

{ If sound really matters,  
there's just no other choice. }

The Legacy.



IF SOUND REALLY MATTERS,  
THERE'S JUST NO OTHER CHOICE.



## THE LEGACY SERIES

64 CHANNEL, 12 ECHO RETURNS, MOVING FADER AUTOMATION



# THE LEGACY SERIES CONSOLE

## CONTENTS

	PAGE
A LOOK BEHIND AND AHEAD	2
THE CONSOLE	3
TECHNICAL	
THE 212L MIC PREAMP	4
THE 550L EQUALIZER	4
THE 768 INPUT MODULE	5
MULTITRACK MONITOR	6
MASTER FACILITIES	7
OPTIONS BUCKET	8
PATCHBAY	9
CONSOLE CONFIGURATIONS	10
SIGNAL FLOW	10
DIMENSIONS	11
MODULES	12
ETCETERA	13
WHAT THEY'RE SAYING	13
LET'S TALK DISCRETE	14

## A LOOK BEHIND AND AHEAD

It all began with a dream. It was 1968. The company: **Automated Processes Inc.** formed by men with a vision. Best known for their now legendary "2520 amplifier," this unique amplifier has been and will continue to be the heart of all API discrete products. It continues to provide reliability and sonic purity unmatched by API's competitors.

The result was a console that met the needs of the music, commercial and broadcast industry.

API became the leading audio broadcast console manufacturer for radio and television networks and high profile stations. In addition, recording studios, large and small, began using API...receiving rave reviews from engineers and producers. There are over 700 API consoles across the nation and around the world, including the three major networks. Over twenty years later, many of these consoles are still in daily use in some of the most prestigious recording and broadcast facilities in the world because, to date, there are no new consoles of equal sound quality at a cost-effective price.

Technical contributions to the industry:

1. Pioneered modular design. (1969)
2. Developed high technology in conductive plastic faders. (1969)
3. The first computerized console automation system for the control of fader levels. (1973)
4. The first voltage controlled amplifier (VCA). (1973)
5. Developed/manufactured the first computer programmable console with automation of EQ, Sends, Pans, and Faders, otherwise known as Total Recall. (1974)
6. Developed one of the first tape synchronizer systems. (1974)
7. Developed first micro-processor based crosspoint intercoms for use in broadcast and production, which became the basis for our discrete series bus assignment system. (1977)
8. New Ownership: Paul Wolff, president, Kevin Raynor, VP of Operations. (1985)
9. Discrete Series Recording Console, with "touch reset" computer system. (1989)
10. First console manufactured utilizing touch-screen computer assignment for complete switch reset. (1991)
11. Debut of Legacy Series Recording Console. (1993)

Currently in production, a traditional design, featuring the 2520 and 2510 discrete op amp, and offering familiarity and simplicity of operation while preserving the sonic integrity that has made API famous. New additions to the system include the 235L channel noise gate and the 225L channel compressor module. Efficiency in manufacturing allows us to offer surprisingly affordable pricing.

1995 continues the success of the Legacy recording console with recording systems in place and operating in virtually all major American markets and in Japan.

## THE CONSOLE

Considering the current economic conditions of the 90's, stagnated studio rates, and increasing competition, the challenge for a quality console builder is...how to give the client everything he needs with incomparable sound and keep it affordable.

### WHY API?

API has responded to the demands of the marketplace and created the console of the decade...the American challenge to the sound, function and price of European consoles...a console that can meet the demands of the most discriminating producer, engineer, or artist.

With a heritage of incomparable sound, reliable performance for over twenty years, and an understanding of the financial market dynamics of the 90's, API is pleased to respond to the challenge of the industry and now presents a console without compromise, *The Legacy Series*:

DISCRETE	The legacy of sound that has earned API the respect of the industry continues and is not just found in vintage consoles. API has merged discrete and functional technology in one console...The Legacy Series. No longer is a buyer asked to choose between sound and features or reliability. The Legacy Series offers a complete system for the production of award-winning recordings...an API tradition.
MODULAR	Since API pioneered the modular console in the 60's, we have made it policy to keep all console designs modular, never limiting a studio to a one-piece input strip. Present demands of modern recording have required an ever-growing number of inputs, to facilitate ever-growing tape channels, and effects returns. However, more often than not, mic preamps and/or equalizers are not needed in all channels and present a waste of capital. The Legacy Series allows for the specification of channel inputs with or without mic preamps and/or equalizers, and provides for their addition at a future time. The modular frame design also facilitates later expansion of 16 channel buckets, and multitrack monitor sections. All of these options can be specified with the original order, or added at a later date. And with the additions of the 235L noise gate and the 225L compressor modules, the options are expanded for processing versatility and added expansion.
RELIABLE	No down time. Reason...API builds consoles to last...standing out from other manufacturers when it comes to maintenance and our exclusive five year parts warranty.
AFFORDABLE	The Legacy Series' cost can be integrated into your <u>current</u> business plan as a modest, solid capital investment, with complete console systems ranging in price from \$100,000 to over \$300,000.  The investment value is proven. Bankers and accountants assess the value of equipment investment in terms of a builder's history, reputation, and resale value. API has and continues to build consoles that hold their value.
FLEXIBLE	The Legacy Series has <u>all</u> the basic necessary tools -- functions and features without the fluff...fully capable of producing a product without compromise.
WARRANTY	One year labor. Five years parts...Unconditional! The industry is littered with manufacturers' discussions of quality components and the "20 year" life span of its products, and yet, we are unaware of any other console manufacturer willing to offer more than a one year warranty for its products.  API uses select, top grade, component level parts, and integrates them into stable, reliable designs; then conducts extensive burn-in testing on each product prior to its release. We believe in our products and our five year warranty on all parts is demonstration of our commitment.

## THE 212L MIC PREAMP

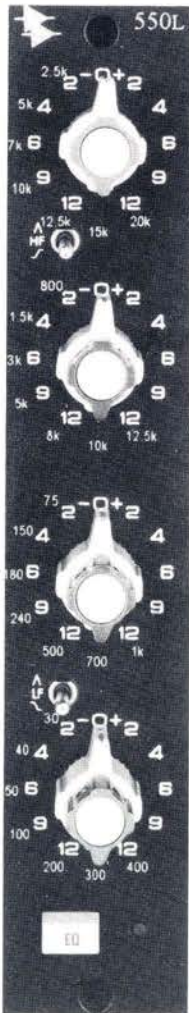


212L MIC PREAMP

The 212L Mic Preamp: Same circuit as the API 512b preamp • All discrete, using the API 2520 op-amp • Input transformer is the RE-115EPC; it's natural flatness adds to the clear, transparent sound.

The 212L features:

- On board API output transformer.
- Front panel controls consist of a full range gain control (from 0 - 60db), a 20db pad, and a 48v phantom power switch.
- LED VU meter display provides 5 leds of gain information in three colors, -12, -6 and 0 are green, +8 is yellow and +18 is red, insuring signal presence and assisting in level setting.
- Clipping is above +28, giving the engineer plenty of headroom.
- Output is distinguished by its sparkle and clarity.... some say that its sound was the heart of the "LA sound."



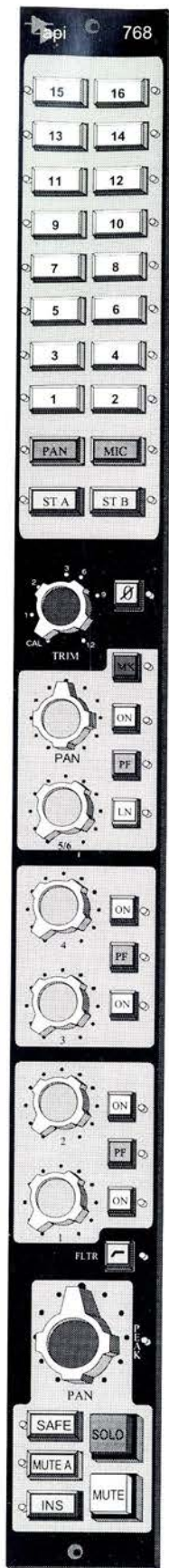
550L EQUALIZER

## THE 550L EQUALIZER

The 550L continues the legacy of API's 500 equalizer series: Designed around all discrete op-amps • All inter-filter buffers are unity gain 3 transistor amplifiers designed not to add noise to the equalizer.

Characteristics of the 550L equalizer are:

- *The filter design* is a passive filter, using the amplifiers only as buffers, which lends itself well to a very smooth minor adjustment in tone that sounds like the original source.
- *Proportional Q* - The proprietary "proportional Q" or variable width "Q" of the boost/cut slope is proportional to the amount of boost or cut, which means that if the equalizer is set at +2, the bandwidth will be in the 2 to 3 octave area, and when it is at +12 it tightens up to about 1 octave.
- *Frequency Control* - 28 overlapping frequencies are addressed across 4 bands, with seven frequencies per band, and individual shelving switches on the hi and lo bands.
- *Silent In-Out* switches allow click-less insertion.
- *Rotary Switches* are used for boost and cut controls with + or - 12 db in 2 db steps, allowing for precise return to prior settings.
- *Solid aluminum switch knobs* are spaced comfortably, and show a distinct statement of quality unrivaled at any price.



INPUT MODULE 768

## THE 768 INPUT MODULE

The 768 Input Module controls all routing facets of each console channel, including bus assign, mic/line switching, aux and cue sends, panning, solo and mute. It features:

- *All Discrete Signal Path*, utilizing the 2520 and 2510 (high definition op-amp).
- *All Steel Chassis Construction* providing a physical shield between adjacent channels, eliminating channel-to-channel crosstalk.
- *Individual On/Off LED* adjacent to each switch for clear visual indication of switch assignments.

### Operation

- 16 busses on individual switch assignments.
- *Independent mic/line switch*.
- *Pan on* (dependent on mode) engages the pan pot on either multi-track busses or stereo busses.
- *Stereo Bus A and Stereo Bus B assign*.
- *Phase Invert* - 180° phase inversion without the use of an additional amplifier.
- *Line Trm* - Provides up to an additional 12db of gain to the input amplifier.
- *Auxes 1—6* arranged as: Auxes 1—4 are mono, with individual gain control and cut switch, and are grouped in pairs, with pre/post switching per pair. Auxes 5 & 6 are a stereo pair with level control and a panner, as well as cut and pre/post.
- Two powerfully unique additional controls are the (LN) and the (MX) switches: (LN) allows the aux 5/6 section to become an additional line input for the channel, which may be used as an effect return or a tape monitor, in effect doubling the line-in capacity of the console.
- (MX) disengages aux 5/6 on that channel, and routes the section to the multi-track bus assigns 1 - 8, allowing up to an additional 8 sends per channel, giving the operator a potential total of 14 aux sends on any given input. Busses 9 - 16 remain as multi-track busses. The (MX) feature provides powerful aux flexibility including 8 channel "clean feed" cue mixes.
- *Filter* - a passive high pass filter set at 50hz uses no additional amplifiers, keeping the API commitment of minimum amplifiers in the signal path. Internal jumpers allow the frequency to be changed to 80hz or 150hz.
- *Pan Pot* - True mono center panner, switchable between stereo and multitrack busses via pan enable switch.
- *Solo, Mute, Group Mute, Solo-Safe* - Provide the normal functions of solo and mute control, and allow AFL, PFL, and In-Place-Solo (SIP).
- *Insert* - Functions in conjunction with the channel insert patch points for switchable insertion of external devices in the signal path. The insert is post EQ, Pre Fader.

## MULTITRACK MONITOR SECTION

In applications where a simple, separate tape monitor is desired, The Legacy Series offers an optional Multi-Track Monitor Section available in two sizes, 24 track, and 48 track.

Each standard monitor channel consists of an 868 monitor module and a fader module (wired for automation) fitted with manual P & G fader. Optionally, an 862 monitor module is available and features identical controls to the 868 but includes a short throw P & G fader. Both modules are also available optionally as echo returns.

The addition of a multitrack monitor bucket not only allows for efficient tape monitoring, but with the solo safe feature, allows for a large number of line inputs in mix mode at an extremely affordable cost.

SEND VU METERS	
BLANK	
MNTR-868	MNTR-868
FADER	FADER
MNTR-868	MNTR-868
FADER	FADER
MNTR-868	MNTR-868
FADER	FADER
MNTR-868	MNTR-868
FADER	FADER
MNTR-868	MNTR-868
FADER	FADER
MNTR-868	MNTR-868
FADER	FADER
MNTR-868	MNTR-868
FADER	FADER
MNTR-868	MNTR-868
FADER	FADER
MNTR-868	MNTR-868
FADER	FADER
MNTR-868	MNTR-868
FADER	FADER
MNTR-868	MNTR-868
FADER	FADER
MNTR-868	MNTR-868
FADER	FADER
MNTR-868	MNTR-868
FADER	FADER

MULTITRACK MONITOR SECTION



862 MONITOR MODULE



868 MONITOR MODULE



# MASTER FACILITIES

The center section provides control for:

**Bus Trims** - 16 individual gain controls over full range of the bus amplifier for each main bus as well as master cut switch with LED indication.

**Aux Trims** - Gain controls over full range of the amplifier for each aux bus as well as master cut switch with LED indication, and aux to cue switch.

**Master Solo** - Switching and gain control is provided for the solo modes of AFL, PFL, and Solo In Place, and Mix-Over Solo (a sum of the mix level over solo, with a dim control for mix level.)

**Peak Reference** - Provides for adjustment of the reference point of the peak LED's located in each input module over a range of +4 to +18 db.

**Studio Playback** - Follows control room or tape with independent cut and level control. External in and alternate speaker out is included.

**Speaker Select** - 2 alternative speaker select switches are provided, each with level and adjust control. The main speaker select switches between master control room level adjust and ALT 1 or 2 as selected.

**Master Control** - Playback to monitor is arranged in two rows, program and playback. Program selects internal signals to monitor; playback allows selection of 11 different stereo sources to the monitor, with one being adjustable.

**Cuts and Dim** - Cut left, cut right, cut to both (centers remaining signal, right or left, over both monitors), left and right sum (mono) and dim with level control.

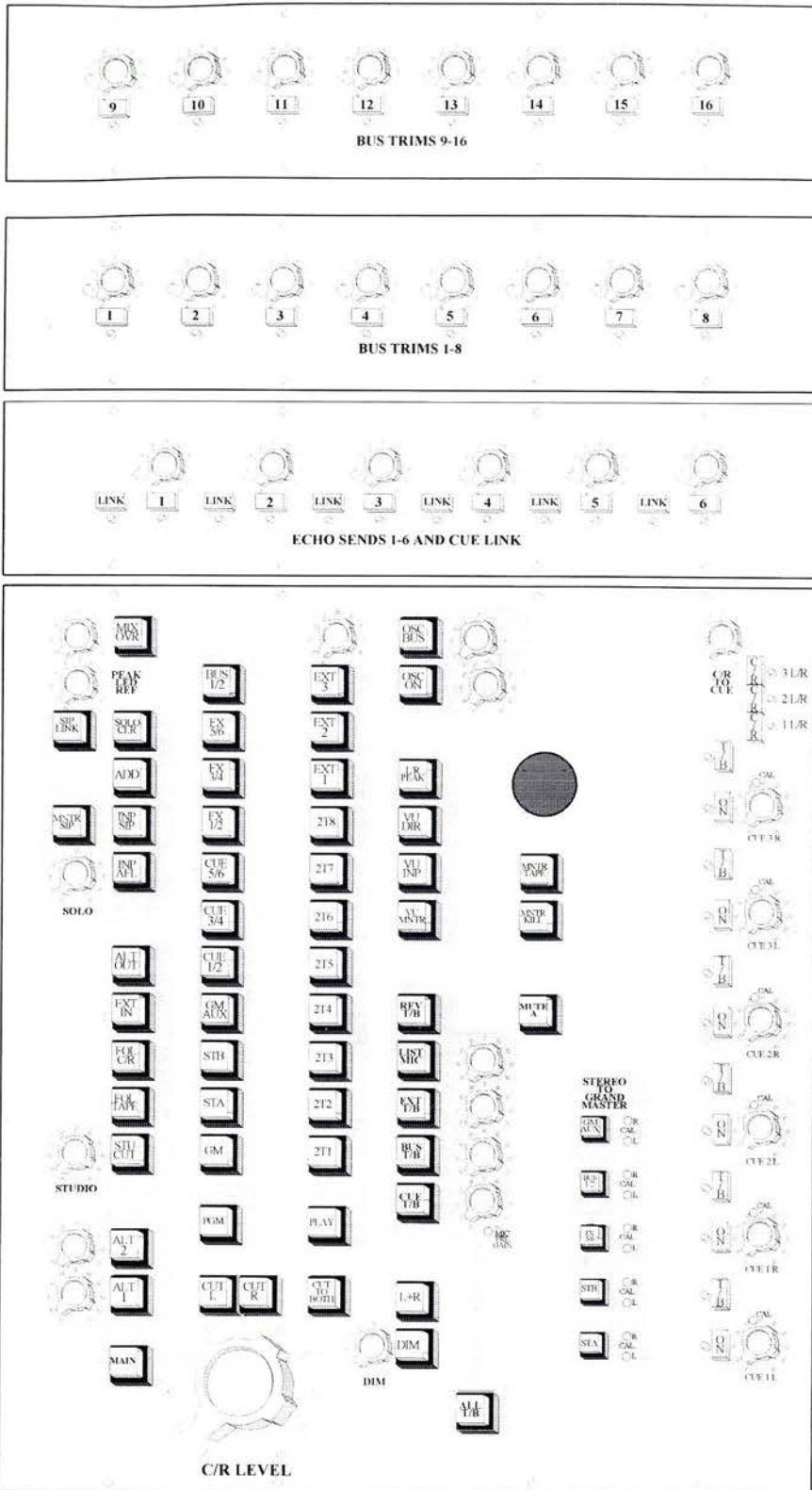
**Oscillator** - 11 frequency oscillator with on/off, to bus, and gain control. A jack is available on the patchbay for oscillator out.

**Meter Select** - Provides status switching of main and master VU meters, including input, direct out, tape, and L/R PPM.

**Talkback** - provision for talkback to cue, bus, external, with listen mic and reverse TB features.

**Mix Bus Matrix** - Switches stereo A, stereo B, FX 5/6, bus 1/2 and external into the Grand Master summing section.

**Cue Masters** - Individual gain control and cut switch is provided for 3 pairs (6) of cue masters, along with matrix routing from auxes, control room, and talkback facilities.



MASTER FACILITIES

# OPTIONS BUCKET

## A

Provision for 12 - 862 Echo Return Modules with small fader.

BLANK		BLANK	
SML FDR + MNTR-862	SML FDR + MNTR-862	SML FDR + MNTR-862	SML FDR + MNTR-862
SML FDR + MNTR-862	SML FDR + MNTR-862	SML FDR + MNTR-862	SML FDR + MNTR-862
SML FDR + MNTR-862	SML FDR + MNTR-862	SML FDR + MNTR-862	SML FDR + MNTR-862
SML FDR + MNTR-862	SML FDR + MNTR-862	SML FDR + MNTR-862	SML FDR + MNTR-862
SML FDR + MNTR-862	SML FDR + MNTR-862	SML FDR + MNTR-862	SML FDR + MNTR-862

## B

Provision for 12 - 868 Echo Return Modules with separate long-throw fader, automation ready.

ADDITIONAL API MODULES		ADDITIONAL API MODULES	
BLANK		BLANK	
FADER	MNTR-868	FADER	MNTR-868
FADER	MNTR-868	FADER	MNTR-868
FADER	MNTR-868	FADER	MNTR-868
FADER	MNTR-868	FADER	MNTR-868
FADER	MNTR-868	FADER	MNTR-868
FADER	MNTR-868	FADER	MNTR-868

## C

Provision for 6 - 862 Echo Return Modules with small fader, plus 10 wired positions for standard API module complement.

ADDITIONAL API MODULES		ADDITIONAL API MODULES	
BLANK		BLANK	
SML FDR + MNTR-862	SML FDR + MNTR-862	ANY API	MODULES
SML FDR + MNTR-862	SML FDR + MNTR-862	560B	554B
SML FDR + MNTR-862	SML FDR + MNTR-862	550B	525B
SML FDR + MNTR-862	SML FDR + MNTR-862		
SML FDR + MNTR-862	SML FDR + MNTR-862		
SML FDR + MNTR-862	SML FDR + MNTR-862		
BLANK			

## THE PATCHBAY AND CONSOLE CONNECTIONS

The patchbay supplied with the Legacy Series console follows API's strict no-compromise history. It offers the engineer total access to all patch points possible, without the use of 2 "switchable" or "selectable" patch points—which, despite their popularity, we view as a compromising, money-saving technique. If accessible, API includes every point in the patchbay. Since there are widely divergent views on MIC PRE IN/MIC OUT appearing in the patch field, and many studios prefer an original custom mic line installation as part of the control room interface, we offer microphone lines and tie lines as an option, rather than standard on The Legacy Series. The typical jackfield layout for a 32 channel console:

MIC PREAMP OUT																															
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
MULTI TAPE OUT																															
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
AUX IN 5/6																															
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
CHANNEL INPUT																															
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
EQUALIZER INPUT																															
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
EQUALIZER OUT (INSERT SEND)																															
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
INSERT RETURN (FADER INPUT)																															
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
DIRECT OUT																															
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
BUS OUT																															
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
MULTI TAPE INPUT (MTR PGM IN)																															
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
MTR OUT																															
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
MTR AMP IN																															
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
ECHO SEND OUT 1-6																															
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
EFFECTS DEVICE IN 1-6																															
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
EXT OSC																															
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32

Patchbay facility is supplied standard as a unit using IT type jacks. The standard patchbay sizes are: 32 channel console—19" patchbay, internal in producer's desk; 48 channel—2" rack mount, remote patch; 64 channel—two 19" racks, remote; 80 channels—two 26" remote racks. Loom lengths are custom and specified by the client. Channel access is an ELCO connector for each pair of channels, located along the rear of the console, behind each channel pair. Also connectorized and available internally are the following points: Alternate studio output, External talkback mic, Reverse talkback mic, External oscillator in, Remote talkback switches, and Phase Scope output. IT jacks supplied are of the highest quality and reliability...another API tradition.

## CONSOLE CONFIGURATIONS

With the API commitment to modular channel design, and modular frame design, a vast number of options are available to the purchaser, both when initially specifying a console for build, and as later expansion plans unfold.

However, several standard configurations stand out as obvious choices for specific applications, from a 12 input, rack mounted mixer, to large, all input console frames exceeding 80 channel inputs, with 48 channel monitors.

Systems that have been built to date include all input versions of 48 - 72 channels and split versions of 32 in with 24 channel monitor and 48 in with 24 channel monitor.

All console systems may be ordered with standard manual P & G faders, without faders, or may be specified with a choice of factory installed automation systems. Interface of several channel switches, including mute, insert, etc. is available with certain automation systems. API works closely with automation suppliers in the integration and installation of clients' preferred automation.

## SIGNAL FLOW

The signal enters the module as a true balanced input, passes through the insert relay (which can be automated), to a relay that can invert the signal with the phase switch.

From the phase switch the signal enters a balanced mute circuit, comprised of the 2510 op-amp. This amp is supplied with plus and minus 28 volts DC, allowing it to clip above the level of the transformer output stages of the console.

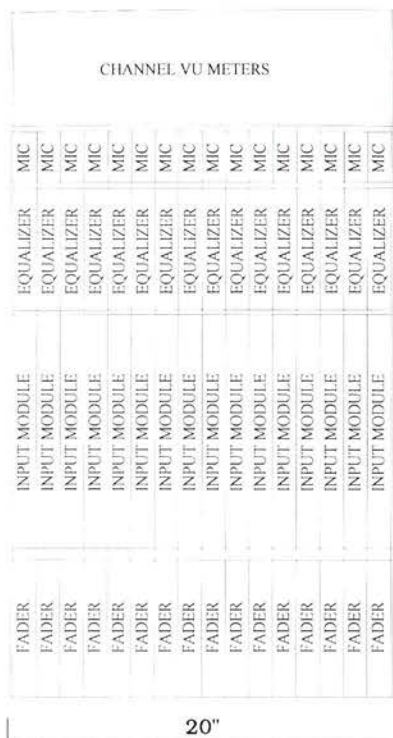
The mute circuit can completely mute any level up to +30dbm over any frequency to a complete off mute. Mute circuit has the ability to mute all noise from the mute amplifier as well as the signal. This "dual muting" not only mutes, but also makes the sound and any noise simply "go away."

The module has a direct output that shows up at the patchbay as a direct out, independent from the bus output. The direct output is a combination of the 2520 op-amp and the 2623 output transformer. *This is the heart of the API sound!* The combination yields well over a +28 dbm clip point throughout the entire console signal path.

A VU meter amp is provided internally, which monitors the channel input level from either the Mic Pre output or the line/tape input, or monitors the Direct Out level.

# DIMENSIONS

## TOP VIEW



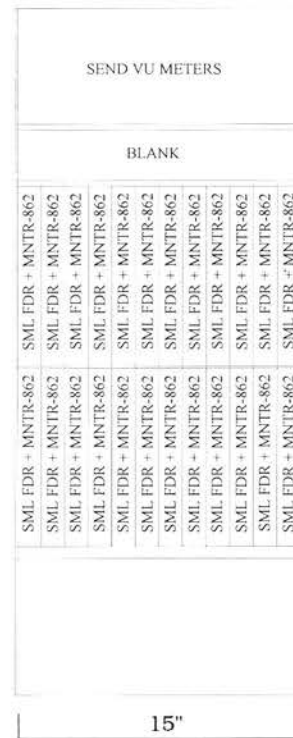
**Input Bucket  
16 Channel**



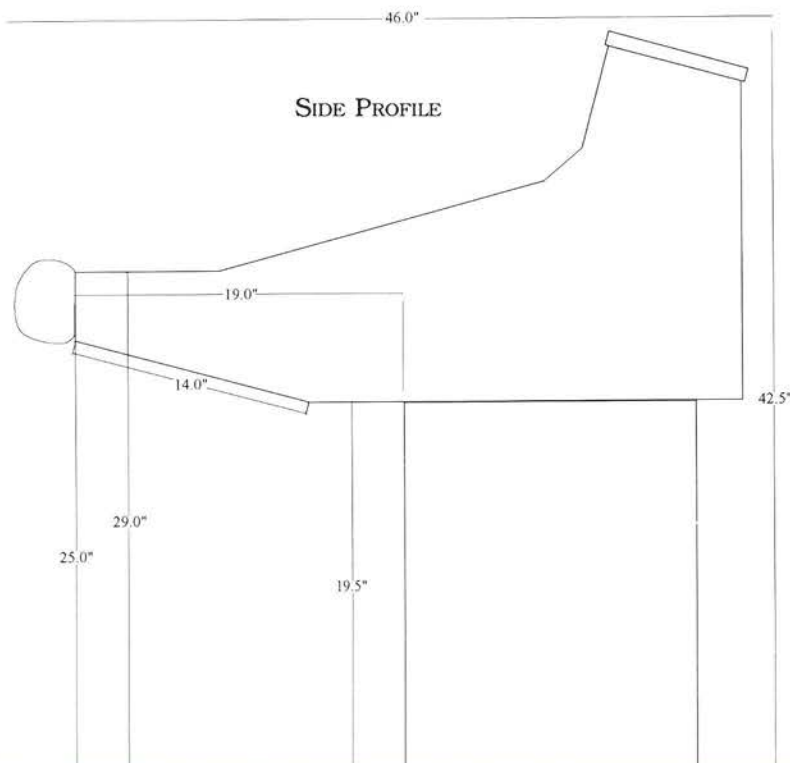
**Center Section**



**Options  
Bucket**

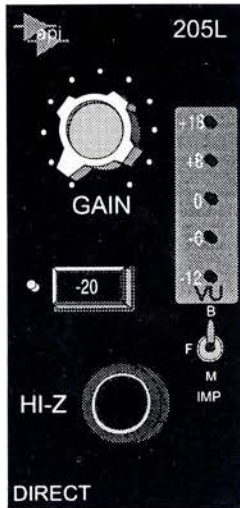


**24 Channel  
Monitor  
Section**



## THE L200 SERIES SIGNAL PROCESSING MODULES

Designed to fit any 200 series space including the input sections' mic pre slot, the options bucket, custom ordered above the monitor section, and in the outboard L200 Rack system, the L200 Series of modules presents a powerful new package of tools, dramatically increasing the power of the Legacy Console



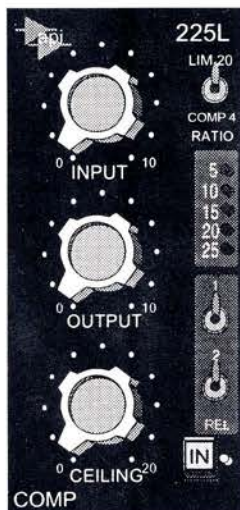
### 205L DIRECT BOX

Allows interfacing of instrument signals, like guitars, to line level equipment. A 20dB pad is standard as well as a unique "character selector" switch which simulates the classic circuitry of different guitar amplifiers. With the warmth and sonic clarity of API.



### 215L FILTER

A simple, easy-to-use passive, sweepable filter. Sweepable low, (5kHz - 20kHz) and high, (20Hz - 500Hz) pass filters allow for gentle tailoring of the signal, plus the flexibility of selecting a 6dB or 12dB per octave slope on each filter.



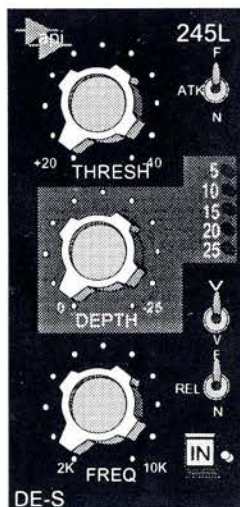
### 225L COMPRESSOR/LIMITER

The 525C is reissued! The much acclaimed compressor of the 70's in a new all-discrete package. Input and output controls set your levels, plus the "ceiling" control allows you to achieve optimum compression without the squashing, unnatural effects of "feed forward" methods. A toggle switch selects between 4:1 compression or 20:1 limiting, and release time selector switches allow you to set up your unit in an easy, no-nonsense manner. Gain reduction is indicated in an easy-to-see 5 segment LED display. Classic API for the 90's, some claim it to be one of the most natural, musical compressors in the market.



### 235L EXPANDER/NOISE GATE

Unique, proprietary circuitry using high quality components make this a clean, fast and extremely flexible tool. 80dB of attenuation with versatile release and hold functions. Switchable attack times allow for precise gating of difficult signals, a 5 segment LED display shows actual gating action.



### 245 DE-ESSER

Sweepable frequency selector allows you to tune into those unwanted sibilant signals within the 2K to 10kHz range. You are no longer bound to factory preset, predetermined frequencies. You reduce what you need under the flexible control of a depth and threshold control. A "width switch" sets your range of frequencies to be reduced, allowing you to tailor the passive filter circuit to the type signal being processed, while maintaining the integrity of the overall sound.



### 265L SINGLE-CHANNEL LINE INPUT

Simple line mixer (echo return) with 2 balanced sends, stereo bus A & B, solo, and phase switch with an insert jack and a direct out transformer

## ETCETERA...

In response to your questions:

### *Delivery*

Each API console is built to order, by hand...hand assembled, hand wired, and hand tested by people who care.

During the order process, we work with a client to specify the configuration and complement of modules that best suit his needs both at the present and for future expansion.

The normal time required to build a Legacy console from order is 120 days and is subject to a slot availability.

### *Financing*

Although API Audio Products does not offer internal financing arrangements, we work closely with several financial institutions who are familiar both with the professional audio industry and with API products' strong reputation for high resale value. We'll be glad to offer a referral upon request.

### *Custom Features*

Because API Audio Products is a "custom" company, who primarily build to order as opposed to a stock production line, we have the capability as well as the interest in customizing products for special applications. Typical features requested include different frame configurations, special module complements, additional routing, and remote applications. We are pleased to discuss your specific requirements.

## WHAT THEY'RE SAYING...

*When we chose a console for our Turtle Creek Barn, we wanted a straightforward, reliable recording/mixing desk with a classic sonic character. The API legacy provides all of that and gets extra points for some very clever design features. From a music production standpoint, it's a dream console.*

Mark McKenna, Bearsville Sound Studios,  
Bearsville New York

*In basic terms, the Legacy hits hard. The EQ delivers, always has. The low end is fat and solid. The headroom is impressive. Great gates, great meters, great features; what's not to like?*

Ed Seay, Producer/Engineer, Nashville, TN

*Nothing sounds like an API console. That's what we wanted. So we went back to Paul Wolff at API, and that's exactly what we got! The good, old, brand new Legacy Series. Affordable, discrete technology.*  
Steve Loeb, Greene Street Studios, NY

*It's plain and simple. The "API Sound" with it's discrete design has a superior tone that can't be matched!*  
Kooster McAllister, Record Plant Remote, NY

*Incomparable sound in a bulletproof package.*  
David Boothe, Audio Director, Barney and Friends, Dallas, TX

# LET'S TALK DISCRETE

---

THE BASIC DESIGN PHILOSOPHY OF THE ENTIRE API PRODUCT LINE IS THE ALL DISCRETE AMPLIFIER.

---

Ever wonder why "discrete" just sounds better? Let's look at the pros and cons of the IC chip as well as discrete technology to discover what makes the difference and how it impacts what a console can produce in quality and purity.

Perhaps it would be easiest to start with the ever popular IC chip which is used in all module and console amplifiers except API.

IC Based Amplifiers • IC based amplifiers start with the monolithic die process which creates either NPN or PNP transistors.

The diemaker must choose which will be the primary die type. Usually the NPN type transistor is chosen because it utilizes a process called "buried layer," which makes it possible to attain higher current levels than with PNP transistors. When an NPN buried layer is chosen, the PNP transistor is created in a way that causes slower response, less available gain, and thermal expansion problems.

Through the diemaking procedure, the isolation process of making an actual transistor adds parasitic shunt capacitance (increasing as the area increases) and a current leakage path within the transistor.

