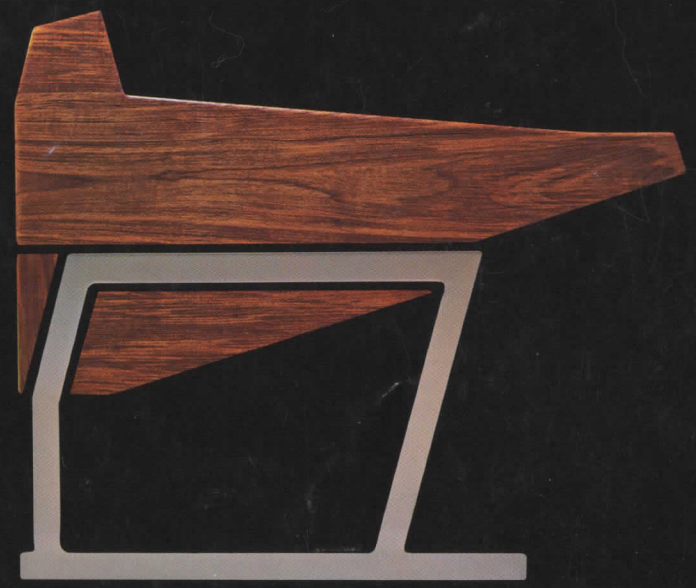# NO COMPROMISE

NO Compromise! Two nice sounding words, just like a lot of other nice sounding words that manufacturers and suppliers use to describe their products and services.

Talk is cheap and so are words, so in order for words to have any true value they must stand for something of value.

At Harrison Systems *No Compromise* means something very real to us, to our dealers, and to our customers. *No Compromise* is a way of doing business, a philosophy that we believe in, a standard by which we can measure our *every* decision and endeavor, not just pretty words.

The *No Compromise* philosophy is with us *every* minute of *every* day. It is the dominant factor in the design, the manufacture, and the after sales support of *every* piece of equipment that we build.

To our dealers it means that they are representing and delivering the very best recording consoles available in the world. They are proud of that fact and we are proud of them. Without exception Harrison dealers world wide are the finest, most knowledge-able, most honorable audio profes-sionals to be found.

Harrison customers have the *No Compromise* philosophy, also. In most cases the decision to purchase a Harrison console has not been made on price, for there are many consoles that sell for less. Harrison owners know that they have pur-chased the finest consoles for their studios. That goes a long way toward the making of a *No Compromise* studio. Interestingly, most Harrison owners have found that the choice of a Harrison console has in the long-run been the most profitable for their operations. The care and expertise in the design of the consoles have made their clientele very happy and supportive. The quality of construction and check out have meant minimum down time and start up problems. Harrison consoles have a history of very good retained value which means that the cost of ownership can be quite reasonable.

Many years ago one of the smartest men I have known told me that if you take care of business, then business will take care of you. Taking care of business…I guess that is what *No Compromise* is really all about.

David Harrison

Harrison

THE CHAIN OF EXCELLENCE

In a few short years, Harrison consoles have earned an enviable reputation for excellence throughout the world. Such a reputation can only be the result of excellence in every step of the design, manufacture, and support of the product, for a chain is only as strong as its weakest link.

Before the first Harrison console was designed, a very careful analysis was done of multi-track recording. It was found that most consoles were basically inadequate for efficient operation. This inadequacy was generally the result of either inefficient signal flow and layout or inadequate facilities.

It was decided that a console should be designed to be used specifically for multi-track music recording and that the design should be done totally independent of any economic considerations. In other words, design the best possible console and not worry about the cost.

The project started in the Spring of 1974. Some of the design features were based upon previous design work by Dave Harrison that had been widely copied and accepted throughout the industry, but most of the work was totally new, with input from many people.

The design was started with the exterior arrangement of controls and features, for this is what the operator deals with, and it is here that the maximum opportunity exists for operational efficiency. In fact, for almost a year, the top panel was all that really existed. After much work and consultation with many mixers and producers, the outward characteristics of the console that was to become the Harrison 32 series took shape.

