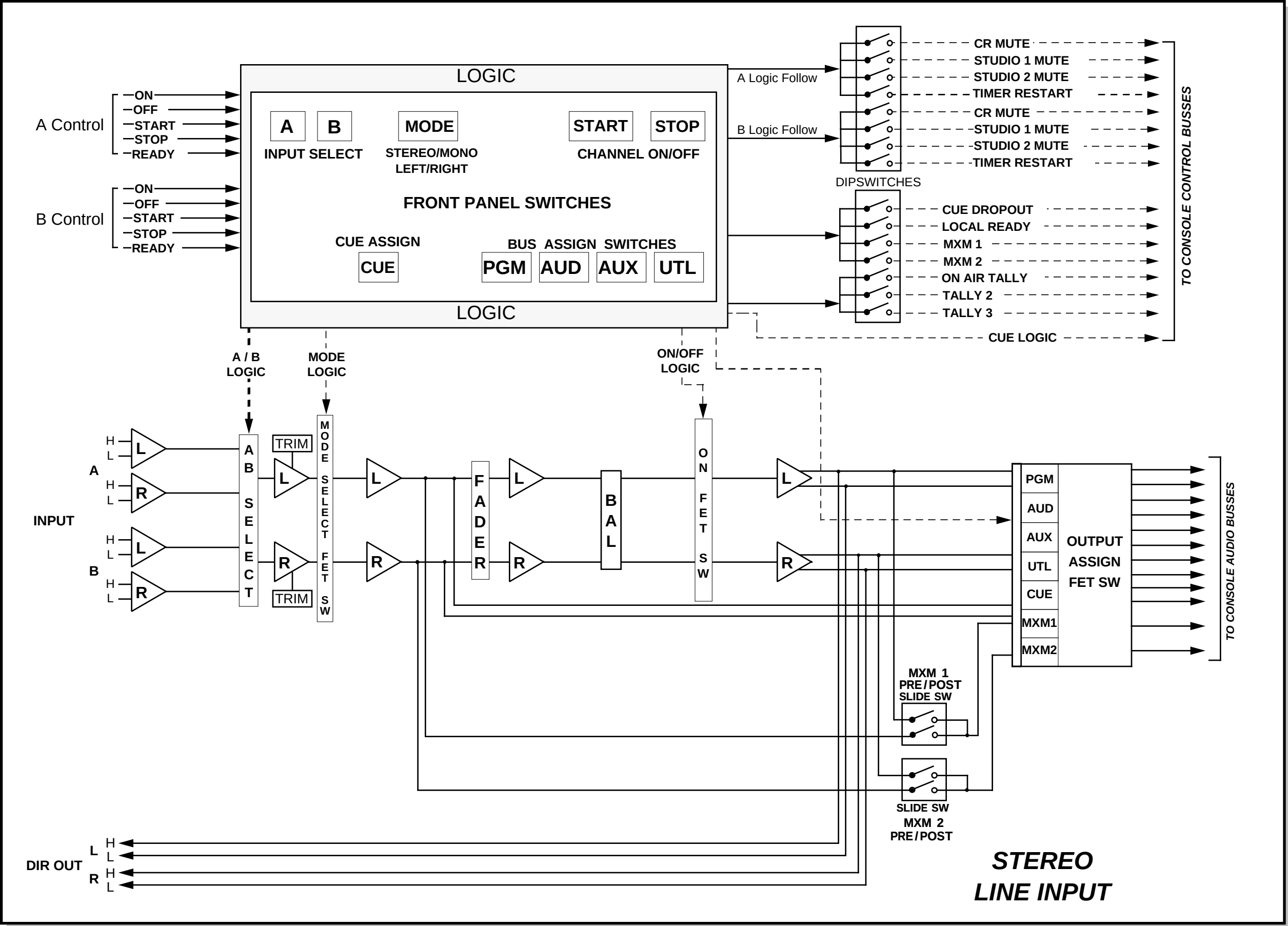
70

80

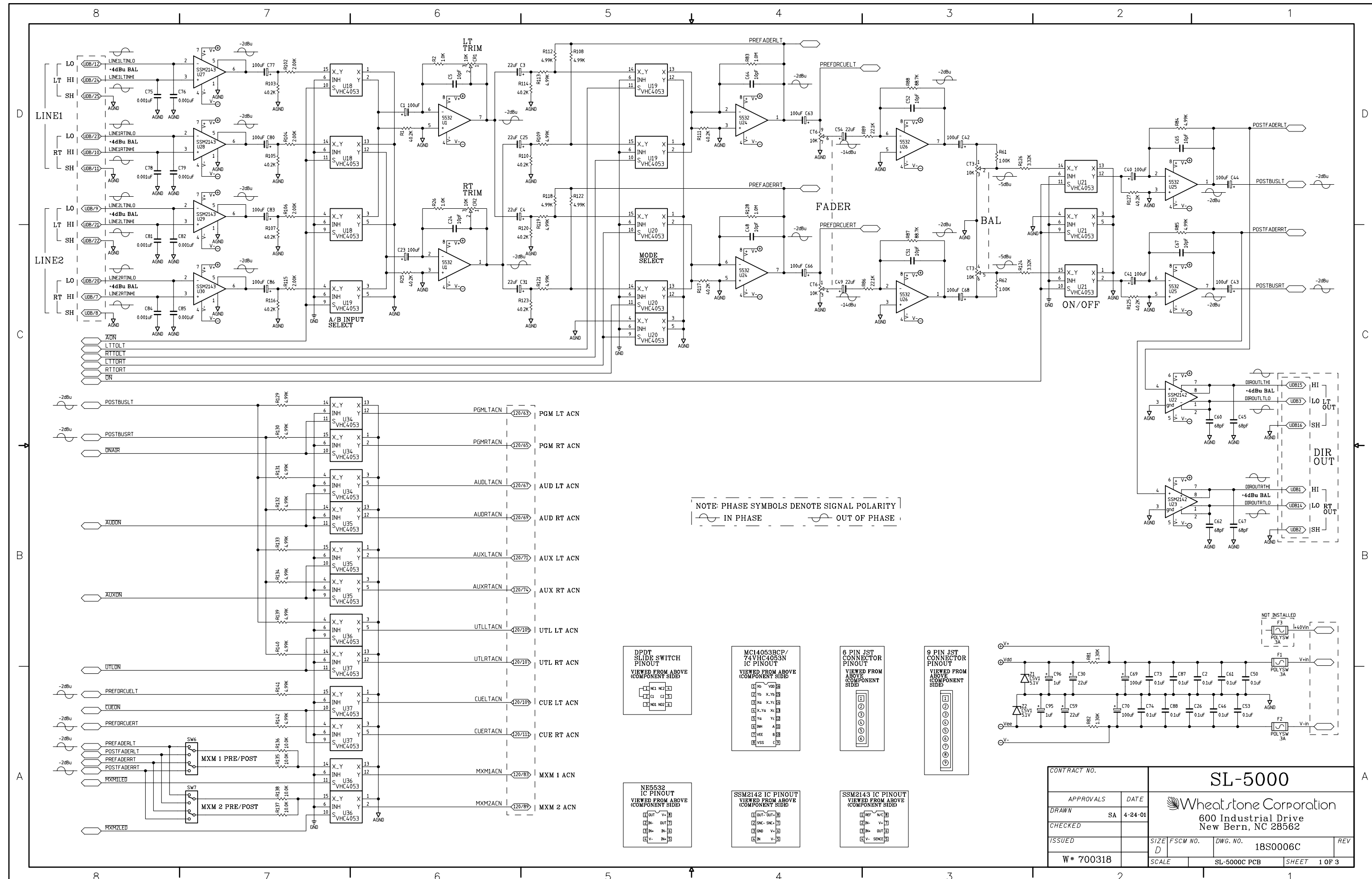
ON

OFF





SL-5000 Stereo Line Input Module - Signal Flow Diagram



SL-5000 Stereo Line Input Module Schematic -
Sheet 1 of 3

74AC08
IC PINOUT
VIEWED FROM ABOVE
(COMPONENT SIDE)

74LS09
IC PINOUT
VIEWED FROM ABOVE
(COMPONENT SIDE)

74AC32
IC PINOUT
VIEWED FROM ABOVE
(COMPONENT SIDE)

74AC14
IC PINOUT
VIEWED FROM ABOVE
(COMPONENT SIDE)

74LS74
IC PINOUT
VIEWED FROM ABOVE
(COMPONENT SIDE)

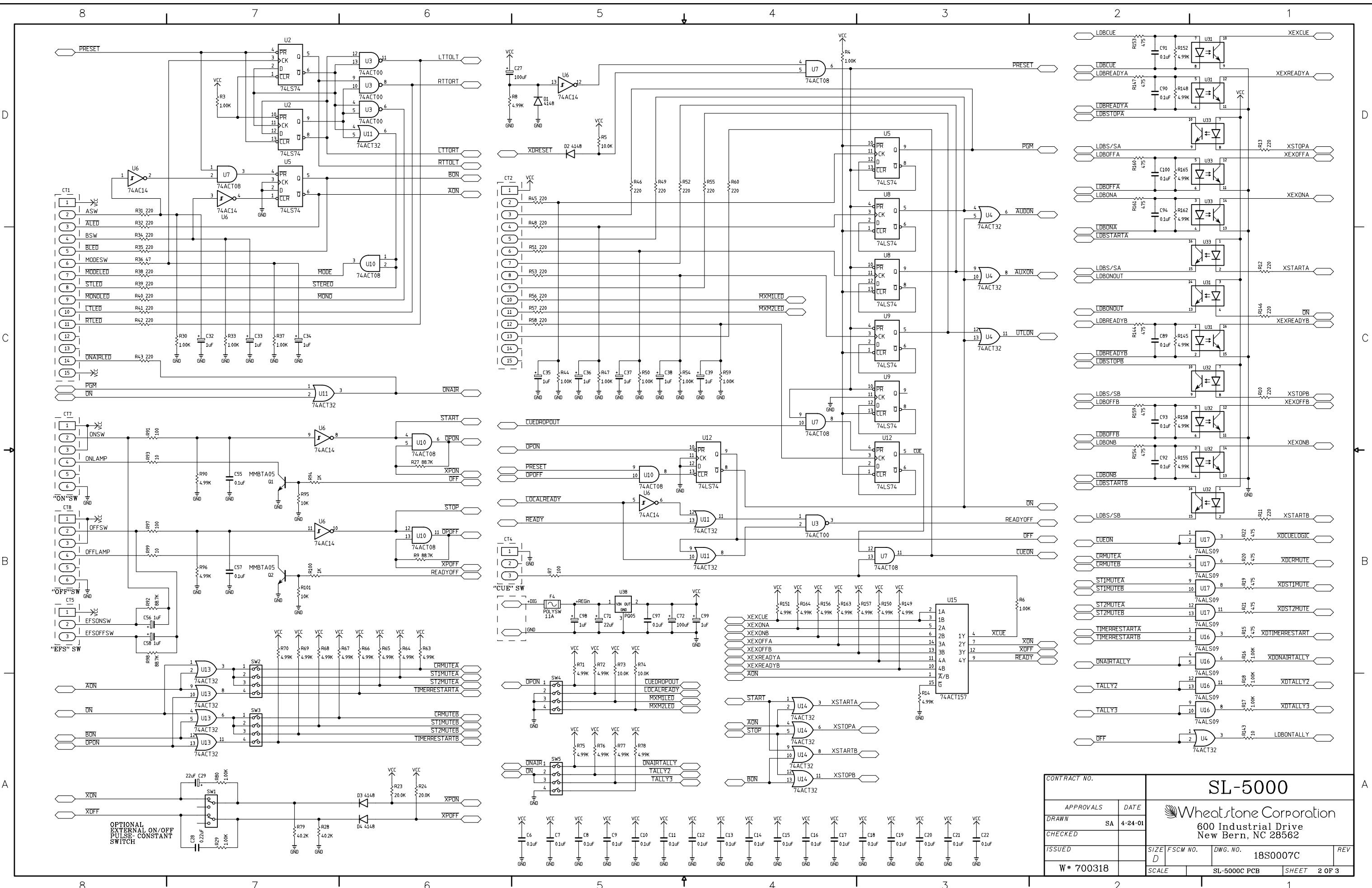
4 POSITION
DIPSWITCH
PINOUT
VIEWED FROM ABOVE
(COMPONENT SIDE)

PO05SZ1
IC PINOUT
VIEWED FROM ABOVE
(COMPONENT SIDE)

DPDT
SLIDE SWITCH
PINOUT
VIEWED FROM ABOVE
(COMPONENT SIDE)

8 PIN JST
CONNECTOR
PINOUT
VIEWED FROM ABOVE
(COMPONENT SIDE)

3 PIN JST
CONNECTOR
PINOUT
VIEWED FROM ABOVE
(COMPONENT SIDE)



SL-5000 Stereo Line Input Module Schematic -
Sheet 2 of 3

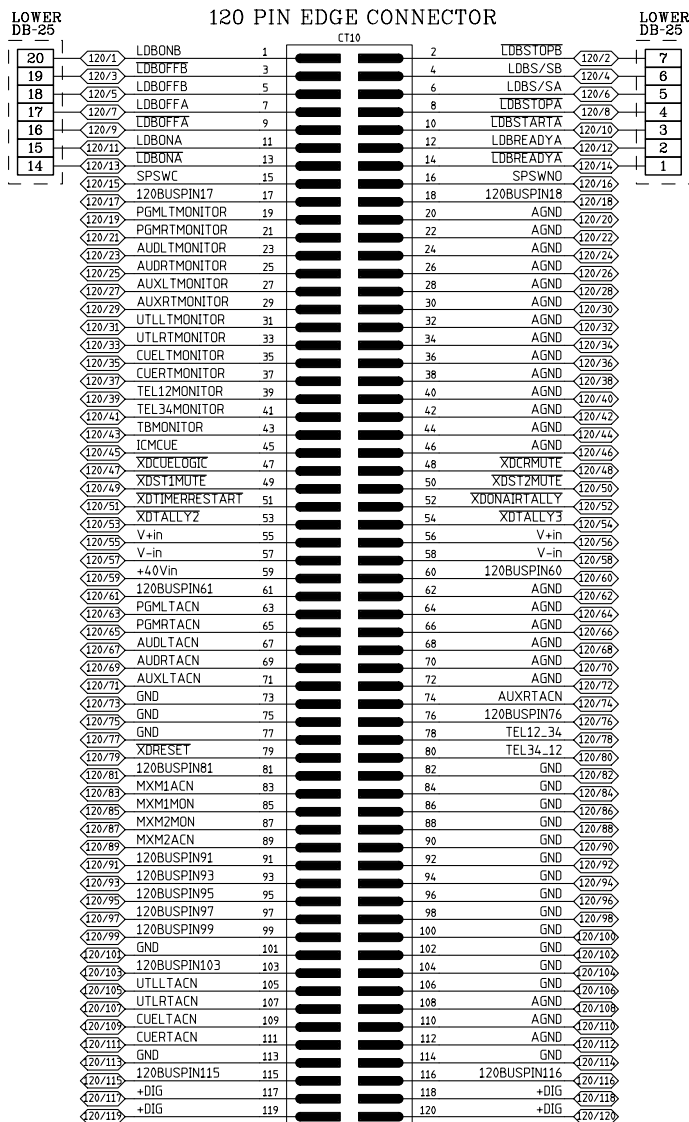
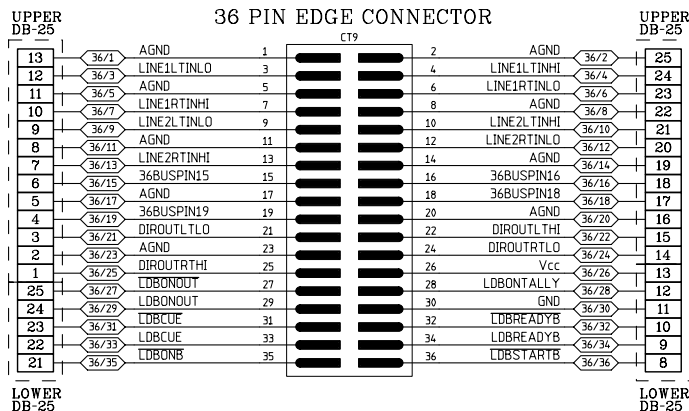
CONTRACT NO.		SL-5000	
APPROVALS	DATE	 600 Industrial Drive New Bern, NC 28562	
DRAWN	SA 4-24-01		
CHECKED			
ISSUED			
W# 700318	SCALE	SIZE FSCM NO. D	DWG. NO. 18S0007C
		SL-5000C PCB	REV
		SHEET 2 OF 3	

A

B

C

D



**CONNECTORS
BUSS CHART**

CONTRACT NO.		SL-5000			
APPROVALS	DATE				
DRAWN	SA 4-24-01	Wheatstone Corporation 600 Industrial Drive New Bern, NC 28562			
CHECKED					
ISSUED		SIZE C	FSCM NO.	DWG. NO. 18S0008C	REV
W # 700318		SCALE	SL-5000C PCB	SHEET 3 OF 3	