Further, the actual layout of the die causes a higher resistance within the collector portion of the transistor (the collector is what basically puts out the power), thus limiting the current capability, i.e. output drive, and adding to the instability of the transistor. This instability can be increased by putting long cables, etc. on the outputs of certain IC type amplifiers, causing ringing and distortion.

To go one step further, the big difference, aside from the inherent design flaws of the IC amplifier, as stated above, is most console manufacturers add an additional pair of external power transistors to get the needed power output to drive a lo-z or transformer output. This creates a potential problem in stability, because unless carefully chosen, larger transistors are generally slower than the small signal transistors found in the IC and could lead to stability problems i.e. ringing and oscillations.

Discrete epitaxial transistors • None of the problems associated with IC chips are present in high power discrete epitaxial transistors, since the metal case of the transistor is the collector contact, which is located in the opposite end or bottom of the die. An IC transistor must access the collector from the top.

The discrete amplifier allows the designer to not only decide what design criteria to use for each stage of the amplifier, but also allows him to select special components (i.e. capacitors and resistors) to enhance the performance of the circuit.

The discrete 2520, in conjunction with the AP2503 or the AP2623 output transformer has a well-known and desired audio "signature." It has a unique tone that most engineers, producers, and artists prefer over most other professional quality amplifiers. This sound is the legend of API and has been preserved in the current API designs.

In summary, the only advantage to monolithic transistors (IC based amplifiers) is that they are closely matched, because they are cut from the same die. However, API precisely matches all the critical transistors manually to accomplish the same effect.

*Paul Wolff*  
President  
API Audio Products, Inc.

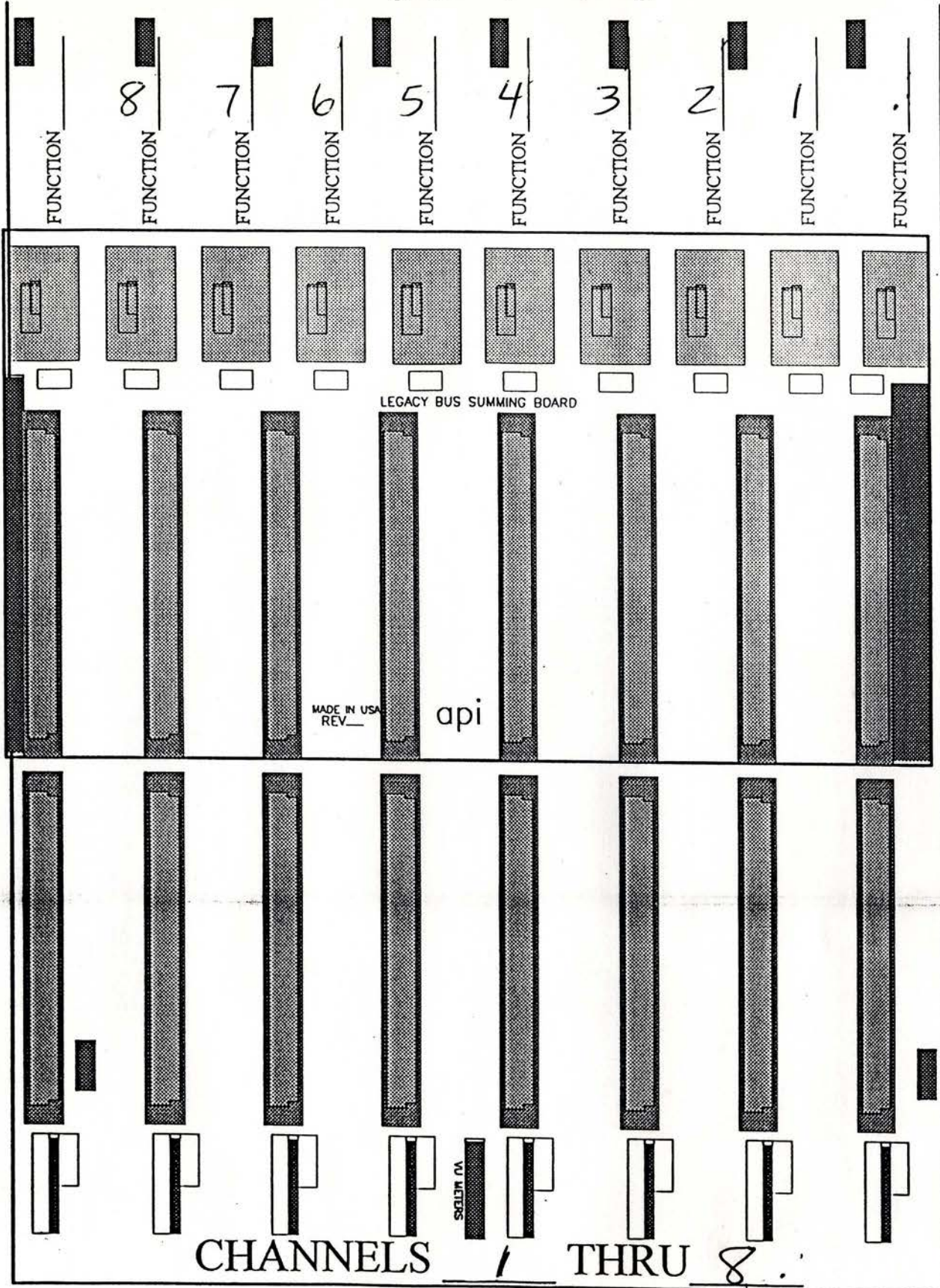
---

## API Audio Products, Inc.

*Headquarters* • 7655-G Fullerton Road, Springfield, VA 22153 • phone (703) 455-8188 • fax (703) 455-4240  
*Console Sales* 1100 Wheaton Oaks Court, Wheaton, IL 60187 • phone (708) 653-4544 • fax (708) 665-4966



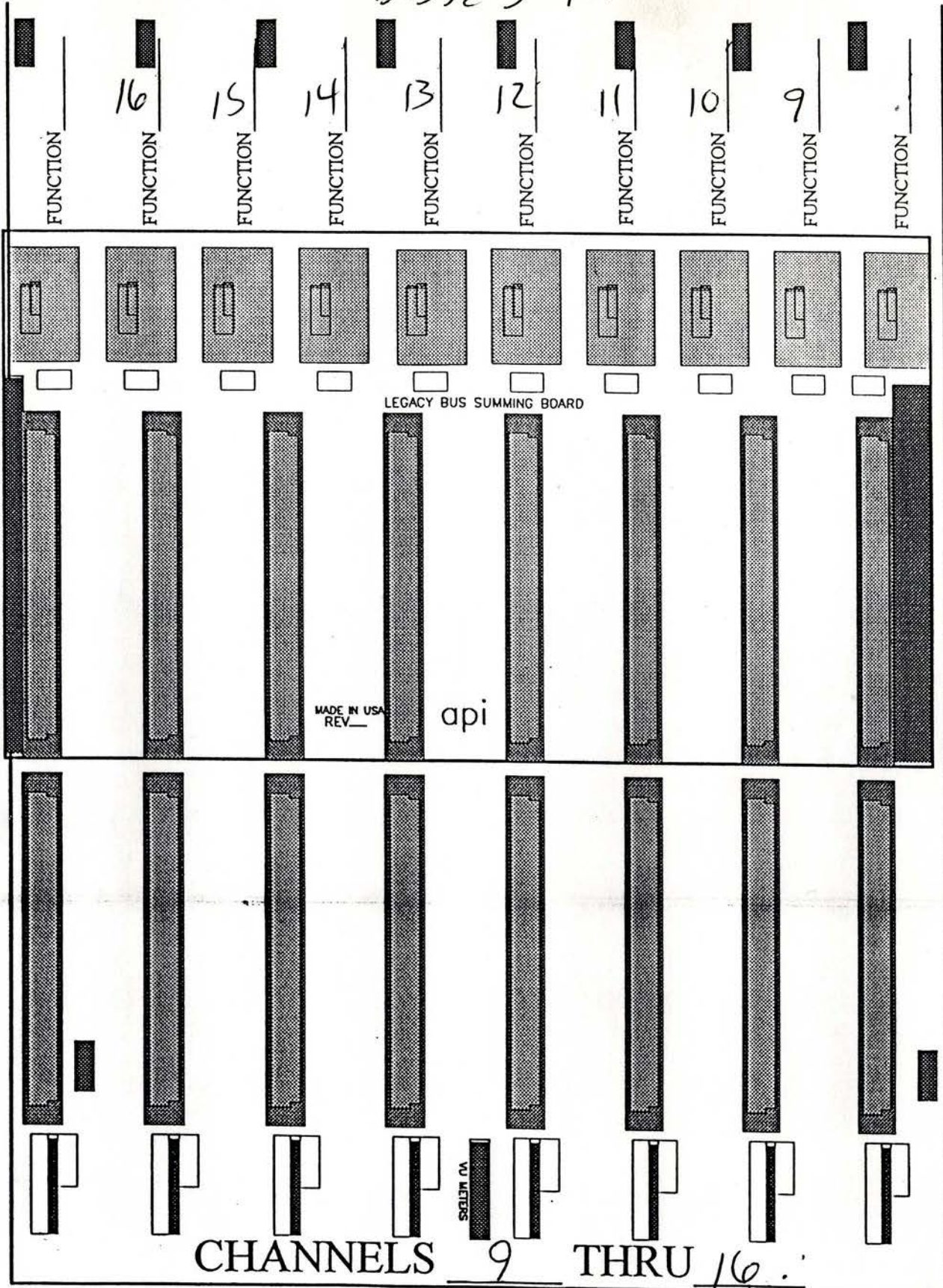
BUSSES 1-8



LOCATION OF MAIN CHANNEL SUMMING AMPS

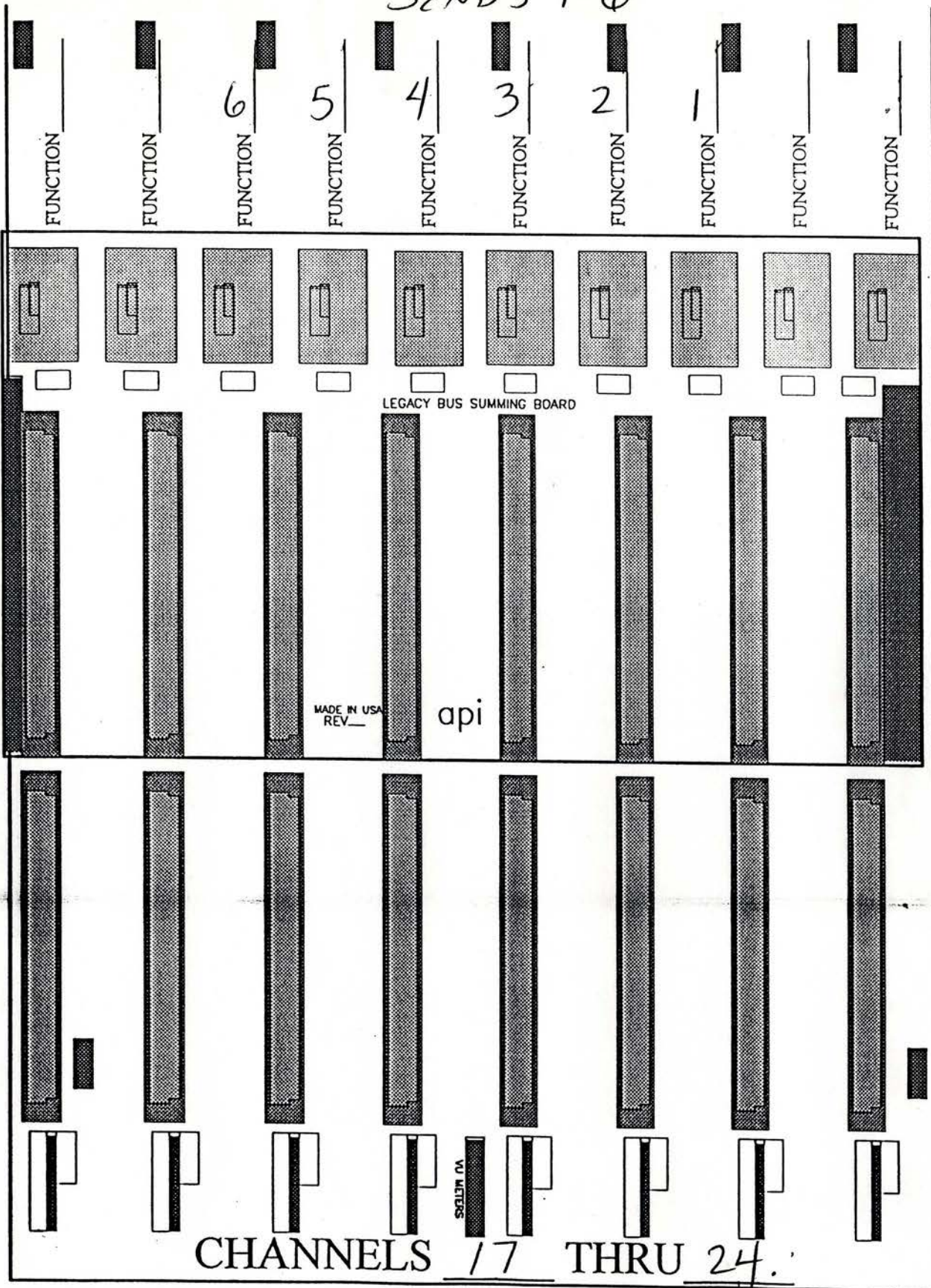
(REMOVE MODULE AND UNPLUG AMP)

BUSSES 9-16



LOCATION OF MAIN CHANNEL SUMMING AMPS  
(REMOVE MODULE AND UNPLUG AMP)

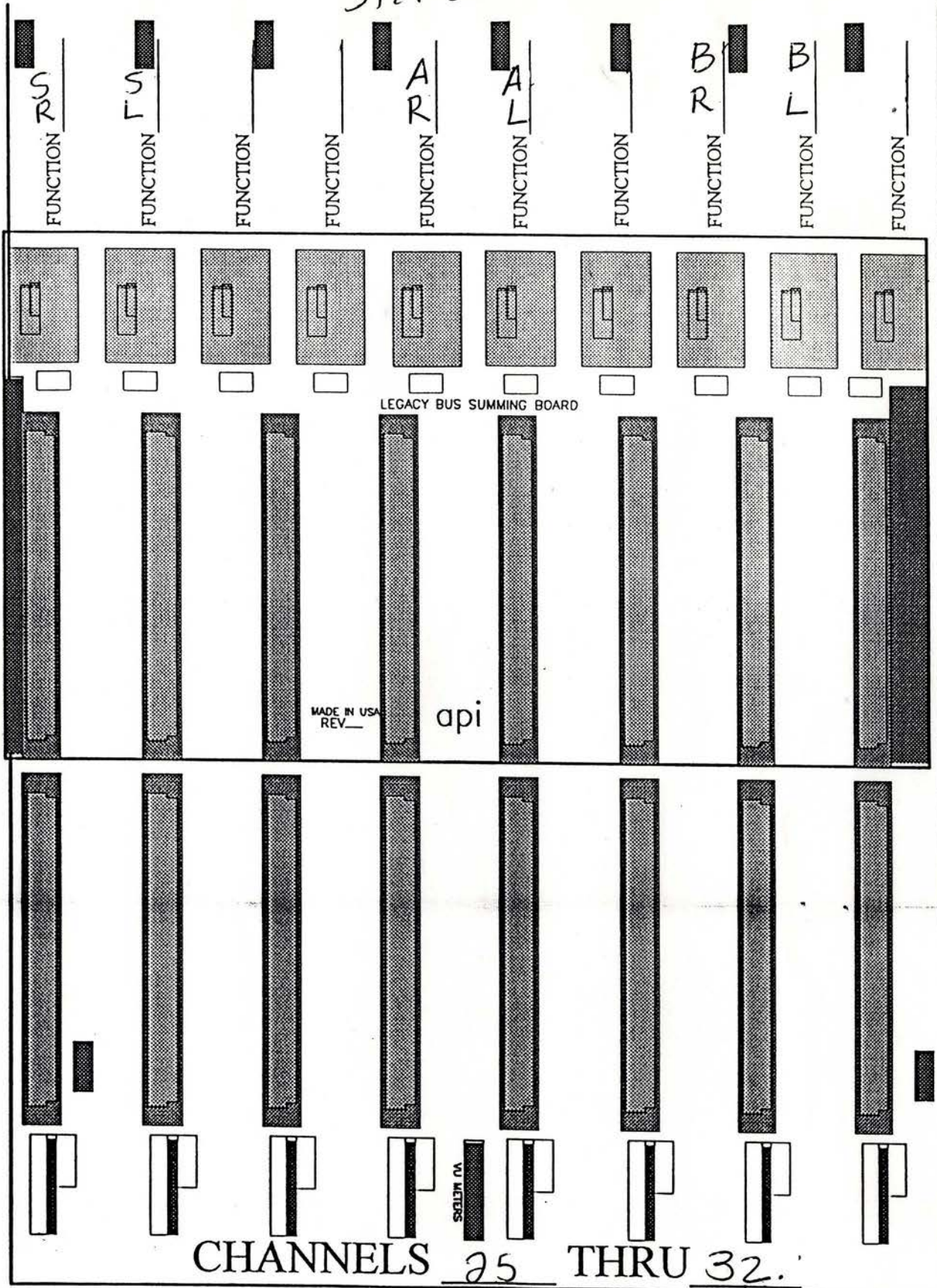
SENDS 1-6



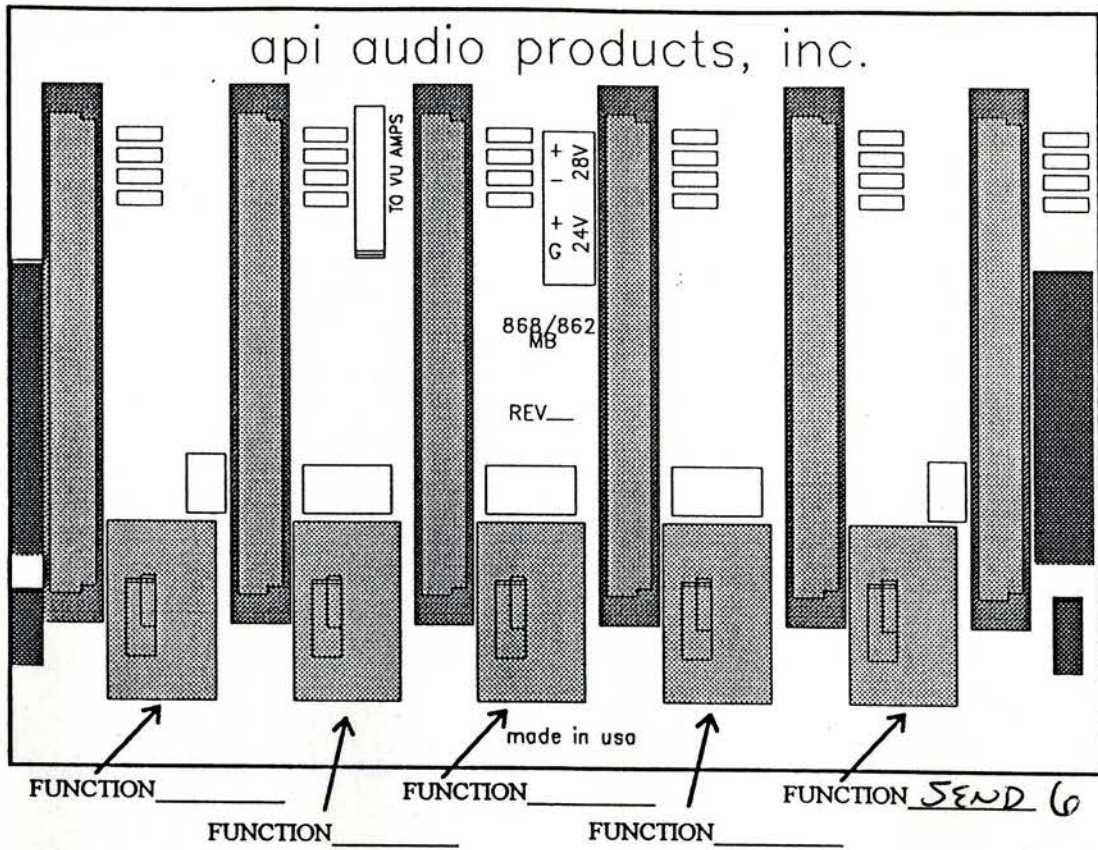
# LOCATION OF MAIN CHANNEL SUMMING AMPS

(REMOVE MODULE AND UNPLUG AMP)

STEREO + SOLO



LOCATION OF MAIN CHANNEL SUMMING AMPS  
(REMOVE MODULE AND UNPLUG AMP)

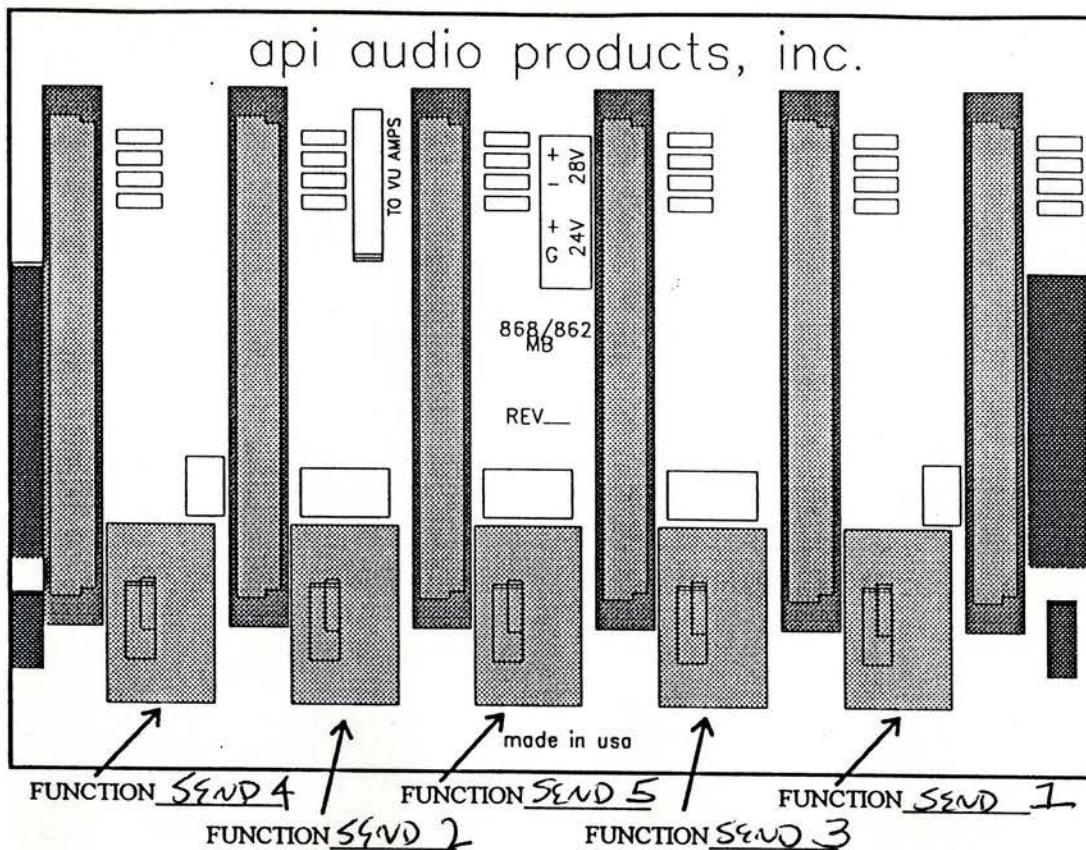


CHANNELS 1 THRU 6

LOCATION OF MONITOR SECTION OR  
ECHO RETURN SUMMING AMPS

(REMOVE MODULE AND UNPLUG AMP)

LOCATED IN THE MULTITRACK MONITOR  
SECTION OR ~~THE ECHO RETURN SECTION~~

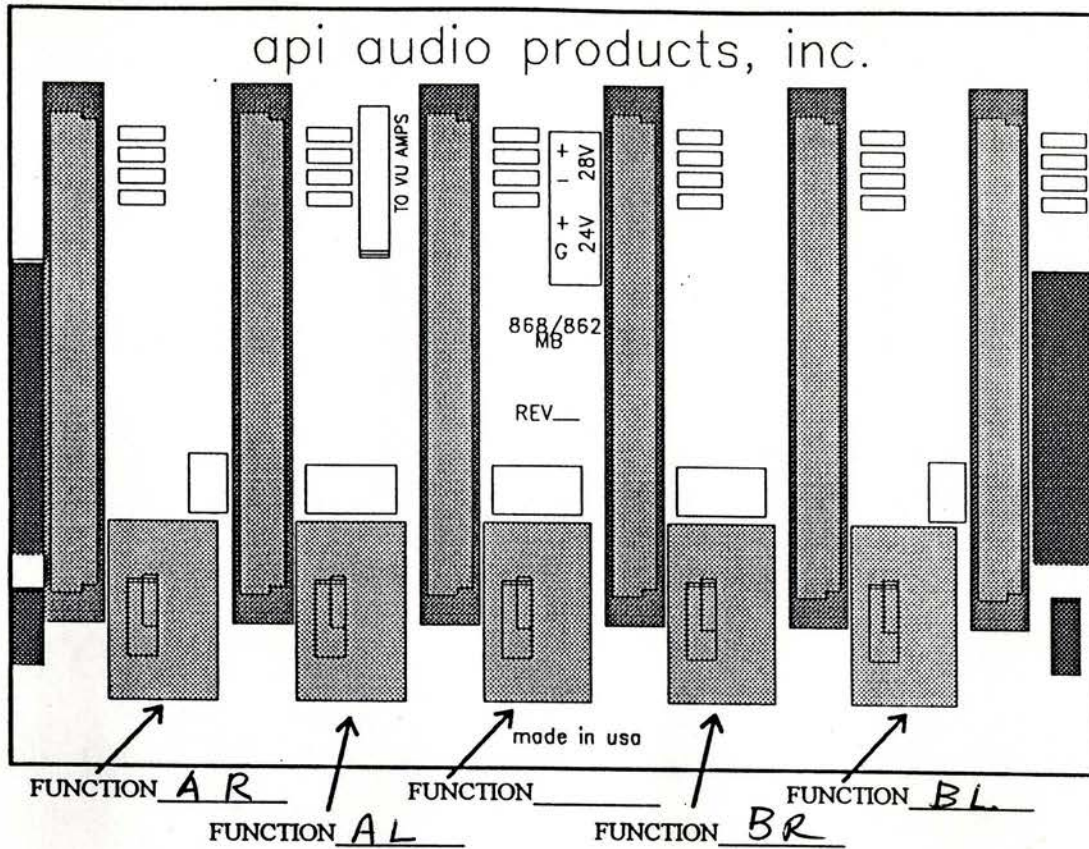


CHANNELS 7 THRU 12

LOCATION OF MONITOR SECTION OR  
ECHO RETURN SUMMING AMPS

(REMOVE MODULE AND UNPLUG AMP)

LOCATED IN THE MULTITRACK MONITOR  
SECTION OR THE ~~ECHO RETURN SECTION~~

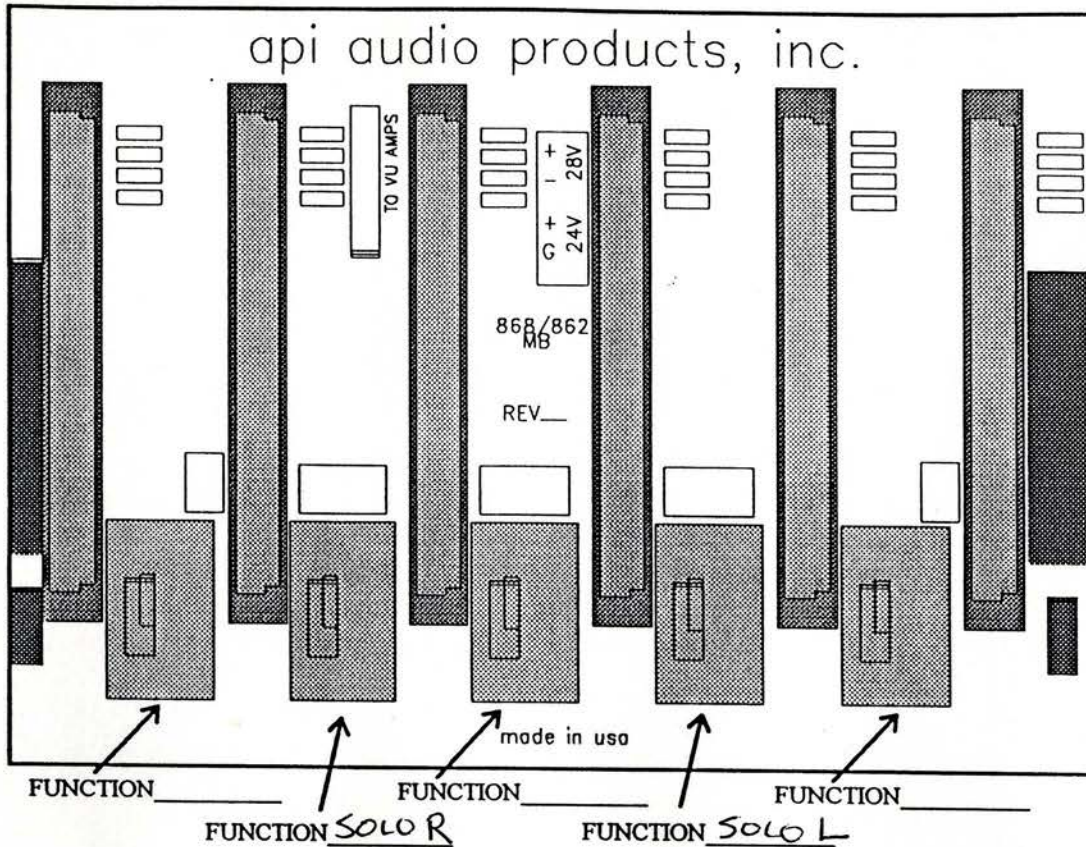


CHANNELS 13 THRU 18

LOCATION OF MONITOR SECTION OR  
 ECHO RETURN SUMMING AMPS

(REMOVE MODULE AND UNPLUG AMP)

LOCATED IN THE MULTITRACK MONITOR  
 SECTION OR ~~THE ECHO RETURN SECTION~~



CHANNELS 19 THRU 24

## LOCATION OF MONITOR SECTION OR ECHO RETURN SUMMING AMPS

(REMOVE MODULE AND UNPLUG AMP)

LOCATED IN THE MULTITRACK MONITOR  
SECTION OR ~~THE ECHO RETURN SECTION~~



# CR Button Lay out

PK  
 O  
 REF  
 (R)