Harrison 4032C Master Recording/Remix Console shown with optional VU meter overbridge. The six 3½" standard Weston VU meters may be ordered in addition to or instead of the quad and stereo LED bar display meters. The 4032C comes fully wired for up to 40 microphone inputs and 88 line level inputs.
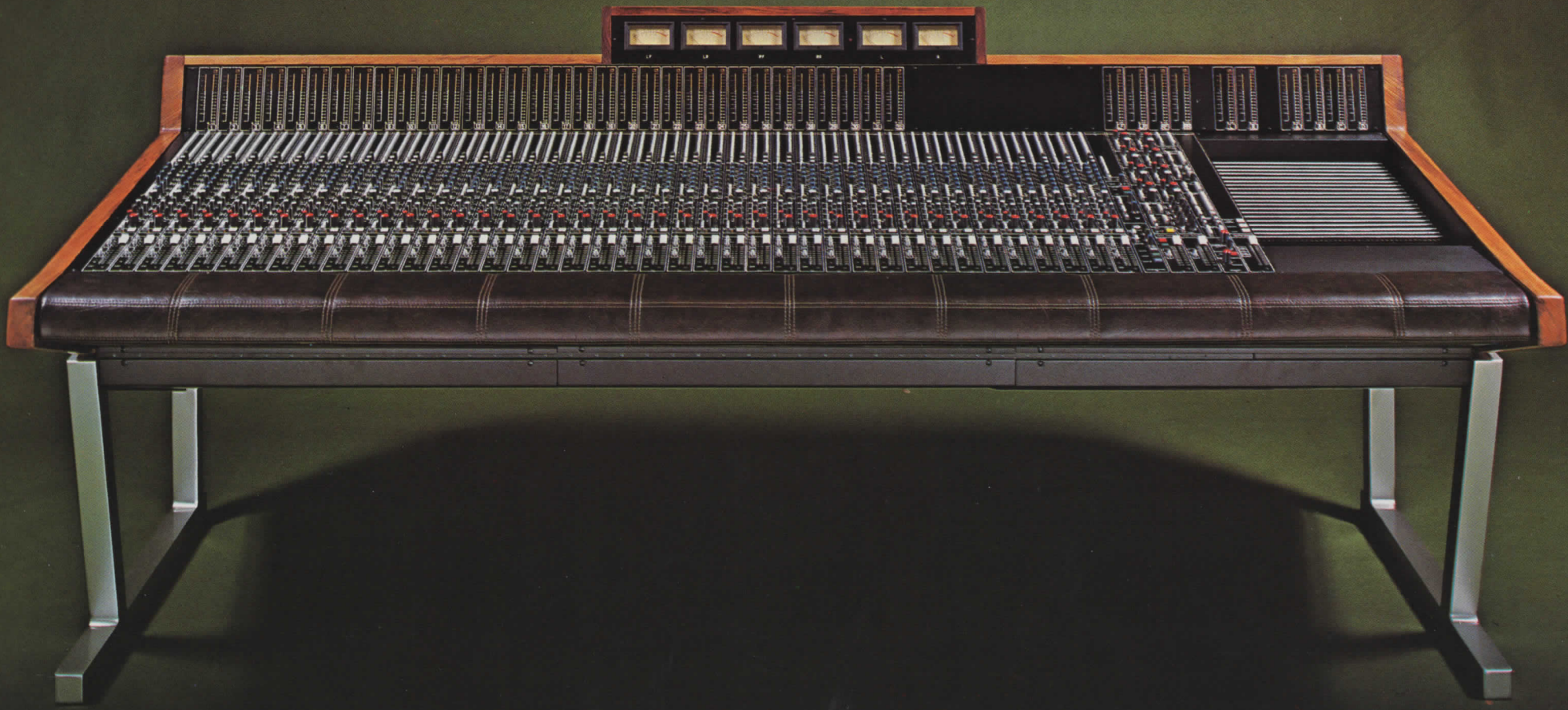
Harrison 32C series consoles are now available with a new proprietary transformerless microphone preamplifier at no extra cost. Opening a new world of sonic experience, it's a difference you can hear. The Harrison transformerless microphone preamplifier exceeds all specifications
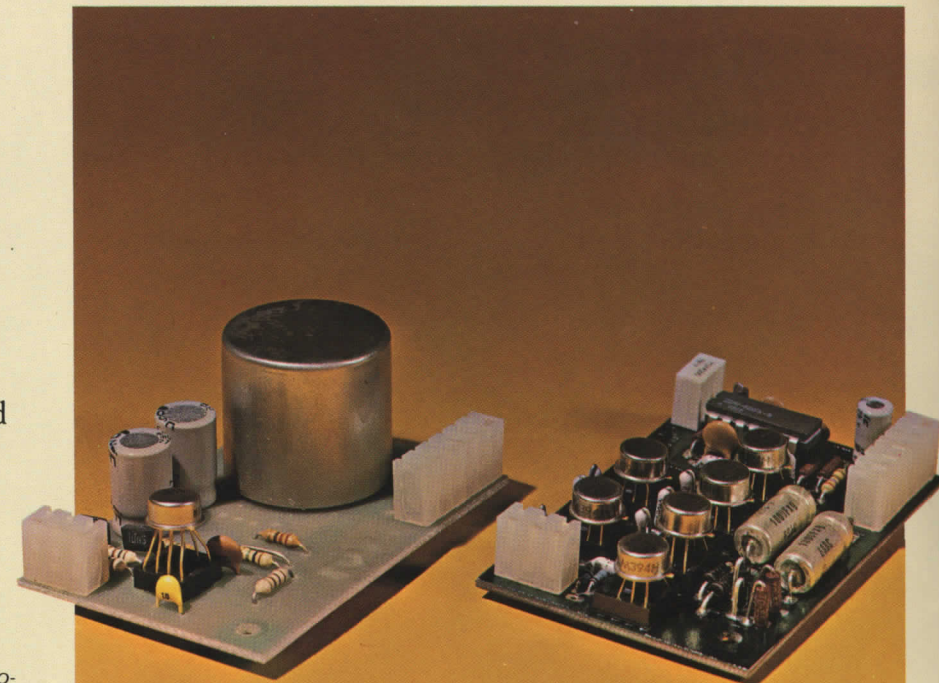
Then came the internal design work, the execution in real hardware of what was up to then just a concept of what the console should look like, and how it should perform.