A

MODE

B

STEREO

MONO

LT

RT

L LINE

R

ON AIR

PGM

AUD

AUX

UTL

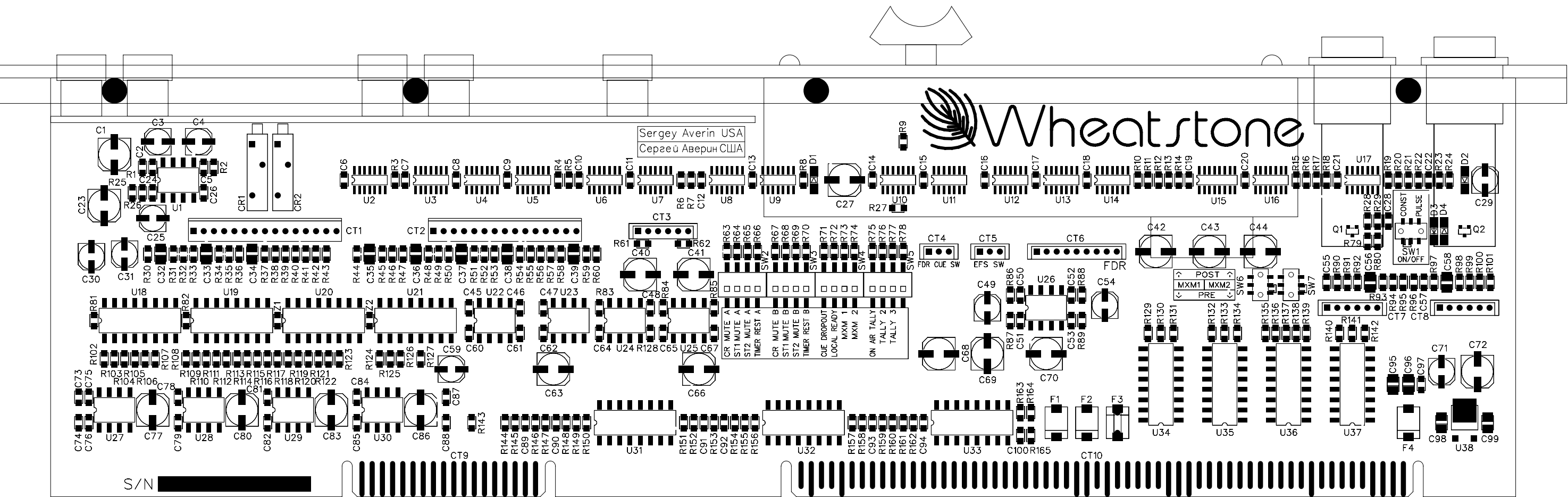
ASSIGN

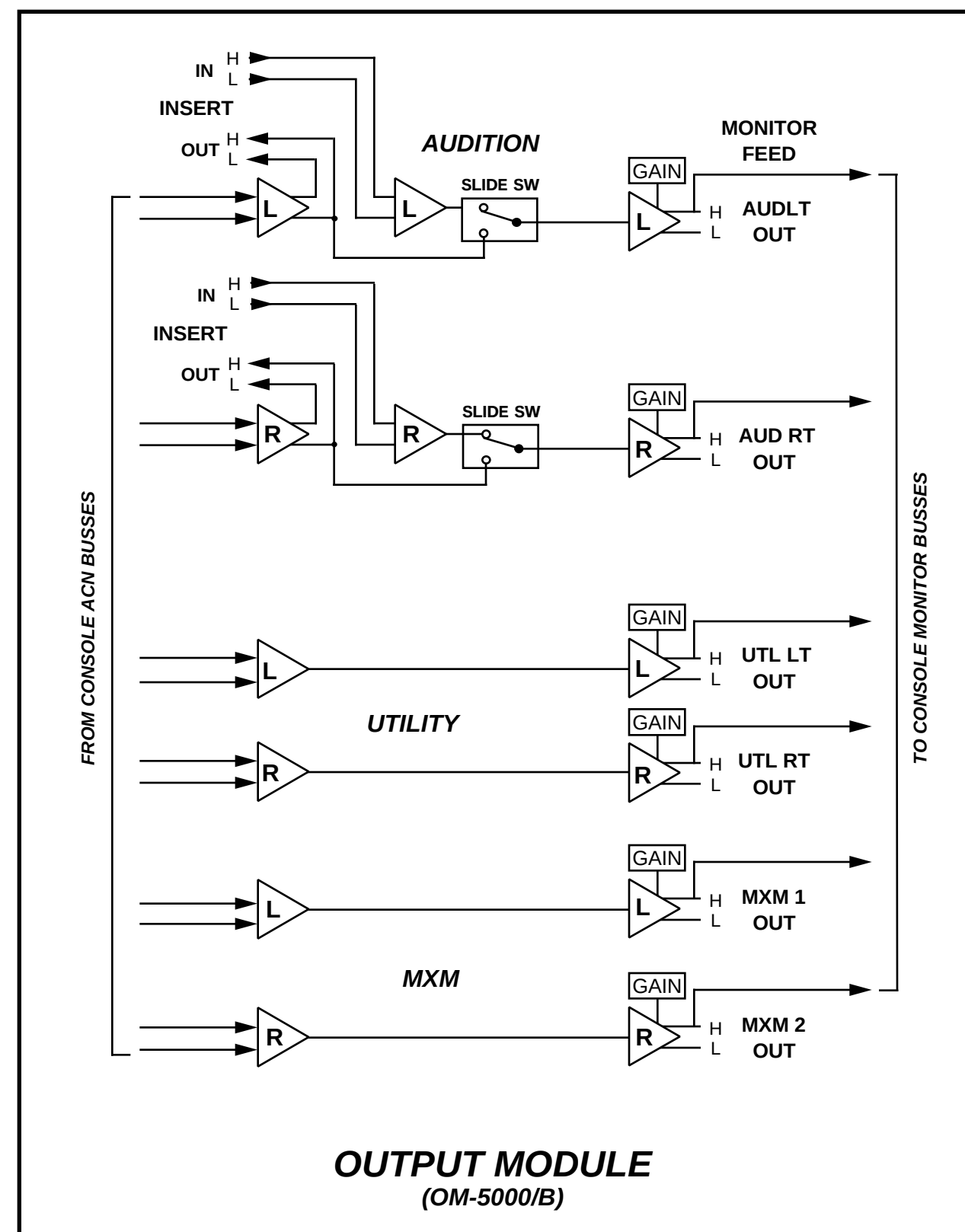
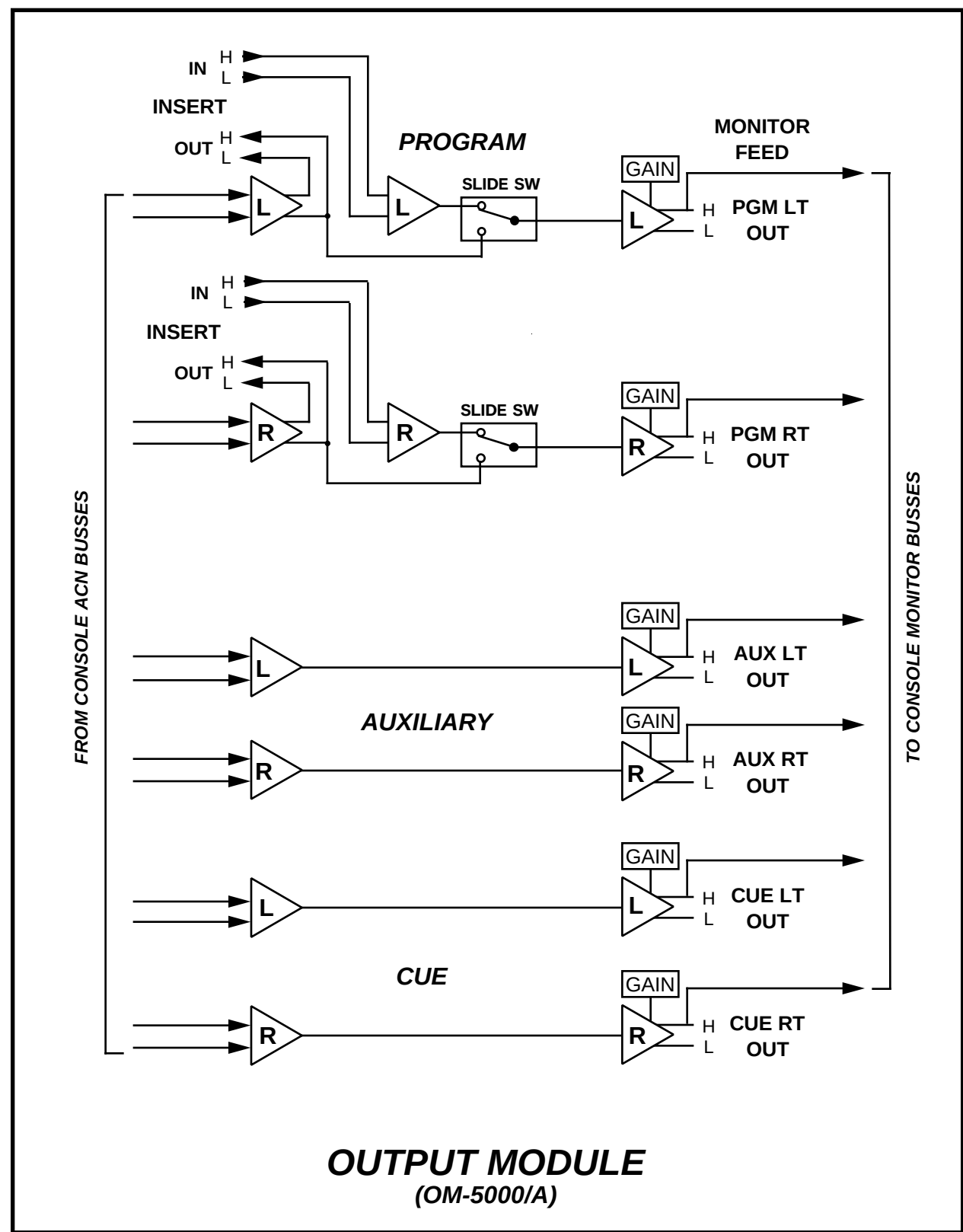
CUE

STEREO INPUT

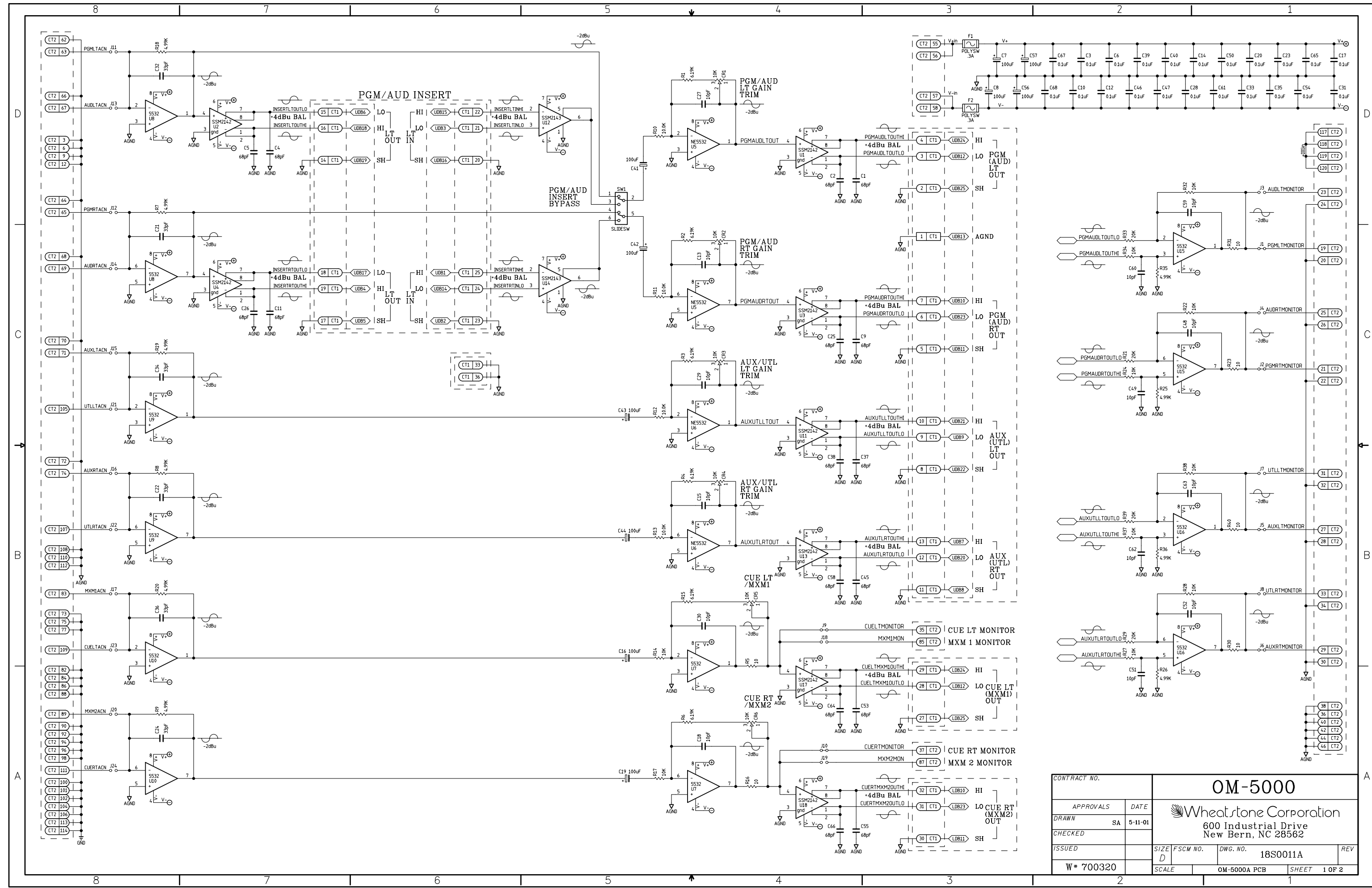
05101520304050607080

START



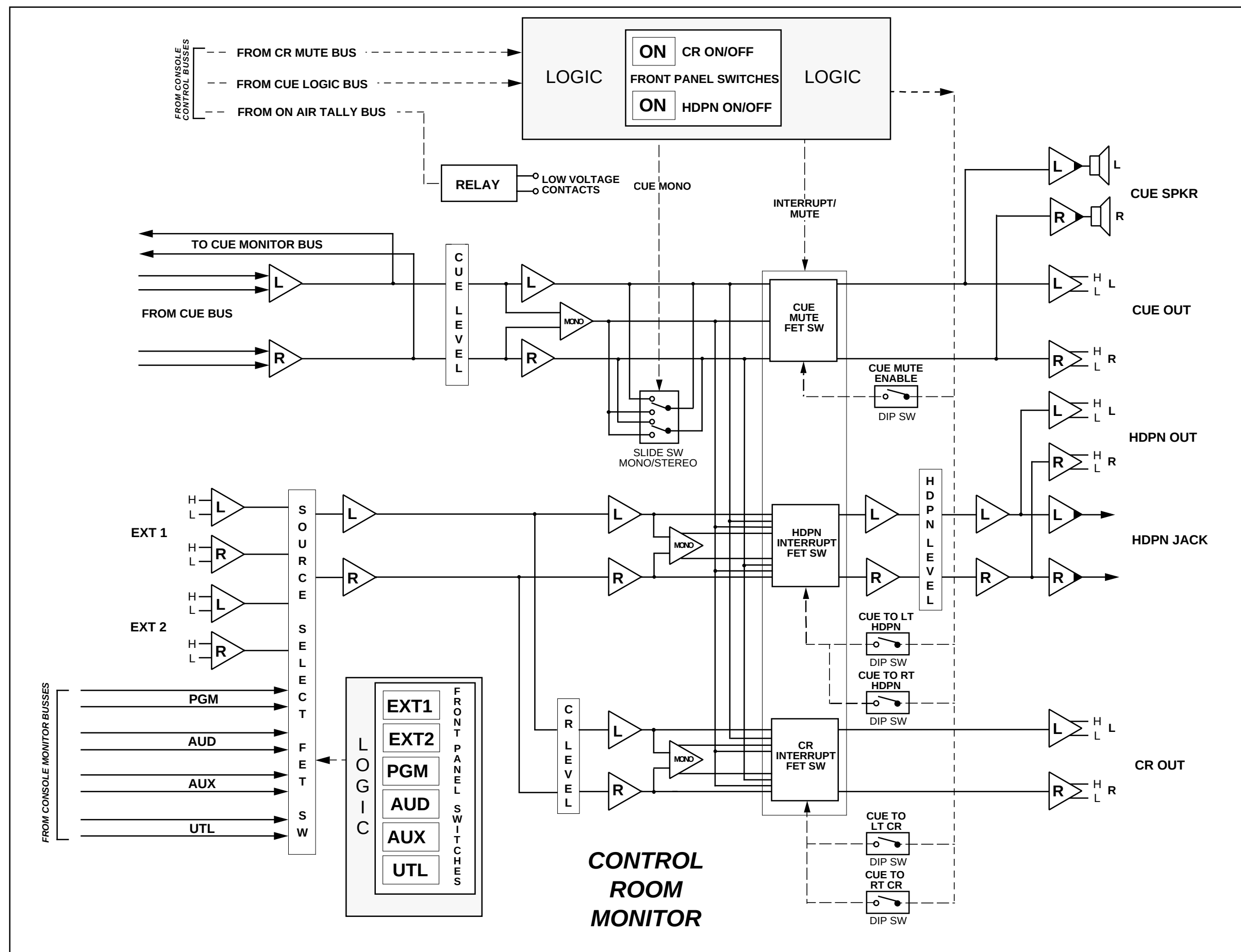


OM-5000 Master Output Module - Signal Flow Diagram

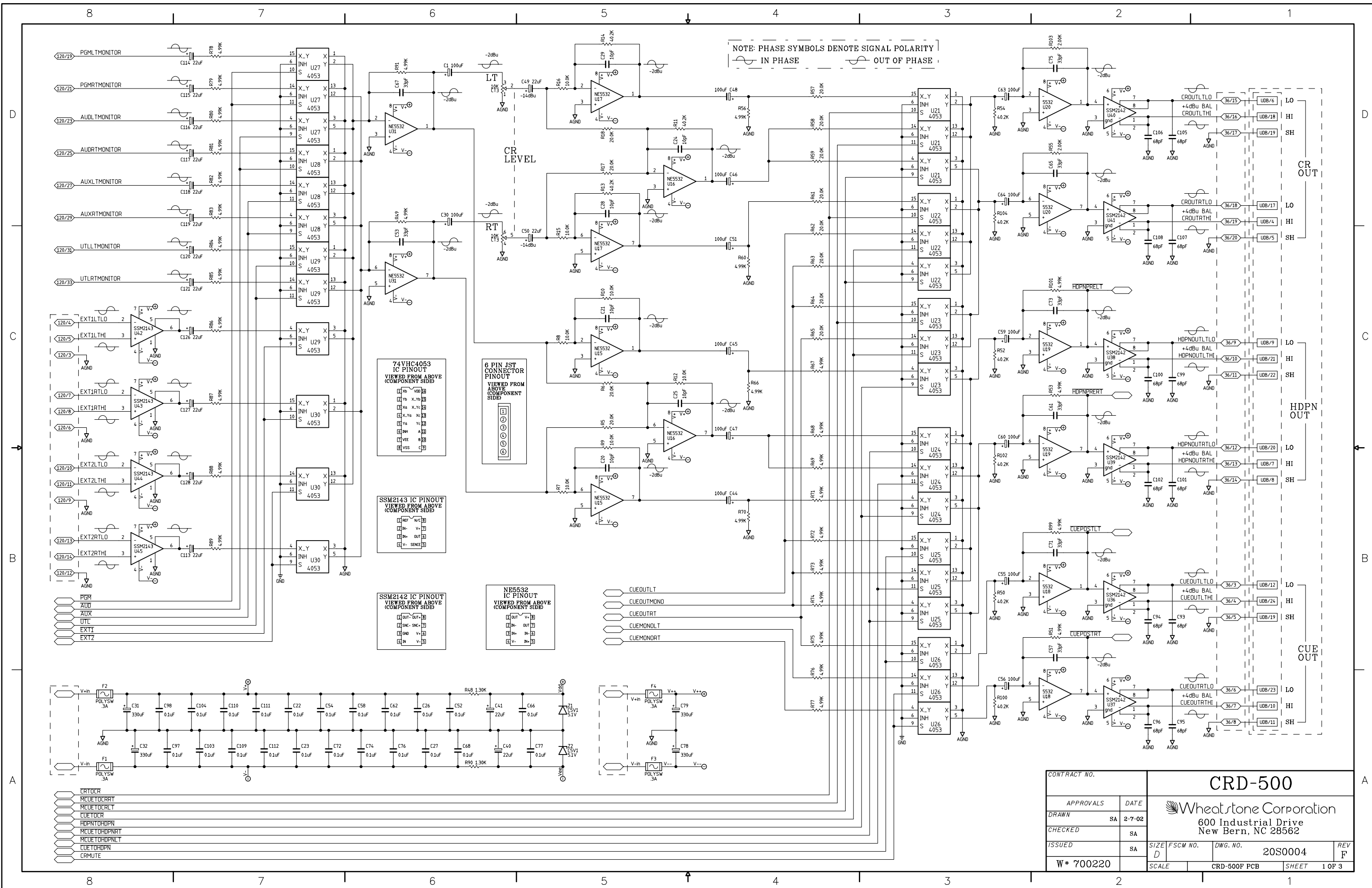


CONTRACT NO.		OM-5000	
APPROVALS	DATE	Wheatstone Corporation 600 Industrial Drive New Bern, NC 28562	
DRAWN	SA 5-11-01		
CHECKED			
ISSUED		SIZE D	FSCM NO.
W# 700320		SCALE	OM-5000A PCB
		DWG. NO.	18S0011A
		REV	
		SHEET	1 OF 2

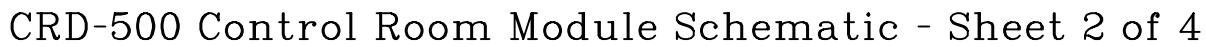
OM-5000 Output Module Schematic - Sheet 1 of 1



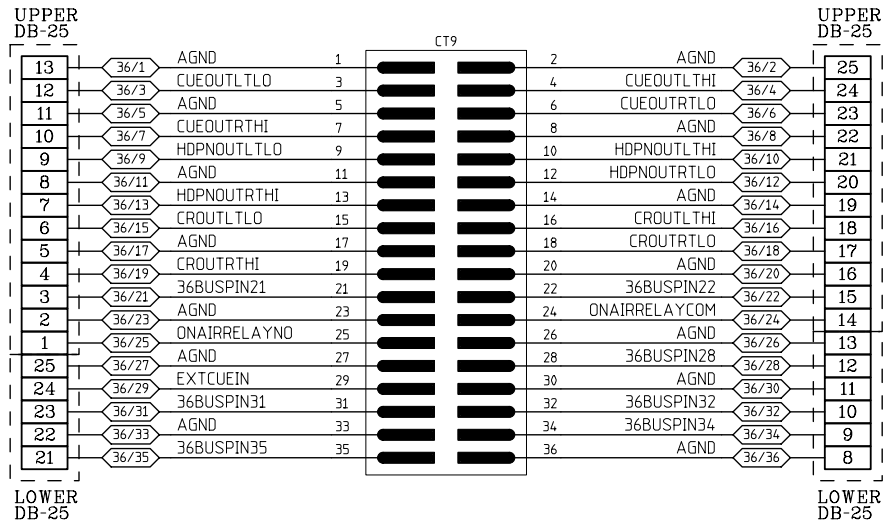
CRD-500 Control Room Monitor - Signal Flow Diagram



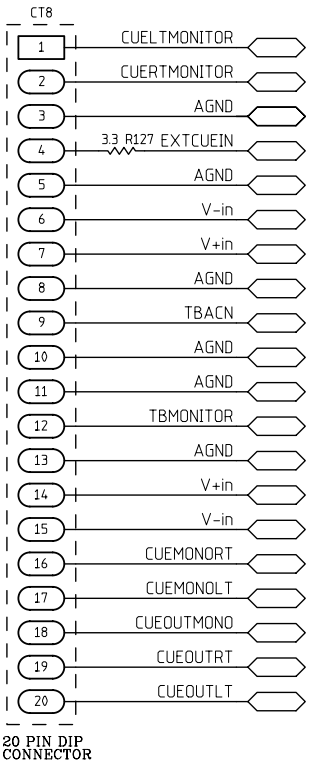
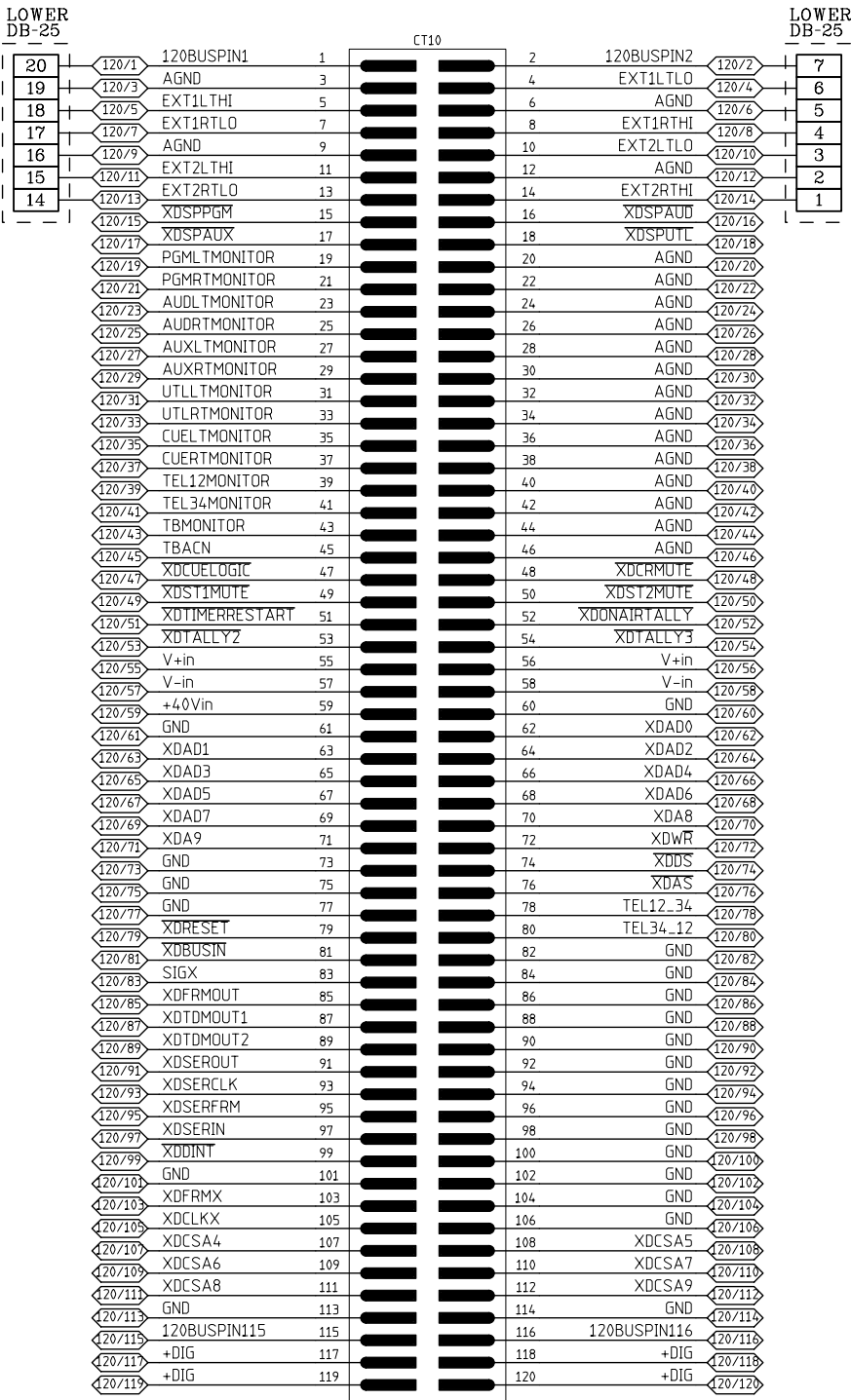
CRD-500 Control Room Module Schematic - Sheet 1 of 4



36 PIN EDGE CONNECTOR



120 PIN EDGE CONNECTOR



CONNECTORS
BUSS CHART

CONTRACT NO.		CRD-500			
APPROVALS	DATE	 Wheatstone Corporation 600 Industrial Drive New Bern, NC 28562			
DRAWN SA	2-7-02				
CHECKED	SA				
ISSUED	SA	SIZE C	FSCM NO.	DWG. NO. 14S0016	REV F
W* 700220		SCALE	CRD-500F PCB	SHEET	3 OF 3