768  
SIP □

868  
SIP □

SIP  
LWK □

768  
PFL □

O OR

O OR

O RD

☑ mix  
OVR

MNTR C/R □

STO CUT □

MNTR PLAY □

O  
RD

Blue  
 O O

FX 1/2	FX 3/4	FX 5/6	
CUE 1/2	CUE 3/4	CUE 5/6	
STA A	ST B	GM	GM Aux

ZT 1	ZT 2	ZT 3	ZT 4
ZT 5	ZT 6	CASS 2	C/D/R
1/2	M L 7600	CASS 1	DAT 2
CD 1	Aux 2	ZT 7	ZT 8

REC

PLY

Small  
 1 □  
 2 □  
 3 □  
 4 □

O  
Gy

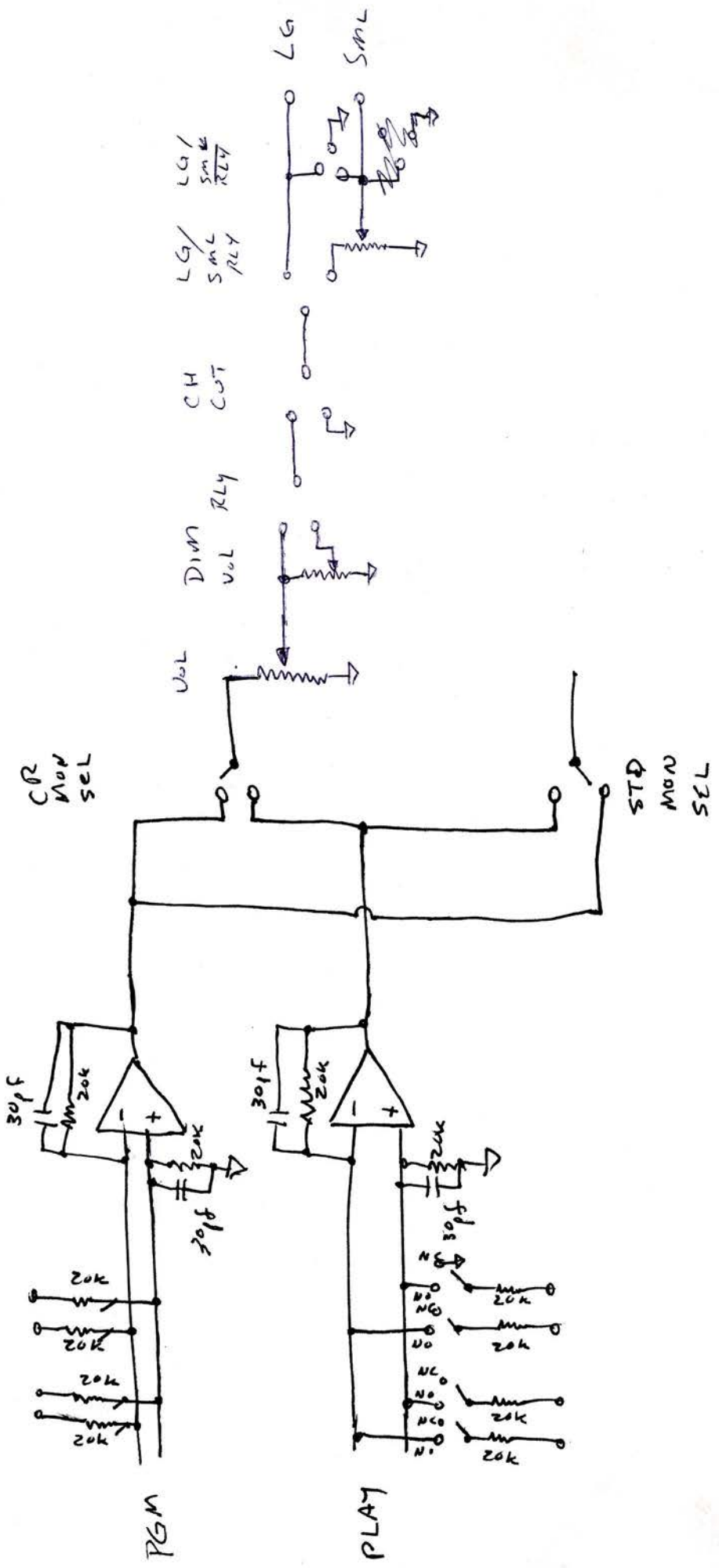
MAN

DIM  
 □ O RD

L+R  
 □

□ R  
 CUT CUT

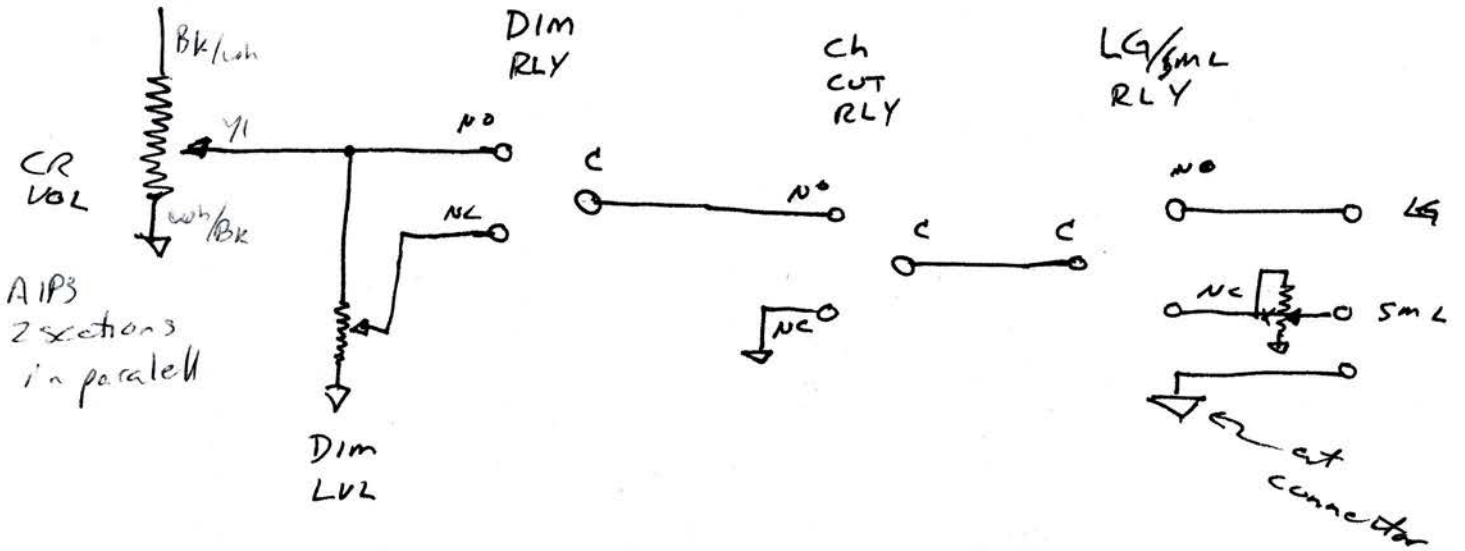




# CR MON OUT

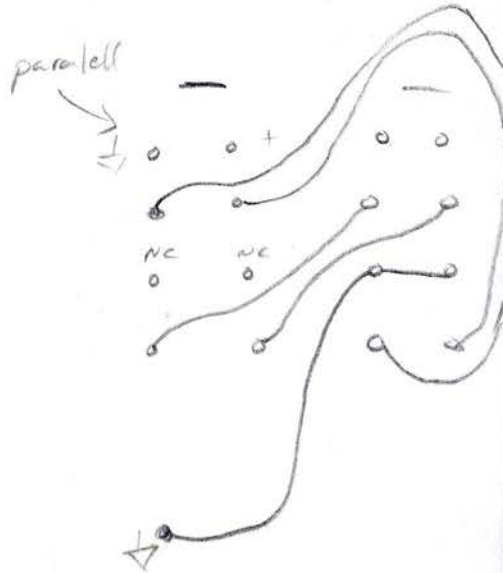
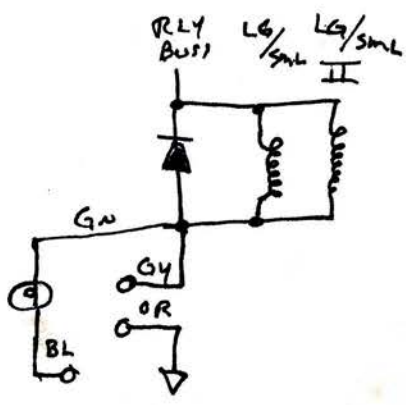
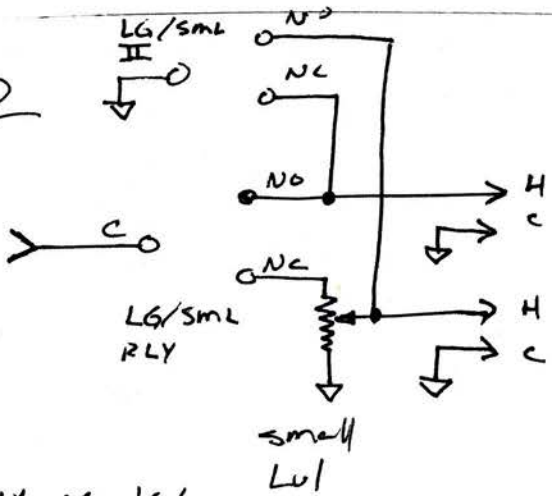
12/26/11

AG



unused MUTE  
[kill hum]

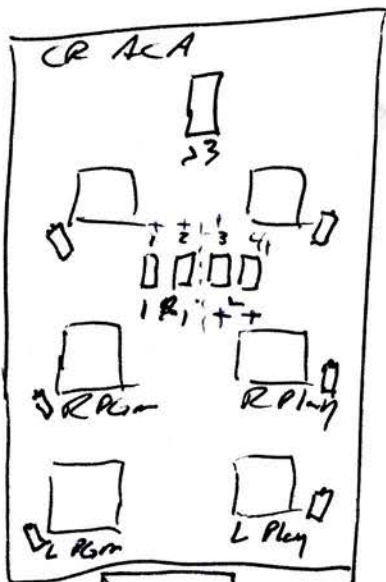
MOD



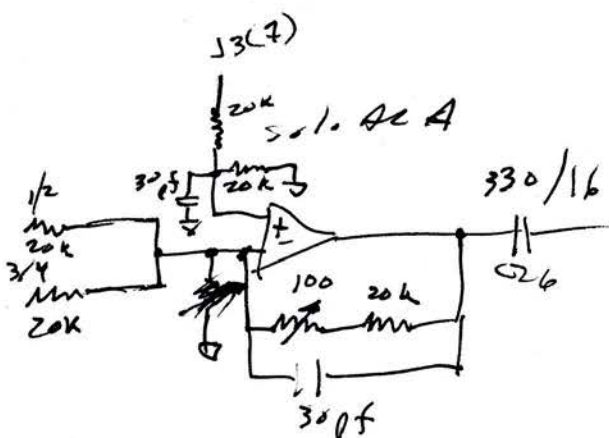
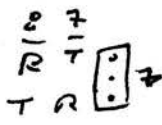
CR ACA

API center Section amps

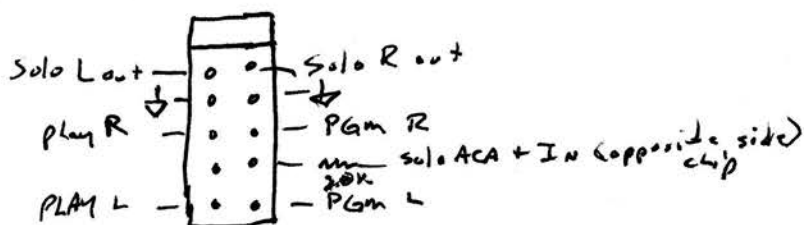
R Solo ACA  
L Solo ACA



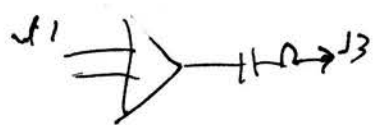
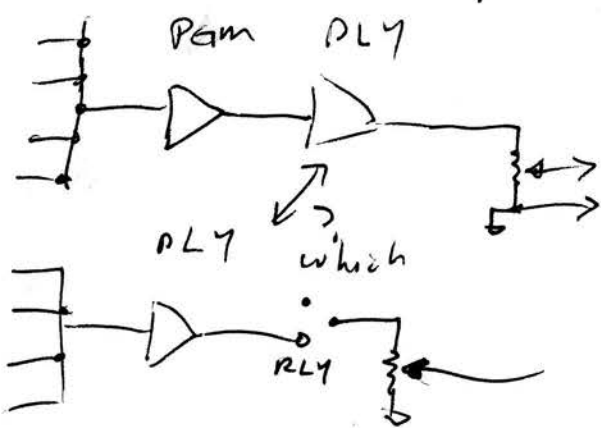
- 1 - 8 Matr Solo L ?
- 2 - Matr Solo L ?
- 3 - Matr Solo R ?
- 4 - 7



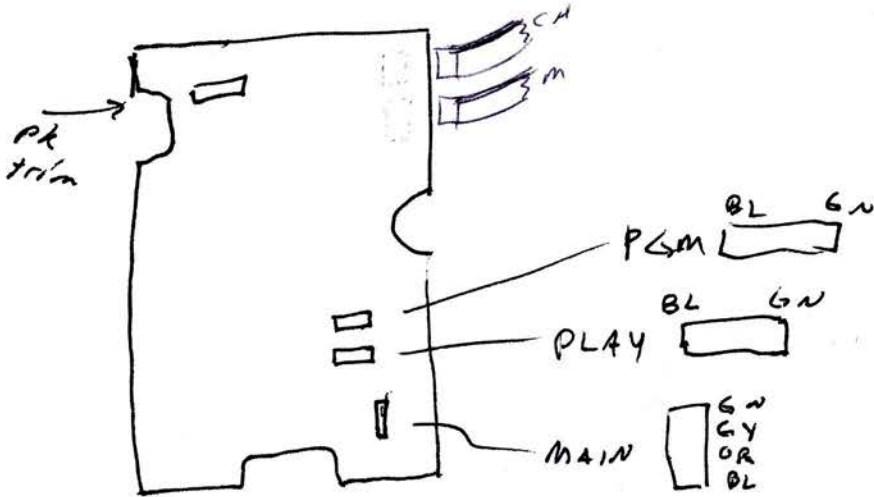
J3



out puts  
all opamps

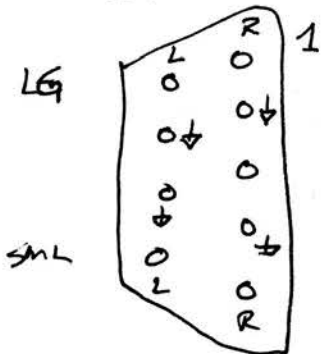


# Legacy CR1 BR



Front

## CR BSTR

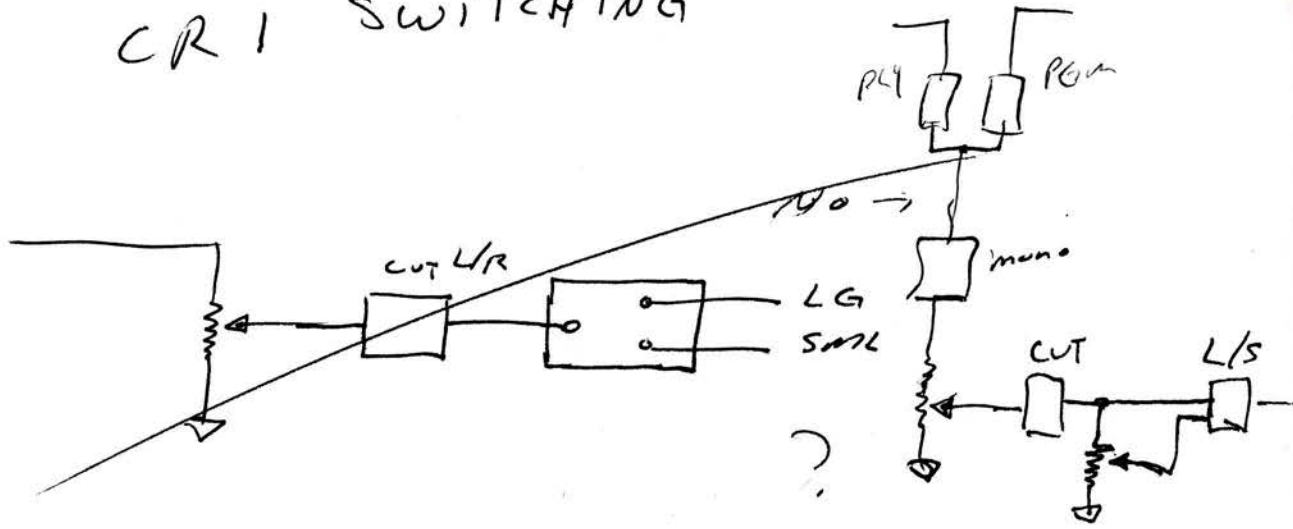
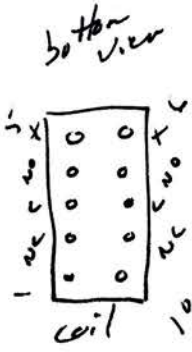


Top (Component) side

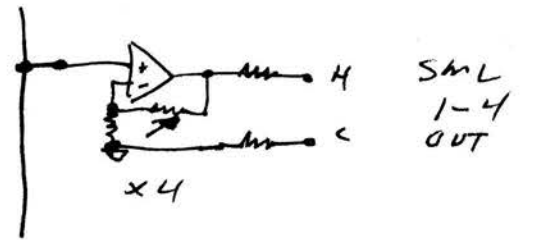
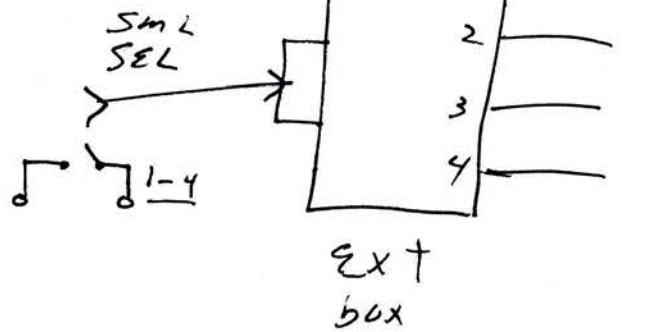
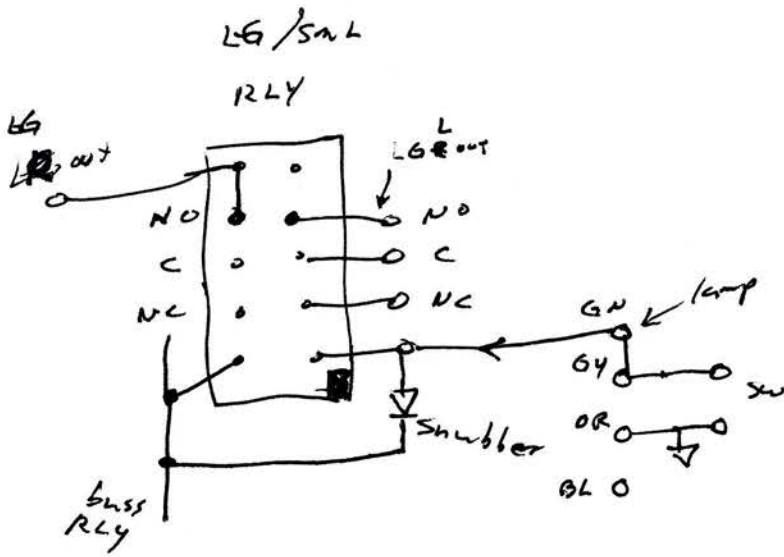
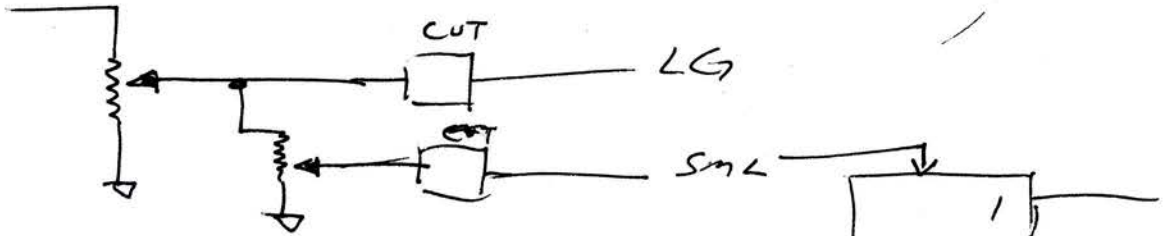
## Relays

- ~~Q CUT~~
  - DIM
  - L CUT
  - R CUT
  - LG/SNL
  - Mono
  - PLAY
  - PGM
  - ST MUTE
  - Studio Select
  - Solo
  - Solo
  - AFL/PFL
  - SM SPEAKER 1
  - SM SP 2
  - SM SP 3
  - SM SP 4
- } ext control

# CR1 SWITCHING



from J3



Legacy CR2

all routing to inputs

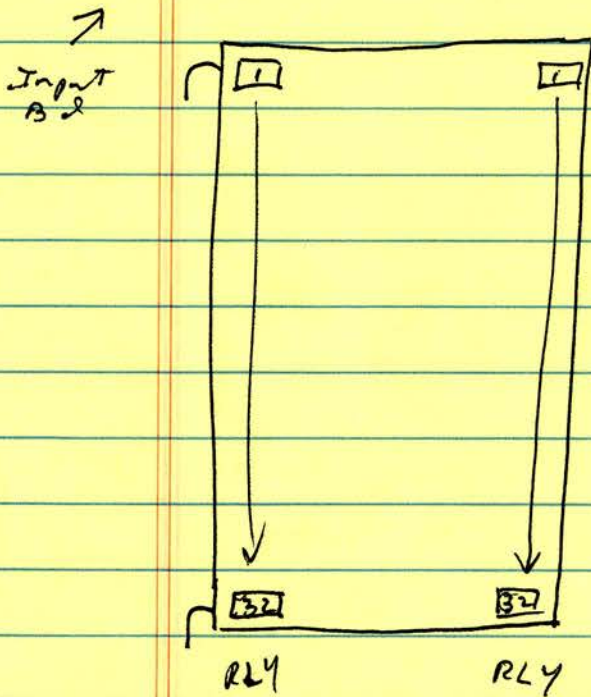
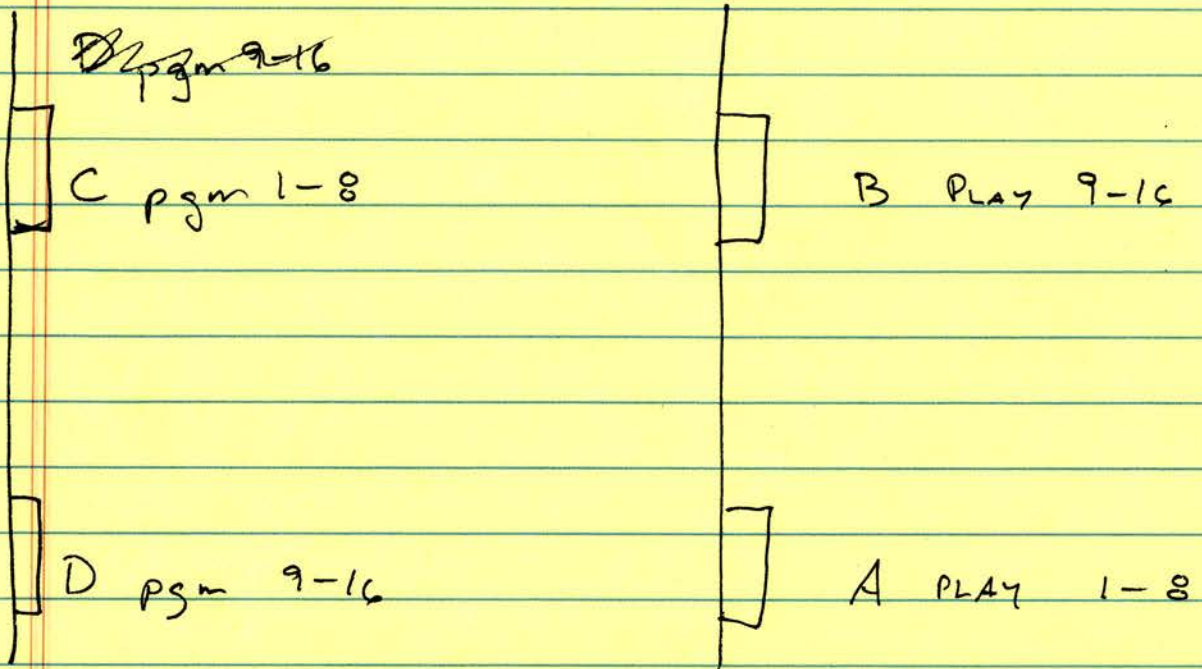


- 5
- 6
- 1
- 2
- 3
- 4
- 7
- 8
- 10
- 9
- 14
- 13
- 11
- 12



1-16 74HC00N<sup>15</sup><sub>14</sub>  
4-D ULN2803A

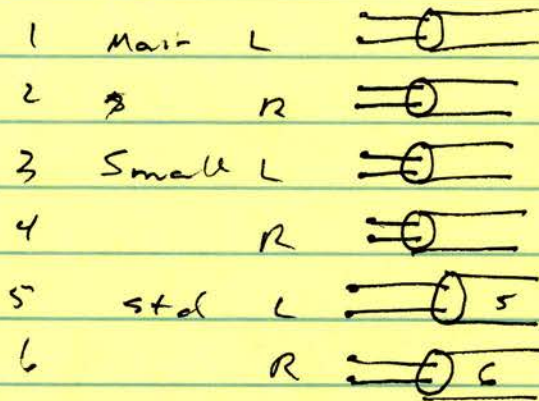
# API Monitor Section



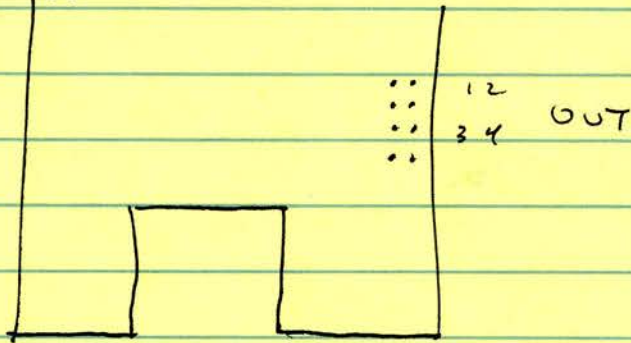
(switching relays)



CR Out

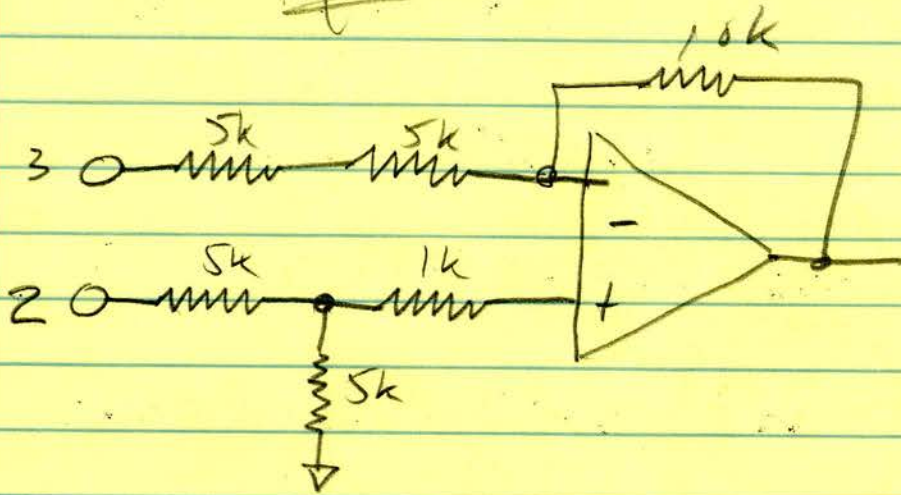


OUT 56 ∴

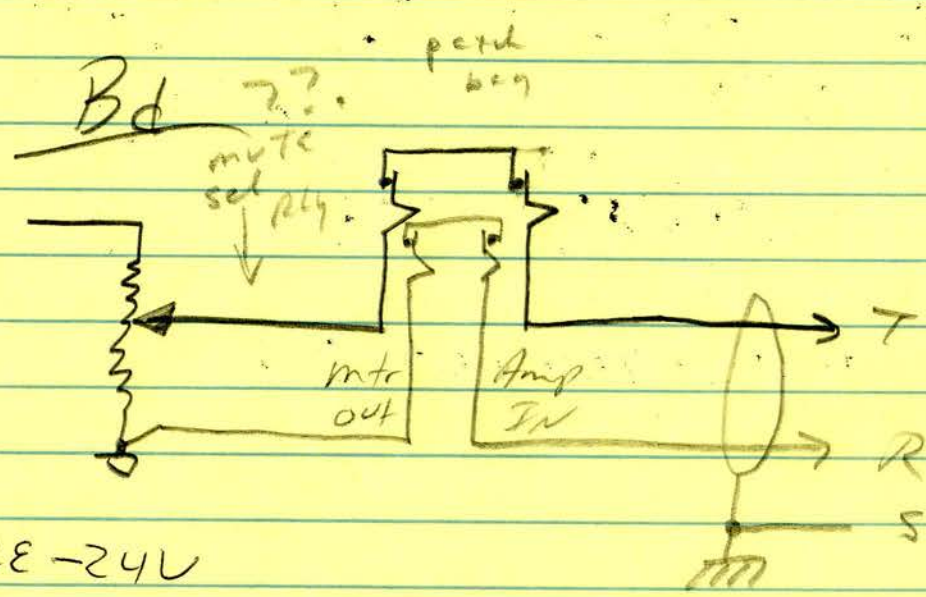
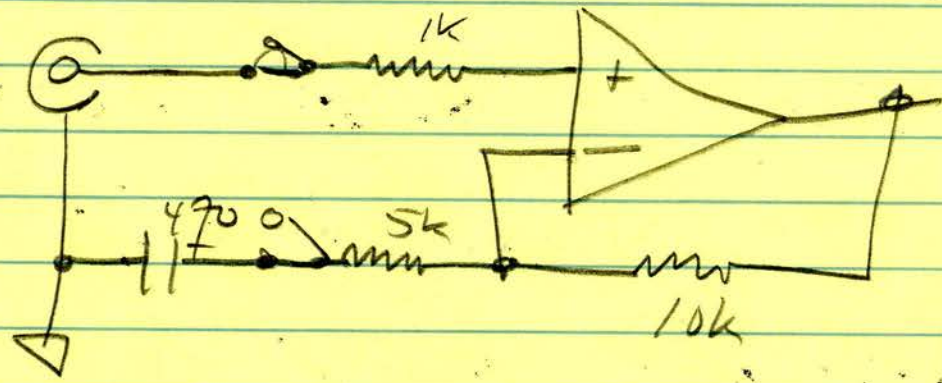


# PBST

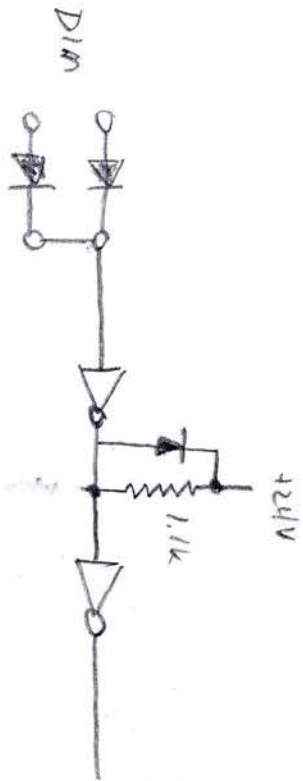
bed



unbed 2



TN2E-24V  
ATN20498



$$P = V \cdot R$$

$$(24) \cdot 1.1k$$

$$24 \text{ mW}$$

# BROADCAST TOOLS

2.1

J1 - Rmt Contr (DB-9)  
♀

- 1 SW 1
- 2 SW 2
- 3 MUTE SW
- 4 STATUS SW 1 (open coll)
- 5 STATUS SW 2 (open coll)
- 6 OPEN
- 7 OPEN
- 8 OPEN
- 9 GND

sw 1/2 : momentary or sustained programmable  
compatible  $\bar{c}$  SVTTL/Cmos open coll or  
closure to  $\downarrow$ , Inputs pulsed HI

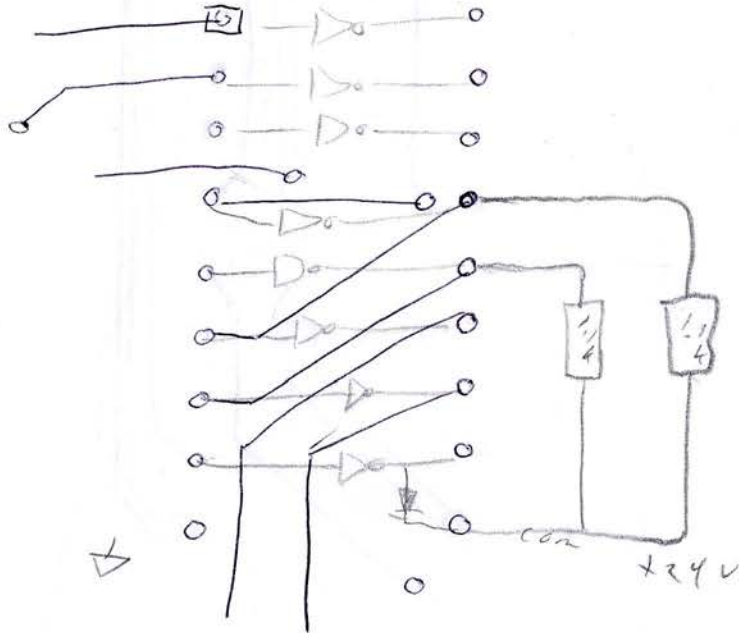
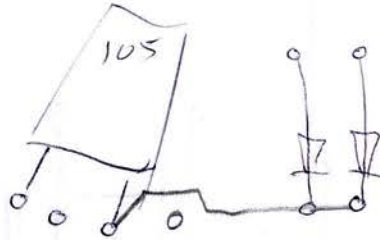
"Intender" EDAC mis labeled

1 & 2 are 3 + 4 + vice versa

conn on center section moved to  
accomodate

▷ IM / MUTE CR1  
ULN2803A Rev?