It was at this point that the *No Compromise* philosophy was recognized as the passport to excellence. There had been no compromise in the outward specification of the console, so in order to complete the job properly there could be no compromise in any aspect of the console. FET switching, even though more expensive, was chosen over relay switching. LED's were chosen over incandescent bulbs. Quality components and conservative designs were used throughout even though we knew that a penalty would be paid in construction costs.

One of the most important links in the chain of excellence is the actual physical manufacturing process. The production people at Harrison are aware of their contribution to the excellence of the product and have a true sense of pride in the work that they do. That pride is encouraged at Harrison and each employee is given the time to do their job well. And they do it well.

Harrison Systems has in operation one of the most rigorous and exacting testing programs in the industry. Incoming testing is performed on many critical components. Subassemblies and completed assemblies are tested and inspected at many stages of manufacture and completed consoles undergo exhaustive testing by two independent teams of test personnel who constantly cross check each other's work.

All switching functions that are under logical control in Harrison consoles are performed by N-Channel JFETS. Electronic (FET) switching has distinct advantages over mechanical relay switching in that there are no moving parts to wear, no hard contacts exposed to atmospheric deterioration, extremely small size, and far lower current consumption.

The switching and logic possibilities in Harrison consoles are probably the most complete and complex ever designed into a piece of recording equipment. N-Channel JFETs are particularly