1

2

EXTERNAL
STEREO

PGM

AUD

AUX

UTL

SELECT

CONTROL ROOM

3

4

5

6

7

8

9

10

0

CUE

3

4

5

6

7

8

9

10

0

HEADPHONE

3

4

5

6

7

8

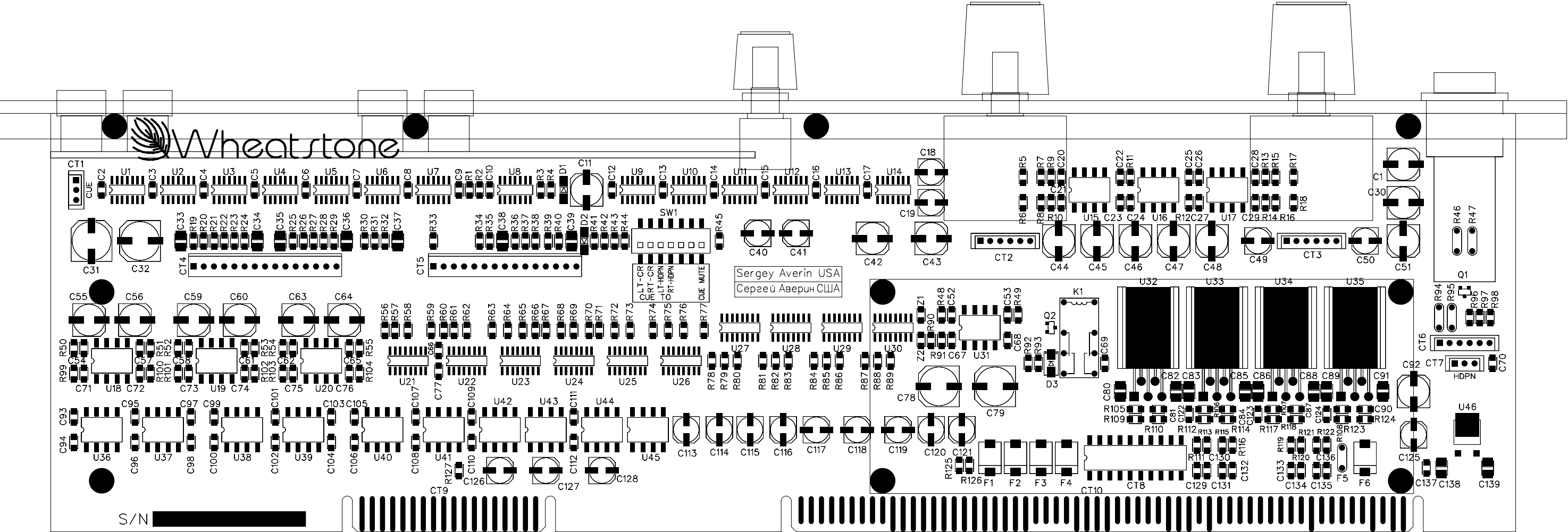
9

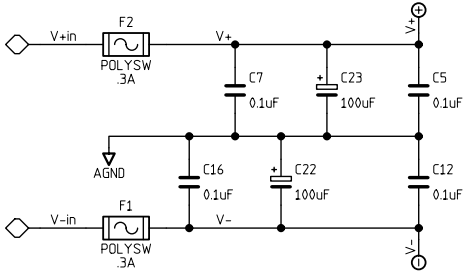
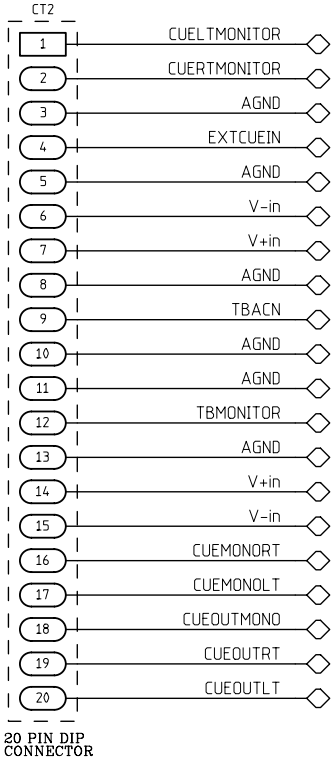
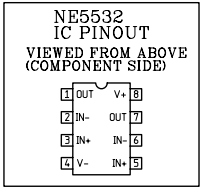
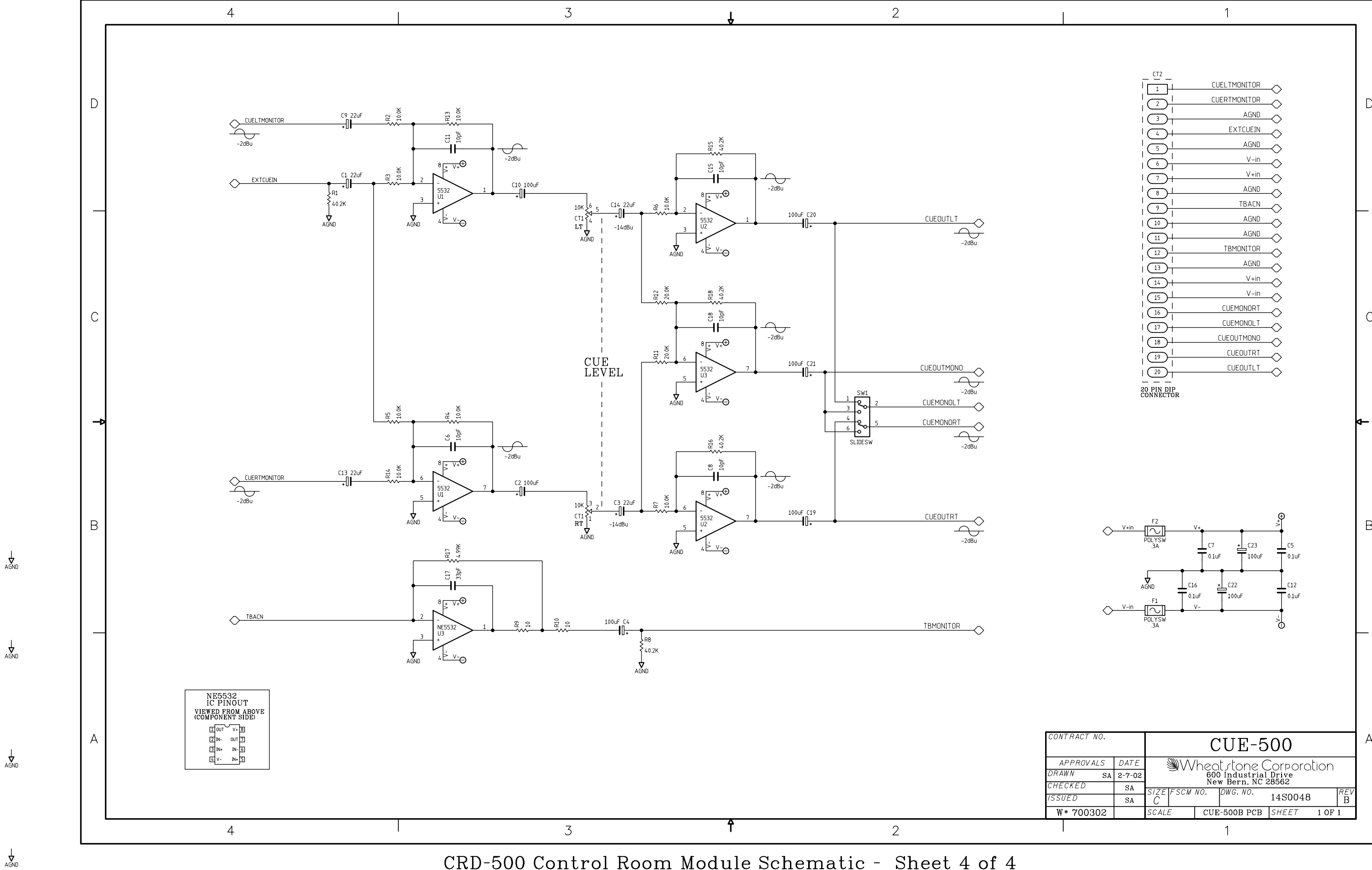
10

0

CONTROL ROOM

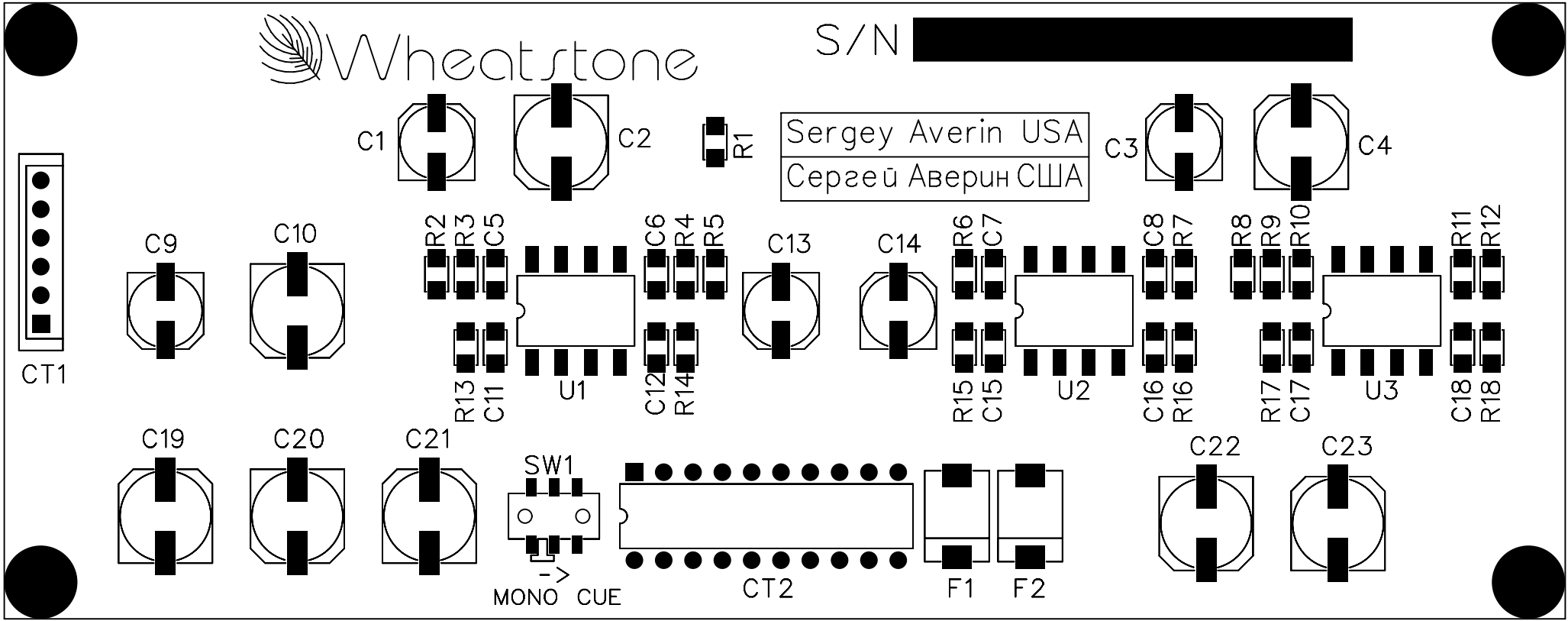
ON

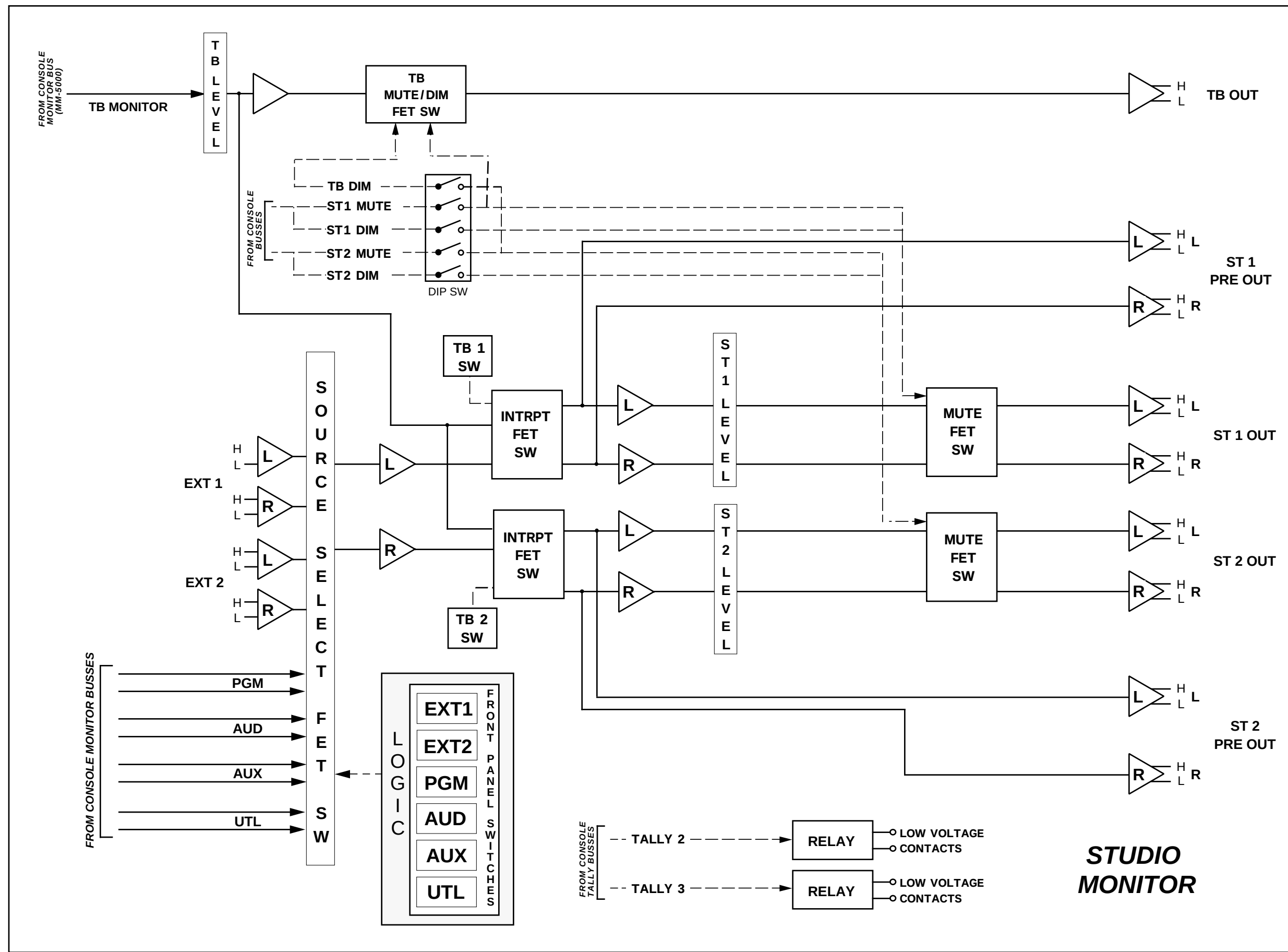




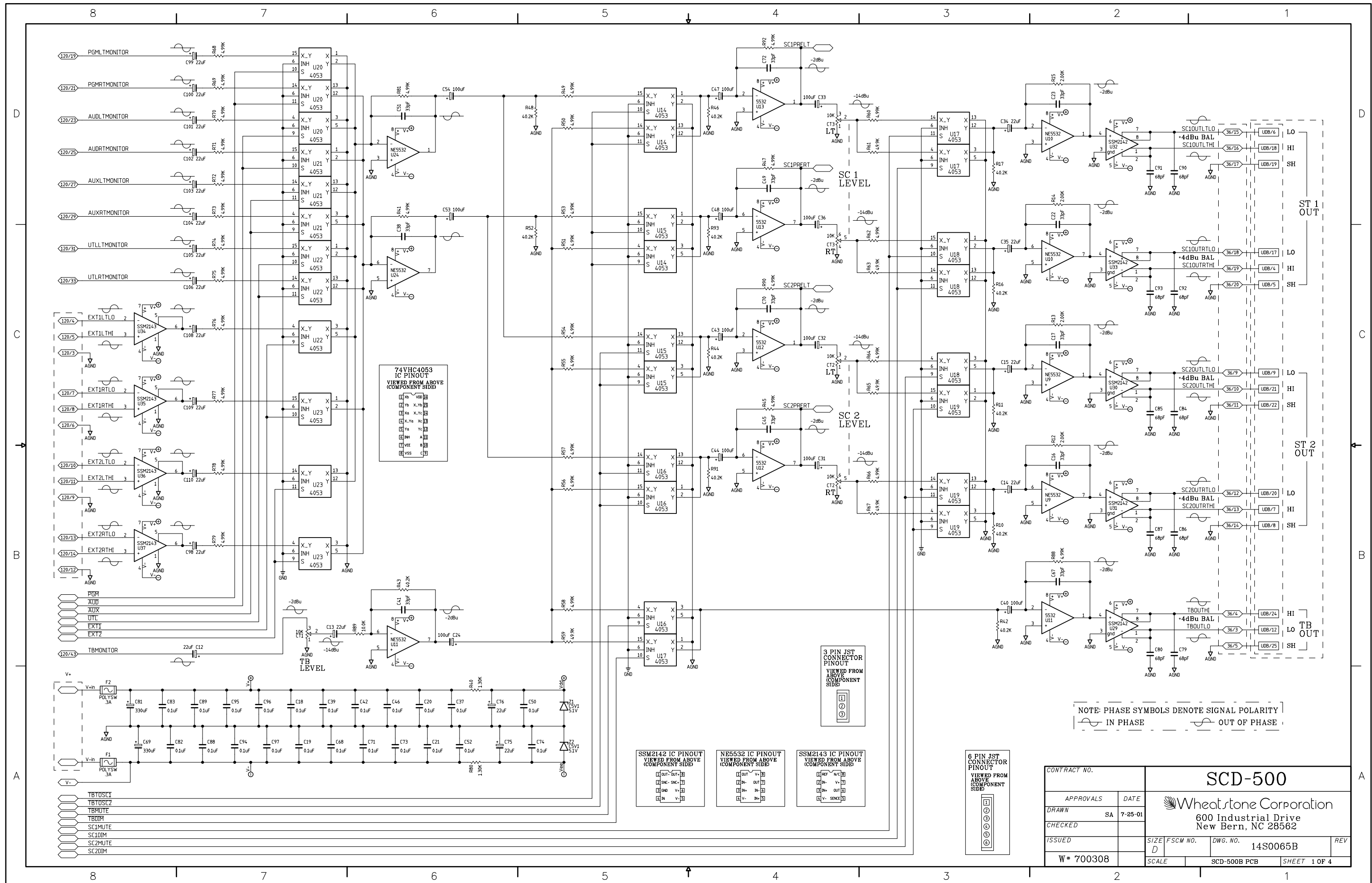
CONTRACT NO.		CUE-500			
APPROVALS	DATE	 Wheatstone Corporation 600 Industrial Drive New Bern, NC 28562			
DRAWN	SA 2-7-02				
CHECKED	SA	SIZE	FSCM NO.	DWG. NO.	REV
ISSUED	SA	C		14S0048	B
W # 700302		SCALE	CUE-500B PCB	SHEET	1 OF 1

CRD-500 Control Room Module Schematic - Sheet 4 of 4

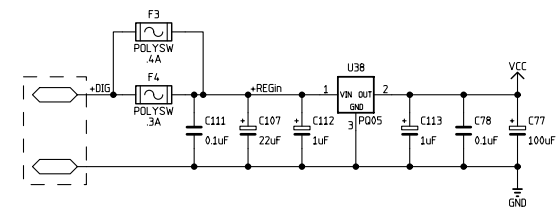
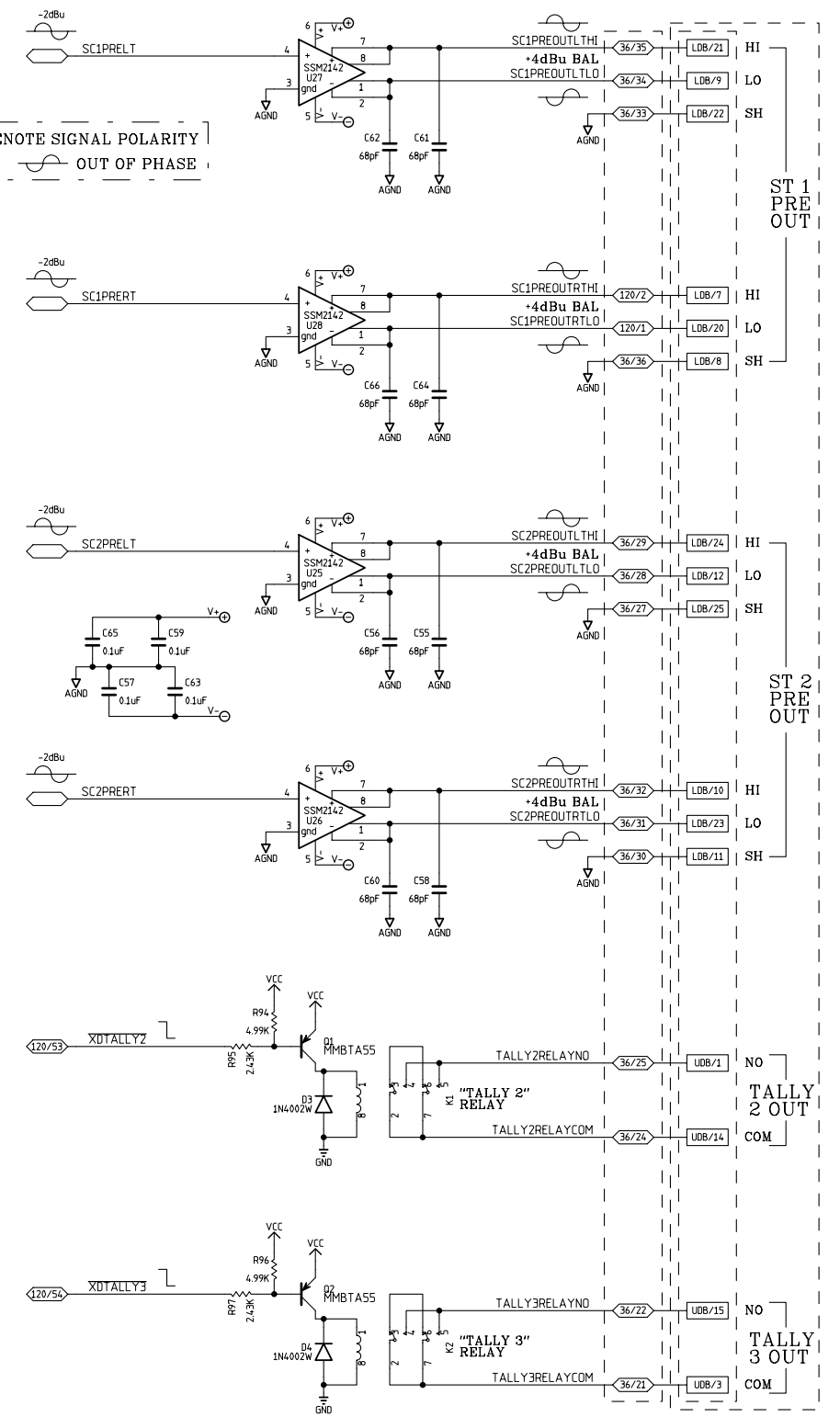
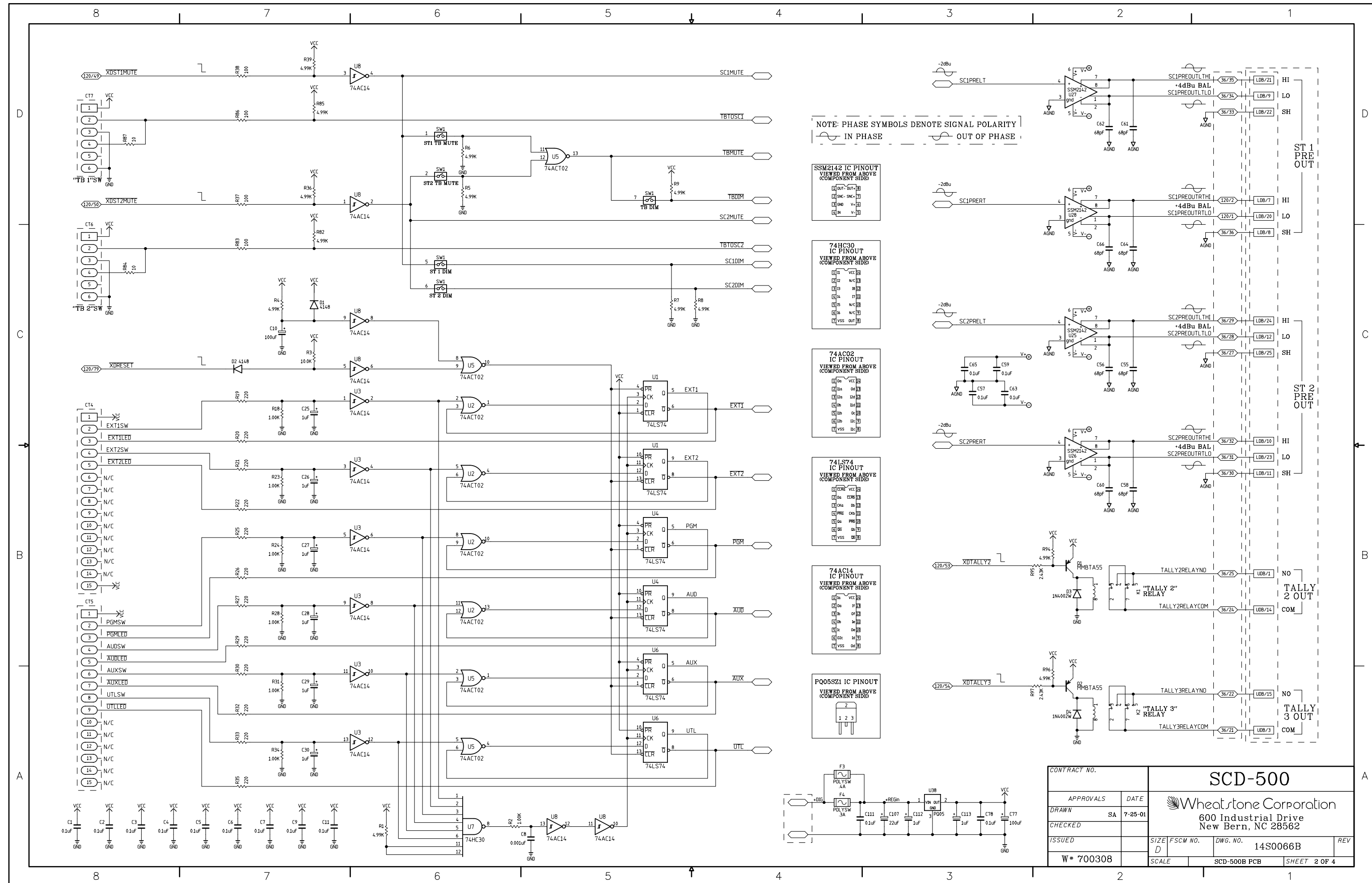