(on edge of Bd  
from Above)  
next to CR/BSTR



kill L/R

$$24 = I \cdot 1.1k$$

$$I = \frac{24}{1.1} \text{ mA}$$

$$20 \text{ mA}$$

$$\left. \begin{array}{l} 10V \\ 20k \\ 14V \end{array} \right\}$$

$$P = I V$$

$$= (20)(20)$$

$$\text{mA}$$

$$400 \text{ mW}$$

$$10V = I \cdot 20k$$

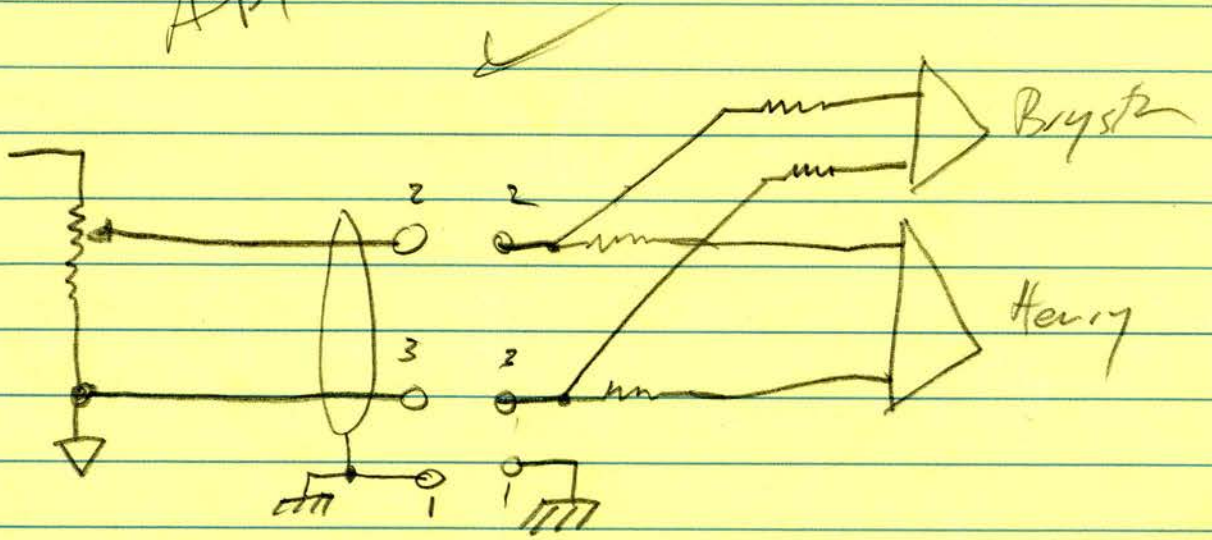
$$I = \frac{10V}{20} \text{ mA}$$

$$.5 \text{ mA}$$

$$\frac{4}{1} k \frac{2V}{.5 \text{ mA}} = .5 \text{ mA } R$$

$$\sim \leq 4k$$

ADI



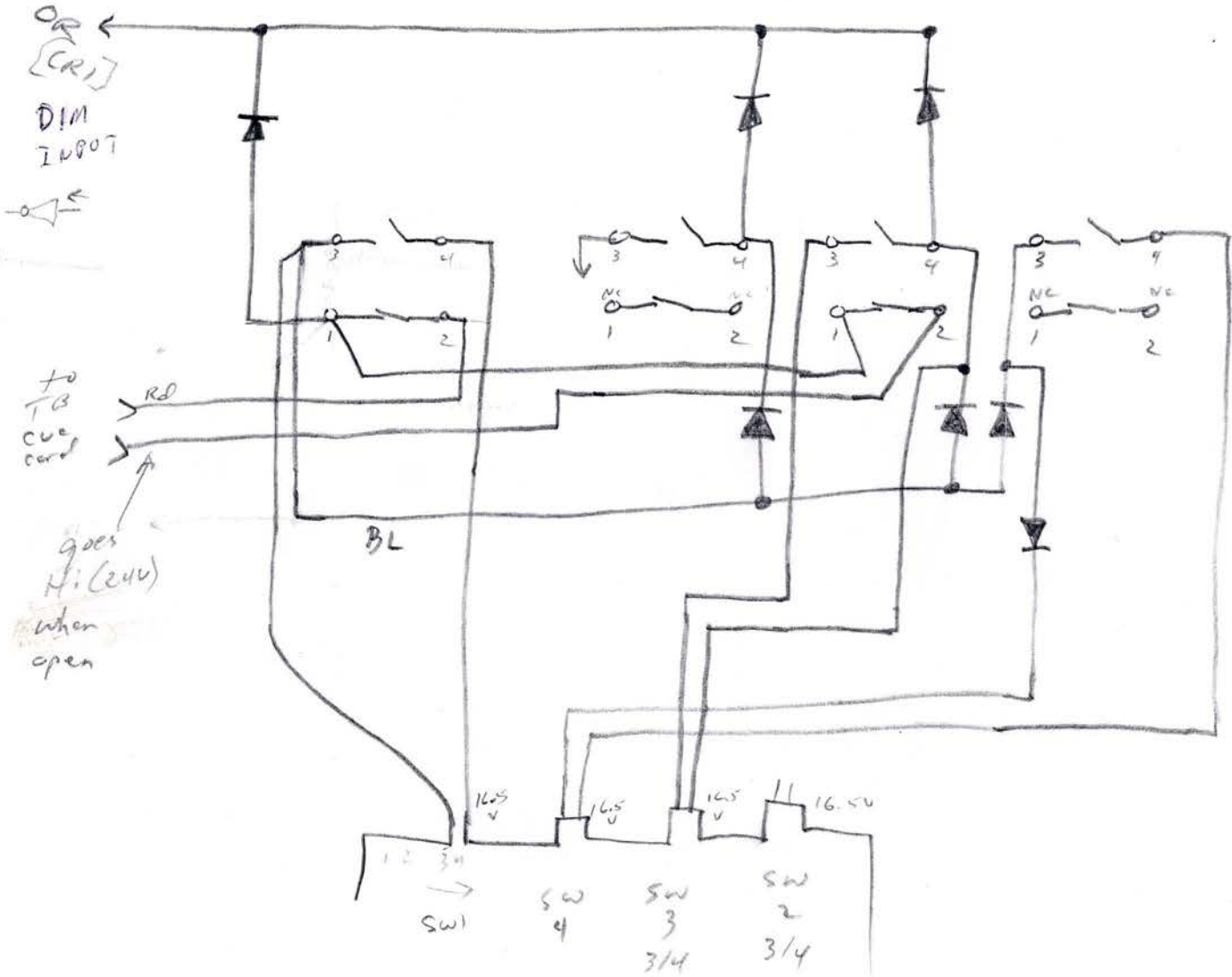
acoustic hum Distressor #2

TB switches  
1/12  
AG

EAG

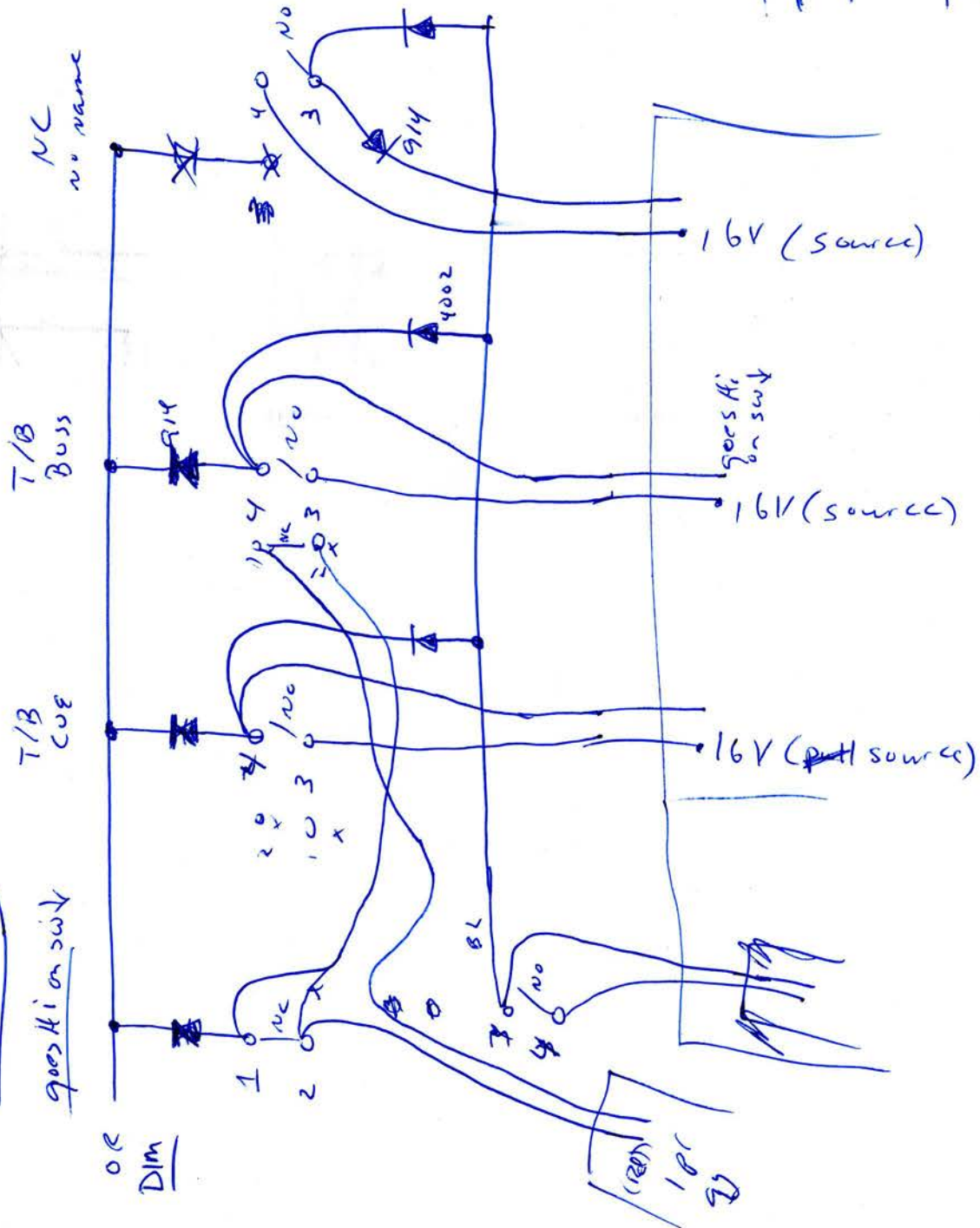


1-2 NC  
3-4 NO



To TB control Bd

# API TB



EAO  
 31-131-023-  
 1-2 NC  
 3-4 NO

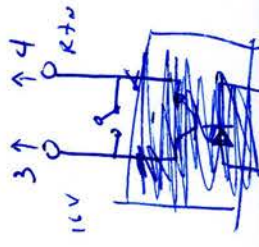
all other  
 OR or →

### Actions

- DIM
- turn on Ins to appropriate buss
- - - -
- OR to 16V = DIM

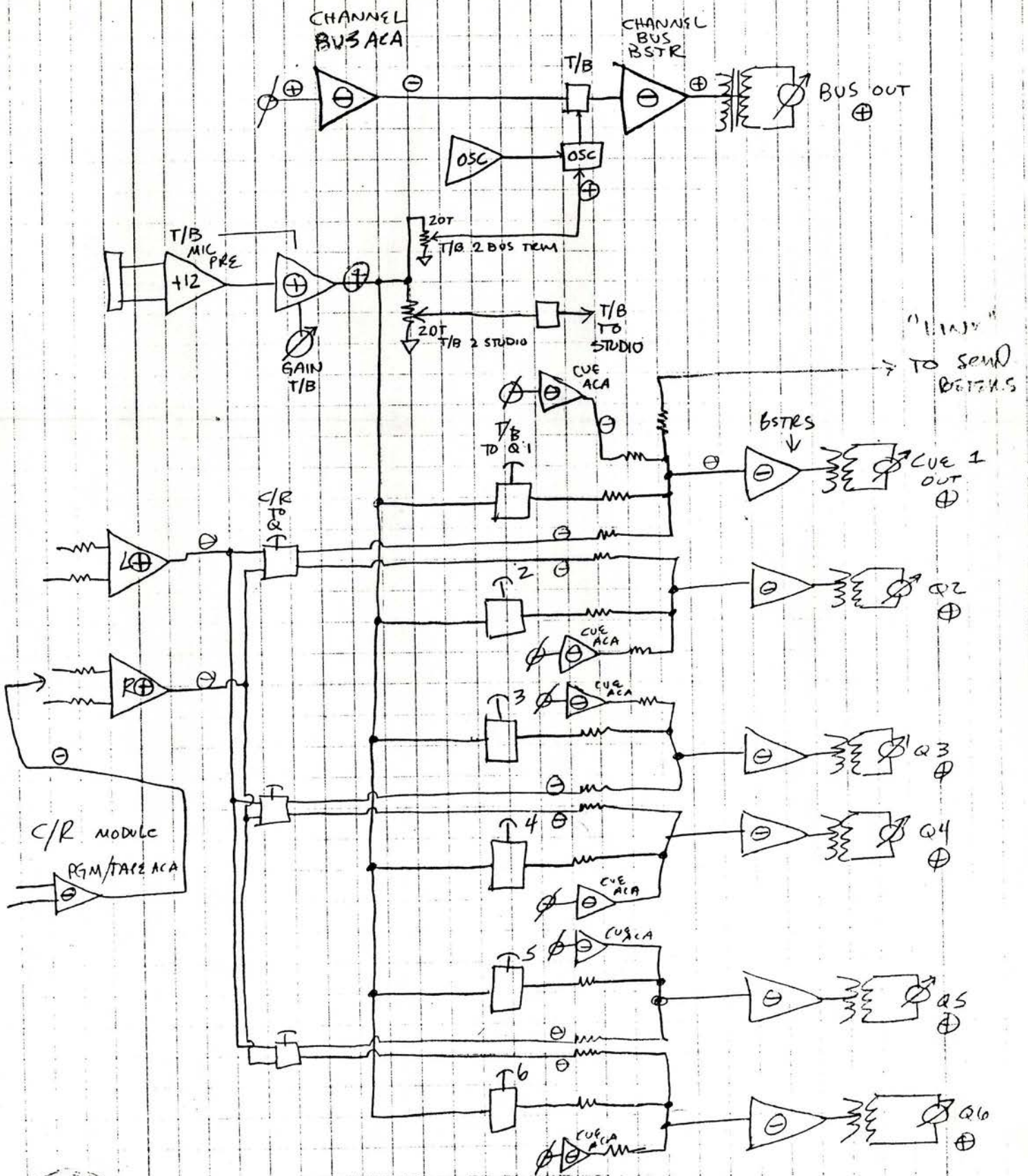
hangs down out of L leg

### Ext (to Cue TB)

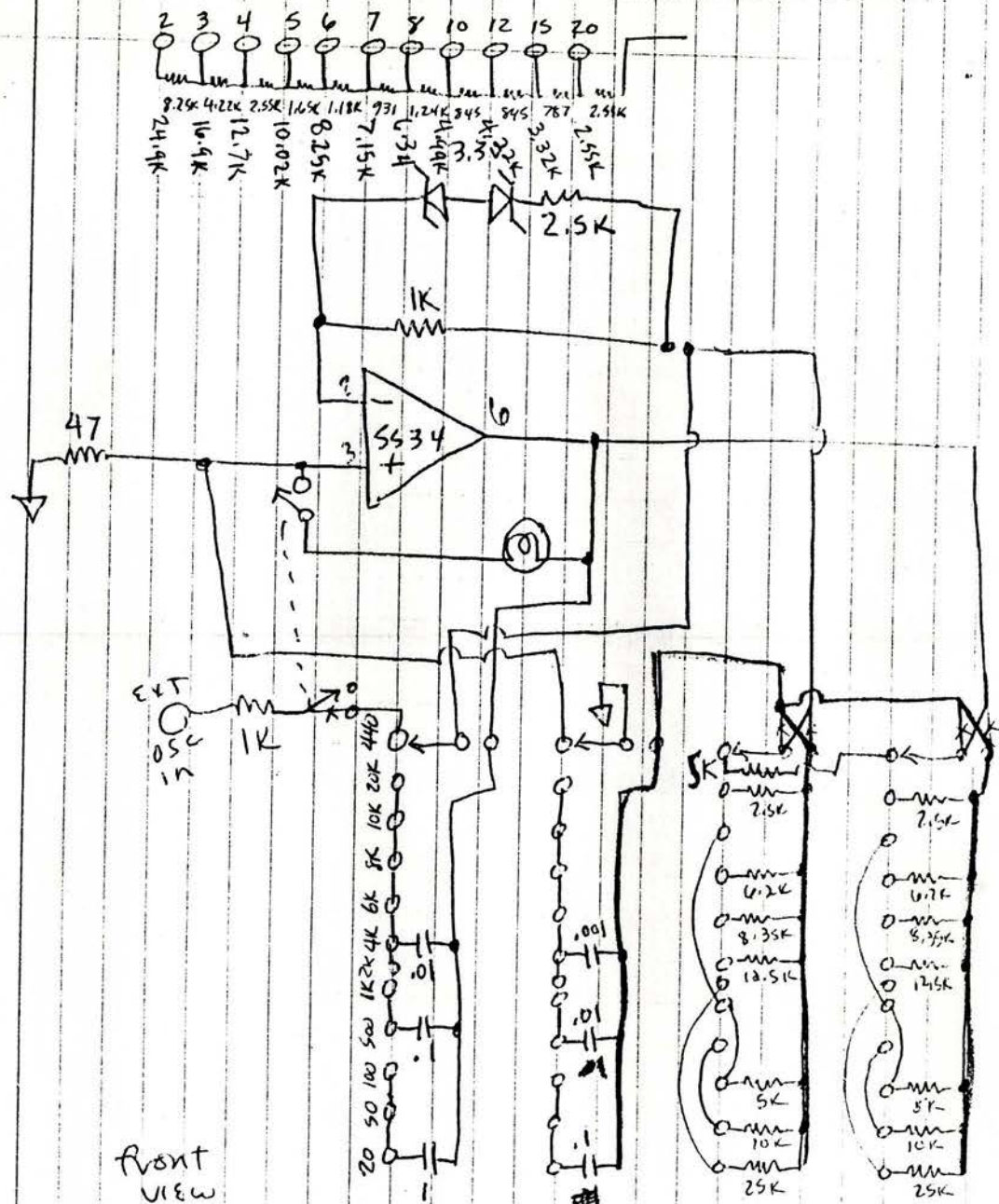


1/4" diam Jack (New York looking)





# Legacy OSC

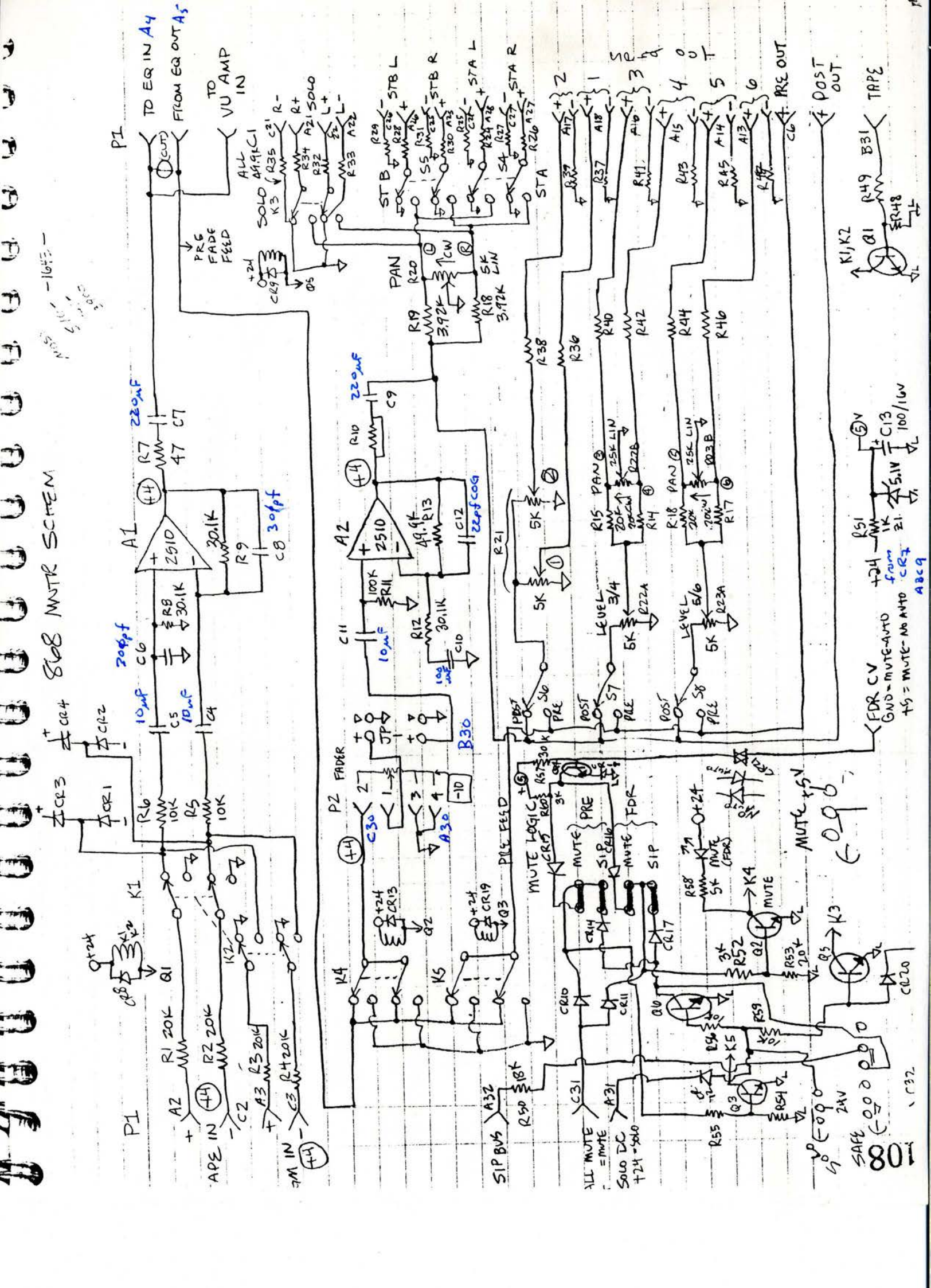


front view

RIGHT 0 0 0 0 0 0 Left  
0

frequencies:

	20	50	100	500	1K	2K	4K	8K	16K	32K	XTAL
C1	1	1	1	.1	.1	.01	.01	.01	.01	.01	440
C2	.1	.1	.1	.01	.01	.001	.001	.001	.001	.001	
R1	25K	10K	5K	10K	5K	25K	12.5K	8.35K	6.2K	5K	2.5K
R2	<del>25.04K</del>	10.02K	5.02K			12.57K	8.37K	6.21K			2.55K
Actual	16.9K	10.02K	4.99K			10.02K	11.7K	11.22K			2.55K
1001	<del>25.04K</del>	10.02K	4.99K			12.57K	8.37K	6.21K			2.55K



# Channel P1

All abc

1 +28V

2 -28V

3 +16V

4 -16V

5 +12V

6 12V G

7 +5V

8 5V G

9

10 AG

11

12 GA

15 ↓A

17 ↓A

20 ↓A

23 ↓A

25 ↓A

27 ↓A

31 ↓A

# Monitor 868

1

2 A+C (T/R) TAPE IN

3 A+C (T/R) BUSS IN (1-2H)

4 ↓ b<sub>1</sub>c

5 ↓ b<sub>1</sub>c

6

7 +V a b<sub>1</sub>c (16V)

8 -V a b<sub>1</sub>c (16V)

9 V<sub>L</sub> (+24V) to RSI as well

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

26

27

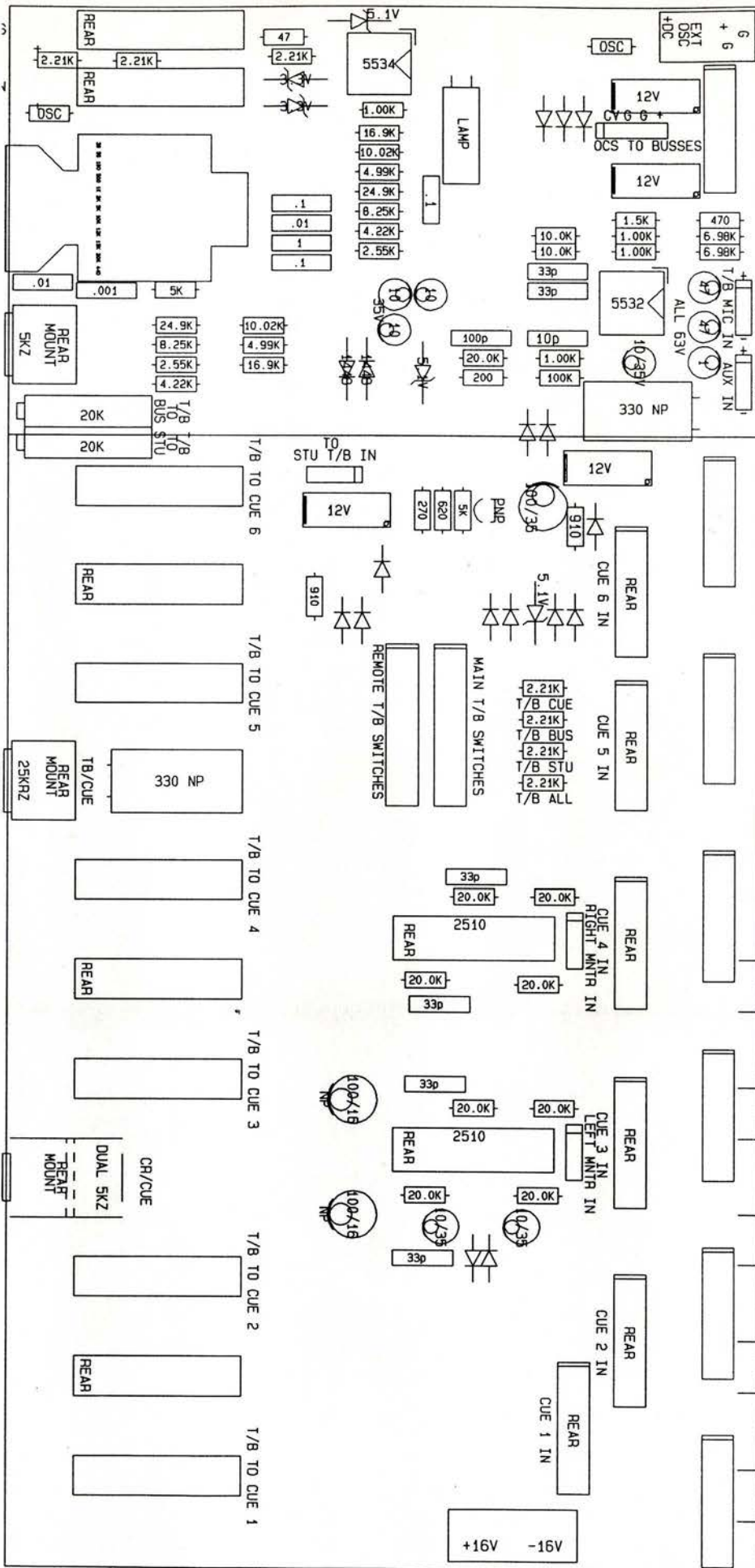
28

29

30 A ↓ B-fader<sup>w</sup> P/C-fader top

31 A-solode (+24sld) C-All mute B-TAPE

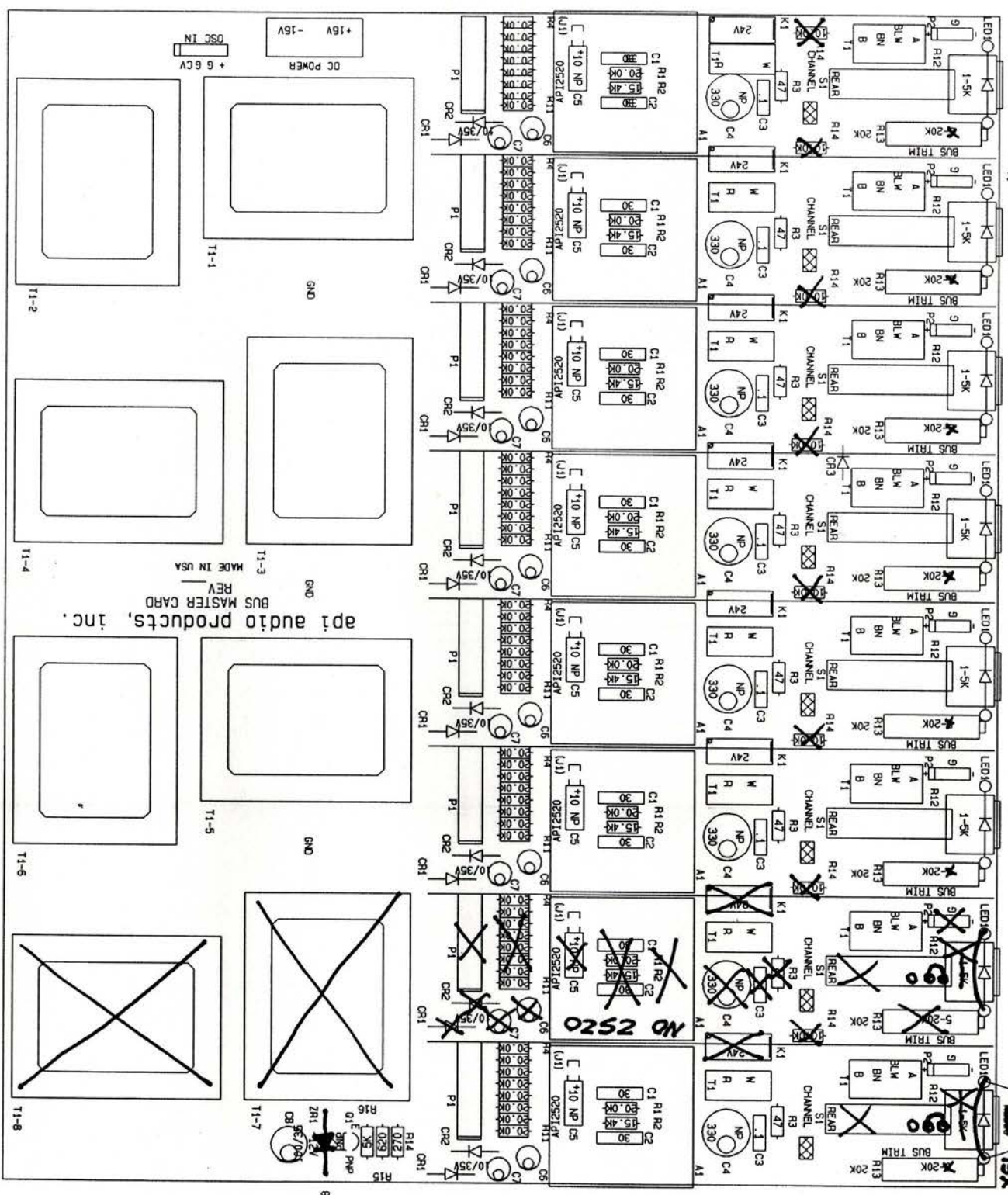
32 A-SIP BUSS



# CUE 1-6 ASSY

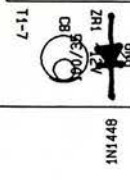
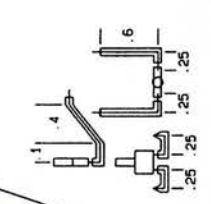
A-BLUE  
 A BLU-BLUE/WHITE  
 BLK  
 BN-BROWN  
 BN  
 B BROWN/WHITE

ALL STANDOFFS ARE 1/2 INCH X 6



20K  
 15.4K  
 10K  
 5K  
 620  
 270  
 47

api audio products, inc.  
 BUS MASTER CARD  
 REV  
 MADE IN USA

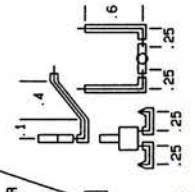
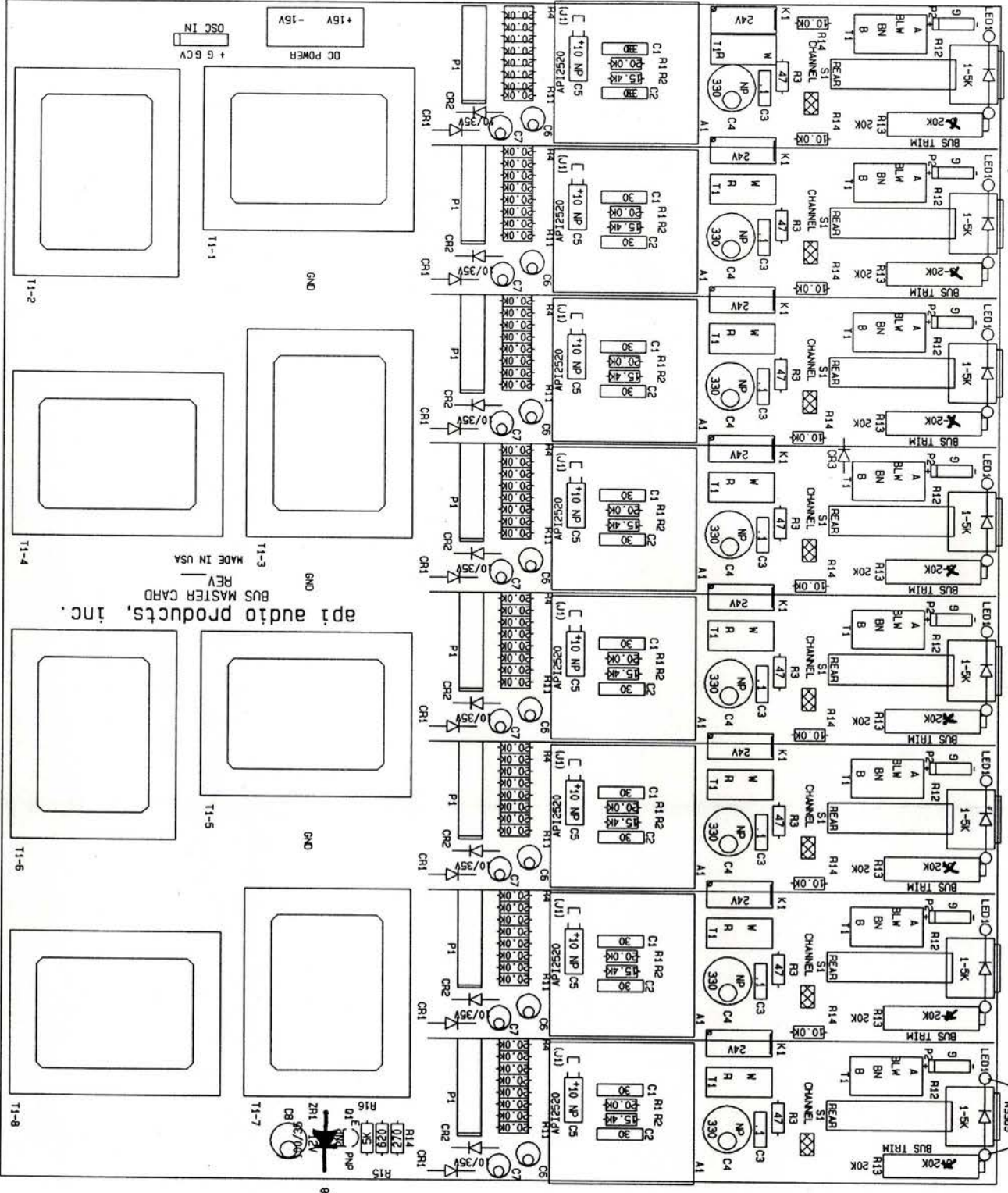