The Harrison 4432C Master Recording/Remix Console is a compact, light weight Harrison made especially for remote recording or any other weight or space sensitive application. The Harrison 4432C utilizes the standard 32C series modules and in the interest of space conservation does not include wood trim or internal patch bays. The 4432C comes with all patch points terminated in quick-connect splice blocks for easy connection to full external patching. A new, compact aircraft aluminum frame and efficient wire routing keep weight extremely low for a full 44 x 32 configuration. The 4432C is ideal for studio applications where it is desired to customize patching and cabinetry.
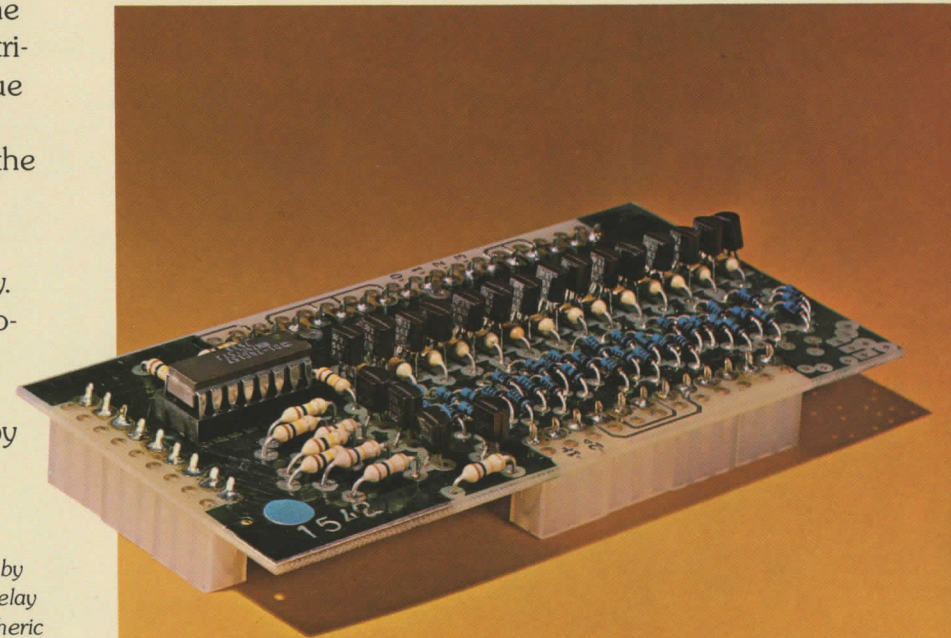
Such a testing program is not inexpensive, but it is the only way we can be sure that each and every customer receives the long and reliable service they expect from a Harrison console.

In the field, console installation is performed by trained, experienced personnel who not only understand Harrison consoles, but also the subtleties of a large, comprehensive systems installation. In every real sense, the console lies at the heart of the studio and in essence becomes the system. The system is no better than the console, and the console is no better than the installation.

No matter how carefully everything else is done, reliable operation over long periods for all customers must be based on efficient, timely field service. No matter how good you build it, it will in time break. The first line of defense is local field service from the dealer, backed by factory service when required.
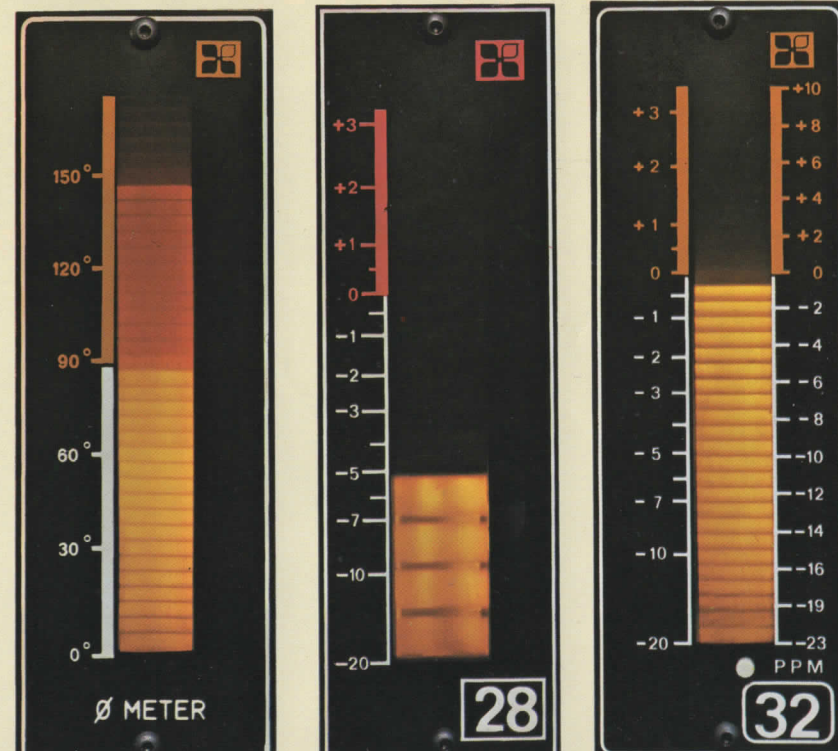
The *No Compromise* philosophy doesn't stop with design and production. Harrison Systems is a service organization with an uncompromising dedication to the production of the most advanced, functional, and serviceable recording consoles available.