SCD-500 Studio Monitor - Signal Flow Diagram



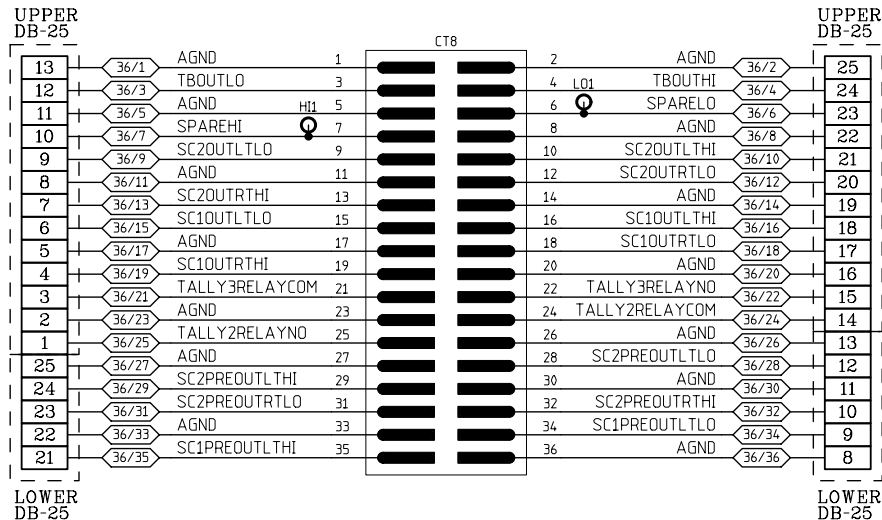
SCD-500 Studio Control Module Schematic -
Sheet 1 of 3



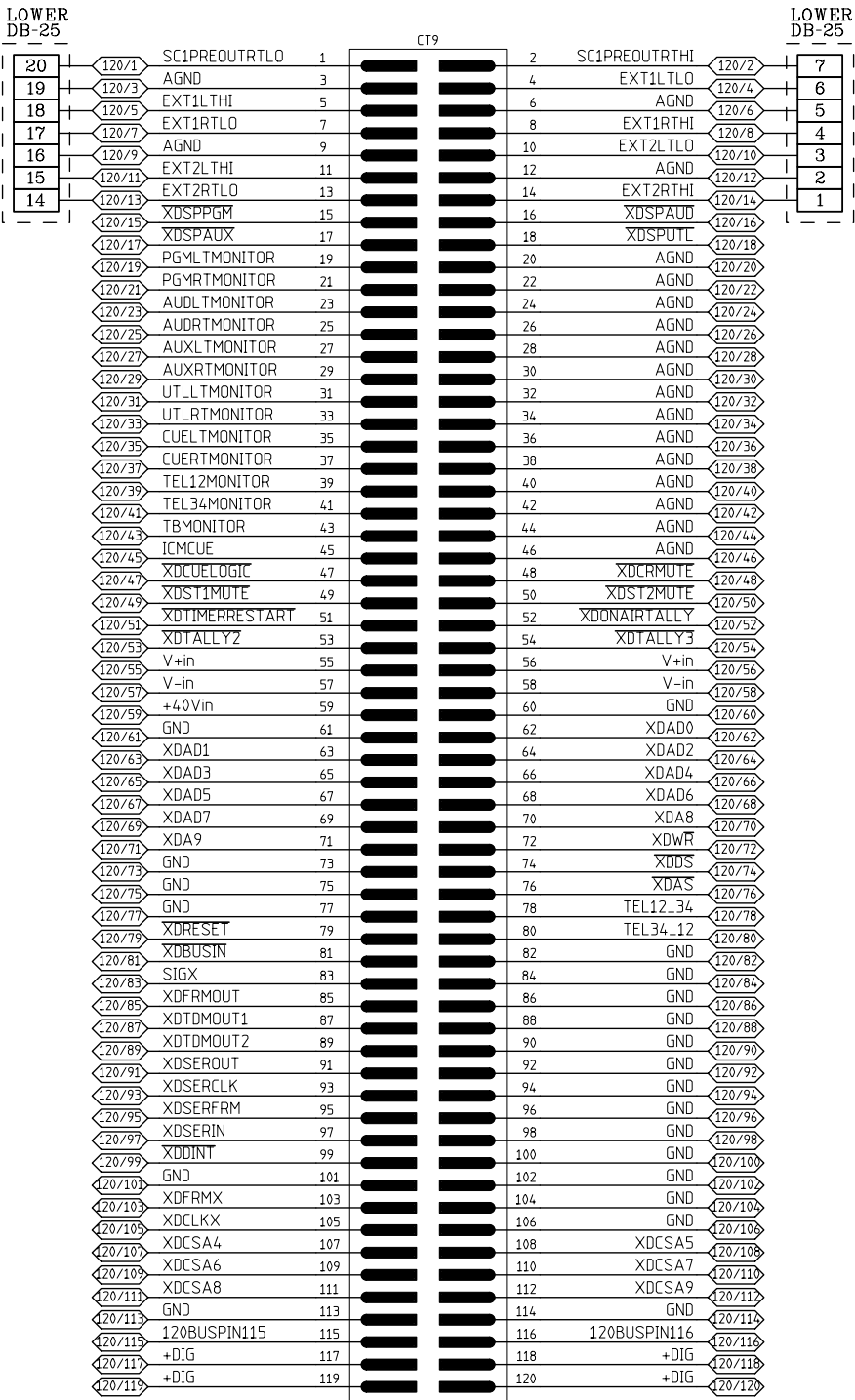
CONTRACT NO.		SCD-500			
APPROVALS	DATE	Wheatstone Corporation 600 Industrial Drive New Bern, NC 28562			
DRAWN	SA 7-25-01				
CHECKED					
ISSUED		SIZE D	FSCM NO.	DWG. NO. 14S0066B	REV
W# 700308		SCALE	SCD-500B PCB	SHEET 2 OF 4	

SCD-500 Studio Control Module Schematic - Sheet 2 of 3

36 PIN EDGE CONNECTOR



120 PIN EDGE CONNECTOR



CONNECTORS
BUSS CHART

CONTRACT NO.		SCD-500			
APPROVALS	DATE	 Wheatstone Corporation 600 Industrial Drive New Bern, NC 28562			
DRAWN SA	7-25-01				
CHECKED		SIZE C	FSCM NO.	DWG. NO. 14S0067B	REV -
ISSUED		SCALE	SCD-500B PCB	SHEET	3 OF 4
W* 700308					

1

2

EXTERNAL
STEREO

PGM

AUD

AUX

UTL

SELECT

STUDIO

4

3

2

1

0

TALK BACK

4

3

2

1

0

STUDIO 2

TB

4

3

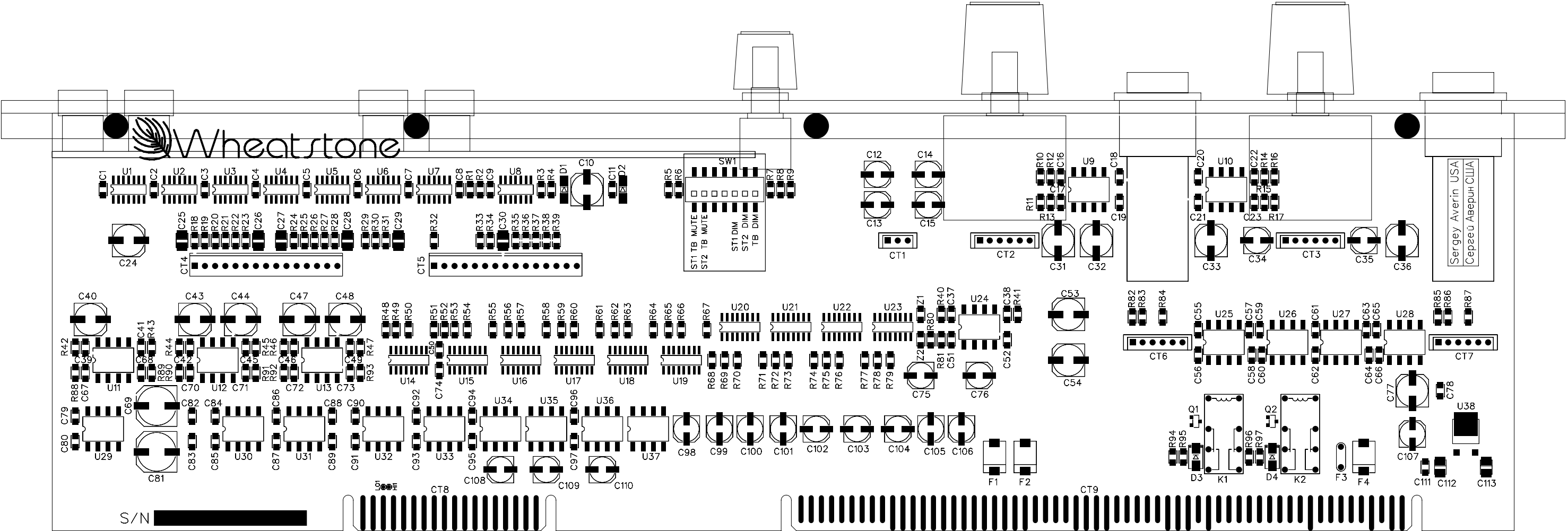
2

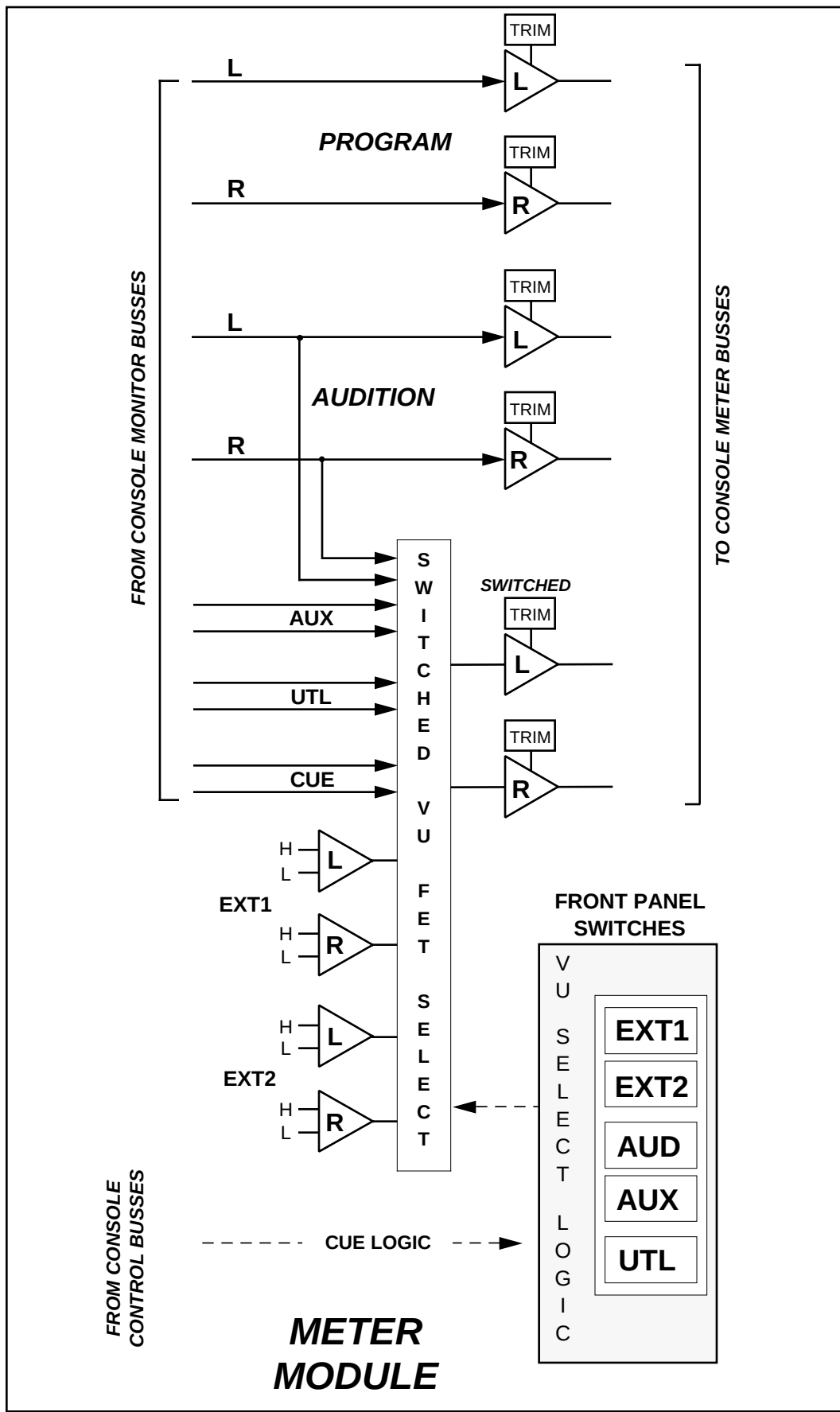
1

0

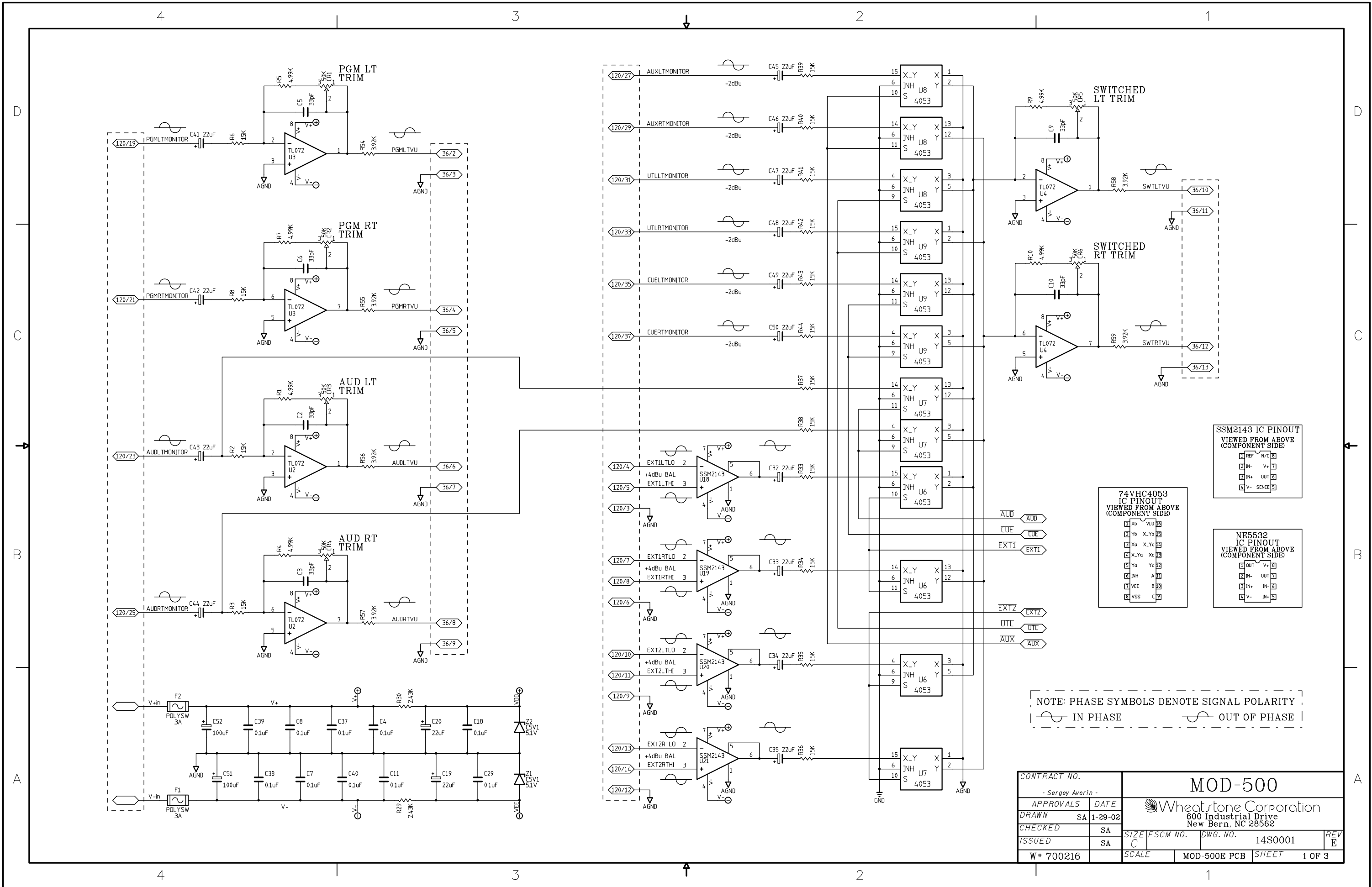
STUDIO 1

TB





MOD-500 Meter Output Module - Signal Flow Diagram



SSM2143 IC PINOUT
VIEWED FROM ABOVE
(COMPONENT SIDE)

1	REF	N/C	3
2	IN-	V+	7
3	IN+	OUT	8
4	V-	SENCE	5

74VHC4053 IC PINOUT
VIEWED FROM ABOVE
(COMPONENT SIDE)

1	Xb	VDD	28
2	Yb	X.Yb	29
3	Xa	X.Yc	30
4	X.Ya	Xc	31
5	Ya	Yc	32
6	INH	A	33
7	VEE	B	34
8	VSS	C	35

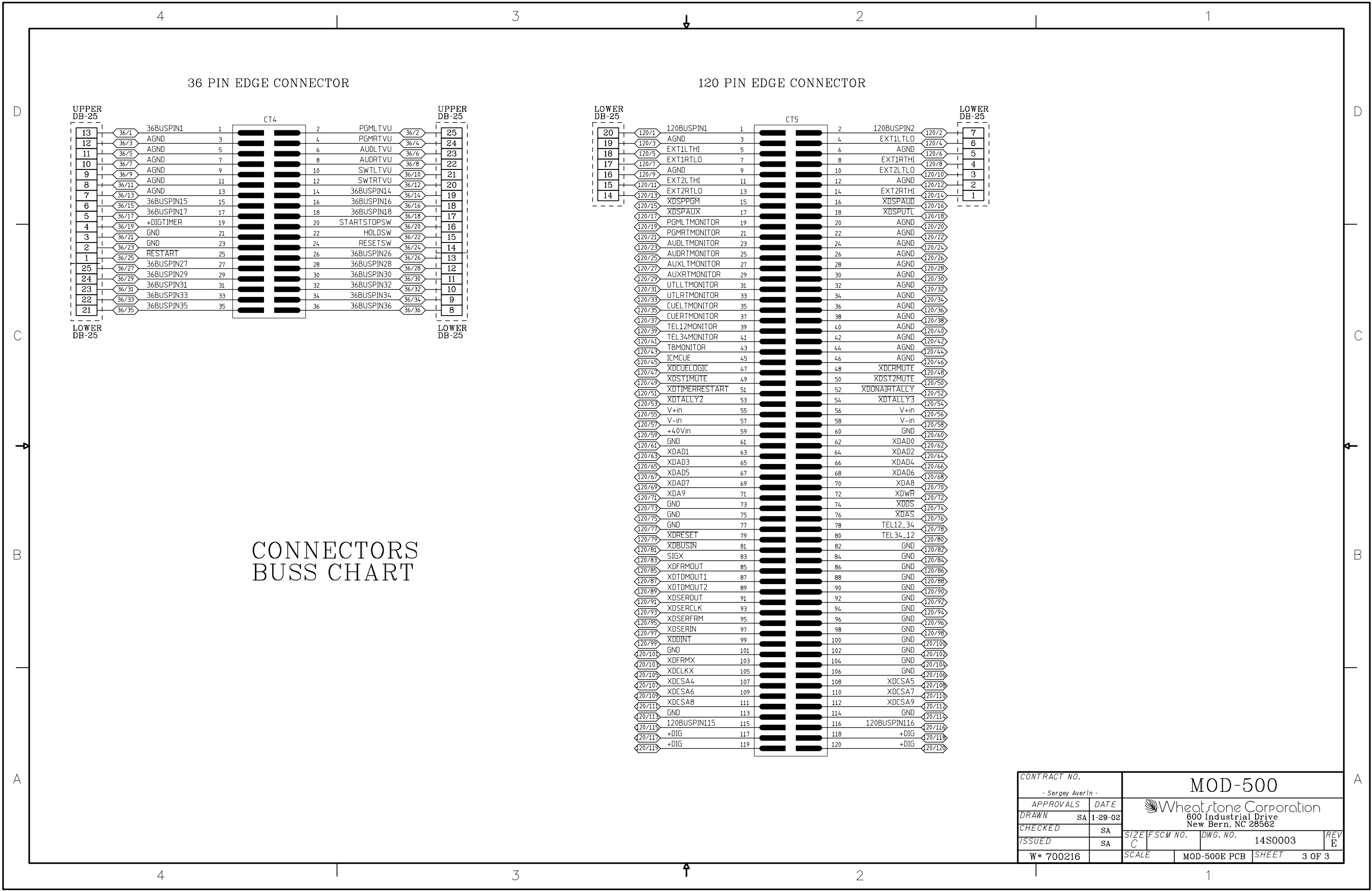
NE5532 IC PINOUT
VIEWED FROM ABOVE
(COMPONENT SIDE)