84448  
 ZR1  
 06/04

# BUSSES 1-1-16 ASSY

9 X X X 1/2 INCH THT

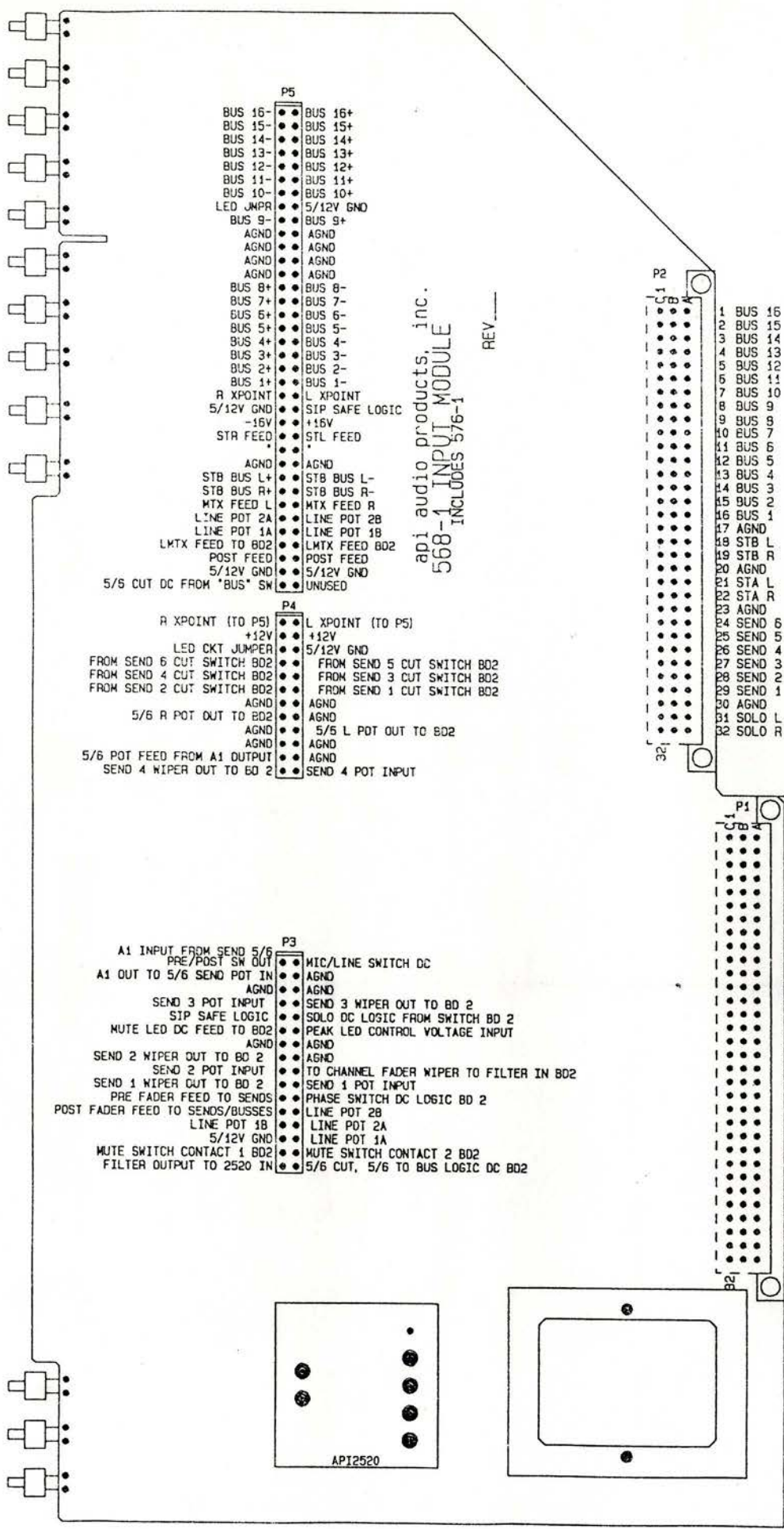
A-BLUE  
A  
BLW-BLUE/WHITE  
BLW  
BN-BROWN  
BN  
B-BROWN/WHITE  
B  
T1



api audio products, inc.  
BUS MASTER CARD  
REV  
MADE IN USA

20K  
10K  
5K  
620  
270  
47

89771N1



- 1 BUS 16
  - 2 BUS 15
  - 3 BUS 14
  - 4 BUS 13
  - 5 BUS 12
  - 6 BUS 11
  - 7 BUS 10
  - 8 BUS 9
  - 9 BUS 8
  - 10 BUS 7
  - 11 BUS 6
  - 12 BUS 5
  - 13 BUS 4
  - 14 BUS 3
  - 15 BUS 2
  - 16 BUS 1
  - 17 AGND
  - 18 STB L
  - 19 STB R
  - 20 AGND
  - 21 STA L
  - 22 STA R
  - 23 AGND
  - 24 SEND 6
  - 25 SEND 5
  - 26 SEND 4
  - 27 SEND 3
  - 28 SEND 2
  - 29 SEND 1
  - 30 AGND
  - 31 SOLO L
  - 32 SOLO R
- 
- 1 +28
  - 2 -28
  - 3 +16
  - 4 -16
  - 5 +12
  - 6 12G
  - 7 +5
  - 8 5G
  - 9 TRANSFORMER DIR OUT (-G+)
  - 10 AGND
  - 11 LEFT-MONO-RIGHT OUT TO EXT MXT OPTION
  - 12 AGND
  - 13 EXT MUTE DC IN-MUTE SW1-MUTE SW2
  - 14 INS SW OUT (G=TRUE) -AGND-INS RELAY IN (+5=INS)
  - 15 AGND
  - 16 PRE FDR OUT-AGND-POST FDR OUT (FOR EXT SENDS)
  - 17 AGND
  - 18 INSERT RETURN (-G+)
  - 19 INSERT SEND (-G+)
  - 20 AGND
  - 21 EQ RETURN TO INSERT RELAY (-G+)
  - 22 OUT TO EQ IN NORMAL (-G+)
  - 23 AGND
  - 24 LINE IN (TAPE IN) (-G+)
  - 25 AGND
  - 26 "MIC" IN (OR LINE 2) (-G+)
  - 27 AGND
  - 28 PEAK CV-AGND-VU METER FEED
  - 29 PFL RELAY SEL DC BUS-MUTE GRP BUS-SOLO DC BUS
  - 30 AFL/PFL SOLO RELAY INH-N/C-SOLO IN PLACE DC BU
  - 31 AGND
  - 32 FADER IN/OUT/GND

ALL ROW A  
ARE + (SIG HI)

ALL ROW B  
ARE AGND

ALL ROW C  
ARE - (SIG GND)

api audio products, inc.  
MADE IN USA

DESCRIPTION: 568/576 BD 1 PIN-OUT

SIZE: A

DRAWING NUMBER: 11-25 1972

DATE: 11-24-72

BY: PAV

APPROVAL: [Signature]

DATE: 11-25 1972

SCALE: 1/1

SHEET 1/1

DIMENSIONS ARE IN INCHES

TOLERANCES:  
ANGLES ±  
FRACTIONS ±  
3 PLACE DECIMALS ±  
SURFACE ROUGHNESS ✓

DO NOT SCALE DRAWING

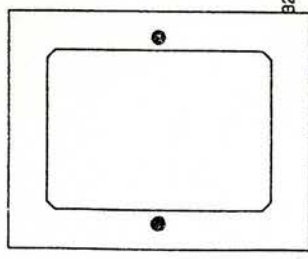
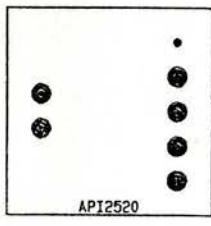
MATERIAL: Reference

DASH#

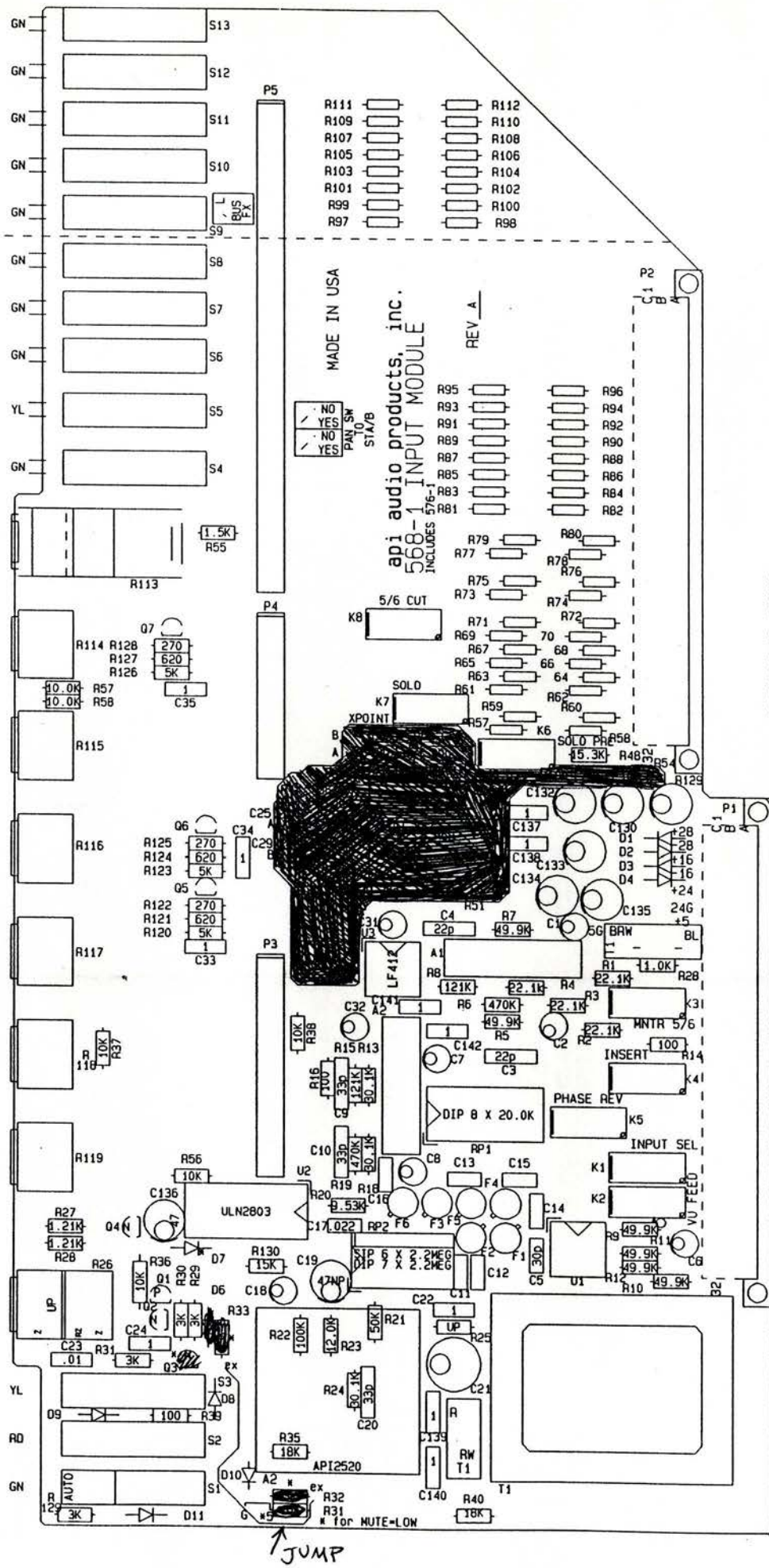
NEXT ASSY

PROJECT

APPLICATION: APPLICATION

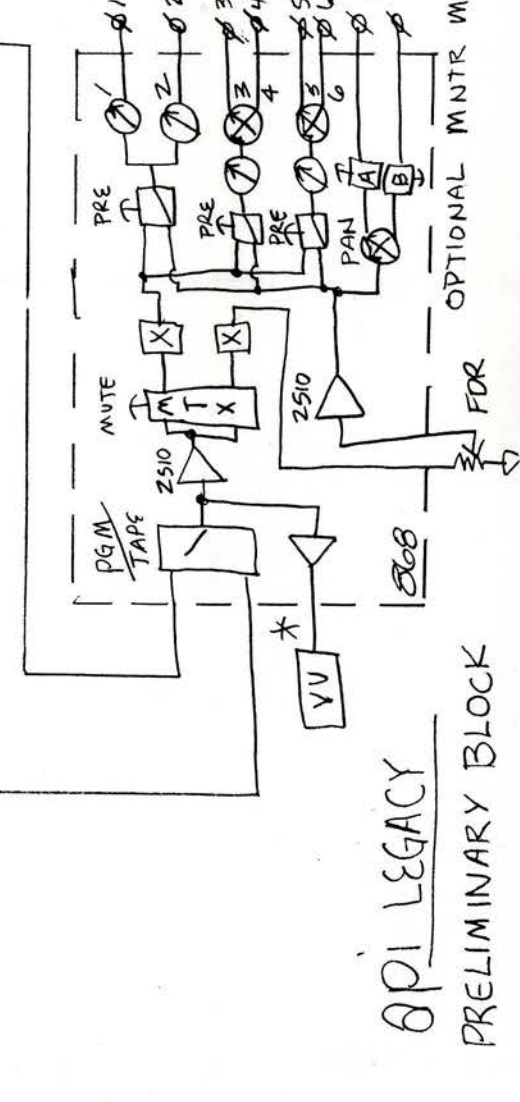
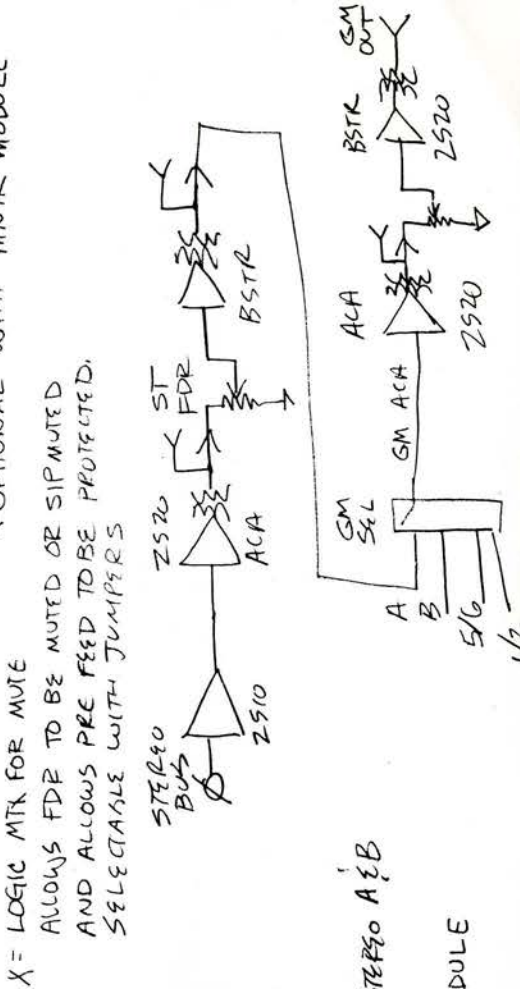
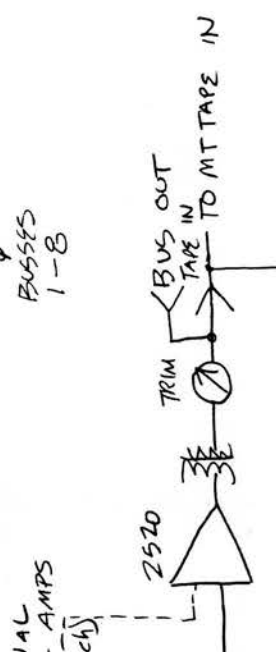
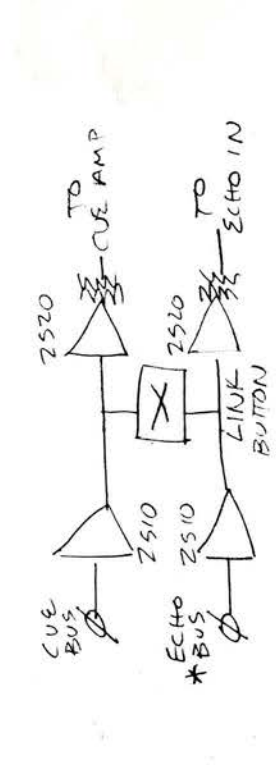
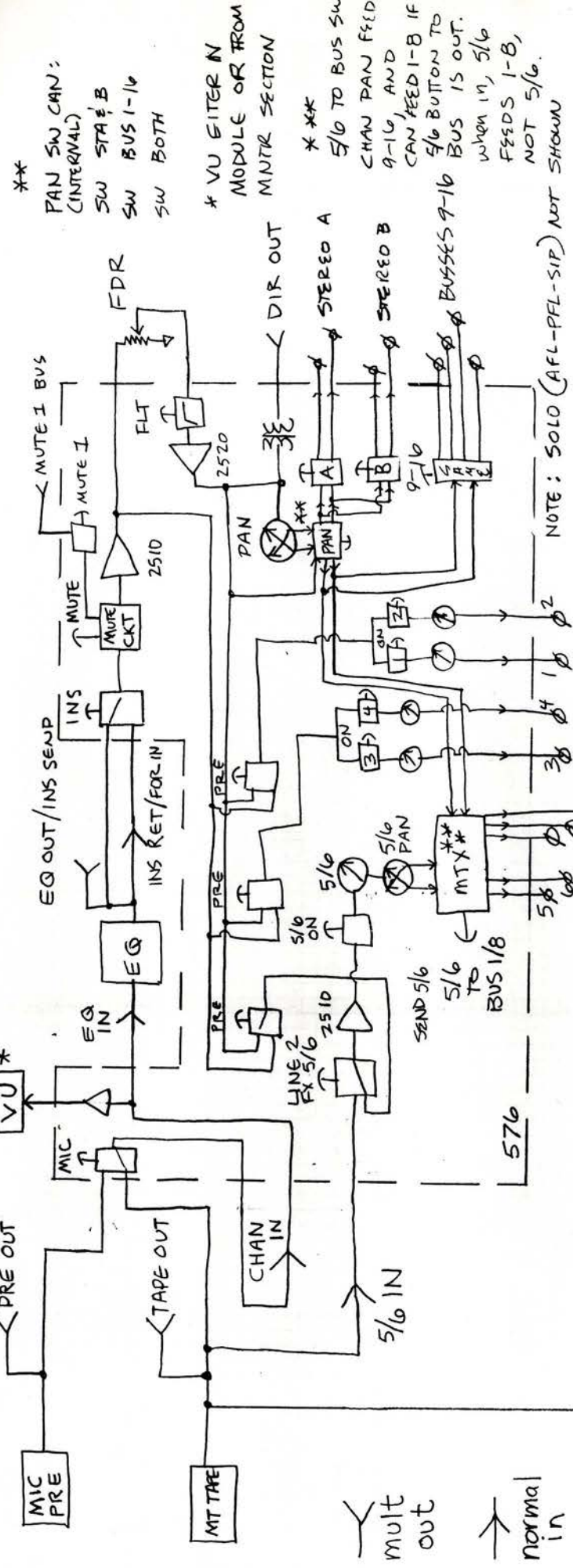




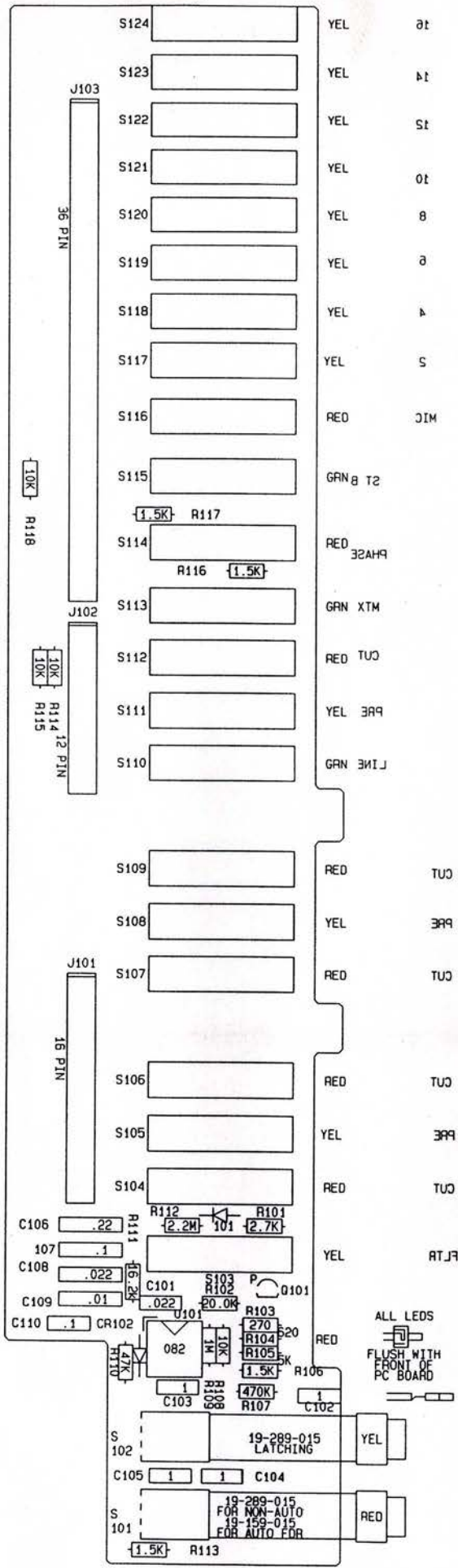


COMPONENT S11 KSCOFFEN

api audio products, inc. MADE IN USA		DATE	12-14-72
DESCRIPTION	568/576 INPUT ASSY WITHOUT EXT. BUS MTX		
SIZE	BOARD 1	DRAWING NUMBER	REV A
APPROVAL	BY	DATE	12/14/1972
DRAWN	RAW	DATE	
CHECKED		DATE	
ENG		DATE	
PROF'G		DATE	
APPROVED	NAME	DATE	12/14/1972
APPROVED	NAME	DATE	19
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES:	ANGLES ± FRACTIONS ± 2 PLACE DECIMALS ± 3 PLACE DECIMALS ± SURFACE ROUGHNESS ✓ DO NOT SCALE DRAWING MATERIAL: WITHOUT MTX		
DASH#	4 PARTS	576	
NEXT ASSY	SCHEM	576	
PROJECT	BOARD 2	576	
APPLICATION	APPLICATION		
SCALE:	SHEET 1/2		



API LEGACY  
 PRELIMINARY BLOCK



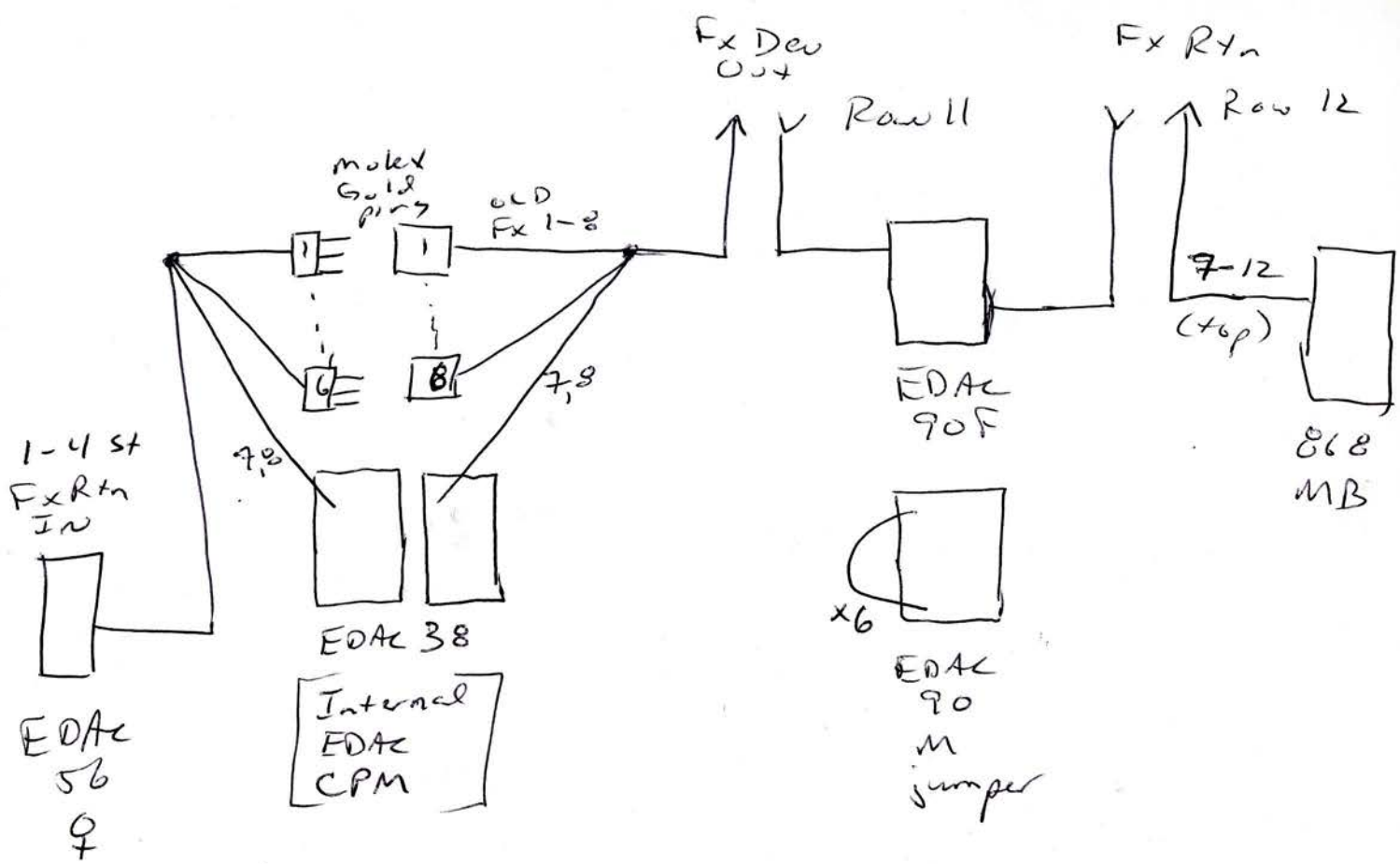
api audio products, inc. MADE IN USA		DESCRIPTION B-BOARD 568/576 INPUT ASSY		REV A
DRAWING NUMBER BCA-20 2		SIZE A	DRAWING NUMBER	
APPROVAL DRAWN: [Signature] CHECKED: [Signature]		BY [Signature]	DATE 12-14-72	SCALE: 1/2
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES: ANGLES ± FRACTIONS ± 2 PLACE DECIMALS ± 3 PLACE DECIMALS ± SURFACE ROUGHNESS ✓ DO NOT SCALE DRAWING MATERIAL: WITH MTX		ENG PROV'G APPROVED [Signature]	DATE 12/14/1972	DATE 19__
4	PARTS	576	PROJECT	APPLICATION
3	SCHEM	576	NEXT ASSY	
2	BOARD 2	576	DASH#	

S124	YEL	01
S123	YEL	11
S122	YEL	12
S121	YEL	01
S120	YEL	8
S119	YEL	0
S118	YEL	4
S117	YEL	5
S116	RED	01M
S115	GRN B T2	
S114	RED PHASE	
S113	GRN XTM	
S112	RED TUJ	
S111	YEL BRP	
S110	GRN 3MTJ	
S109	RED TUJ	
S108	YEL BRP	
S107	RED TUJ	
S106	RED TUJ	
S105	YEL BRP	
S104	RED TUJ	
S103	YEL RTJ	

R117	1.5K
R116	1.5K
R115	10K
R114	10K
R113	1.5K
R112	2.2M
R111	10K
R110	10K
R109	10K
R108	10K
R107	470K
R106	1.5K
R105	1.5K
R104	10K
R103	270
R102	10K
R101	2.7K

C110	.1
C109	.01
C108	.022
C107	.1
C106	.22
C105	1
C104	1
C103	1
C102	1
C101	.022

U101	19-289-015 LATCHING
U102	19-289-015 FOR NON-AUTO
U103	19-159-015 FOR AUTO FOR

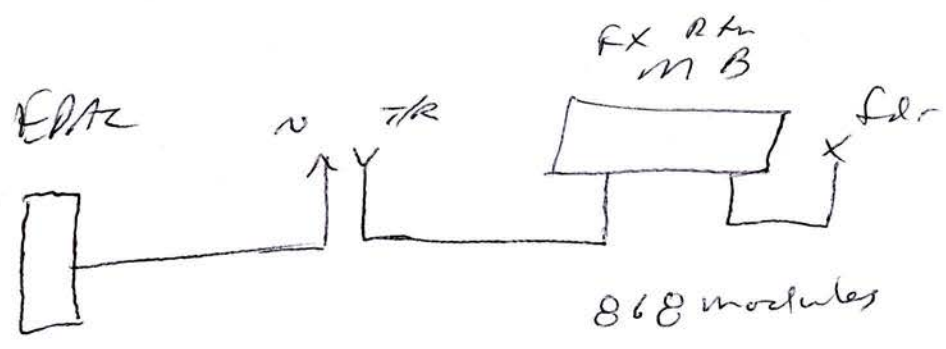


## Fx Rtn Mods

---

7/5/10  
AG

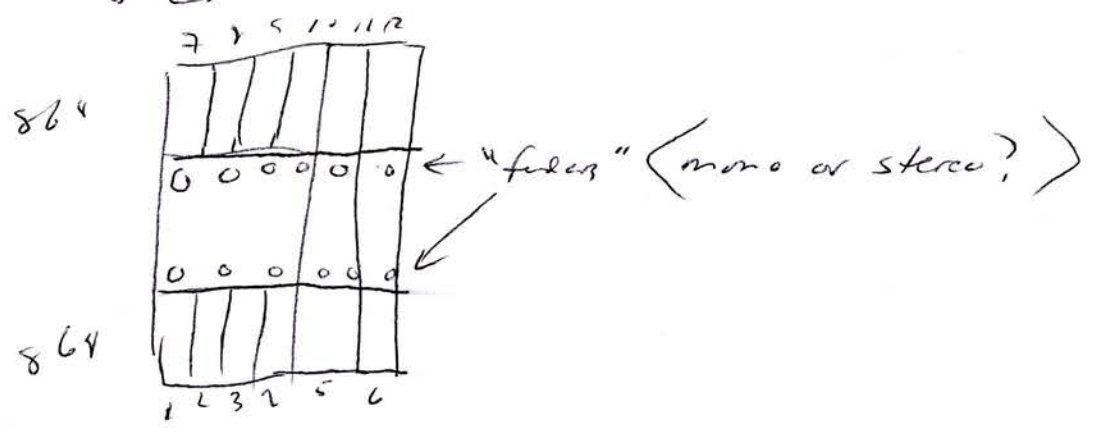
FX Rtn



1-12  
Rtn Normals (ie for T/R of device)

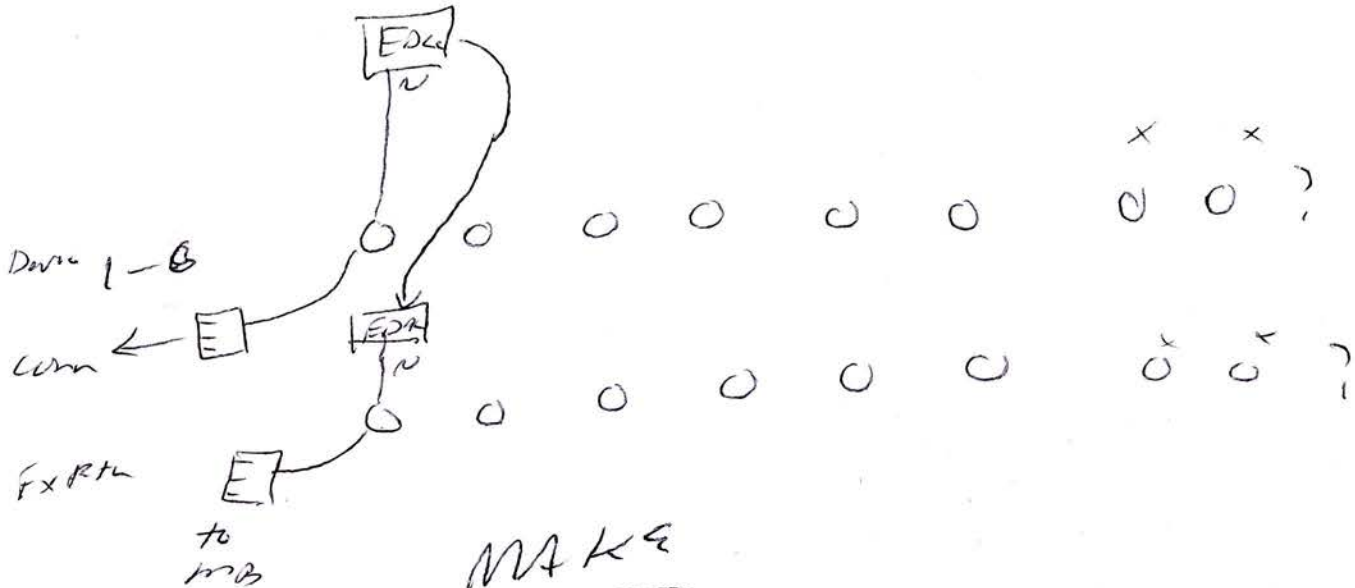
to have FX Rtns -

- \* add 868 modules to empty slots
- \* add faders (rotary 10k? slugged)