The NEW Harrison 4832C Master Recording/Remix Console. 48 active, equalized Input/Output module positions with VCA grouping and AUTOSET are ideal for mixing from two synchronized 24 track recorders. 48 I/O modules also allow effective "split" operation: record on one group of modules and monitor on another group. If desired, the master modules may be placed in the center of the console for easier access by the engineer or producer. In mixdown, the 4832C can be structured to accept 102 line level inputs.

An optional LED phase meter is available which provides an accurate and rapid indication of the relative difference in phase of any two signals presented to the meter.
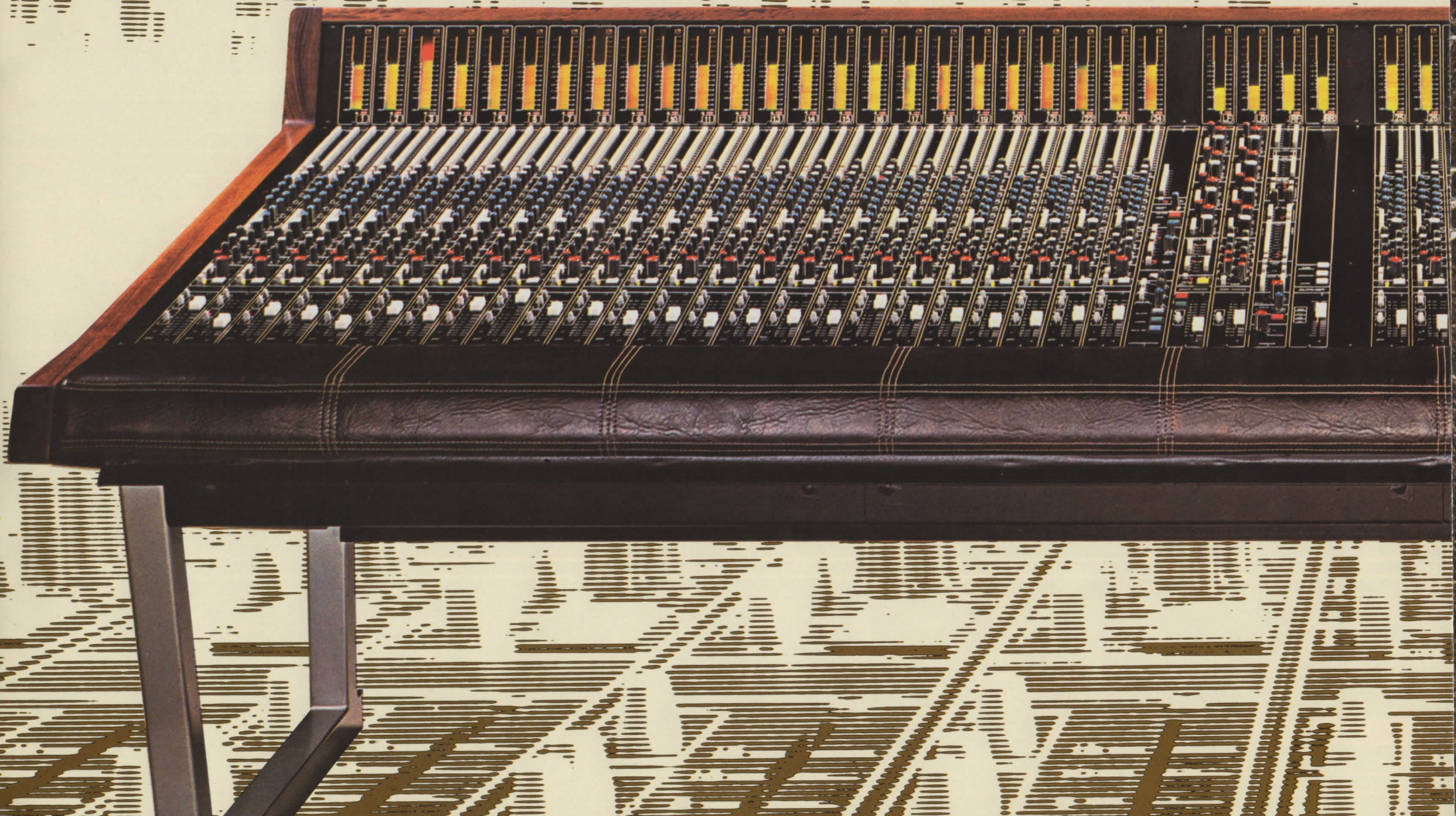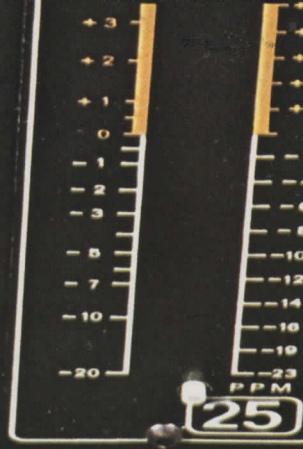
The Harrison 2824 and 3624 consoles come equipped with the 12 Segment Standard LED Light Meters, an all electronic bar display VU meter. This meter, unlike previous "light meters" meets all applicable specifications for a VU meter, both as to ballistics and scale factor.