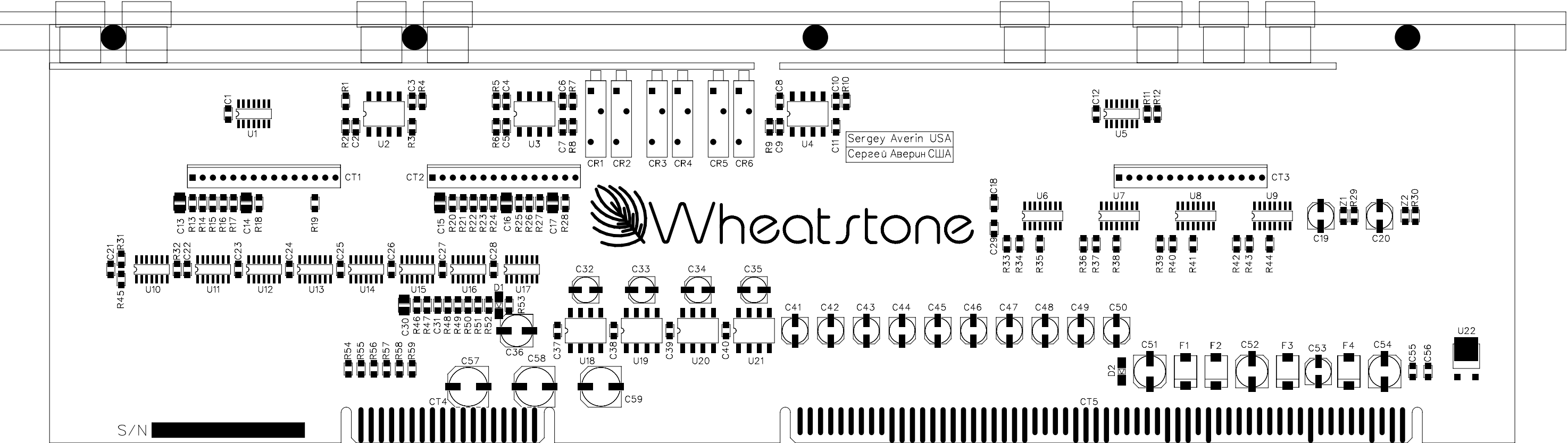
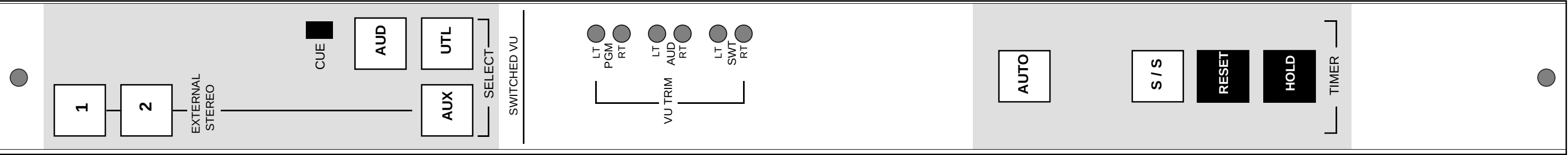
1	OUT	V+	8
2	IN-	OUT	7
3	IN+	IN-	3
4	V-	IN+	5

NOTE: PHASE SYMBOLS DENOTE SIGNAL POLARITY
IN PHASE OUT OF PHASE

CONTRACT NO.		MOD-500			
- Sergey Averin -		Wheatstone Corporation 600 Industrial Drive New Bern, NC 28562			
APPROVALS	DATE				
DRAWN SA	1-29-02	SIZE FSCM NO.		DWG. NO.	14S0001
CHECKED	SA	C		14S0001	REV E
ISSUED	SA	SCALE		MOD-500E PCB	SHEET 1 OF 3
W* 700216					

MOD-500 Meter Output Module Schematic - Sheet 1 of 3

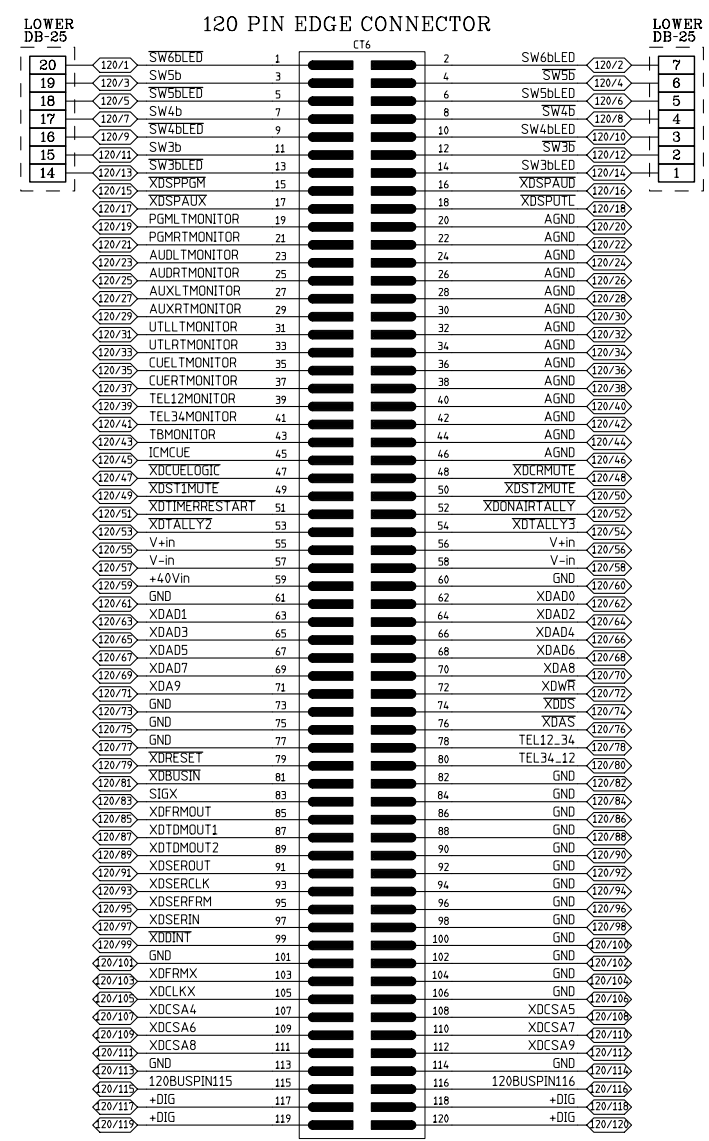
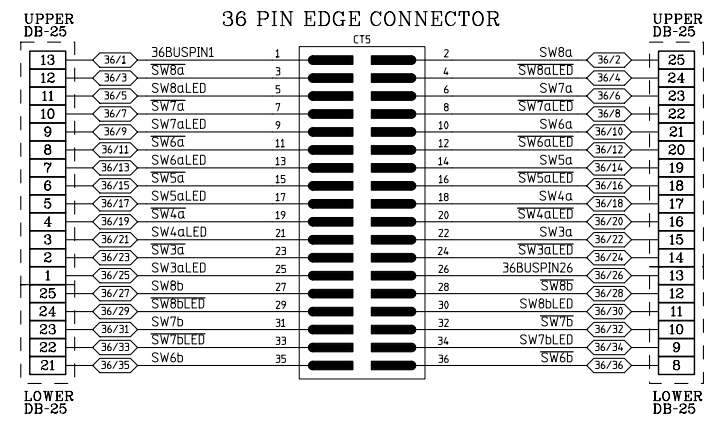
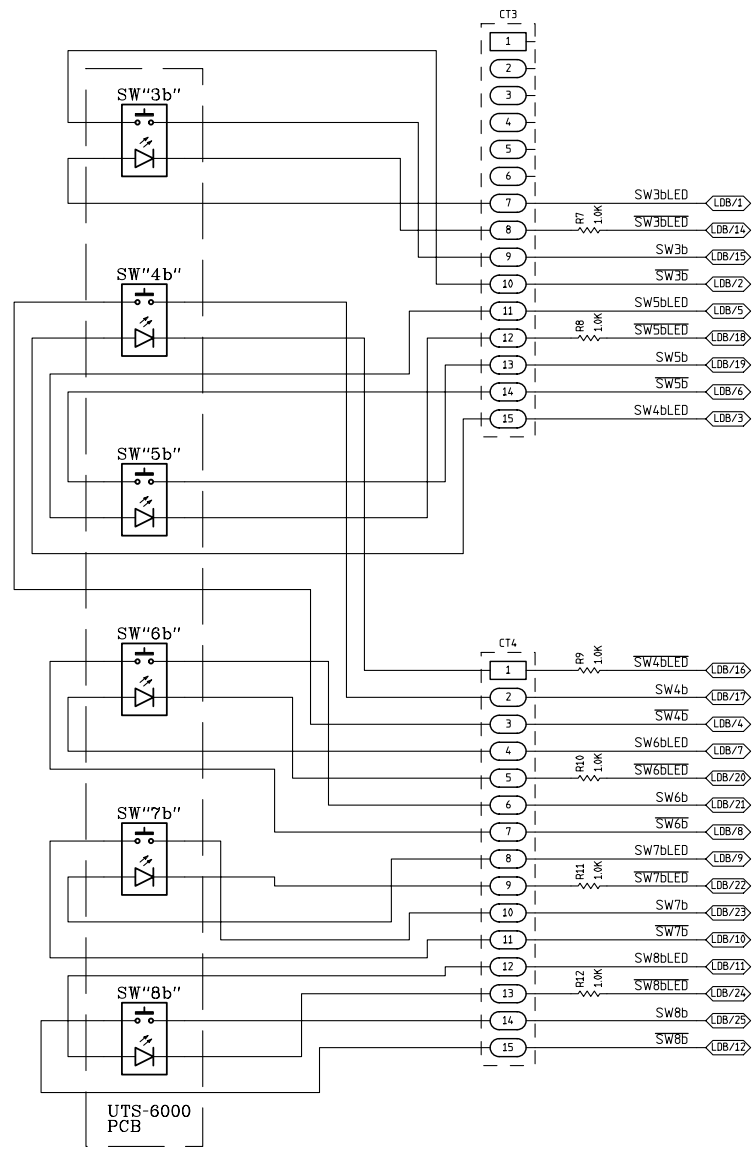
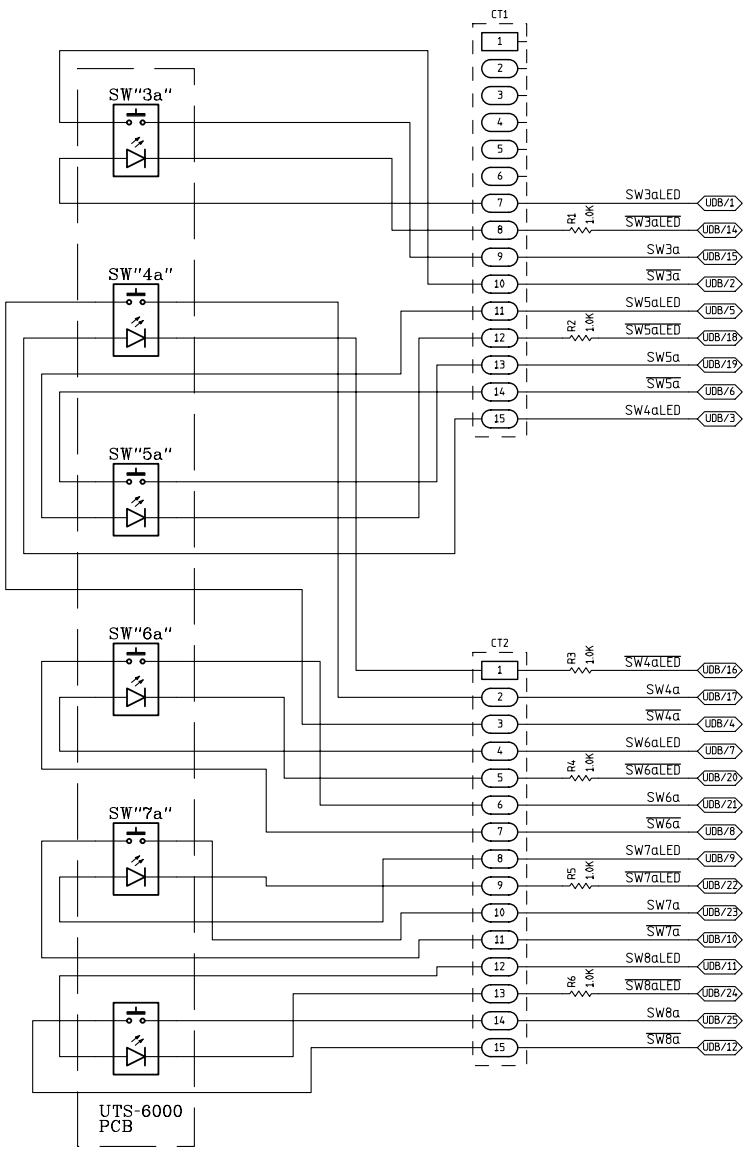




MOD-500 Meter Output Module - Main Card Load Sheet

AGND
AGND
AGND
AGND

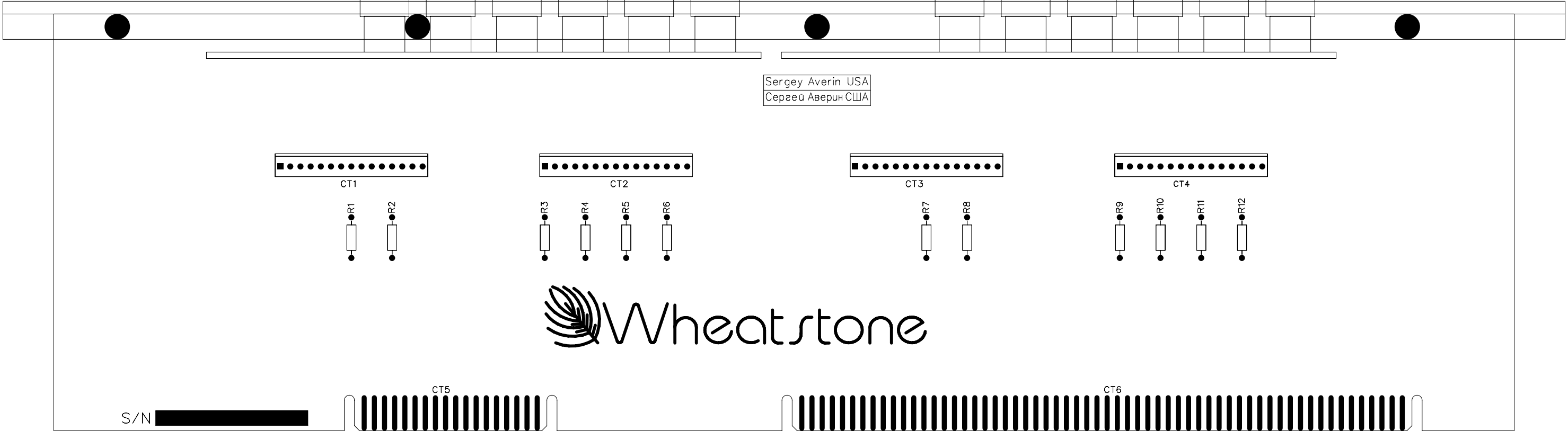
D
C
B
A

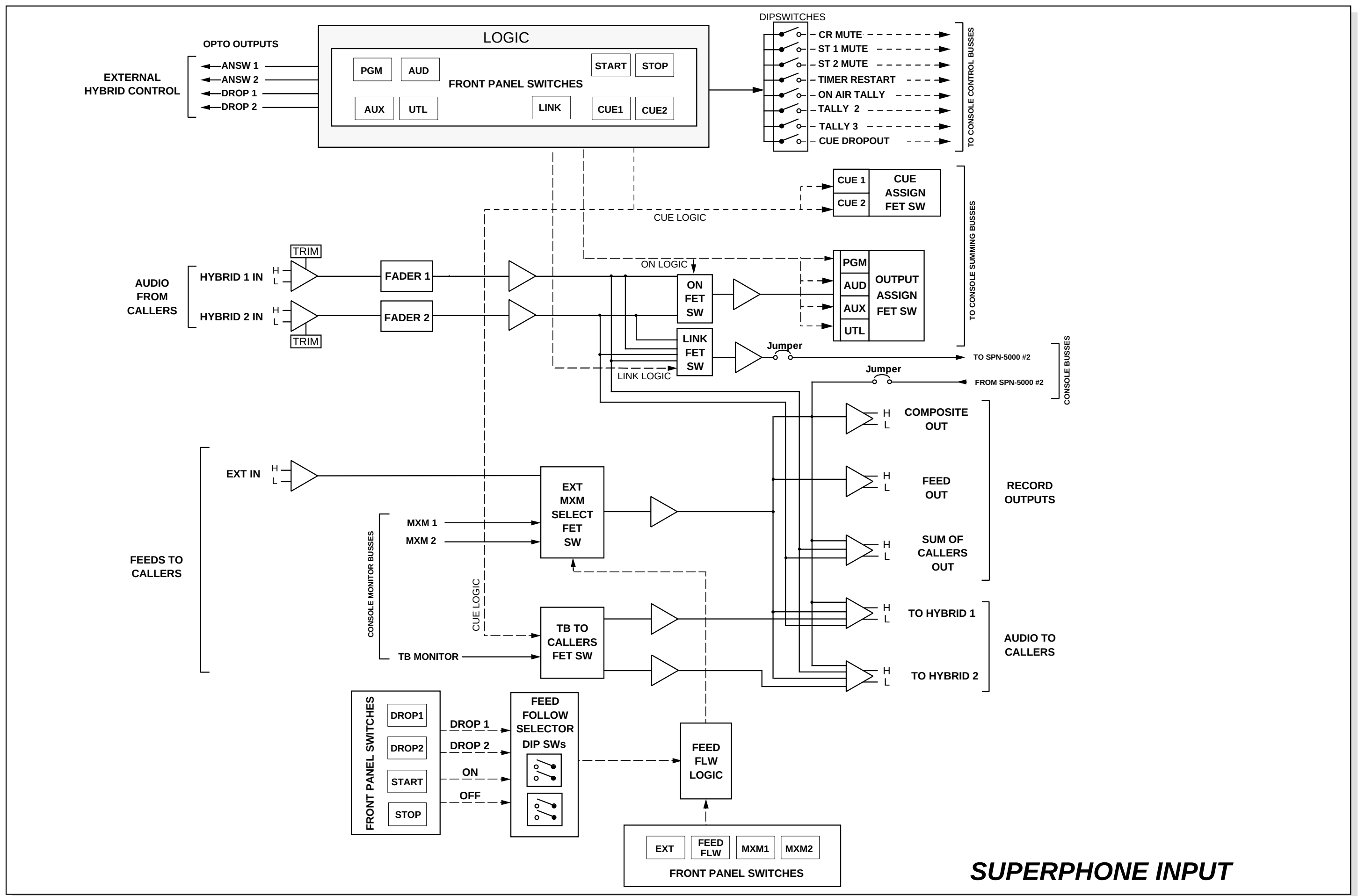


CONNECTORS BUSS CHART

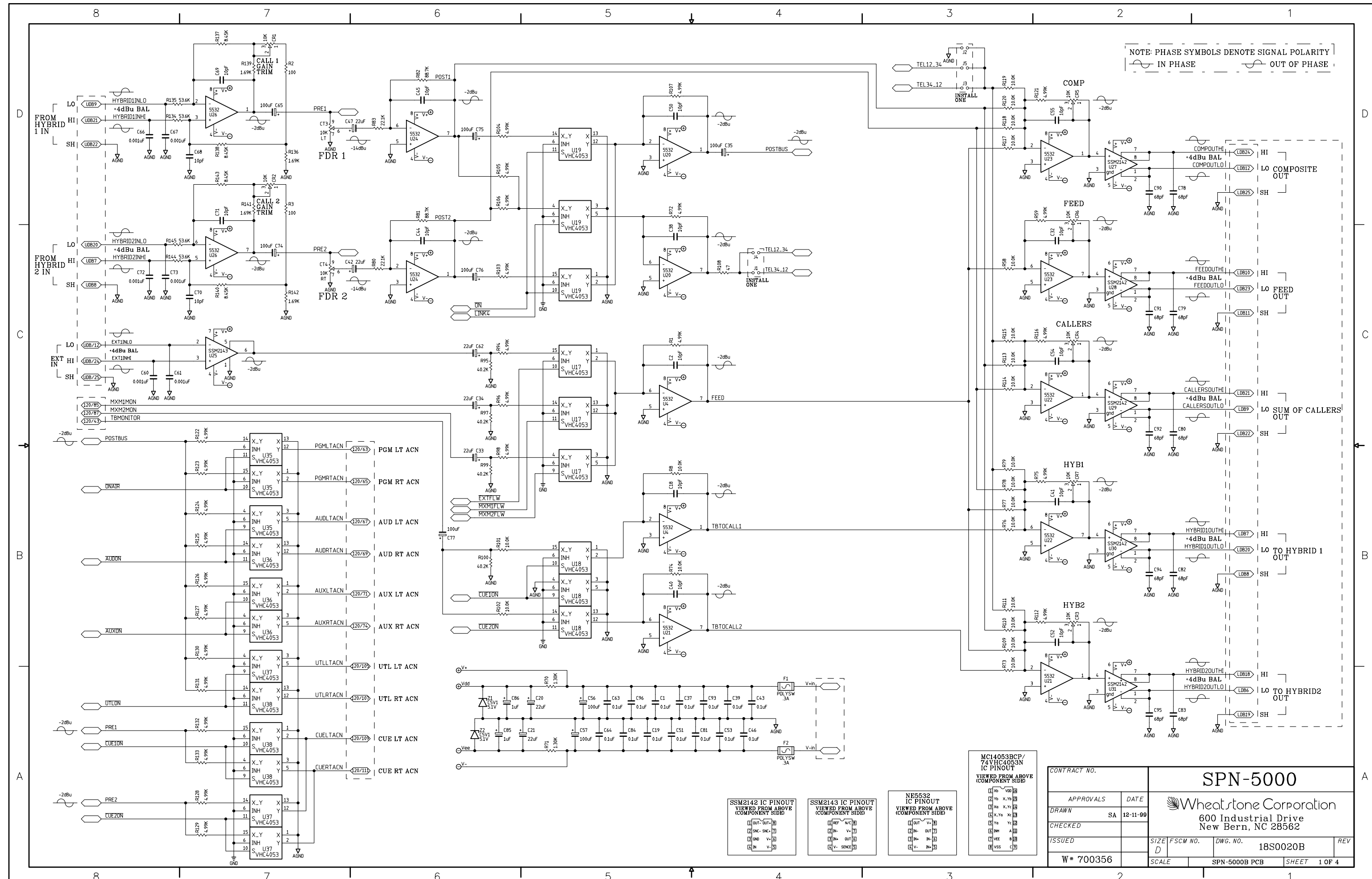
CONTRACT NO.		TRD-500					
APPROVALS		DATE		 600 Industrial Drive New Bern, NC 28562			
DRAWN SA		5-25-01					
CHECKED							
ISSUED				SIZE D	FSCM NO.	DWG. NO. 14S0077A	REV
W# 700225				SCALE	TRD-500A PCB		SHEET 1 OF 1

The diagram shows a horizontal rectangular interface for a tape remote. On the far left, the text "TAPE REMOTE" is written vertically. The interface is divided into three main sections. The first section on the left contains a vertical stack of six square buttons. The middle section contains a horizontal row of six square buttons. The right section contains a horizontal row of six square buttons. The entire interface is enclosed in a thin black border.