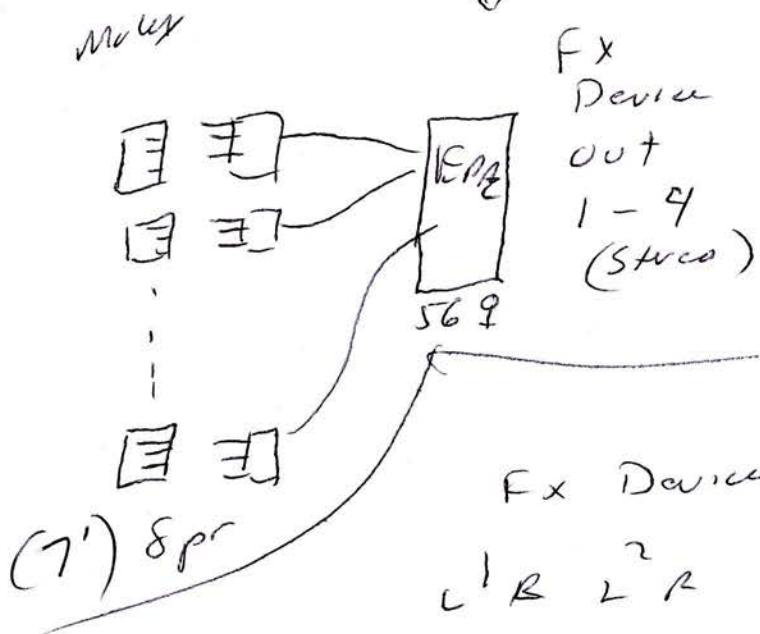


how to connect  
existing cables to  
make fx Rtn wk

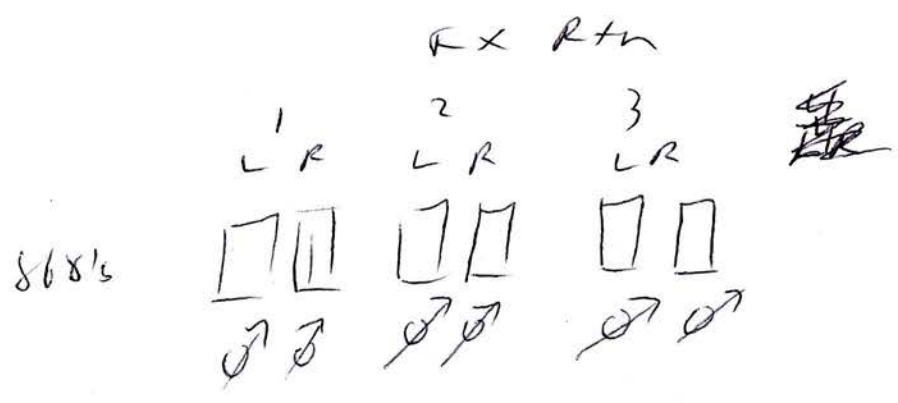
7/5/10  
AG



MAKE  
↓



Fx Device Out  
1 2 3 4  
L R L R L R L R (Full Normal)



# FX Return

1	2	3	4	5	6	7	Y
0	0	0	0	0	0	0	0

"7"	"8"	"9"	"10"	"11"	"12"		
0	0	0	0	0	0	0	0
9	10	11	12	13	14	15	16

}

"1-6" 1-6

7/8/

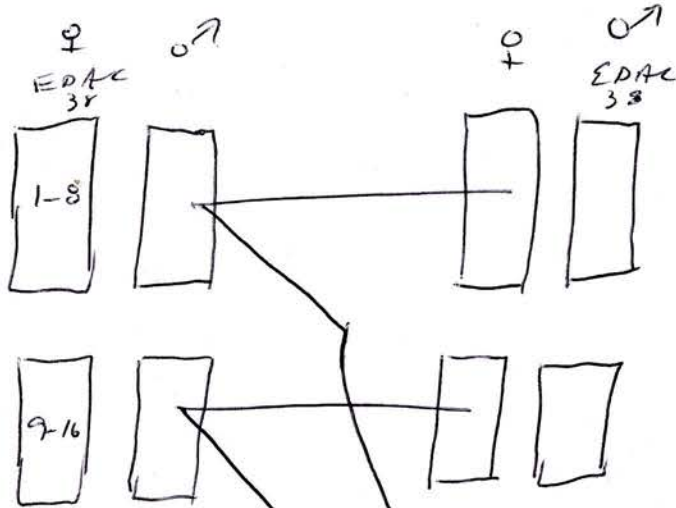
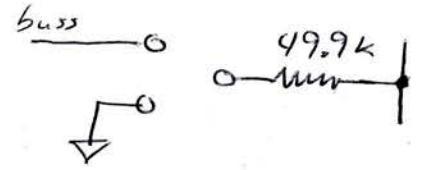
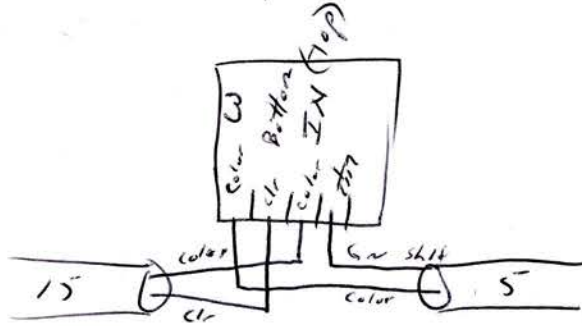
"7-12" 9-14

15/4

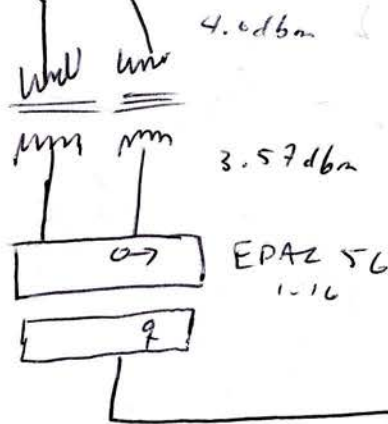
# 16th Mix Mod



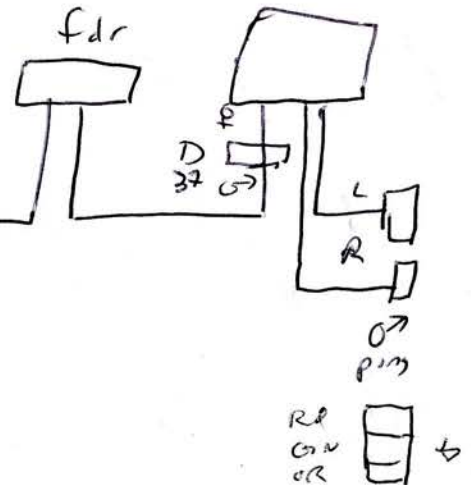
for conn



Buss out  
Insert Added



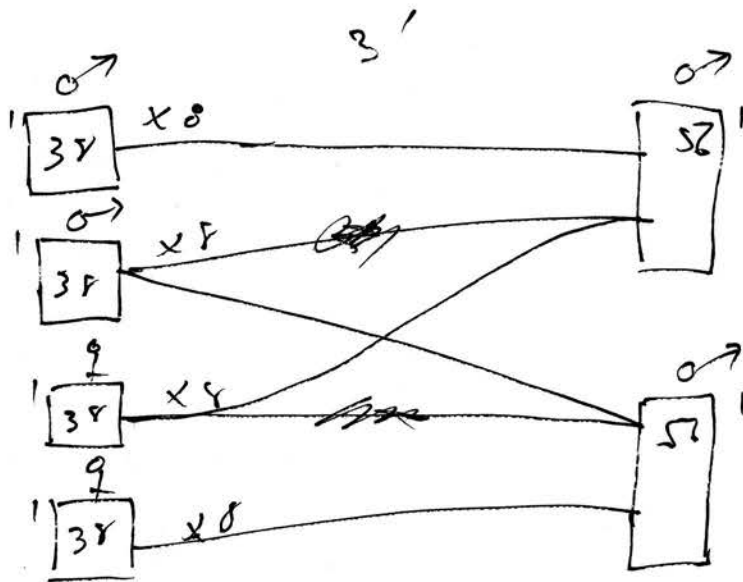
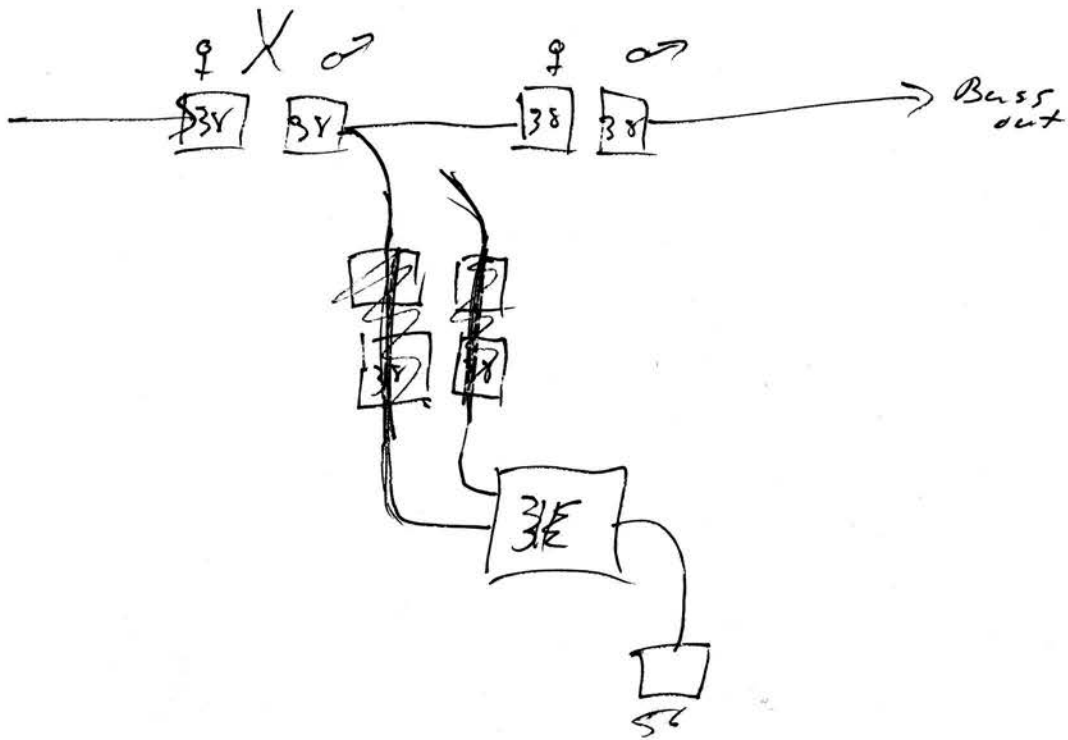
Assign on/off SW



4.0  
3.5  
~ 0.5 db loss  
than xfer



Insert for sub/Bass out

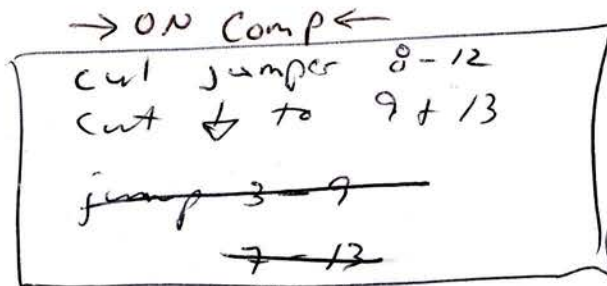
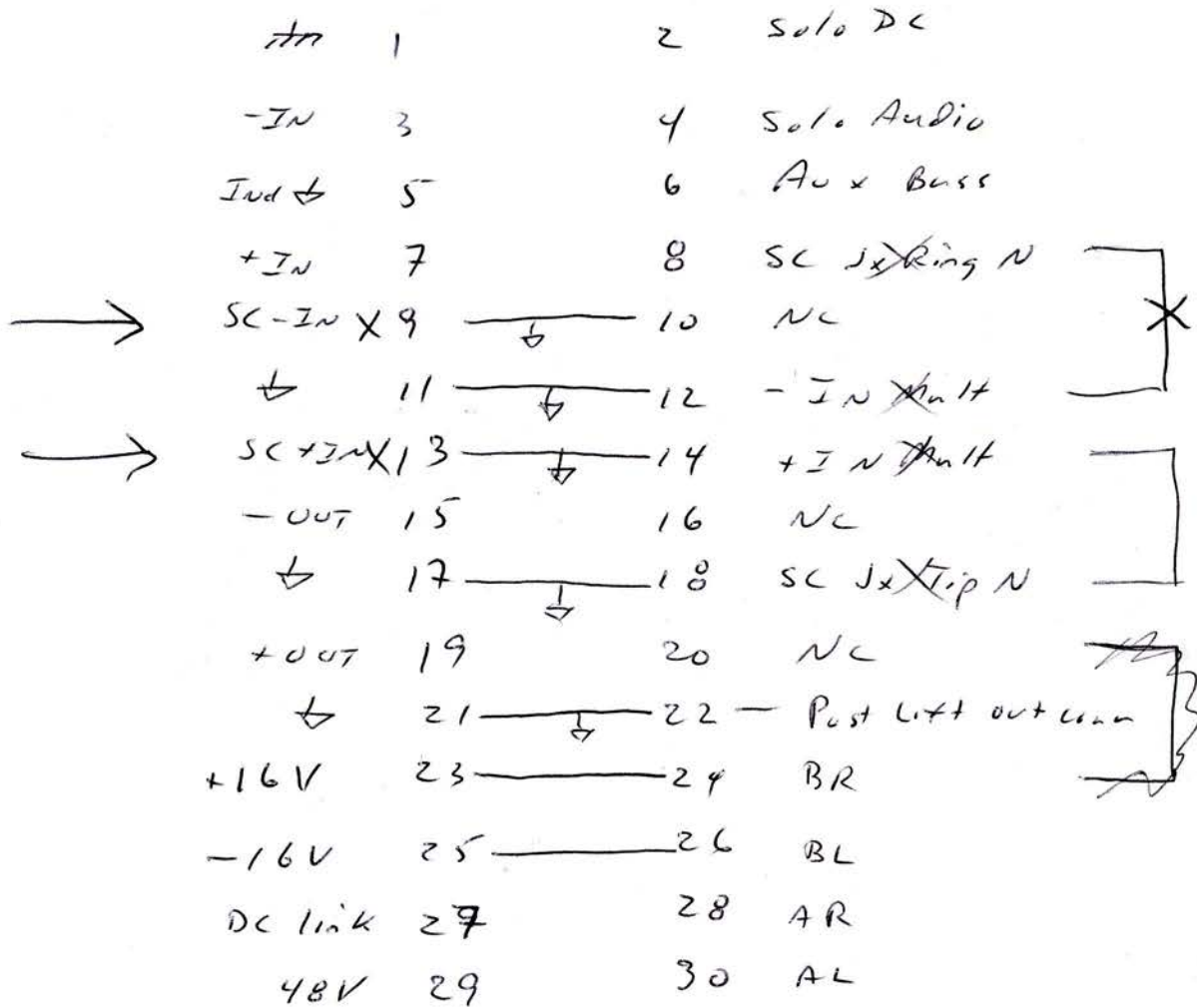


to ~~mic~~ mic patch bay

to mic patch bay

Same as  
stereo out  
pin out

# work - why comp wont work



NO - attached to ↓ plane above (cut + still @ ↓)

↑ means changes to MB will not work

AK 357

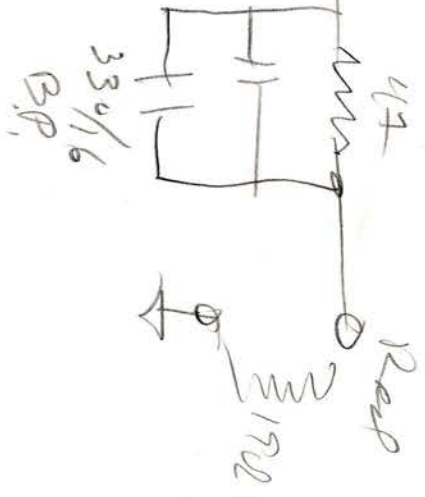
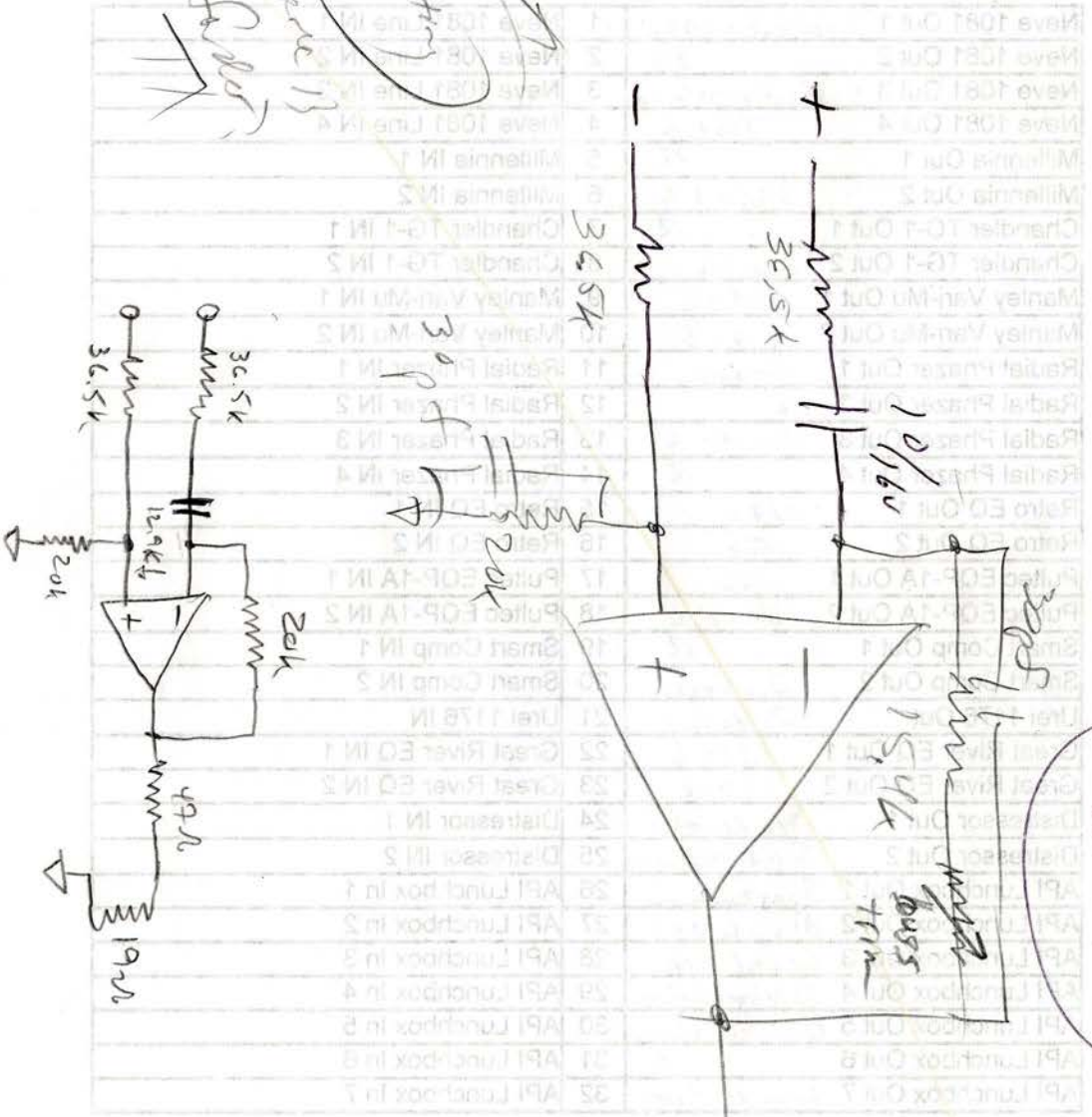
ST AP/BST / feed

A-L 5  
 OR C  
 OR 7  
 OR 8

OUTPUTS  
 Row D

(1) EDAC 55 conn with 5 NO each  
 14 ft cable

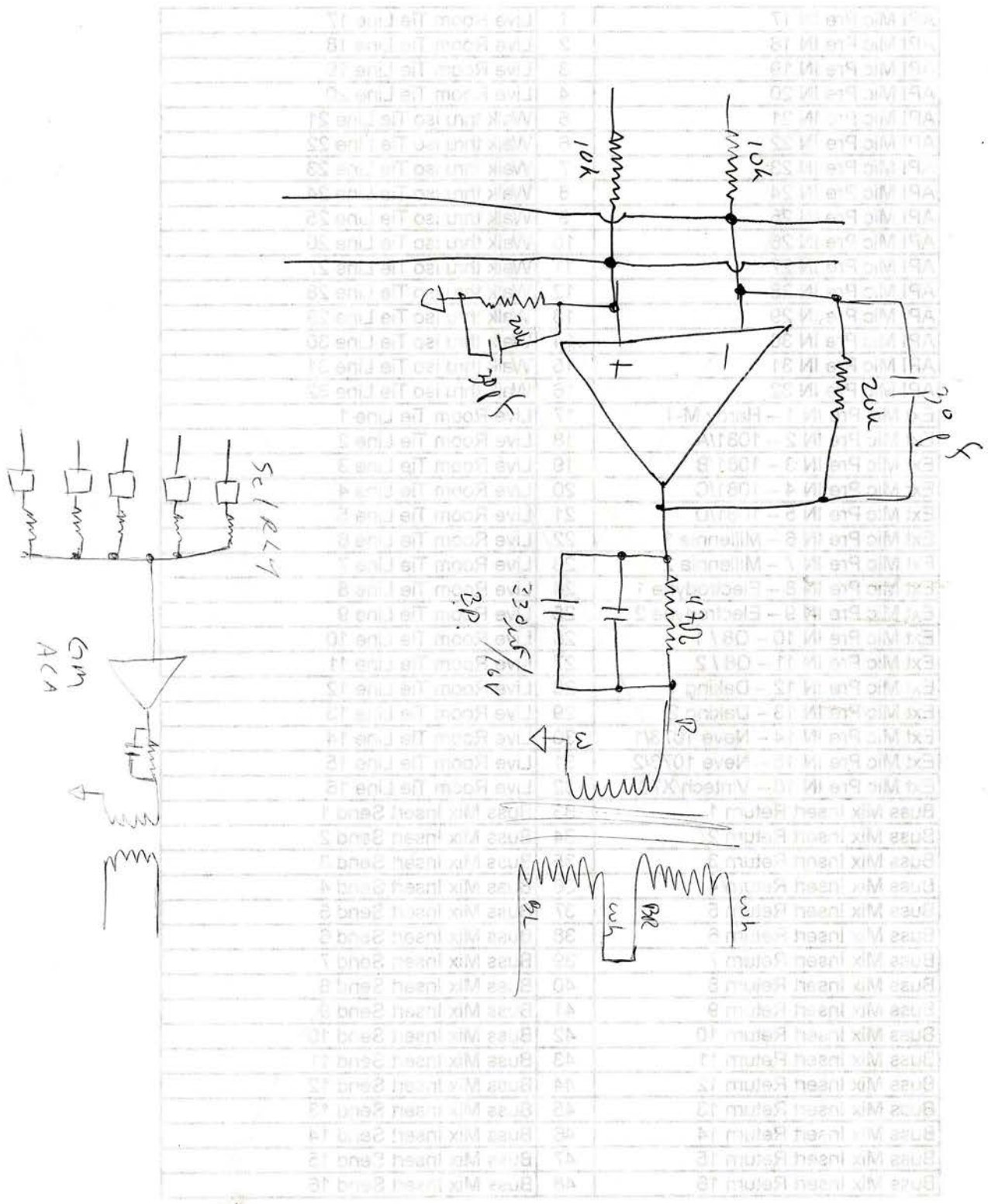
PATCHBAY 2A  
 Patchbay  
 Studios



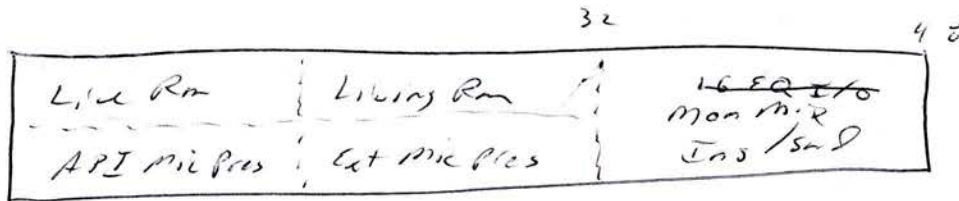
✓

INPUTS  
Row B

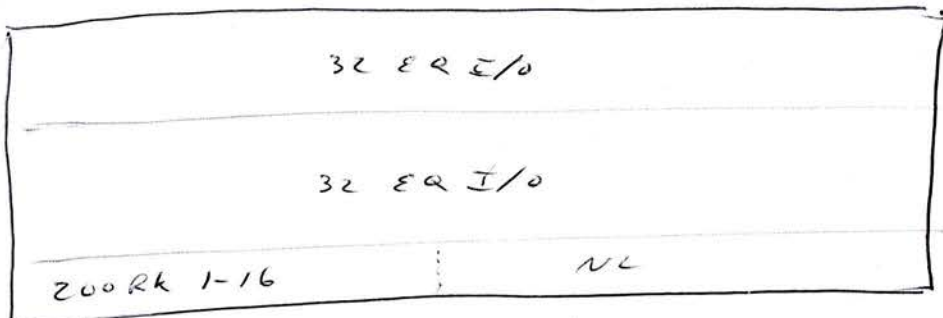
OUTPUTS  
Row A



GM ACA #



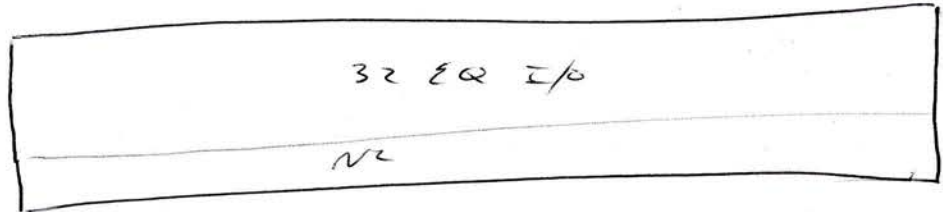
EDAC conns  
on a 3' cable



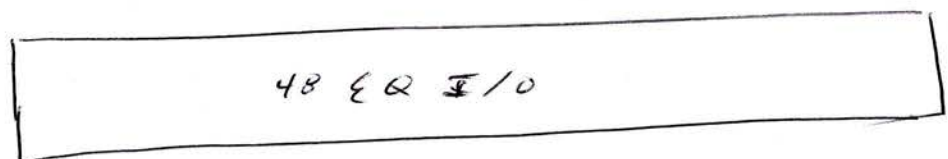
14' EDAC

17' xLR

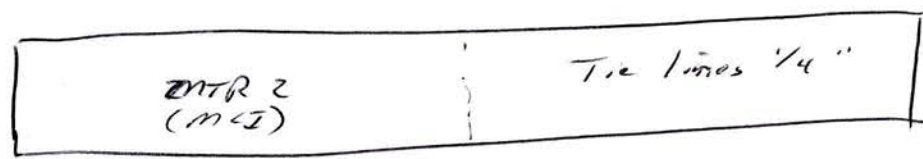
4' EDAC



27' xLR



3' EDAC



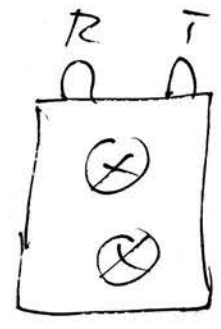
"Long" grey cables  
EDAC to MCI  
w/ 9' cable to Tie  
Lines

# Tucker Park Bay Layout

June 15, 2010

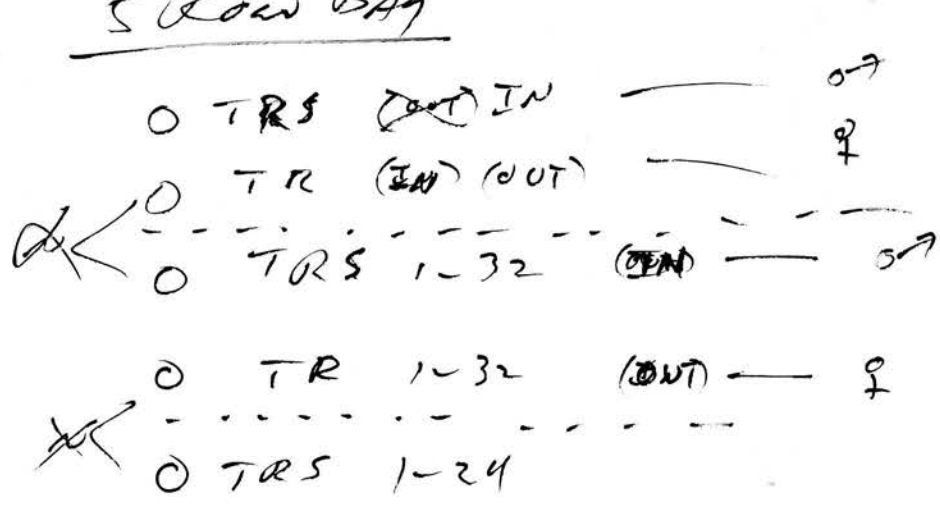
MTR 2 patch bay from Avcast!  
 w/or code

- |   | T  | R                |
|---|----|------------------|
| 1 | R2 | BK               |
| 2 | R2 | <del>GR</del> wh |
| 3 | R2 | GN               |
| 4 | BK | BL               |
| 5 | BK | wh               |
| 6 | BK | GN               |
| 7 | BK | OR               |
| 8 | BK | BR               |



X 3 Top & bottom Row

5 Row Bay



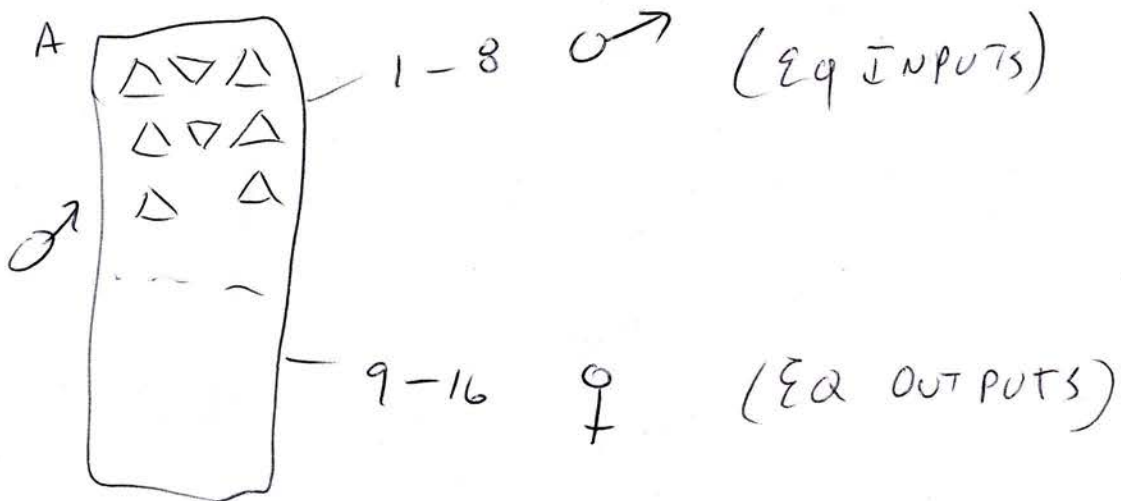
♀ = TRS  
 ♂ = TR

Top - odd # (IN ♀)  
 Both - even #

odd # XLR ♂  
 even # XLR ♀

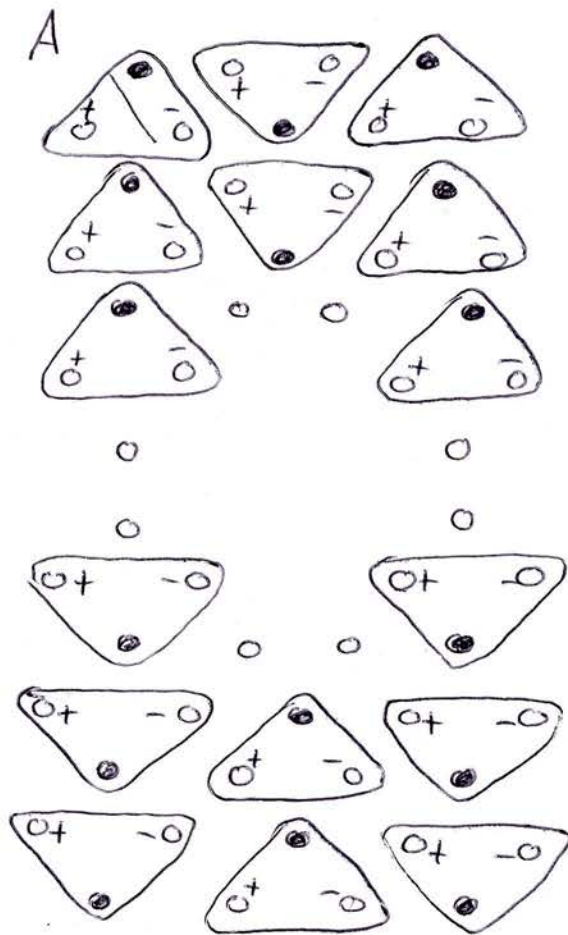
Red = Tip

# Flora cables I/O



EDAC 56

A	1	2	3
	4	5	6
	7		8
	1		2
	3	4	5
	6	7	8



A	1	2	3
Bottom EQ OUT Row (N)	4	5	6
	7		8
	8	7	6
(m) Top EQ IN	3	2	1

turn over

# API Power hookup

@ BQ

-28V	+28V	+16V	-16V	48V	+5V	5VG	24VG	12V
OR Rd/BK	GN BK/Rd	BL SL/BK	BK BK/wh	Rd	Wh wh/BK	OR/BK	GN/wh	Rd/wh

17A	New	Hot
-----	-----	-----

Rd	↘	wh	wh/BK	BL	BL/BK	BK	BK/wh
+48V	-48V	5V	5V	+16V	+16V	+16V	-16V

○  
16VG  
↓

○  
5VG  
OR/BK



Echo Snd 1-6 // Cue Snd 1-6 // Fx Rtn 1-6 // x x // osc<sup>2</sup> // STA // STB // GM // <sup>ACA OUT</sup>  
↳ // STA // STB // <sup>Bstr Amp out</sup>

Fx Device In 1-6 // Cue Amp In 1-6 // Fx Rtn 7-12 // x x // osc<sup>2</sup> // STA // STB // GM // <sup>FDR IN</sup>  
↳ // STA // STB // <sup>GM selector</sup>

GM Bstr Out

2Tk Inputs 1-4(st) // 2Tk Pb 1-8 //  $\Phi$  out // LG <sup>monitor out</sup> Sm Std

2Tk Rec In 1-4 // CR Mon In 1-8 // <sup>2Tk Pb</sup> scope <sup>Amp IN</sup> // LG Sm Std

# BD Bays

Mic Pre Out 1-32 (200RL)