36 Segment High Resolution LED meters are now standard at no extra cost in the Harrison 32C series consoles. The Harrison High Resolution meters have both true ASA VU ballistics as well as true DIN PPM ballistics available at the push of a button. In addition, each meter includes an adjustable instantaneous peak detector to give rapid indication of overload of the recording medium. The Harrison Light Metering systems have no digital clocks or high voltages to inter-

PPM

Harrison

RETURN 1

PAN
C
B F

C
L R

LEVEL
−22 −15
−30 −4
∞ 0

QUAD SOLO ON CUE

RETURN 2

PAN
C
B F

C
L R

LEVEL
−22 −15
−30 −4
∞ 0

QUAD SOLO ON CUE

RETURN 3

Harrison

RETURN 5

PAN
C
B F

C
L R

LEVEL
−22 −15
−30 −4
∞ 0

QUAD SOLO ON CUE

RETURN 6

PAN
C
B F

C
L R

LEVEL
−22 −15
−30 −4
∞ 0

QUAD SOLO ON CUE

RETURN 7

Harrison

FRONT
1   3
LEFT   RIGHT
2   4
REAR

Ø METER
1-3
3-4
4-2
2-1
1-4
2-3

METER
SELECT
QUAD QUAD

Harrison

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

PAN
C
ODD   EVEN

ON

B SEL PING Ø REV

LINE
GAIN
MIN   MAX
GAIN

25

RETURN 3

PAN

C
B F

C
L R

QUAD
SOLO
ON
CUE

LEVEL

−22   −15

−30   −4

∞   0

RETURN 4

PAN

C
B F

C
L R

QUAD
SOLO
ON
CUE

LEVEL

−22   −15

−30   −4

∞   0

MODULE STATUS

A   B

SOURCE MON

RETURN MON

RETURN MIX

SOURCE MIX

AUTO STATUS

A   B

RETURN 7

PAN

C
B F

C
L R

QUAD
SOLO
ON
CUE

LEVEL

−22   −15

−30   −4

∞   0

RETURN 8

PAN

C
B F

C
L R

QUAD
SOLO
ON
CUE

LEVEL

−22   −15

−30   −4

∞   0

∞ L 0

CUE

∞ R 0

∞ A 0

ECHO 1

∞ B 0

ECHO 2

METER
SELECT

AUX
QUAD QUAD

CRM   STU

LR   AB

2 MIX

FB1

FB2

CRM

CUE ECHO 1 ECHO 2 STU

∞   0   ∞   0

FB1   FB2

CUE ECHO 2 2 MIX CRM

CUE ECHO 1 2 MIX STU

SOURCE

TAPE 1

TAPE 2

C
O
N
T
R
O
L

TAPE 3

TAPE 4

S
T
U
D
I
O

TAPE 5

TAPE 6

CUE

ECHO 1

ECHO 2

MT   FBK

4 MIX

2 MIX

MIN   MAX

MIC

GAIN

MAX

1.8
.9   6   8
.4   13

HI

2.8   4
.9   6
.4   10

MID

1.4   4
.45   2   10
.2   3.1   0

MID

.28   4   10
.09   10
.04   .6

LOW

IN

IN

MON

SOLO

EQ

1.6
.4   8
.16   20

LP
HP .25

.05   1.25
.025   3.15

SOLO
FIX
MUTE

−22   −15

−30   −4

∞   0

MON

C
L PAN R

CUE

PRE
PRE

LEVEL

ECHO 1

A   0

PRE
PRE

ECHO 2

+48v
DEFEAT

METER
PEAK

−19

+4

METER MODE

PPM

VU

10

2   20

FREQ

5

0   10

LEVEL-DB

READ
WRITE
UPDATE

QUAD

SPEAKER MUTE

QUAD

MONO

PAN

B   F

QUAD

-6

ON

LOCAL

MUTE

25

B
SEL

LINE IN

MUTE

SOLO
SELECT

IN

COMP

LF
1

LR
2

RF
3

RR
4

SLATE

TKS

MIX

0

10   10
TRIM

GROUP MASTER

QUAD MASTER

STUDIO

-22   -15

-30

0

∞

COMM