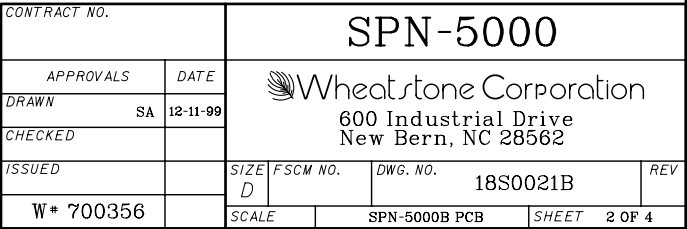
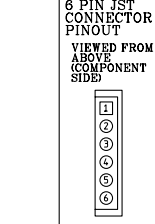




SPN-5000 Superphone Module - Signal Flow Diagram



SPN-5000 Super Phone Module Schematic -
Sheet 1 of 3



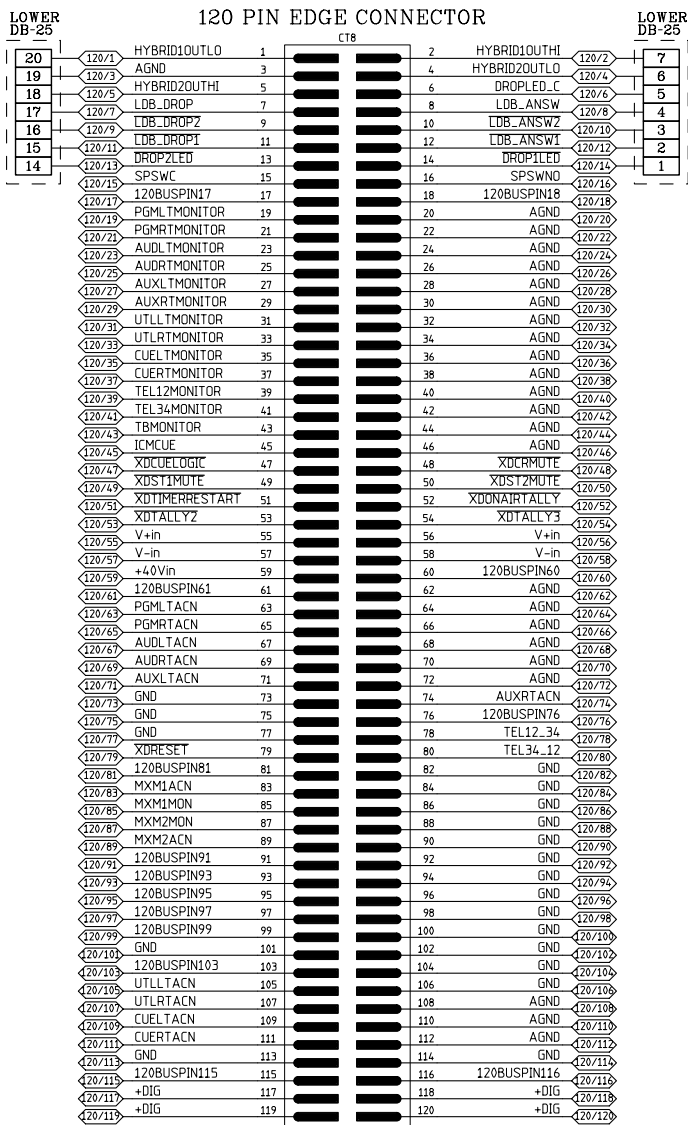
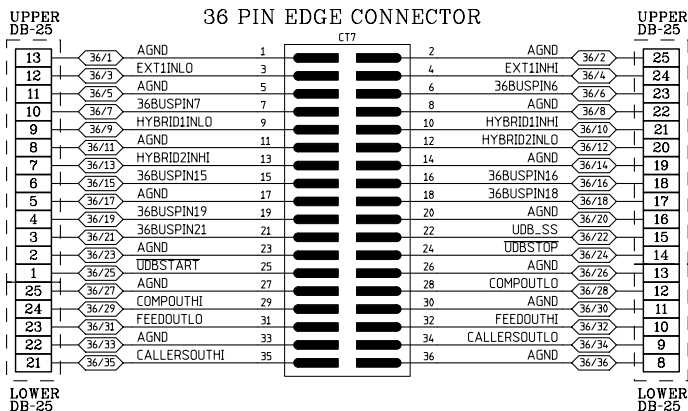
Page 5-5

A

B

C

D



CONNECTORS BUSS CHART

CONTRACT NO.		SPN-5000			
APPROVALS	DATE	 Wheatstone Corporation 600 Industrial Drive New Bern, NC 28562			
DRAWN	SA 12-11-99				
CHECKED					
ISSUED		SIZE	FSCM NO.	DWG. NO.	REV
W# 700356		C		18S0022B	
		SCALE	SPN-5000B PCB		SHEET 3 OF 4

FOLLOW IN

IN

LINK 4 CALLERS

EXT

MXM1

MXM2

L

CALLERS

R

ON AIR

PGM

AUX

AUD

UTL

ASSIGN

DROP1

DROP2

CUE1

CUE2

SUPER PHONE

0

5

10

15

20

30

40

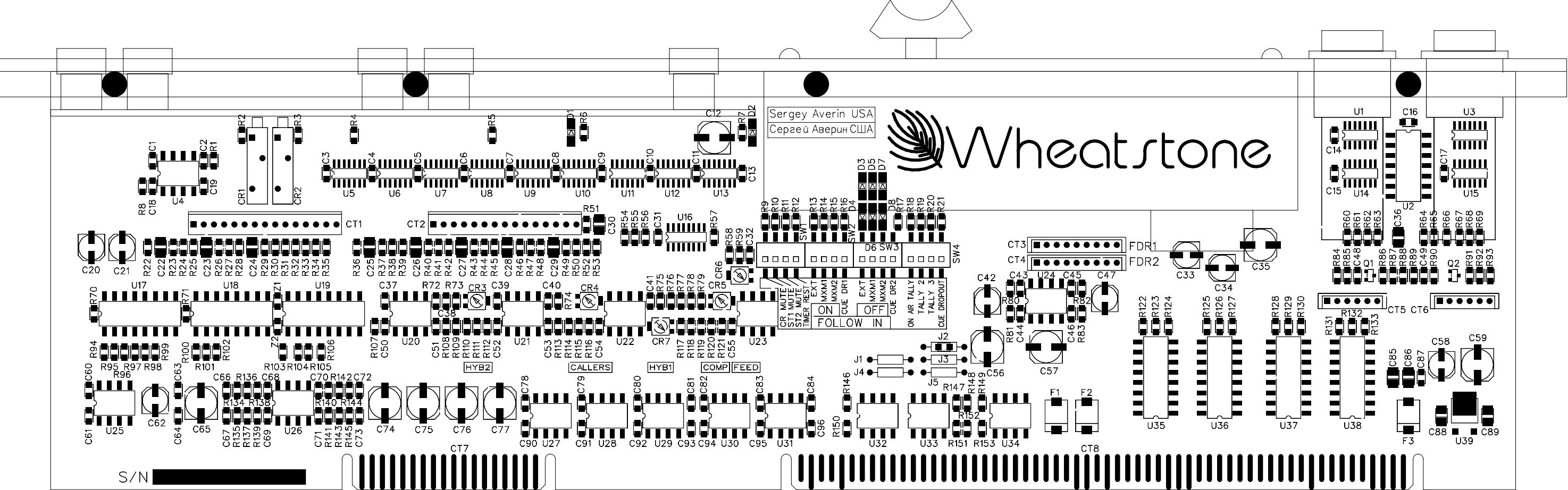
50

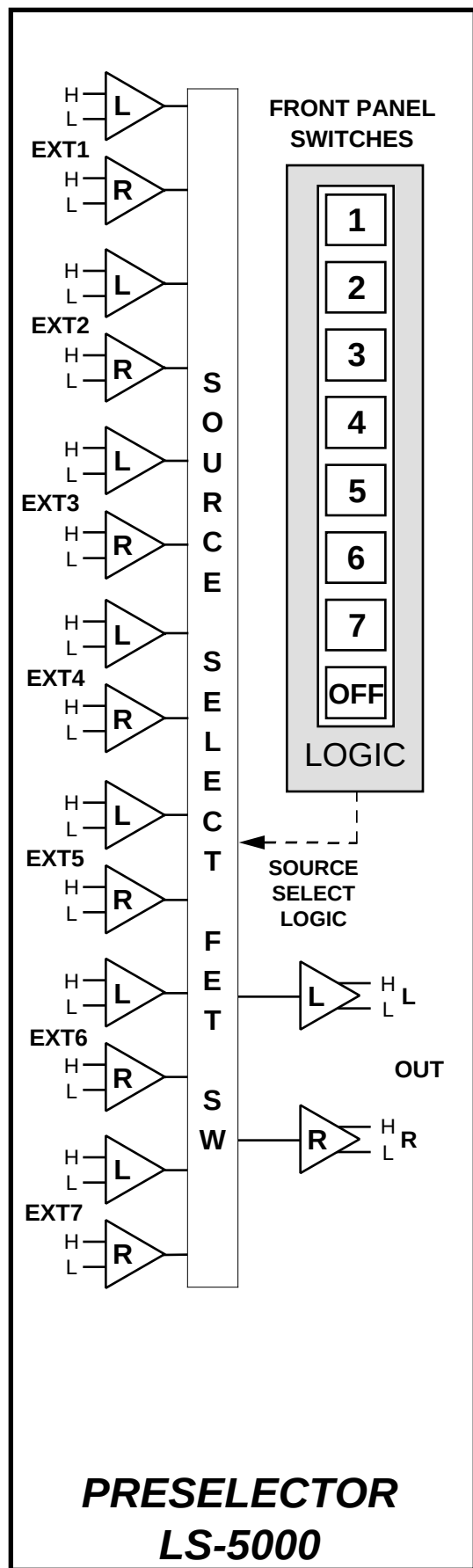
60

70

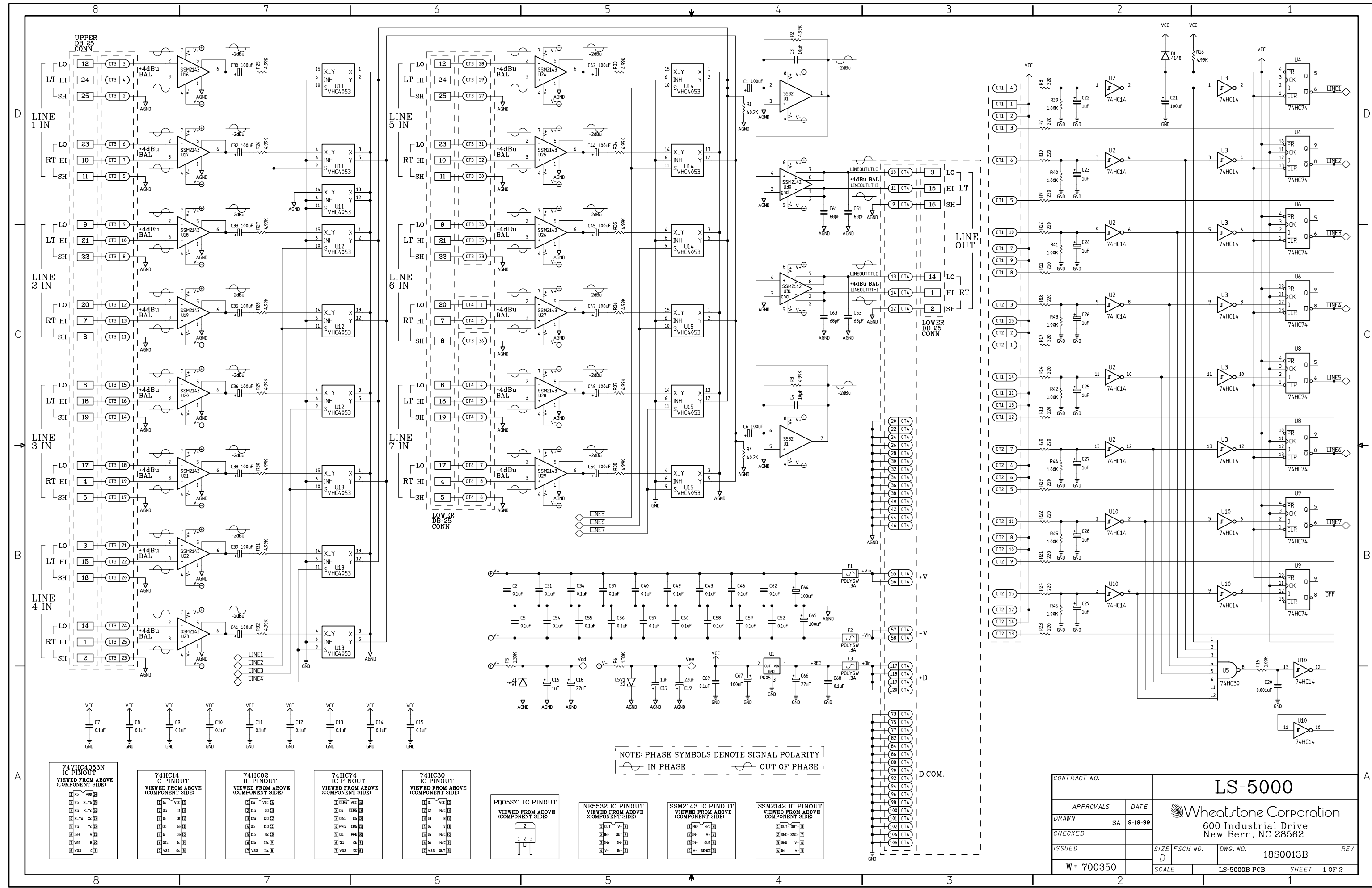
80

START





LS-5000 Line Preselector (analog) - Signal Flow Diagram



LS-5000 Line Select Module Schematic - Sheet 1 of 1

CONTRACT NO.		LS-5000	
APPROVALS	DATE	Wheatstone Corporation 600 Industrial Drive New Bern, NC 28562	
DRAWN	SA 9-19-99		
CHECKED		SIZE	FSCM NO.
ISSUED		DWG. NO.	18S0013B
W# 700350		SCALE	LS-5000B PCB
		SHEET	1 OF 2

LINE SELECT

LINE SELECT

1

2

3

4

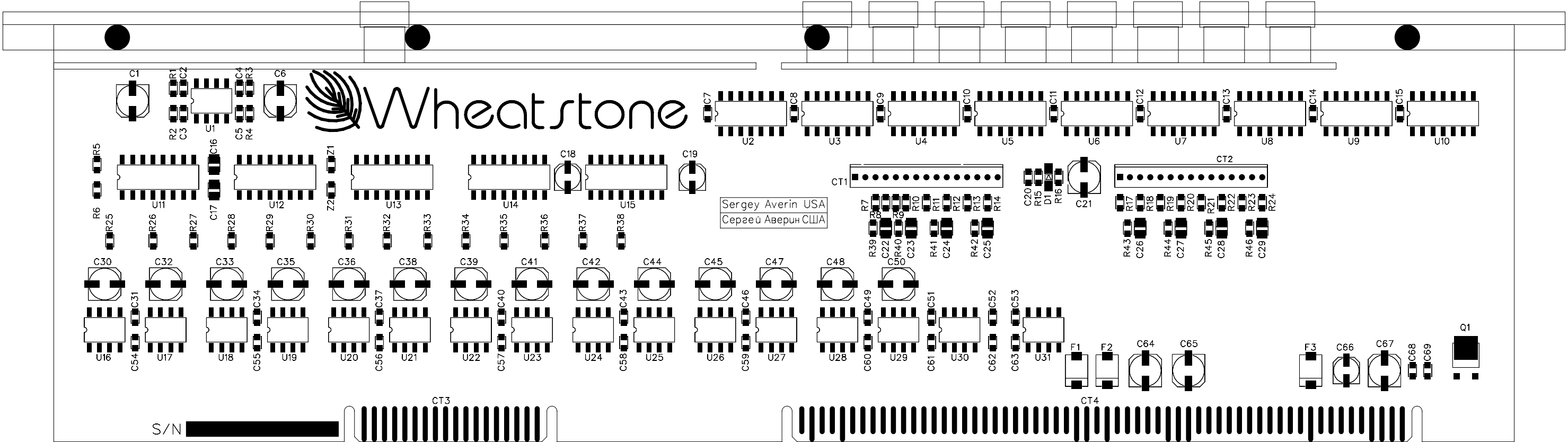
5

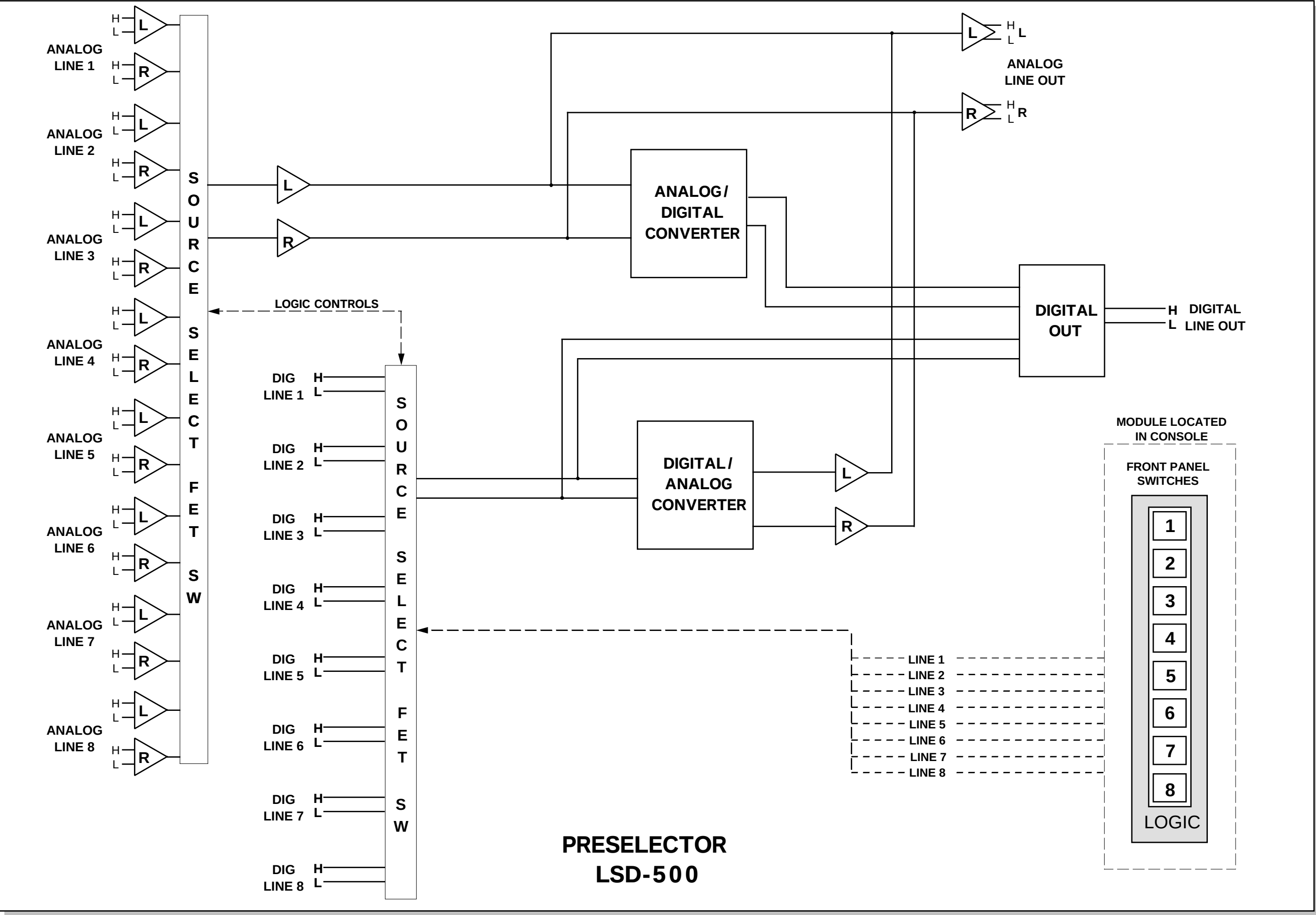
6

7

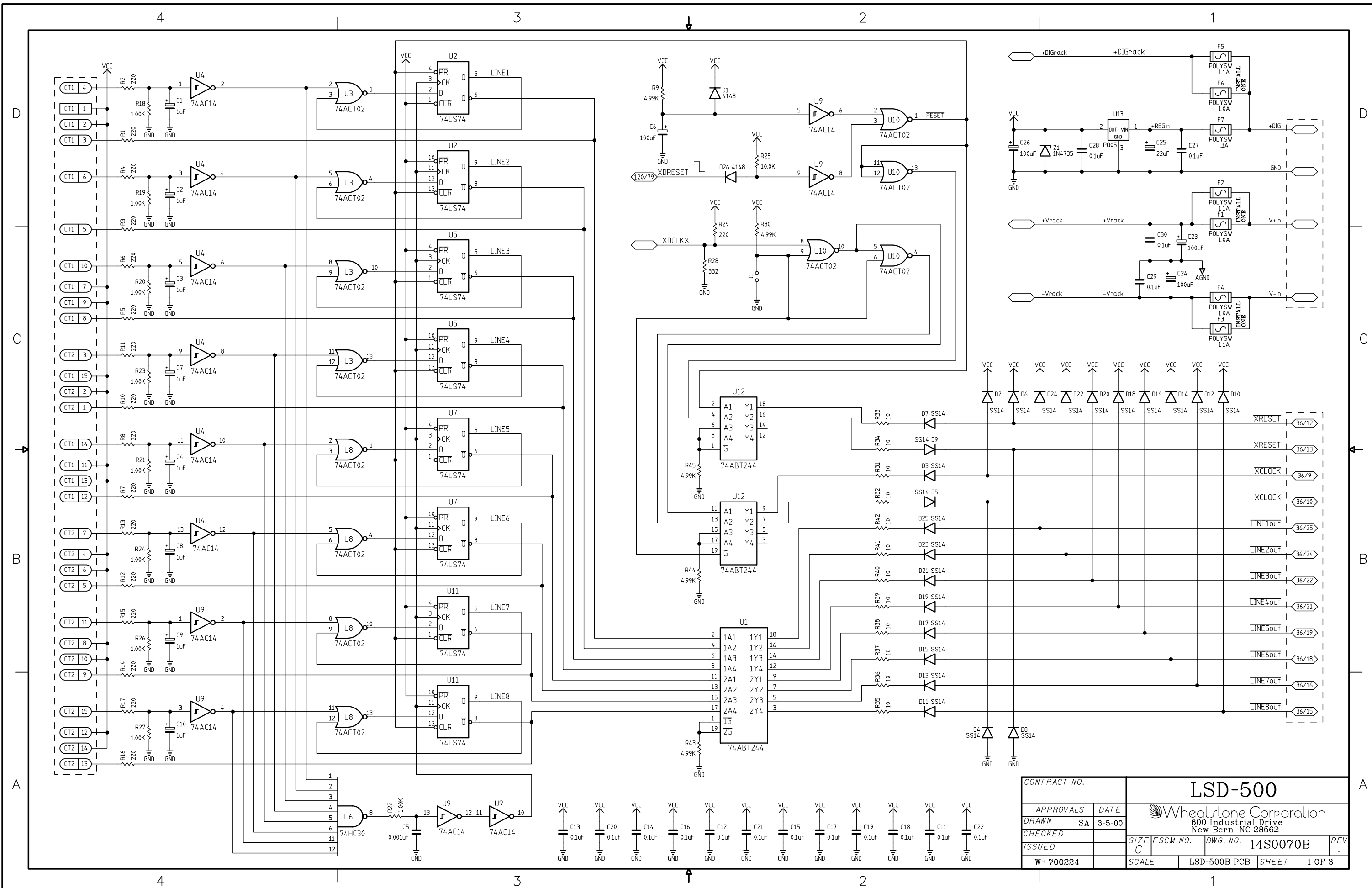
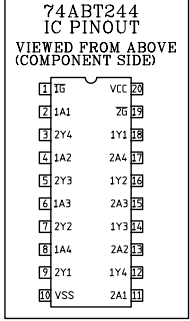
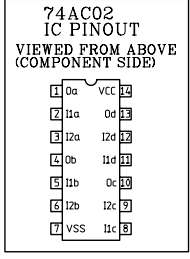
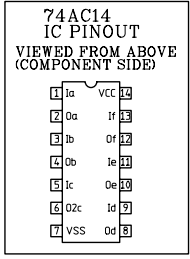
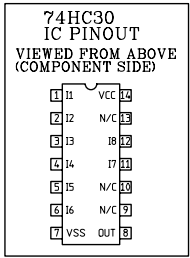
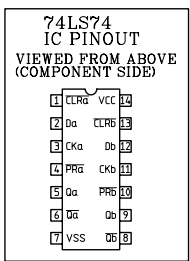
OFF