EDAC MTR1 OUT 1-32 - EDAC 90 EDAC 56

S/B Input 1-32

Channel In 1-32

EQ IN 1-32

EQ OUT (Ins Snd) 1-32

Fdr IN (Ins Rtn) 1-32

Direct Out 1-32

Buss Out 1-16 / 1-16

EDAC MTR IN [MTR PGM IN] 1-32

Echo Snd 1-6 / Cue Snd 3 stereo / FX Rtn 1-4 / OSC 2 / ST A ST B 6m  
BSTR OUT / ST A L+R ST B L+R  
2 MIC  
ACA

EDAC FX Device Inputs 1-6 / Cue Amp In 1-6 / FX Rtn 7-12 (1/2)  
/ OSC (2) / ST A L R / ST B L R / GM L R / 37A 37B  
FDR IN  
GM SCL  
JAI

GM BSTR OUT 1-4m // 2TK 1-8 stereo //  $\Phi$  out // ~~ST A out~~  
2TK Ph  
monitor out  
LG // 5m // ST A

2TK Rec In 1-4 // CRMM IN 1-8 //  $\Phi$  in // LG Ph / 5m / ST down  
monitor out

# Board Connections

Comp's  
FLTR's

~~200Rk~~

200Rk 1-16 In

ELCO 56

0' to other play (Inputs)

mic pres

200Rk 17-32 In (mic 1-16)

ELCO 56

0'

Mtr Rtn 1-24 ELCO 90

2'

25-32 ELCO 56

2'

Mtr Snd 1-24 ELCO 90 9'

~~Mtr~~ 25-32 ELCO 56 9'

FX Snd<sup>6</sup>/Cue Snd<sup>4</sup> ELCO 56 5'

FX Rtn (16pr) ELCO 90 6'

Normals

CR Mtr PLAY 1-12 ELCO 56 0' A~~B~~ (TAPE)

CR Mtr PLAY 13-24 ELCO 56 0' B (TAPE)

Mtr PLAY 1-12 ELCO 56 0'

Mtr PLAY 13-24 ELCO 56 0'

Pgm Out → 2Tk 1-4 (8pr) ELCO 56 5'

2Tk Pb 1-8 (16pr) ELCO 56 5'

CR/std outputs ELCO 38 9'

## BOARD Connectors (all ♀ EDAC)

### ZOORL

1-16 [EDAC 56] ♀ to patch bay: <sup>switchcraft 225</sup> Comp Filter IN  
17-32 [EDAC 56] ♀ to switchcraft Pbx & Mic IN

### MTR Rtn

1-24 [EDAC 90 ♀] cables to PT 1-24  
25-32 [EDAC 56 ♀] cables to PT 25-32

### MTR SND

1-24 [EDAC 90 ♀] cables to PT 1-24  
25-32 [EDAC 56 ♀] cables to PT 25-32

### Fx SND / Cue SND [EDAC 56] ♀

Fx SND 1-6	Plate (1)	Fx Rtn	Plate (2)
	Bricast (2)		Bricast (2)
	<del>Prism Time</del> (1)		BX 20 (2)
	BX-20 (2)		Prism Time (2)

Cue SND 1<sup>L</sup> 2<sup>R</sup> Q mix

2<sup>L</sup> 2<sup>R</sup> Q mix

3<sup>L</sup> 3<sup>R</sup> Q mix

### Fx Rtn 1-8 [EDAC 56 ♀] \* NORMALS \*

- 1 Plate
- 2 Bricast
- 3 BX-20
- 4 Prism Time
- 5

**200 Rk 1-16 EDAC 56F SAC**

1	200 Rk IN 1	
2	200 Rk IN 2	
3	200 Rk IN 3	
4	200 Rk IN 4	
5	200 Rk IN 5	
6	200 Rk IN 6	
7	200 Rk IN 7	
8	200 Rk IN 8	API 215L filter
9	200 Rk IN 9	API 215L filter
10	200 Rk IN 10	API 225L comp
11	200 Rk IN 11	API 225L comp
12	200 Rk IN 12	API 225L comp
13	200 Rk IN 13	API 225L comp
14	200 Rk IN 14	API 225L comp
15	200 Rk IN 15	API 225L comp
16	200 Rk IN 16	API 225L comp

**200 Rk 17-32 EDAC 56F SAC**

1	200 Rk IN 17	API 212L mic pre
2	200 Rk IN 18	API 212L mic pre
3	200 Rk IN 19	API 212L mic pre
4	200 Rk IN 20	API 212L mic pre
5	200 Rk IN 21	API 212L mic pre
6	200 Rk IN 22	API 212L mic pre
7	200 Rk IN 23	API 212L mic pre
8	200 Rk IN 24	API 212L mic pre
9	200 Rk IN 25	API 212L mic pre
10	200 Rk IN 26	API 212L mic pre
11	200 Rk IN 27	API 212L mic pre
12	200 Rk IN 28	API 212L mic pre
13	200 Rk IN 29	API 212L mic pre
14	200 Rk IN 30	API 212L mic pre
15	200 Rk IN 31	API 212L mic pre
16	200 Rk IN 32	API 212L mic pre

**External Connectors      API Legacy,      Flora Studios**

**MTR Send 1-16 EDAC 56F SAC**

1	MTR Line IN 1	Apogee DA16X Line IN 1
2	MTR Line IN 2	Apogee DA16X Line IN 2
3	MTR Line IN 3	Apogee DA16X Line IN 3
4	MTR Line IN 4	Apogee DA16X Line IN 4
5	MTR Line IN 5	Apogee DA16X Line IN 5
6	MTR Line IN 6	Apogee DA16X Line IN 6
7	MTR Line IN 7	Apogee DA16X Line IN 7
8	MTR Line IN 8	Apogee DA16X Line IN 8
9	MTR Line IN 9	Apogee DA16X Line IN 9
10	MTR Line IN 10	Apogee DA16X Line IN 10
11	MTR Line IN 11	Apogee DA16X Line IN 11
12	MTR Line IN 12	Apogee DA16X Line IN 12
13	MTR Line IN 13	Apogee DA16X Line IN 13
14	MTR Line IN 14	Apogee DA16X Line IN 14
15	MTR Line IN 15	Apogee DA16X Line IN 15
16	MTR Line IN 16	Apogee DA16X Line IN 16

**MTR Send 17-32 EDAC 56F SAC**

1	MTR Line IN 17	Apogee Rosetta 800 Line IN 1
2	MTR Line IN 18	Apogee Rosetta 800 Line IN 2
3	MTR Line IN 19	Apogee Rosetta 800 Line IN 3
4	MTR Line IN 20	Apogee Rosetta 800 Line IN 4
5	MTR Line IN 21	Apogee Rosetta 800 Line IN 5
6	MTR Line IN 22	Apogee Rosetta 800 Line IN 6
7	MTR Line IN 23	Apogee Rosetta 800 Line IN 7
8	MTR Line IN 24	Apogee Rosetta 800 Line IN 8
9	MTR Line IN 25	Lynx Aurora 8 Line IN 1
10	MTR Line IN 26	Lynx Aurora 8 Line IN 2
11	MTR Line IN 27	Lynx Aurora 8 Line IN 3
12	MTR Line IN 28	Lynx Aurora 8 Line IN 4
13	MTR Line IN 29	Lynx Aurora 8 Line IN 5
14	MTR Line IN 30	Lynx Aurora 8 Line IN 6
15	MTR Line IN 31	Lynx Aurora 8 Line IN 7
16	MTR Line IN 32	Lynx Aurora 8 Line IN 8

External Connectors      API Legacy,      Flora Studios

**MTR Return 1-16 EDAC 56F SAC**

1	MTR Line Out 1	Apogee DA16X Line Out 1
2	MTR Line Out 2	Apogee DA16X Line Out 2
3	MTR Line Out 3	Apogee DA16X Line Out 3
4	MTR Line Out 4	Apogee DA16X Line Out 4
5	MTR Line Out 5	Apogee DA16X Line Out 5
6	MTR Line Out 6	Apogee DA16X Line Out 6
7	MTR Line Out 7	Apogee DA16X Line Out 7
8	MTR Line Out 8	Apogee DA16X Line Out 8
9	MTR Line Out 9	Apogee DA16X Line Out 9
10	MTR Line Out 10	Apogee DA16X Line Out 10
11	MTR Line Out 11	Apogee DA16X Line Out 11
12	MTR Line Out 12	Apogee DA16X Line Out 12
13	MTR Line Out 13	Apogee DA16X Line Out 13
14	MTR Line Out 14	Apogee DA16X Line Out 14
15	MTR Line Out 15	Apogee DA16X Line Out 15
16	MTR Line Out 16	Apogee DA16X Line Out 16

**MTR Return 17-32 EDAC 56F SAC**

1	MTR Line Out 17	Apogee Rosetta 800 Line Out 1
2	MTR Line Out 18	Apogee Rosetta 800 Line Out 2
3	MTR Line Out 19	Apogee Rosetta 800 Line Out 3
4	MTR Line Out 20	Apogee Rosetta 800 Line Out 4
5	MTR Line Out 21	Apogee Rosetta 800 Line Out 5
6	MTR Line Out 22	Apogee Rosetta 800 Line Out 6
7	MTR Line Out 23	Apogee Rosetta 800 Line Out 7
8	MTR Line Out 24	Apogee Rosetta 800 Line Out 8
9	MTR Line Out 25	Lynx Aurora 8 Line Out 1
10	MTR Line Out 26	Lynx Aurora 8 Line Out 2
11	MTR Line Out 27	Lynx Aurora 8 Line Out 3
12	MTR Line Out 28	Lynx Aurora 8 Line Out 4
13	MTR Line Out 29	Lynx Aurora 8 Line Out 5
14	MTR Line Out 30	Lynx Aurora 8 Line Out 6
15	MTR Line Out 31	Lynx Aurora 8 Line Out 7
16	MTR Line Out 32	Lynx Aurora 8 Line Out 8



**FX Snd/ Cue Snd Send 1-16 EDAC 56F SAC**

1	FX Send 1	Plate In
2	Fx Send 2	PCM 70
3	FX Send 3	Bricasti In 1
4	FX Send 4	Bricasti In 2
5	FX Send 5	AKG BX-20 In 1
6	FX Send 6	AKG BX-20 In 2
7		
8		
9	Cue Send 1L	Qmix A IN <i>mono 1</i>
10	Cue Send 2R	Qmix B IN <i>mono 2</i>
11	Cue Send 3L	Qmix C IN <i>mono 3</i>
12	Cue Send 4R	Qmix D IN <i>mono 4</i>
13	Cue Send 5L	Qmix L IN <i>stereo A</i>
14	Cue Send 6R	Qmix R IN <i>stereo A</i>
15	<i>to Row J 29</i>	<i>IN mono 5</i>
16	<i>to Row J 36</i>	<i>IN mono 6</i>

*Furman  
HSM-66*

**FX Return 1-8 EDAC 56F SAC**

1	FX return 1L	Plate Out L
2	FX return 1R	Plate Out R
3	FX return 2L	PCM 70 Out L
4	FX return 2R	PCM 70 Out R
5	FX return 3L	Bricasti Out L
6	FX return 3R	Bricasti Out R
7	FX return 4L	AKG BX-20 Out L
8	FX return 4R	AKG BX-20 Out R
9		
10		
11		
12		
13		
14		
15		
16		

**FX Return NORMALS 1-12 EDAC 90F SAC**

1	FX return (Normal) 1	jumper to 9
2	FX return (Normal) 2	jumper to 10
3	FX return (Normal) 3	jumper to 11
4	FX return (Normal) 4	jumper to 12
5	FX return (Normal) 5	jumper to 13
6	FX return (Normal) 6	jumper to 14
7	FX return (Normal) 7	
8	FX return (Normal) 8	
9	FX return (Normal) 9	
10	FX return (Normal) 10	
11	FX return (Normal) 11	
12	FX return (Normal) 12	
13	FX return (Normal) 13	
14	FX return (Normal) 14	
15	FX return (Normal) 15	
16	FX return (Normal) 16	
17		
18		
19		
20		
21		
22		
23		
24		



**2TK Send (PGM Out) EDAC 56F SAC**

1	2 Track Send 1L	Ampex ATR IN L
2	2 Track Send 1R	Ampex ATR IN R
3	2 Track Send 2L	ADC IN L
4	2 Track Send 2R	ADC IN R
5	2 Track Send 3L	DAT IN L
6	2 Track Send 3R	DAT IN R
7	2 Track Send 4L	Cass IN L
8	2 Track Send 4R	Cass IN R
9		
10		
11		
12		
13		
14		
15		
16		

**2 Track Return 1-8 (stereo) EDAC 56F SAC**

1	2 Track Return 1L	Ampex ATR Out L
2	2 Track Return 1R	Ampex ATR Out R
3	2 Track Return 2L	DAC Out L
4	2 Track Return 2R	DAC Out R
5	2 Track Return 3L	<del>DAT</del> Out L
6	2 Track Return 3R	<del>DAT</del> Out R
7	2 Track Return 4L	<del>Cass</del> Out L
8	2 Track Return 4R	<del>Cass</del> Out R
9	2 Track Return 5L	CD player Out L
10	2 Track Return 5R	CD player Out R
11	2 Track Return 6L	ipod out L
12	2 Track Return 6R	ipod out R
13	2 Track Return 7L	
14	2 Track Return 7R	
15	2 Track Return 8L	
16	2 Track Return 8R	

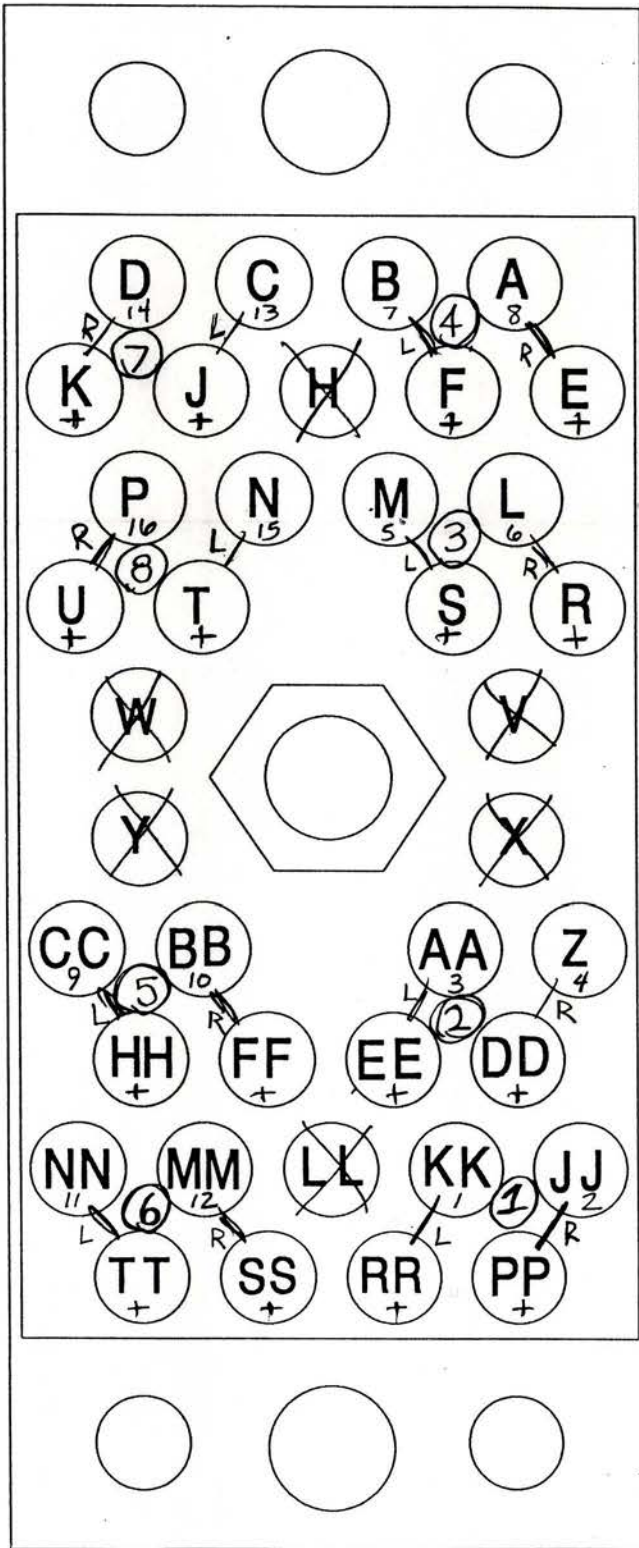
Cass  
Cass  
DAT  
DAT

**External Connectors    API Legacy,    Flora Studios**

**Monitor Out    EDAC 56F SAC**

1	CR Large Monitor Out L	ARC 100 IN L
2	CR Large Monitor Out R	ARC 100 IN R
3	CR Small Monitor Out 1L	McIntosh IN L
4	CR Small Monitor Out 1R	McIntosh IN R
5	CR Small Monitor Out 2L	
6	CR Small Monitor Out 2R	
7	CR Small Monitor Out 3L	
8	CR Small Monitor Out 3R	
9	CR Small Monitor Out 4L	
10	CR Small Monitor Out 4R	
11		
12		
13		
14		
15	Studio Monitor Out 3L	Crown IN L
16	Studio Monitor Out 3R	Crown IN R

38 PIN ELCO  
WIRE SIDE OF FEMALE



USE 9/R (TAPE) MNTR IN

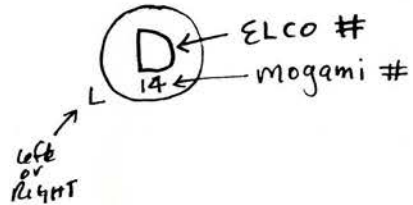
NUMBER A

REF \_\_\_\_\_

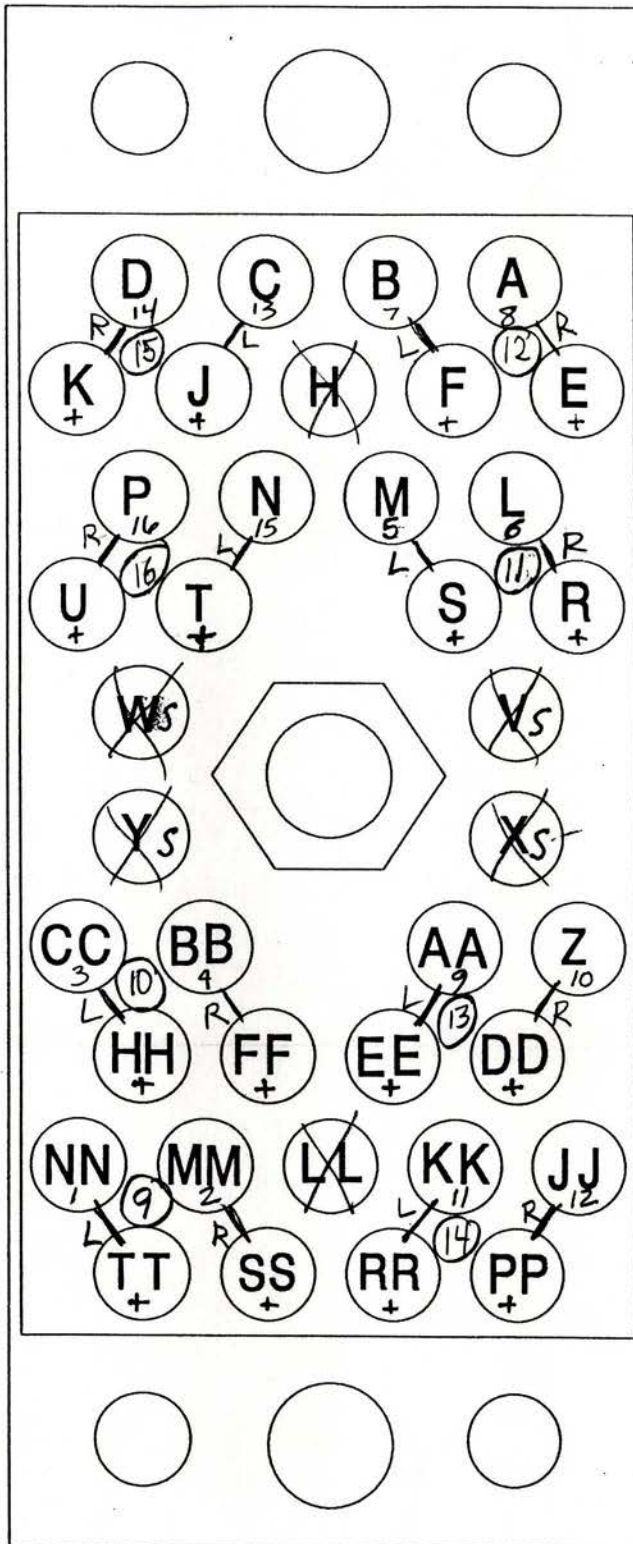
DATE \_\_\_\_\_

CUSTOMER \_\_\_\_\_

X = GND



38 PIN ELCO  
WIRE SIDE OF FEMALE



USE <sup>(TAP)</sup> C/R MNTR

NUMBER B

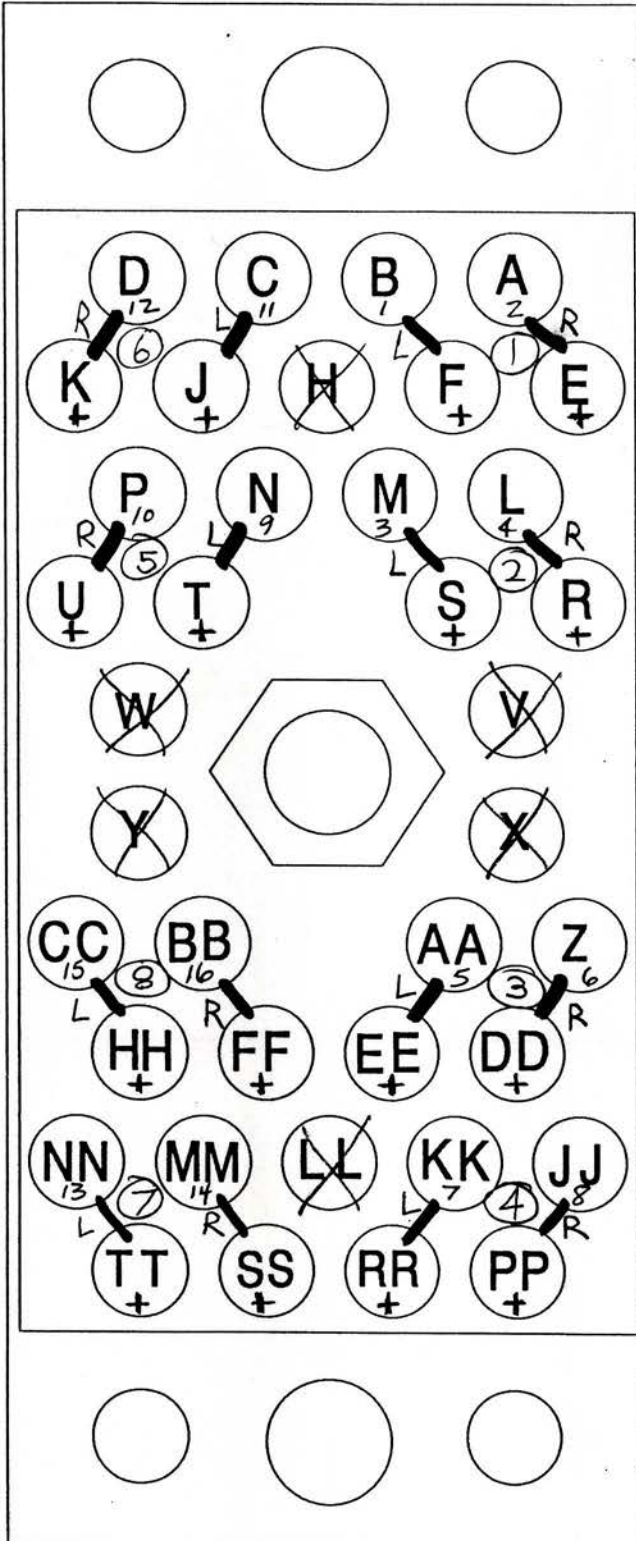
REF \_\_\_\_\_

DATE \_\_\_\_\_

CUSTOMER \_\_\_\_\_

X = GND

38 PIN ELCO  
WIRE SIDE OF FEMALE



USE 7/R (PGM) MNTR IN

NUMBER C

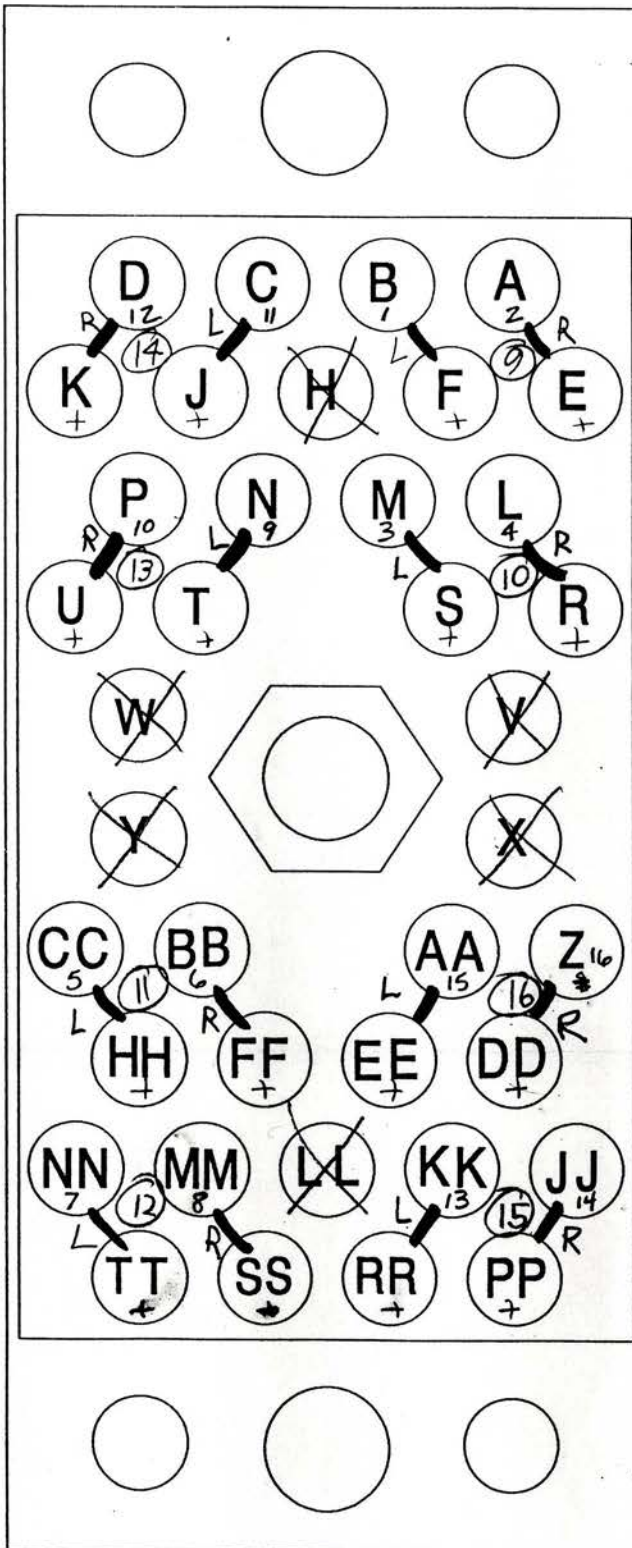
REF \_\_\_\_\_

DATE \_\_\_\_\_

CUSTOMER \_\_\_\_\_

X = GND

38 PIN ELCO  
WIRE SIDE OF FEMALE



USE C/R (PEM) MNT IN

NUMBER D

REF \_\_\_\_\_

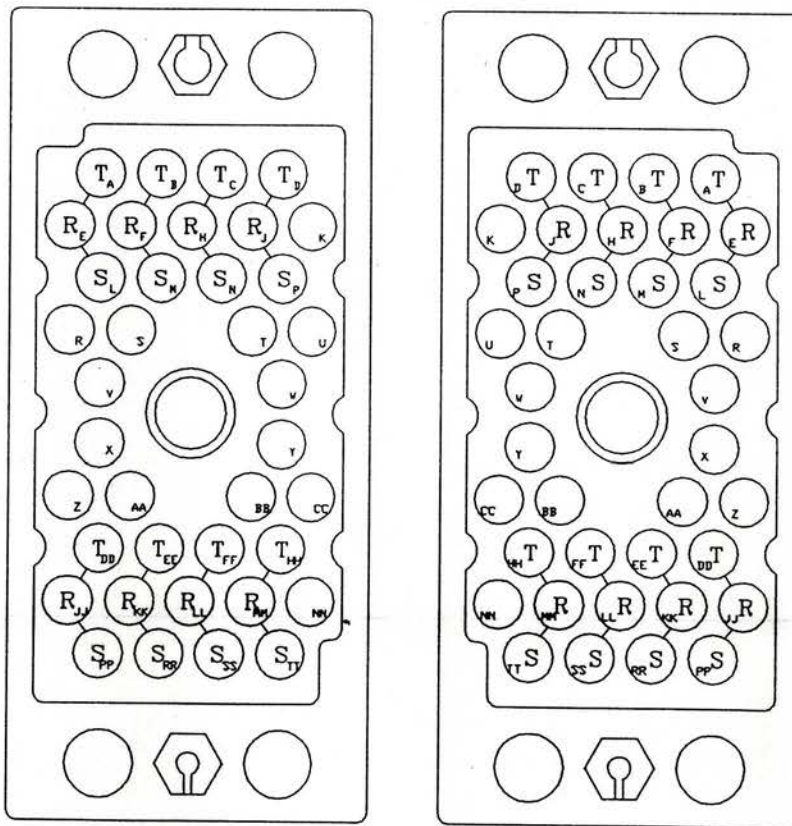
DATE \_\_\_\_\_

CUSTOMER \_\_\_\_\_

X = GND

1 (A/E/L)	BUS 1	BUS 9
2 (B/F/M)	BUS 2	BUS 10
3 (C/H/N)	BUS 3	BUS 11
4 (D/J/P)	BUS 4	BUS 12
5 (DD/JJ/PP)	BUS 5	BUS 13
6 (EE/KK/RR)	BUS 6	BUS 14
7 (FF/LL/SS)	BUS 7	BUS 15
8 (HH/MM/TT)	BUS 8	BUS 16

FUNCTION SUBMASTER BUSES TO SUB FADERS  
UN der BLANKS



CONNECTOR # \_\_\_\_\_

# ELCO 38

CONFORMS TO THE SAC PIN STANDARD

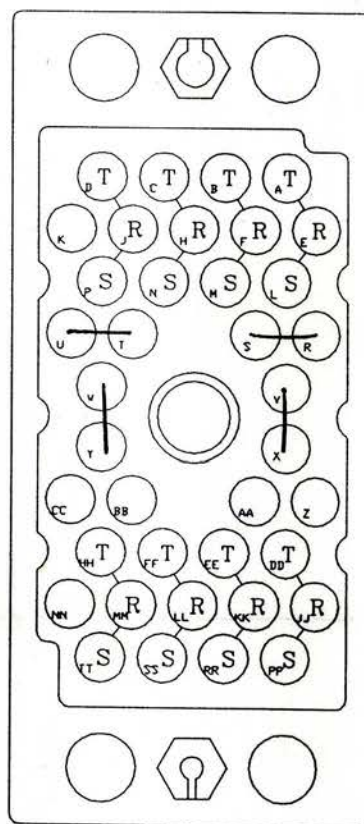
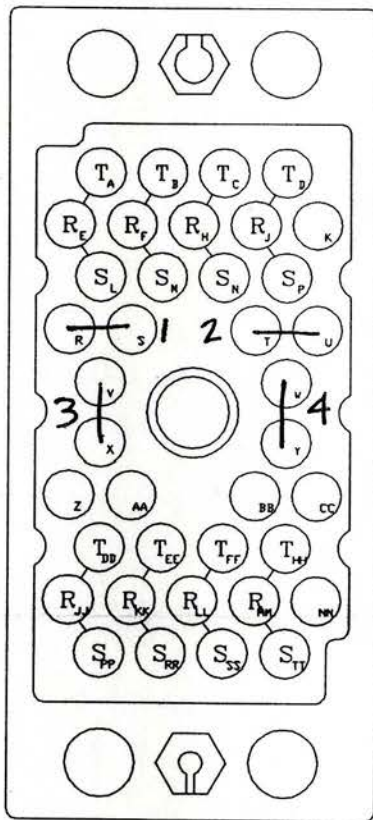
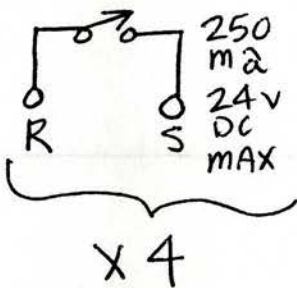
QTY REQD	QTY REC'D	PART NUMBER	NOMENCLATURE OR DESCRIPTION	MATERIAL AND SPECIFICATION
LIST OF MATERIALS				
			DWR	api audio products, inc. Springfield, VA 22103 703-466-8186 Fax 466-4340
			CRK	
			ENG	
			PROJ	
DASH NO.	USED ON	UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN INCHES TOLERANCES: ANGLES ± .01 DECIMALS .XX ± .01 DECIMALS .XXX ± .005		SIZE DWG NO. _____ REV _____ SCALE: _____ SHEET _____ OF _____
APPLICATION		CPM		

- 1 (A/E/L) SPARE PATCH POINT nextto Fx Ret 6
- 2 (B/F/M) SPARE POINT nextto ↑
- 3 (C/H/N) SPARE POINT nextto Fx Ret 12
- 4 (D/J/P) SPARE POINT nextto ↑
- 5 (DD/JJ/PP) GM AUX IN L
- 6 (EE/KK/RR) GM AUX IN R
- 7 (FF/LL/SS) EXT T/B SIG OUT
- 8 (HH/MM/TT) \_\_\_\_\_

FUNCTION INTERNAL MISC FUNCTIONS

SML SPKR  
Relay SW.