LINES



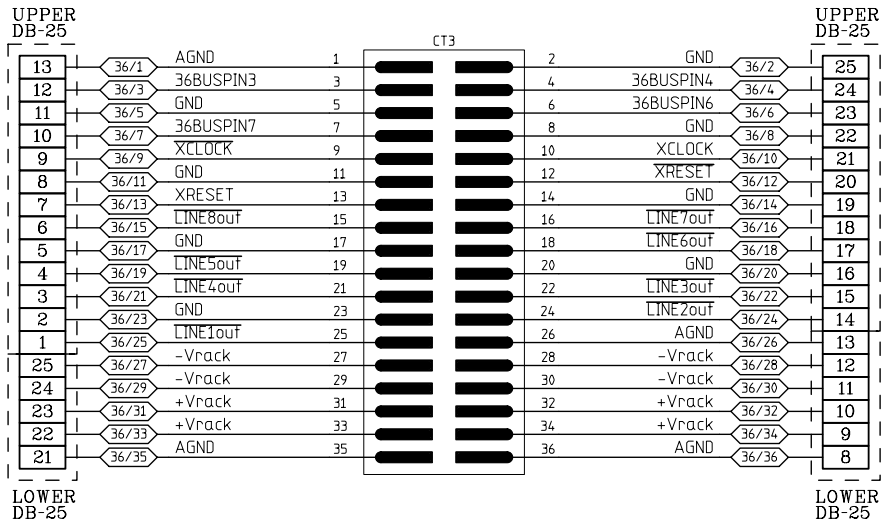


LSD-500 Line Preselector (digital) - Signal Flow Diagram

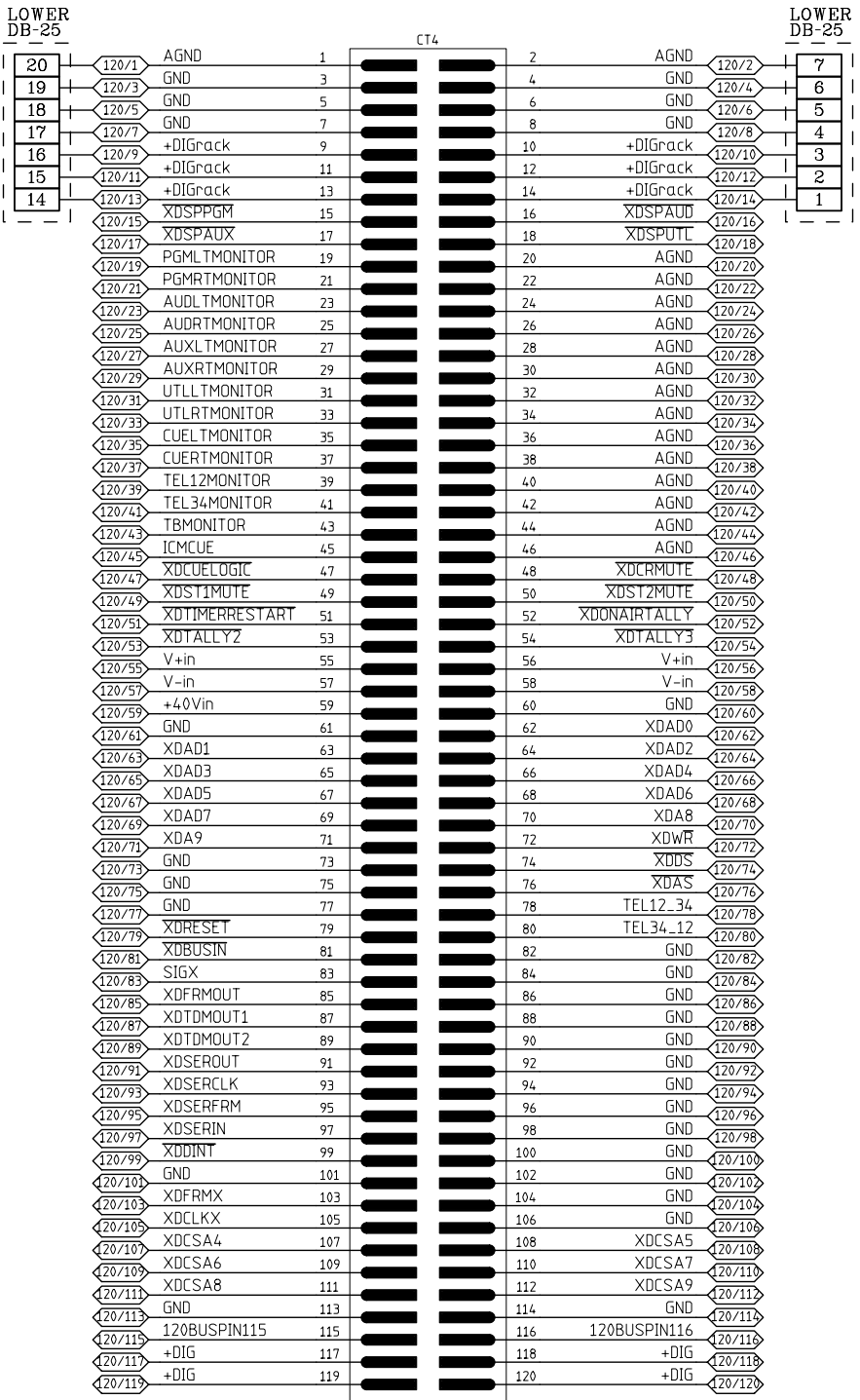


CONTRACT NO.		LSD-500	
APPROVALS	DATE	 600 Industrial Drive New Bern, NC 28562	
DRAWN	SA 3-5-00		
CHECKED		SIZE FSCM NO.	DWG. NO. 14S0070B
ISSUED		C	REV -
W* 700224		SCALE	LSD-500B PCB SHEET 1 OF 3

36 PIN EDGE CONNECTOR

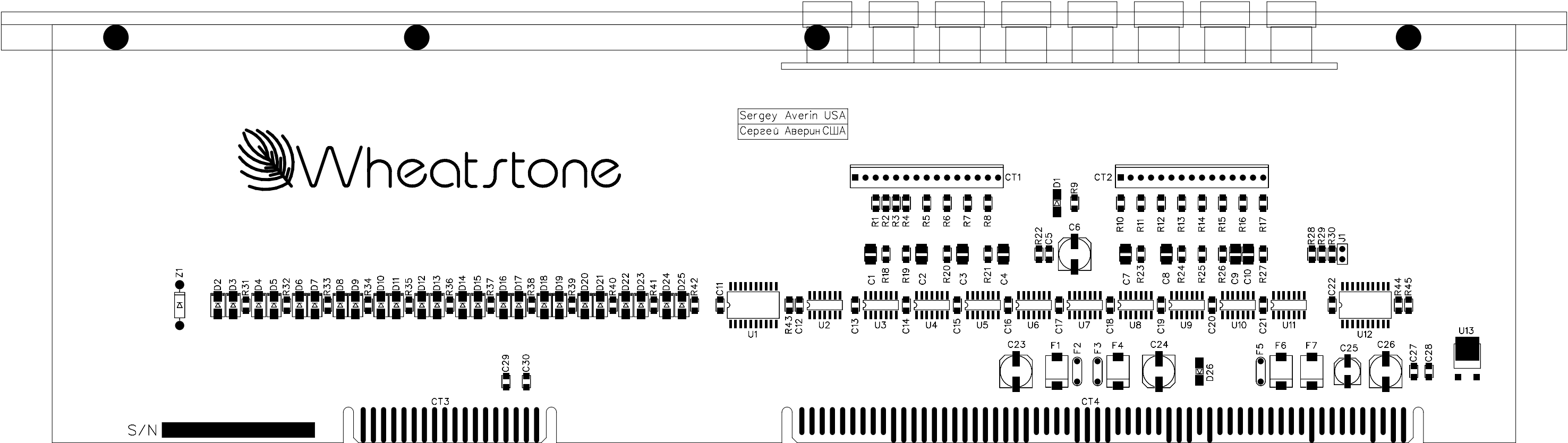
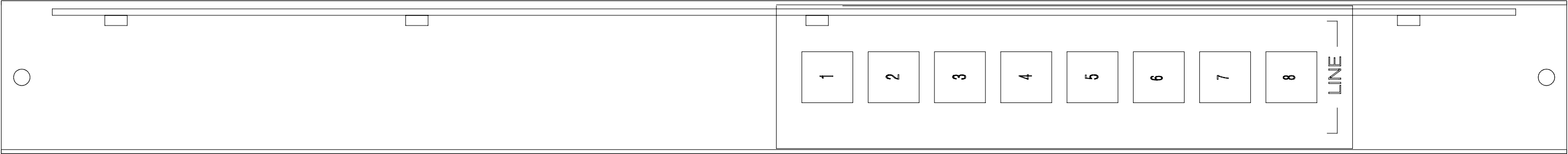


120 PIN EDGE CONNECTOR

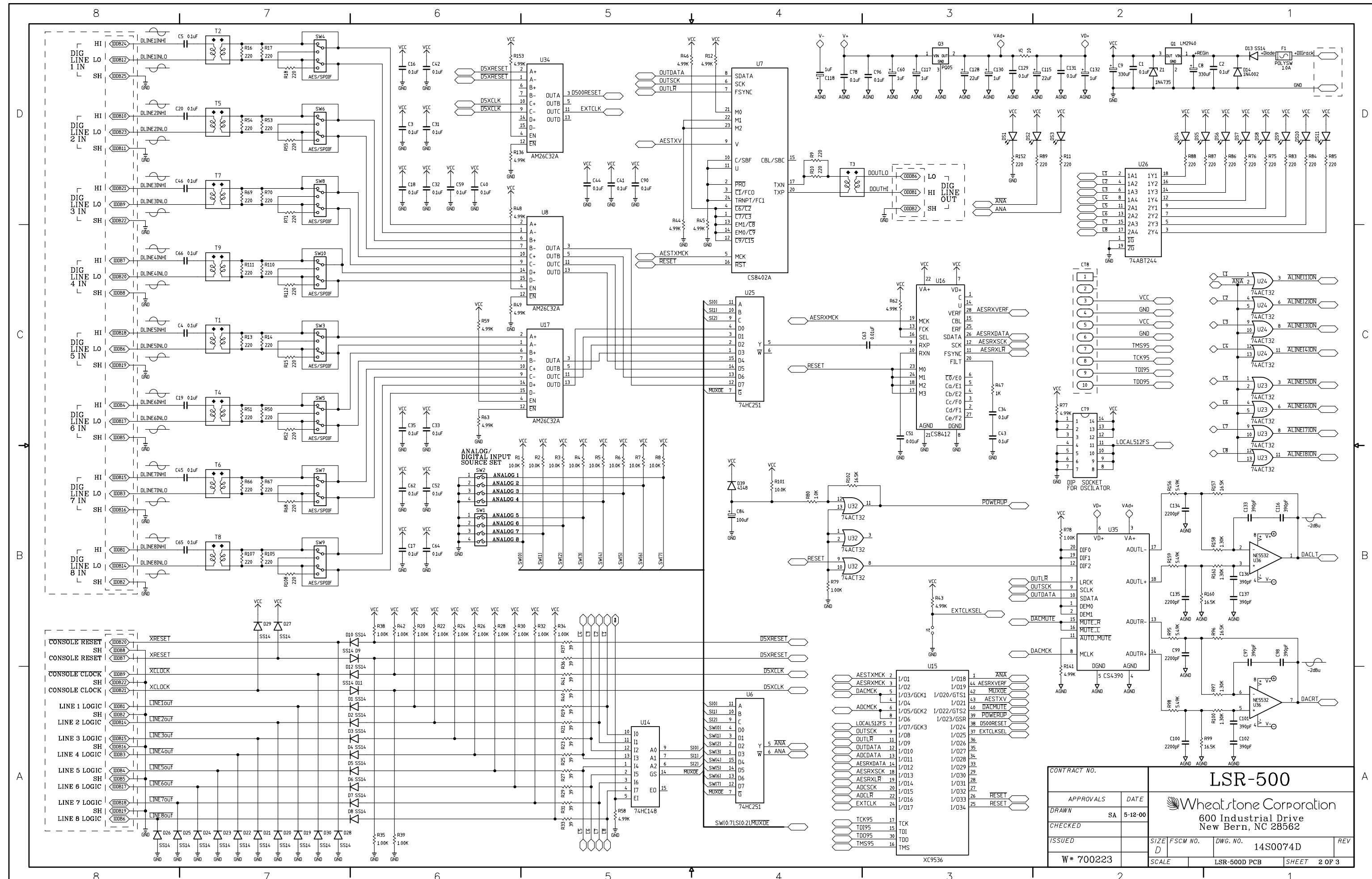


CONNECTORS
BUSS CHART

CONTRACT NO.		LSD-500			
APPROVALS	DATE	 Wheatstone Corporation 600 Industrial Drive New Bern, NC 28562			
DRAWN SA	3-5-00				
CHECKED					
ISSUED		SIZE C	FSCM NO.	DWG. NO. 14S0071B	REV -
W* 700224		SCALE	LSD-500B PCB	SHEET 2 OF 3	

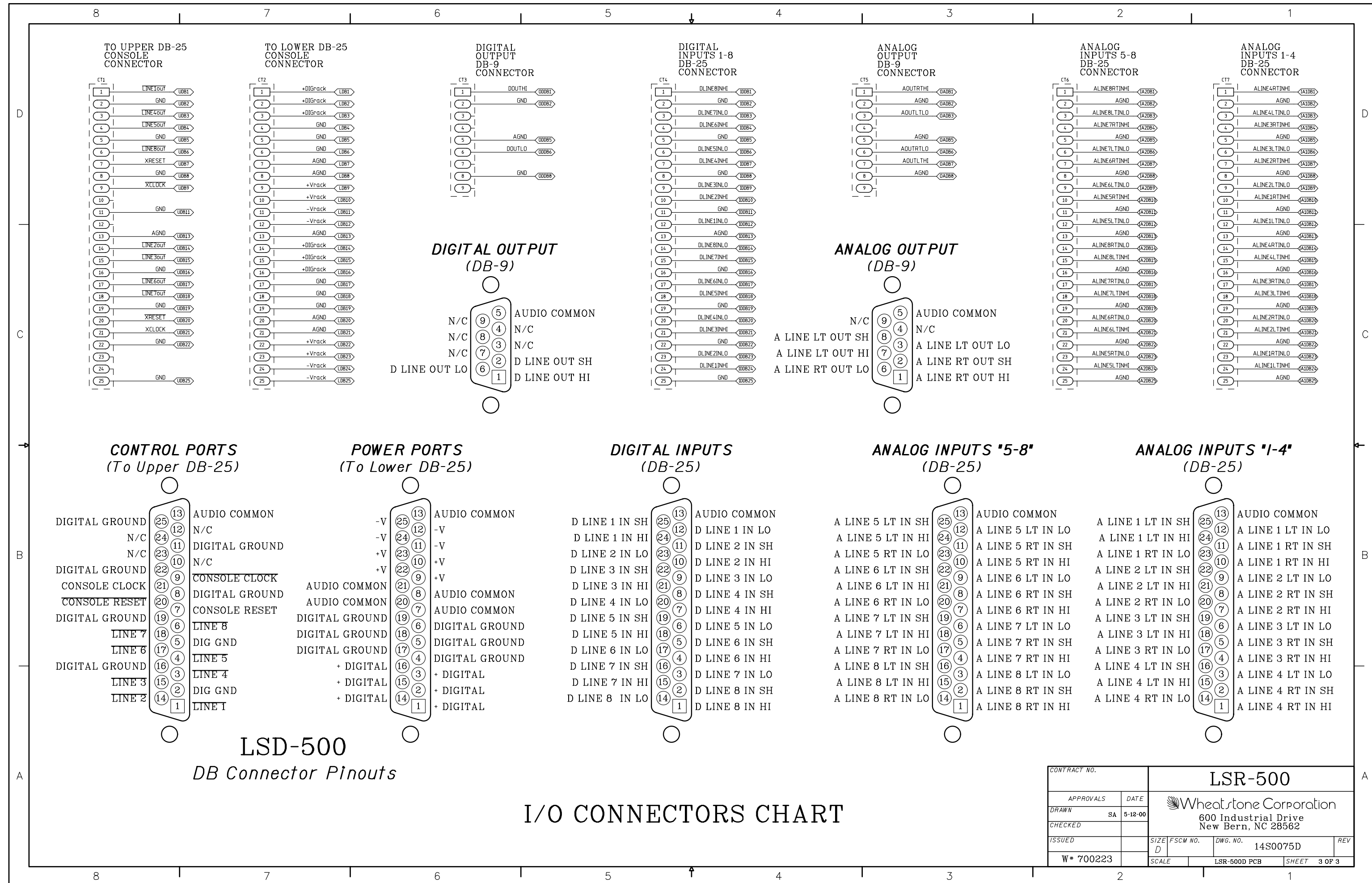


LSR-500 Digital/ Audio Line Select Rackmount
Schematic - Sheet 1 of 3

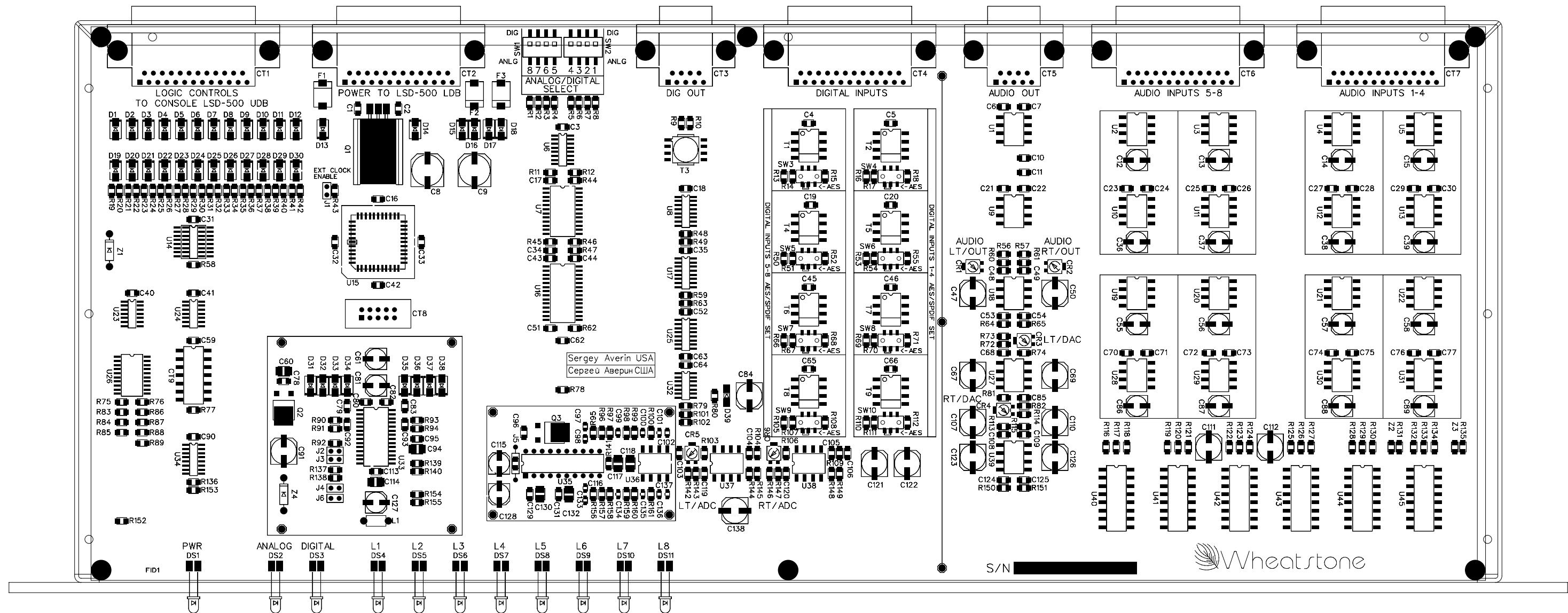


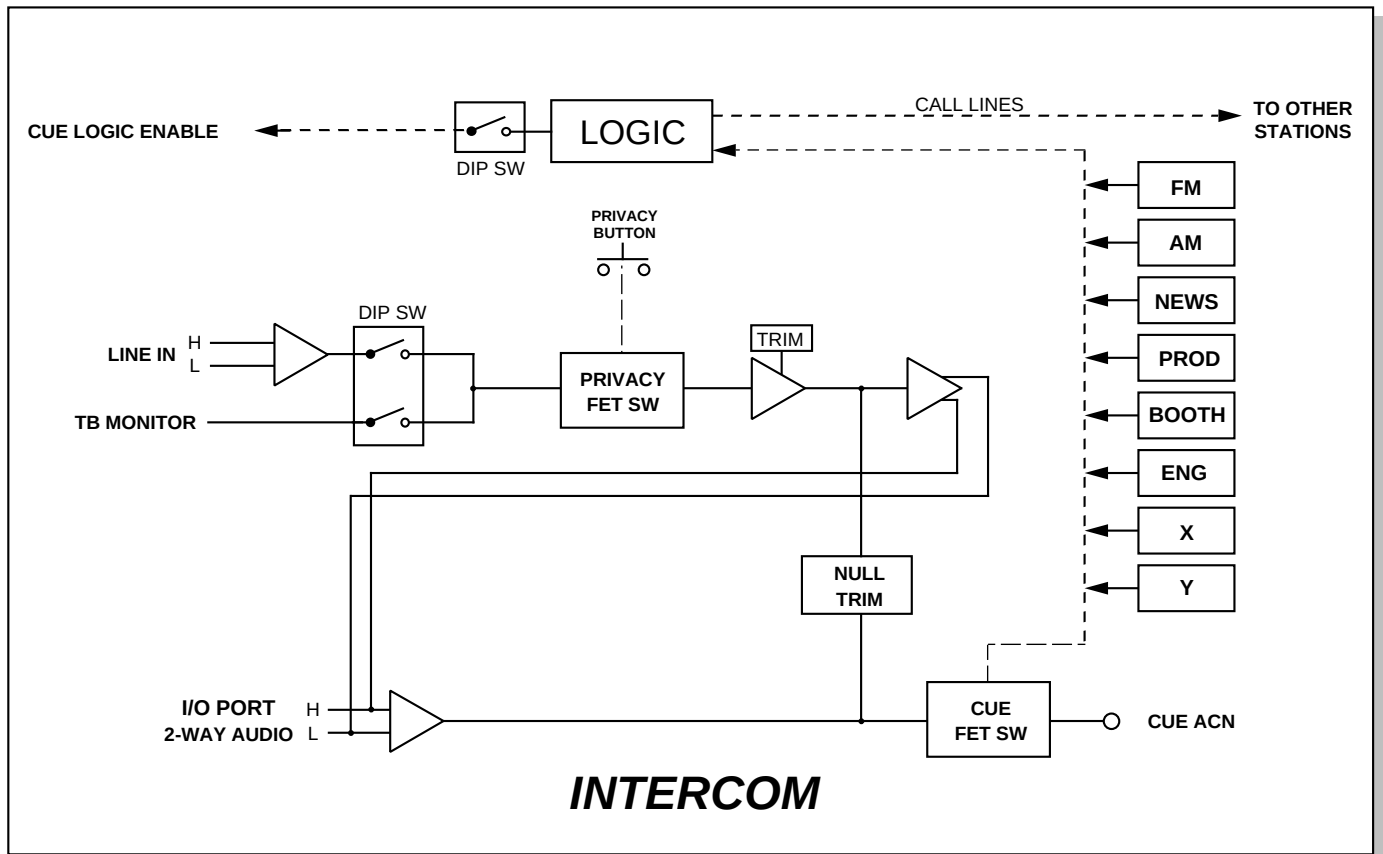
CONTRACT NO.		LSR-500	
APPROVALS	DATE	Wheatstone Corporation 600 Industrial Drive New Bern, NC 28562	
DRAWN	SA 5-12-00		
CHECKED		SIZE	FSCM NO.
ISSUED		D	14S0074D
W # 700223		SCALE	LSR-500D PCB
			SHEET 2 OF 3

LSR-500 Digital/ Audio Line Select Rackmount
Schematic - Sheet 2 of 3

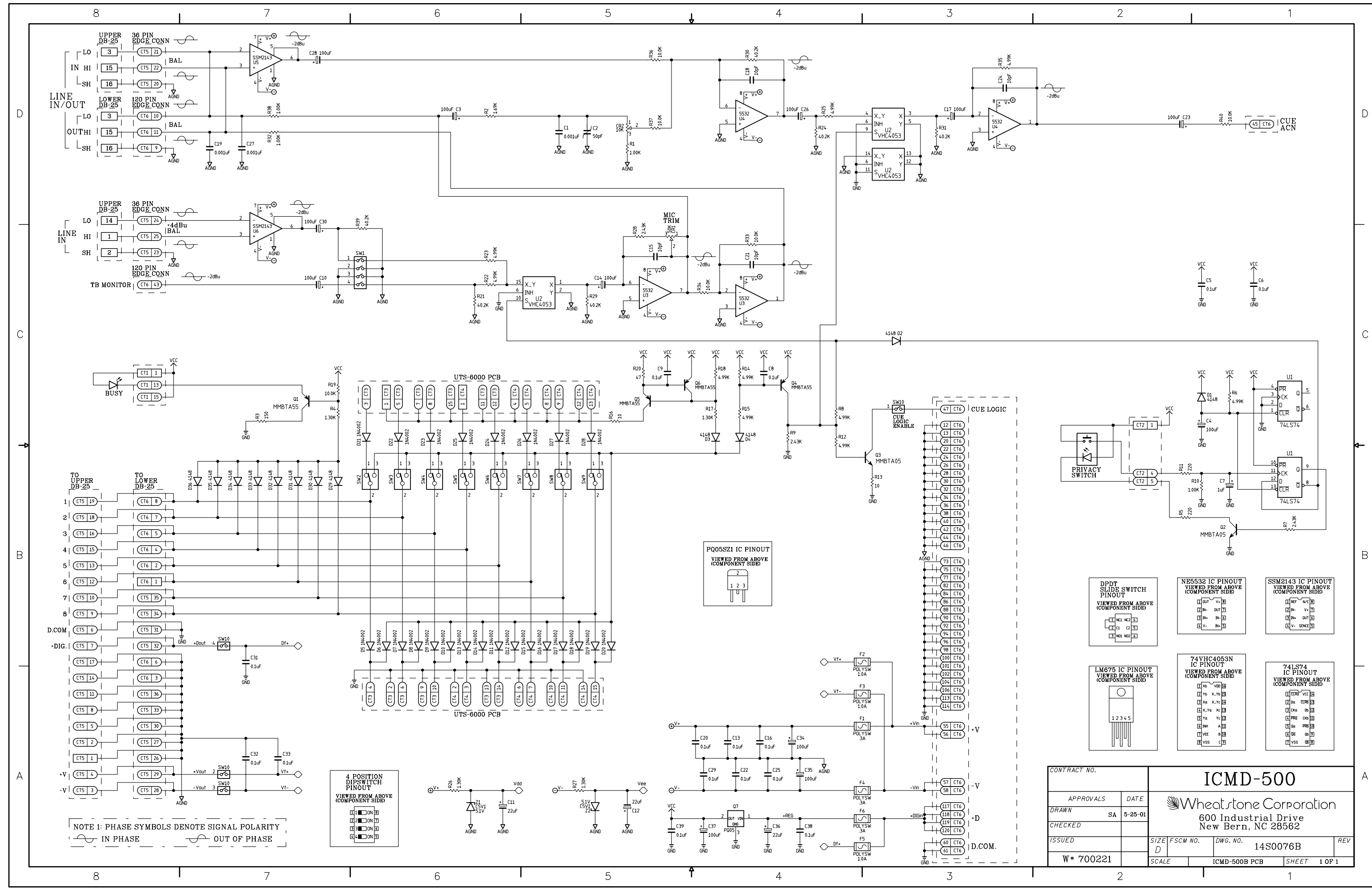


CONTRACT NO.		LSR-500			
APPROVALS		DATE		 Wheatstone Corporation 600 Industrial Drive New Bern, NC 28562	
DRAWN		SA 5-12-00			
CHECKED					
ISSUED				14S0075D	
W# 700223				REV	
		SIZE	FSCM NO.		
		D			
		SCALE	LSR-500D PCB		SHEET 3 OF 3



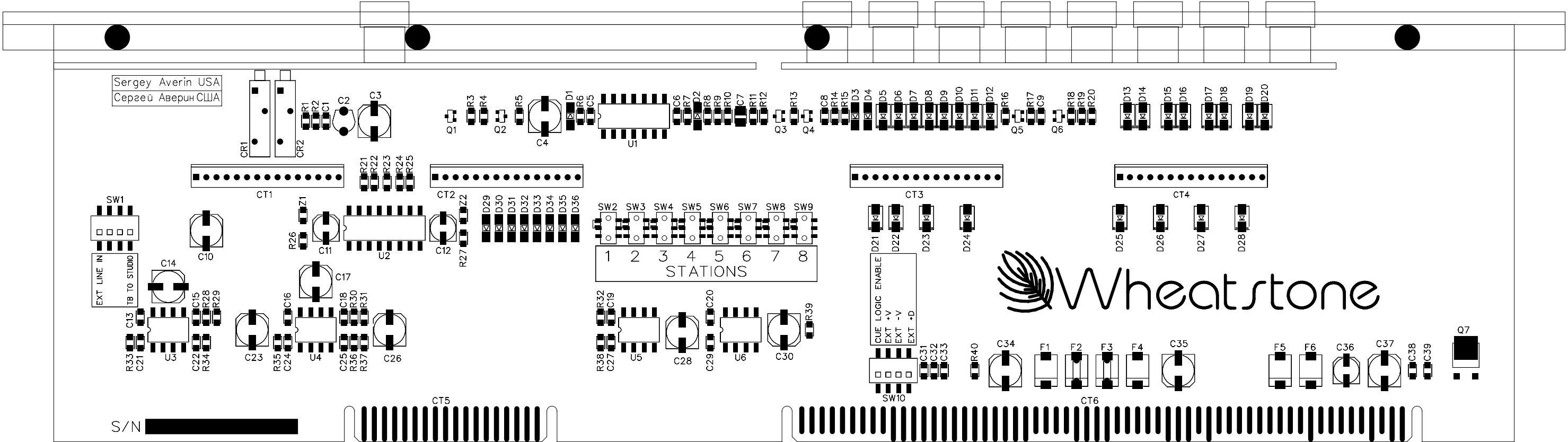
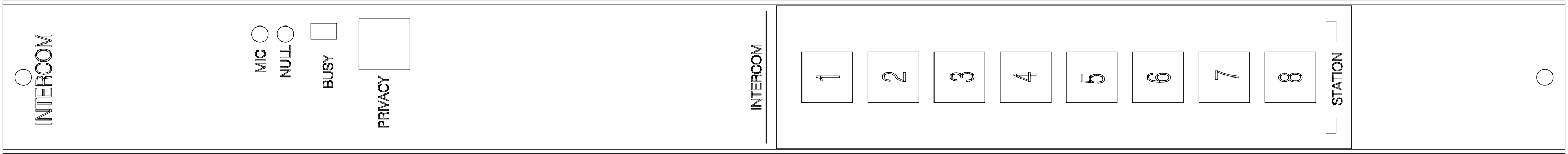


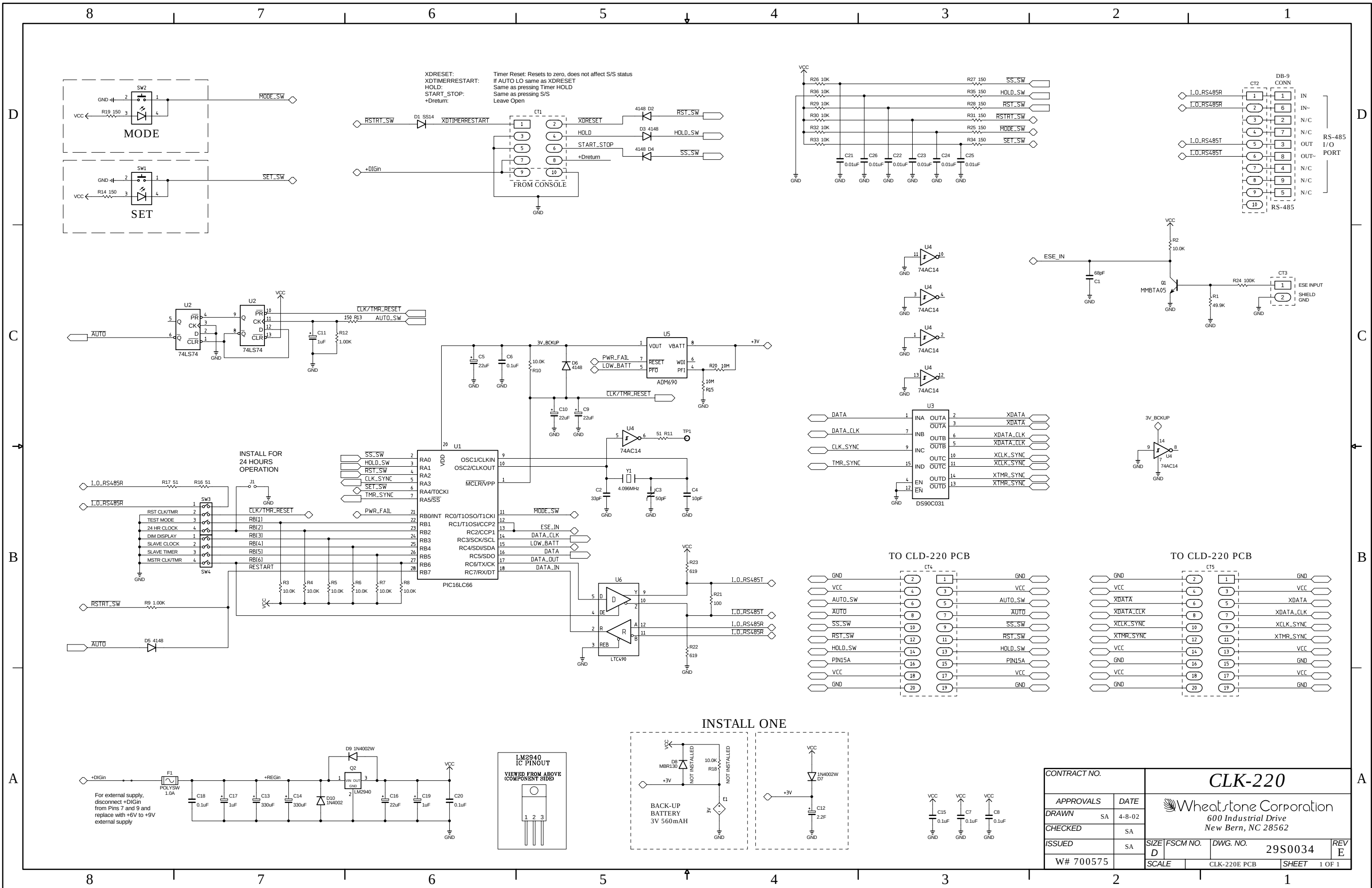
ICMD-500 Intercom Module - Signal Flow Diagram



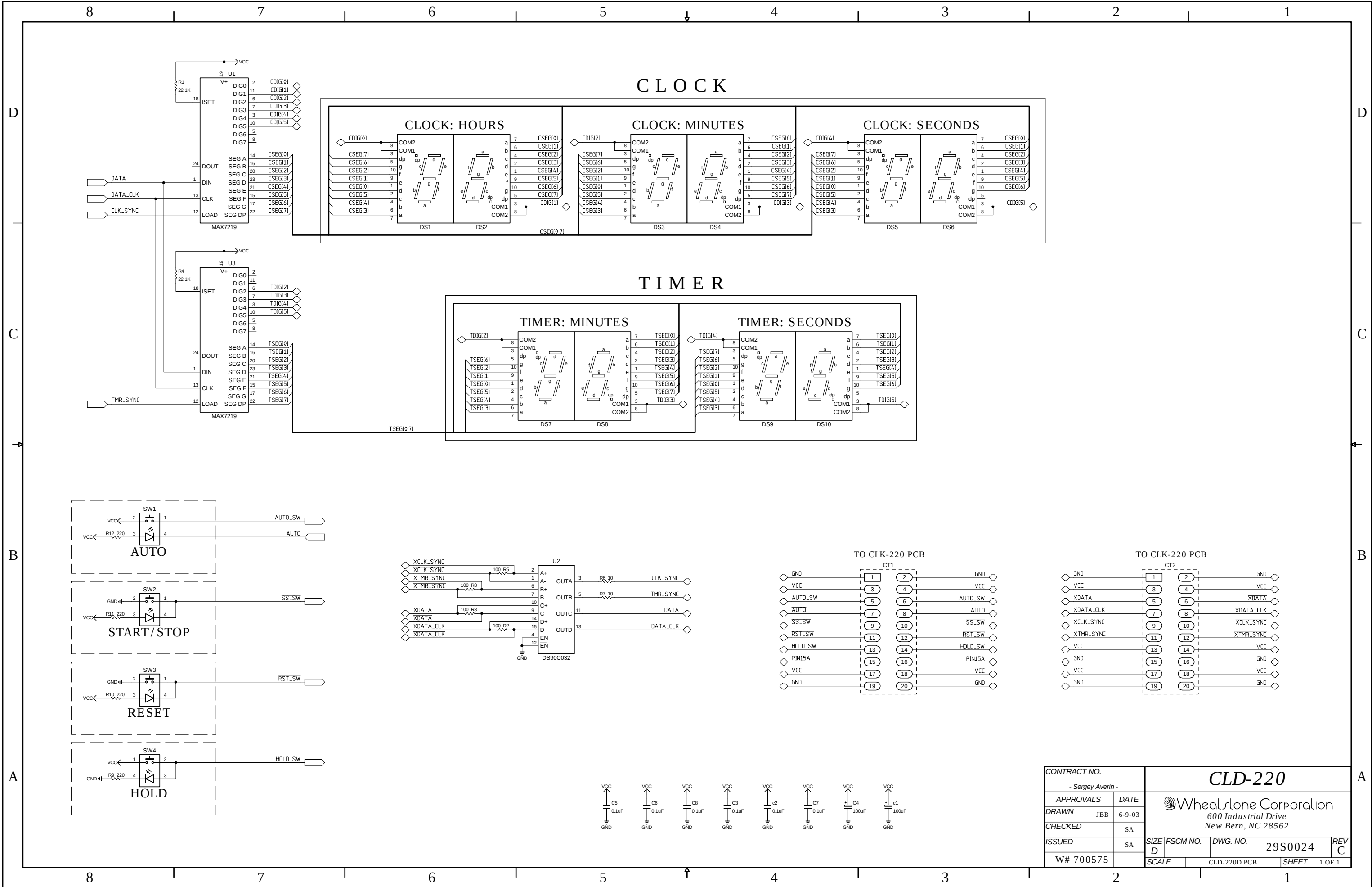
ICMD-500 Intercom Module Schematic - Sheet 1 of 1

CONTRACT NO.		ICMD-500	
APPROVALS	DATE	Wheatstone Corporation 600 Industrial Drive New Bern, NC 28562	
DRAWN	SA 5-25-01		
CHECKED		SIZE D	REV
ISSUED		FSCM NO.	DWG. NO. 14S0076B
W# 700221		SCALE	ICMD-500B PCB SHEET 1 OF 1

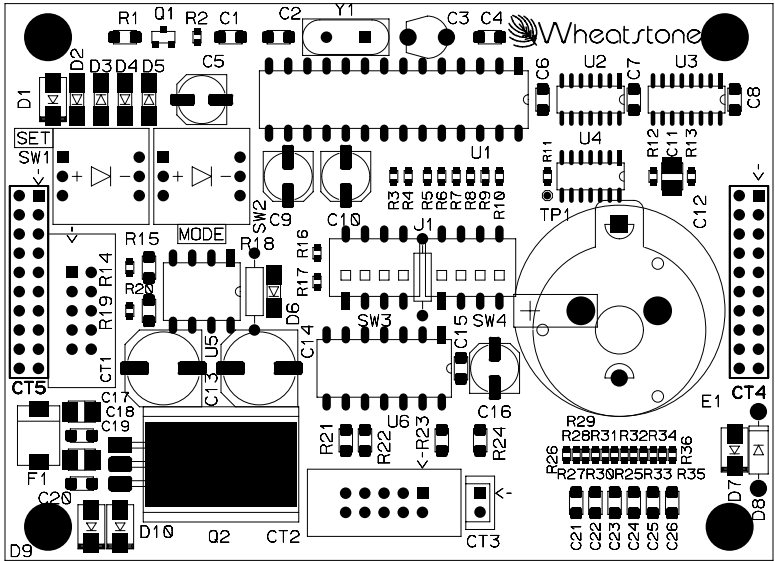


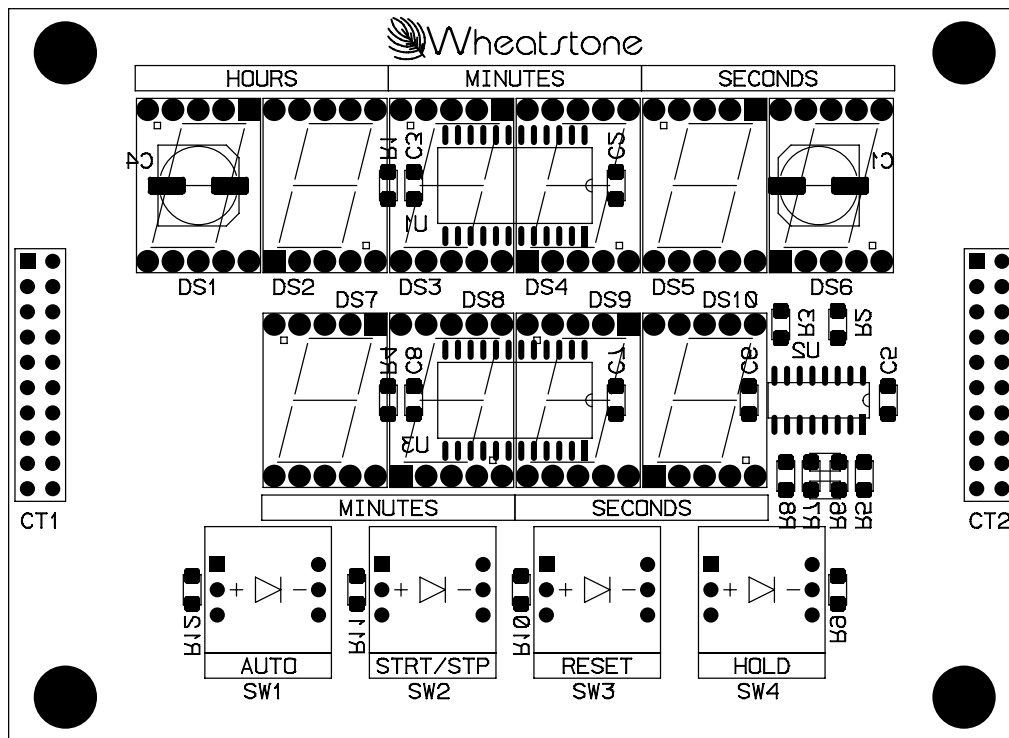


CLK-220 Clock/Timer Schematic Sheet 1 of 1



Clock / Timer Display Schematic Sheet 1 of 1





CLD-5000 Clock/Timer Display Card Load Sheet Drawing