- 1 R/S
- 2 T/U
- 3 V/X
- 4 W/Y



CONNECTOR # \_\_\_\_\_

**ELCO 38**

CONFORMS TO THE SAC PIN STANDARD

QTY REQD	QTY	PART NUMBER	NOMENCLATURE OR DESCRIPTION	MATERIAL AND SPECIFICATION
LIST OF MATERIALS				
			DVN	 Springfield, VA 22103 703-605-8100 Fax 605-6840
			CHK	
			ENG	
			PROJ	
			UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN INCHES	CPM
			TOLERANCES	
		DASH NO.	USED ON	SIZE DWG NO.
		APPLICATION	ANGLES ± .01 DECIMALS .XX ± .01 DECIMALS .XXX ± .005	REV
			SCALE:	SHEET OF

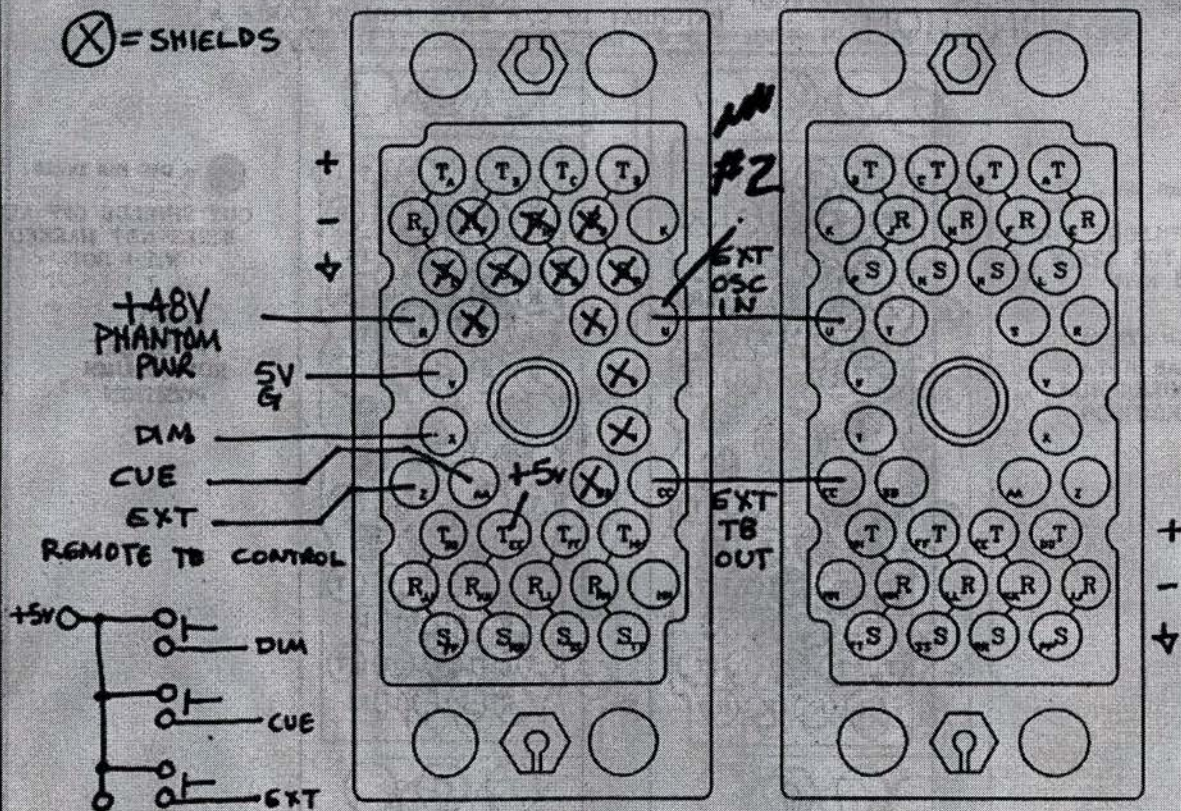


# ELCO Pinouts continued

1	(A/E/L)	TB MIC IN +, -, ↓
2	(B/F/M)	TONE RELAY DC OUT MULT
3	(C/H/N)	OSC TO BUS OUT MULT
4	(D/J/P)	OSC OUTPUT +, -, ↓
5	(DD/JJ/PP)	REV TB MIC IN +, -, ↓
6	(EE/KK/RR)	EE = +5V Remote TB PWR
7	(FF/LL/SS)	LEFT VU OUT (FF) RT VU OUT (MM)
8	(HH/MM/TT)	LEFT PHASE SCOPE OUT (HH) RT ∅ OUT (NN)

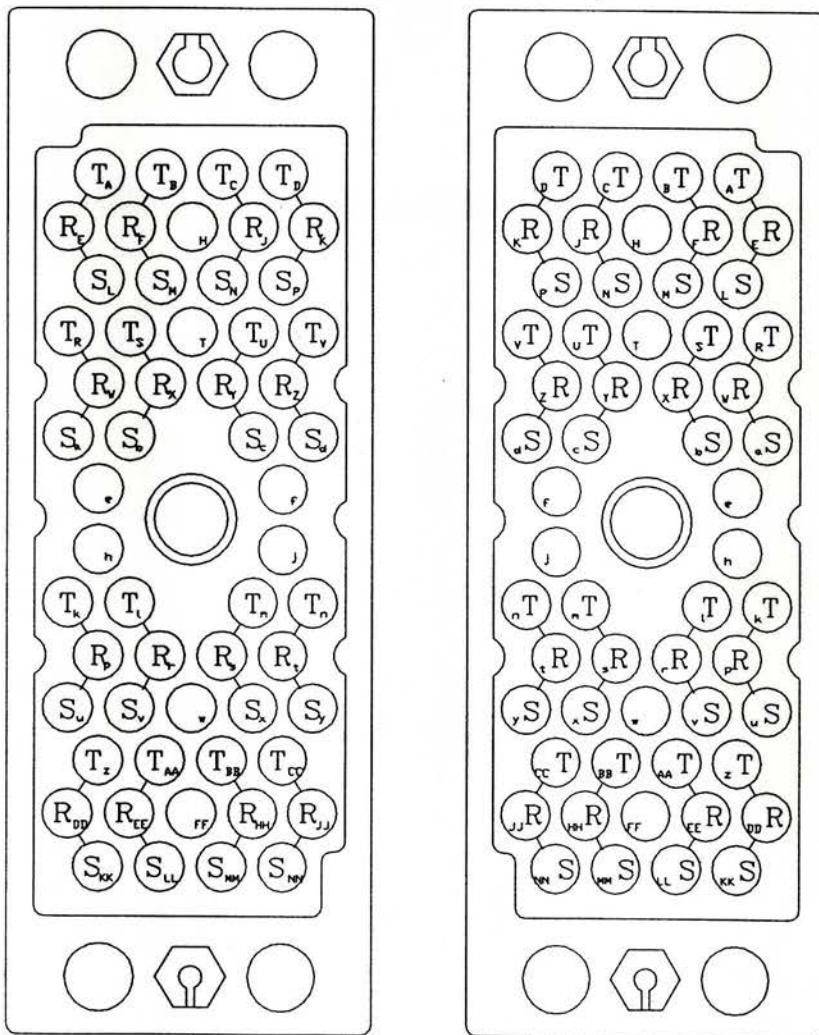
NN#1  
 NN#3

FUNCTION T/B (UNDER C/R)



1 (A/E/L)	ECHO OUT 1	9 (k/p/u)	CUE OUT 1
2 (B/F/M)	2	10 (l/r/v)	2
3 (C/J/N)	3	11 (m/s/x)	3
4 (D/K/P)	4	12 (n/t/y)	4
5 (R/W/a)	5	13 (z/DD/KK)	5
6 (S/X/v)	6	14 (AA/EE/LL)	6
7 (U/Y/c)		15 (BB/HH/MM)	
8 (V/Z/d)		16 (CC/JJ/NN)	

FUNCTION ECHO SEND, CUE SEND



CONNECTOR # \_\_\_\_\_

# ELCO 56

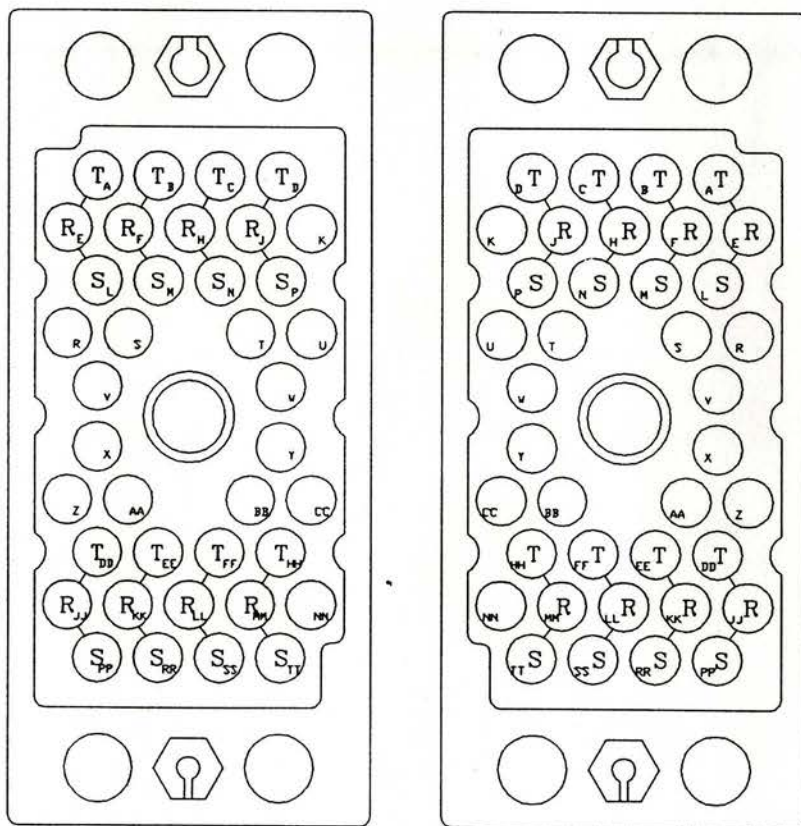
CONFORMS TO THE SAC PIN STANDARD

QTY REQD	QTY ISSD	PART NUMBER	NOMENCLATURE OR DESCRIPTION	MATERIAL AND SPECIFICATION
LIST OF MATERIALS				
			DVN	 Springfield, VA 22109 703-455-8188 Fax 405-6840
			CHK	
			ENG	
			PROJ	
			UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN INCHES TOLERANCES: ANGLES ± .01 DECIMALS .XX ± .01 DECIMALS .XXX ± .005	
		DASH NO.	USED ON	SIZE DWG NO.
		APPLICATION		REV
			SCALE:	SHEET OF

CPM

- 1 (A/E/L) LG C/R OUT L
- 2 (B/F/M) LG C/R OUT R
- 3 (C/H/N) SM C/R OUT L
- 4 (D/J/P) SM C/R OUT R
- 5 (DD/JJ/PP) ~~EXT TALKBACK~~ OUT
- 6 (EE/KK/RR)
- 7 (FF/LL/SS) STUDIO OUT L
- 8 (HH/MM/TT) STUDIO OUT R

FUNCTION C/R LG, SM, STUDIO OUTS



CONNECTOR # \_\_\_\_\_

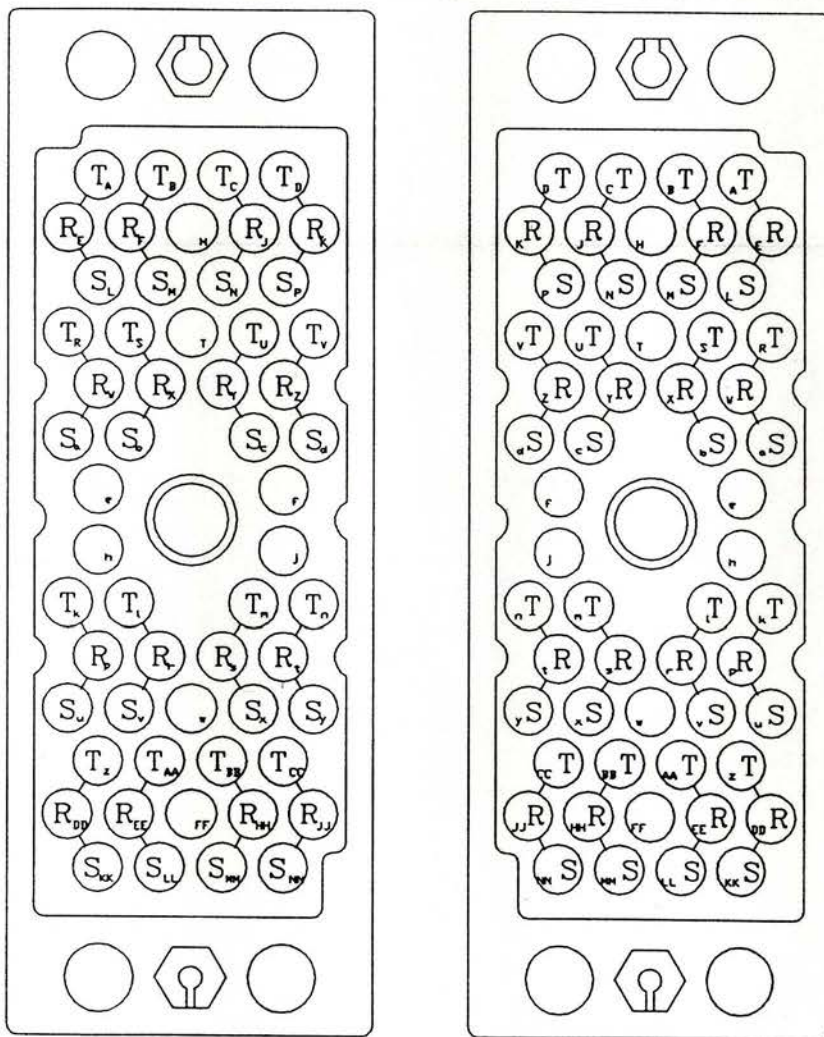
**ELCO 38**  
CONFORMS TO THE SAC PIN STANDARD

QTY REQD	QTY REC'D	PART NUMBER	NOMENCLATURE OR DESCRIPTION	MATERIAL AND SPECIFICATION
LIST OF MATERIALS				
			DWN	 Springfield, VA 22103 703-666-8100 fax 466-0849
			DKK	
			ENG	
			PROJ	
			UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN INCHES TOLERANCES: ANGLES ± .01 DECIMALS .XX ± .01 DECIMALS .XXX ± .005	
DASH NO.	USED ON	APPLICATION		SIZE DWG NO. REV
				SCALE: SHEET OF

CPM

1	(A/E/L)	2T1 L	9	(k/p/u)
2	(B/F/M)	2T1 R	10	(l/r/v)
3	(C/J/N)	2T2 L	11	(m/s/x)
4	(D/K/P)	2T2 R	12	(n/t/y)
5	(R/W/a)	2T3 L	13	(z/DD/KK)
6	(S/X/v)	2T3 R	14	(AA/EE/LL)
7	(U/Y/c)	2T4 L	15	(BB/HH/MM)
8	(V/Z/d)	2T4 R	16	(CC/JJ/NN)

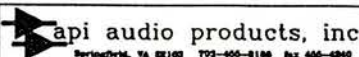
FUNCTION 2T I/O IN TO 2T (Send)



CONNECTOR # \_\_\_\_\_

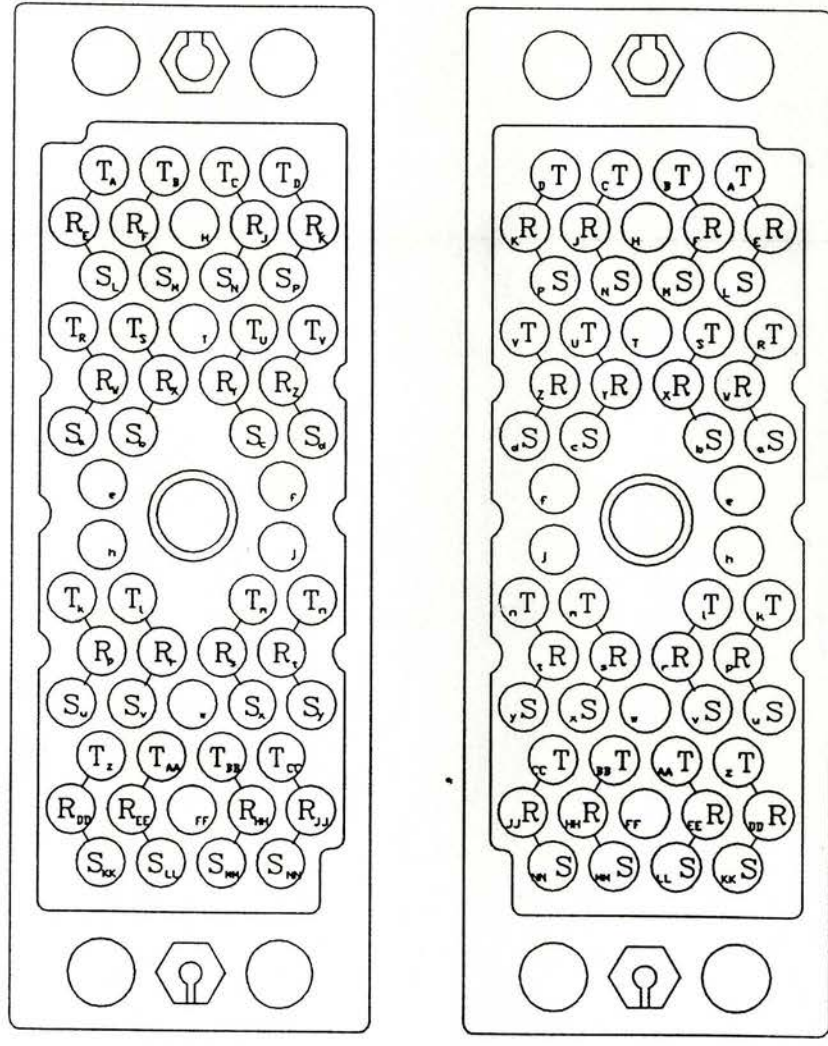
# ELCO 56

CONFORMS TO THE SAC PIN STANDARD

QTY REQD	QTY ON HAND	PART NUMBER	NOMENCLATURE OR DESCRIPTION	MATERIAL AND SPECIFICATION
LIST OF MATERIALS				
				 Springville, Va 22160 703-655-8188 fax 655-4860 <div style="font-size: 2em; font-weight: bold; margin-top: 10px;">CPM</div>
DASH NO.		USED ON	UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN INCHES TOLERANCES: ANGLES ± .01 DECIMALS .XX ± .01 DECIMALS .XXX ± .005	
APPLICATION				
SCALE:			SIZE DWG NO.	REV
				SHEET OF

1 (A/E/L)	2T1 L	9 (k/p/u)	2T5 L
2 (B/F/M)	2T1 R	10 (l/r/v)	2T5 R
3 (C/J/N)	2T2 L	11 (m/s/x)	2T6 L
4 (D/K/P)	2T2 R	12 (n/t/y)	2T6 R
5 (R/W/a)	2T3 L	13 (z/DD/KK)	2T7 L
6 (S/X/v)	2T3 R	14 (AA/EE/LL)	2T7 R
7 (U/Y/c)	2T4 L	15 (BB/HH/MM)	2T8 L
8 (V/Z/d)	2T4 R	16 (CC/JJ/NN)	2T8 R

FUNCTION 2T I/O OUT FROM 2T (Return)



CONNECTOR # \_\_\_\_\_

# ELCO 56

CONFORMS TO THE SAC PIN STANDARD

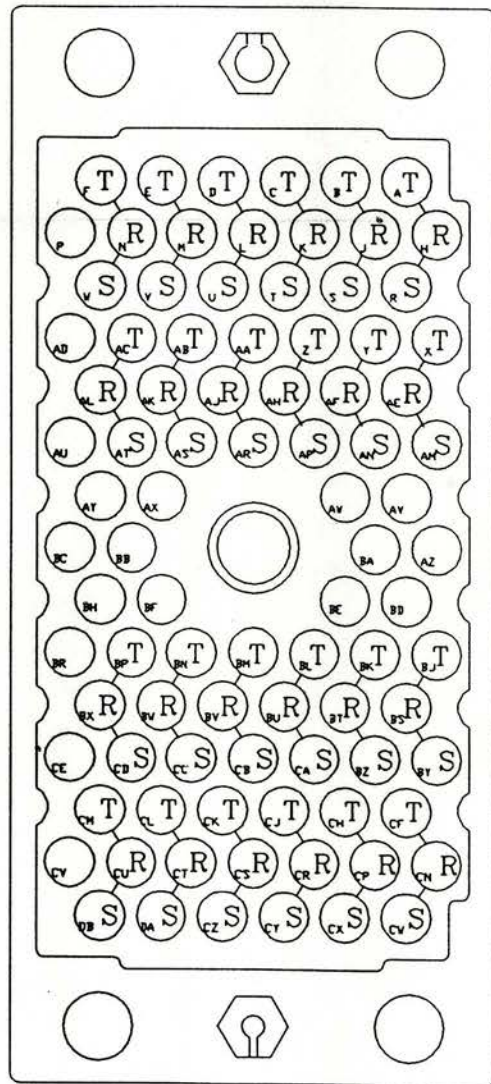
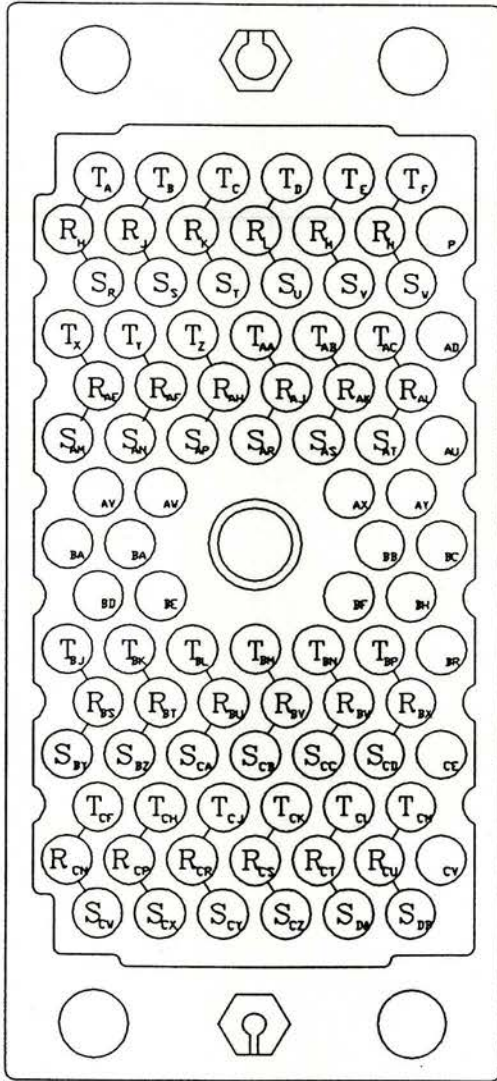
QTY REQD	QTY STOCK	PART NUMBER	NOMENCLATURE OR DESCRIPTION	MATERIAL AND SPECIFICATION
LIST OF MATERIALS				
			DWN	 api audio products, inc. Springfield, VA 22150 703-505-8100 fax 505-5240
			CHK	
			ENG	
			PROJ	
DASH NO.		USED ON		CPM SIZE DWG NO. _____ REV _____ SCALE: _____ SHEET _____ OF _____
APPLICATION		UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN INCHES TOLERANCES: ANGLES ± .01 DECIMALS .XX ± .01 DECIMALS .XXX ± .005		



1	(A/H/R)	CHAN 1
2	(B/J/S)	2
3	(C/K/T)	3
4	(D/L/U)	4
5	(E/M/V)	5
6	(F/N/W)	6
7	(X/AE/AM)	7
8	(Y/AF/AN)	8
9	(Z/AH/AP)	9
10	(AA/AJ/AR)	10
11	(AB/AK/AS)	11
12	(AC/AL/AT)	12

13	(BJ/BS/BY)	CHAN 13
14	(BK/BT/BZ)	14
15	(BL/BU/CA)	15
16	(BM/BV/CB)	16
17	(BN/BW/CC)	17
18	(BP/BX/CD)	18
19	(CF/CN/CW)	19
20	(CH/CP/CXA)	20
21	(CJ/CR/CY)	21
22	(CK/CS/CZ)	22
23	(CL/CT/DA)	23
24	(CM/CV/DB)	24

MULTI TAPE PLAYBACK 1-24



FUNCTION CONNECTOR # \_\_\_\_\_

# ELCO 90

CONFORMS TO THE SAC PIN STANDARD

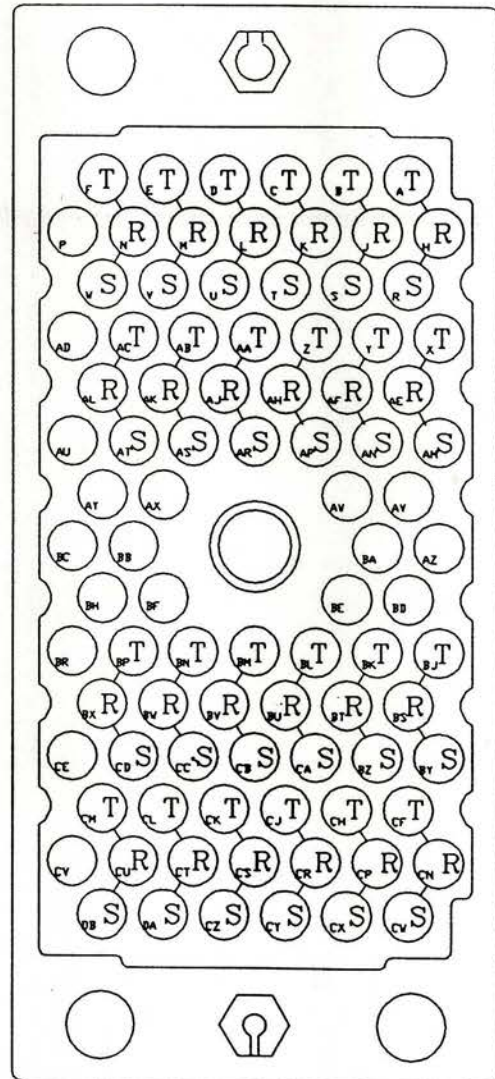
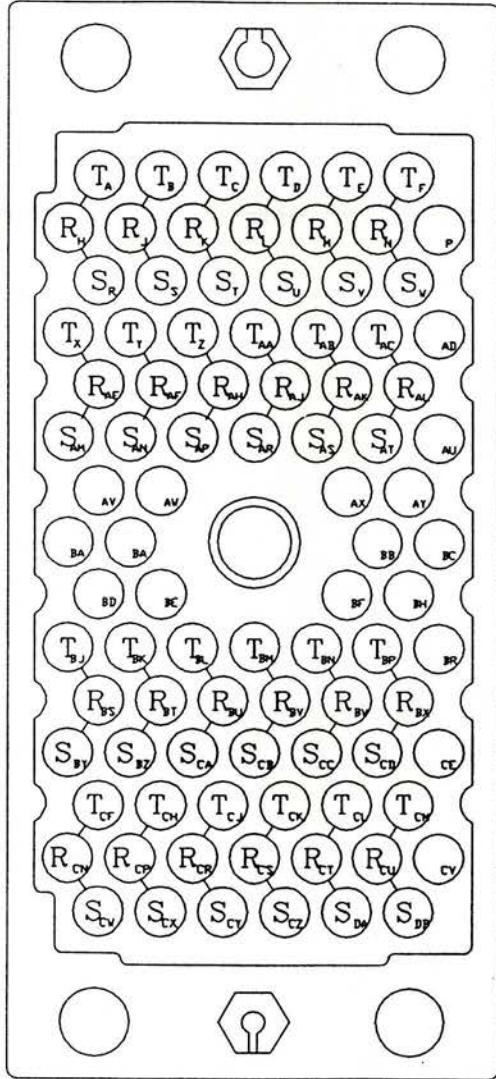
QTY REQD	QTY IN DB	PART NUMBER	NOMENCLATURE OR DESCRIPTION	MATERIAL AND SPECIFICATION
LIST OF MATERIALS				
			DWG	 Springfield, VA 22150 703-600-8100 FAX 600-6800
			CHK	
			ENG	
			PROJ	
			UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN INCHES	
			TOLERANCES:	
			ANGLES ± .01	
			DECIMALS XX ± .01	
			DECIMALS XXX ± .005	
DASH NO.	USED ON	APPLICATION		SIZE DWG NO. _____ REV _____ SCALE _____ SHEET _____ OF _____

CPM

1	(A/H/R)	CHAN 1
2	(B/J/S)	2
3	(C/K/T)	3
4	(D/L/U)	4
5	(E/M/V)	5
6	(F/N/W)	6
7	(X/AE/AM)	7
8	(Y/AF/AN)	8
9	(Z/AH/AP)	9
10	(AA/AJ/AR)	10
11	(AB/AK/AS)	11
12	(AC/AL/AT)	12

13	(BJ/BS/BY)	CHAN 13
14	(BK/BT/BZ)	14
15	(BL/BU/CA)	15
16	(BM/BV/CB)	16
17	(BN/BW/CC)	17
18	(BP/BX/CD)	18
19	(CF/CN/CW)	19
20	(CH/CP/CXA)	20
21	(CJ/CR/CY)	21
22	(CK/CS/CZ)	22
23	(CL/CT/DA)	23
24	(CM/CV/DB)	24

FUNCTION TO MULTI TRACK INPUT 1-24



CONNECTOR # \_\_\_\_\_

# ELCO 90

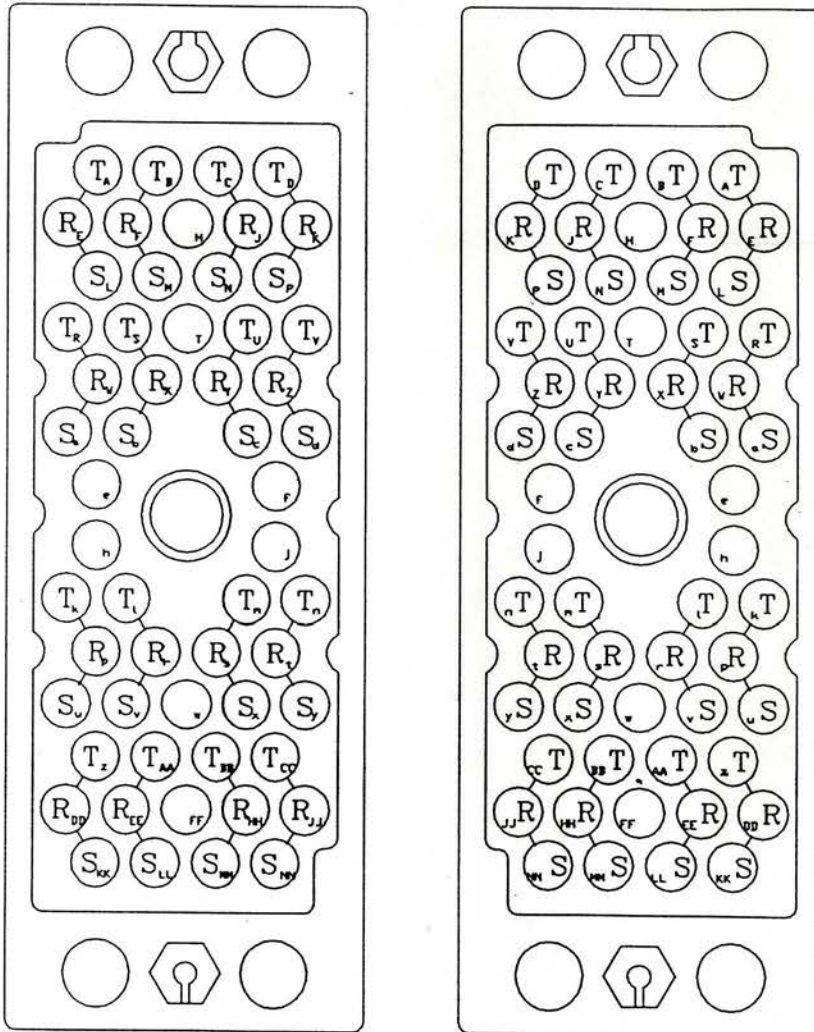
CONFORMS TO THE SAC PIN STANDARD

QTY REQD	QTY PURCH	PART NUMBER	NOMENCLATURE OR DESCRIPTION	MATERIAL AND SPECIFICATION
LIST OF MATERIALS				
			DWN	 Springfield, VA 22100 703-605-8100 fax 650-4340
			CRK	
			ENG	
			PROJ	
DASH NO. USED ON			UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN INCHES	
APPLICATION			TOLERANCES:	
			ANGLES ± .01	
			DECIMALS XX ± .01	
			DECIMALS XXX ± .005	
			SIZE DWG NO.	REV
			SCALE	SHEET OF



1	(A/E/L)	TO TAPE IN 25	9	(k/p/u)	_____
2	(B/F/M)	26	10	(l/r/v)	_____
3	(C/J/N)	27	11	(m/s/x)	_____
4	(D/K/P)	28	12	(n/t/y)	_____
5	(R/W/a)	29	13	(z/DD/KK)	_____
6	(S/X/v)	30	14	(AA/EE/LL)	_____
7	(U/Y/c)	31	15	(BB/HH/MM)	_____
8	(V/Z/d)	32	16	(CC/JJ/NN)	_____

FUNCTION                      ADDITIONAL FEEDS TO TAPE IN, 25-32



CONNECTOR # \_\_\_\_\_

**ELCO 56**  
CONFORMS TO THE SAC PIN STANDARD

QTY REQD	QTY PROV	PART NUMBER	NOMENCLATURE OR DESCRIPTION	MATERIAL AND SPECIFICATION
LIST OF MATERIALS				
				 Springfield, VA 22150 703-455-8100 fax 455-4340
UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN INCHES TOLERANCES: ANGLES ± .01 DECIMALS XX ± .01 DECIMALS XXX ± .005				SIZE DVG NO. _____ REV _____ SCALE _____ SHEET _____ OF _____
DASH NO.		USED ON		
APPLICATION _____				