FB1

FB2

0

10   10
TRIM

ALL OFF

ALL ON

0

5

10

15

20

25

30

35

40

45

50

85

∞

0

5

10

15

20

25

30

35

40

45

50

85

∞

SOLO

ON

0

2   2

4   4
TRIM

MODULE B   AUTO B

STATUS

15

10

5

0

5

TALK BK

0

10   10
TRIM

+

+

DIM

ON

MASTER

10

15

20

25

40

85

∞

AUTO   READ

AUTO   READ

SLATE

COMM

TALK BK

CONTROL

-22   -15

-4

∞   0

0

GROUP
SELECT

COMMUNICATION

MONITOR

32 SERIES MODULES

INPUT MODULE. The Harrison 32C series Input/Output modules contain all the necessary circuitry for a complete input channel and a complete output channel. The 32C I/O module has a full 32 channel output assign matrix with odd/even buss pan capability. There are controls for line and mike trims with switching for the "B" line select, "PING" switch (reversal of mike or line-in as determined by the console status switching), mike phase reverse, and mike pad.

Each 32C series I/O has a fully parametric, reciprocal four-band equalizer of proprietary design. Additionally available are parametric, second-order high pass and low pass filters. Switching is included for low frequency peak or shelf select, individual EQ and filter in/out, EQ insertion to monitor chain rather than program channel, and EQ solo.

In the monitor section, the function of the monitor pot on each I/O is under the control and direction of the FET switching card as directed by the console status programming. In the prime microphone recording modes it acts as the multi-track monitor fader for either the console or recorder outputs. In the remix modes, it is reassigned to the microphone portion of the circuit where it becomes the level control for the microphone preamplifier. With this feature, the full facility of the console to record microphones is always available. Depressing the "MON" button on the equalizer inserts the entire equalizer section into the monitor pot signal path, thereby allowing the multi-track monitor to be equalized in the microphone recording modes and/or the microphones to be equalized in the mixing modes. The button labeled "FIX," when depressed, defeats the variable monitor pot, and sets up a fixed nominal gain. This feature can be advantageous at the beginning of a session, before a critical monitor mix is required. The "SOLO" button, when depressed, routes any signal present at the output of the monitor pot to the solo buss, which is displayed on the control room monitors. Depressing the "MUTE" button eliminates any signal flow through the monitor pot.
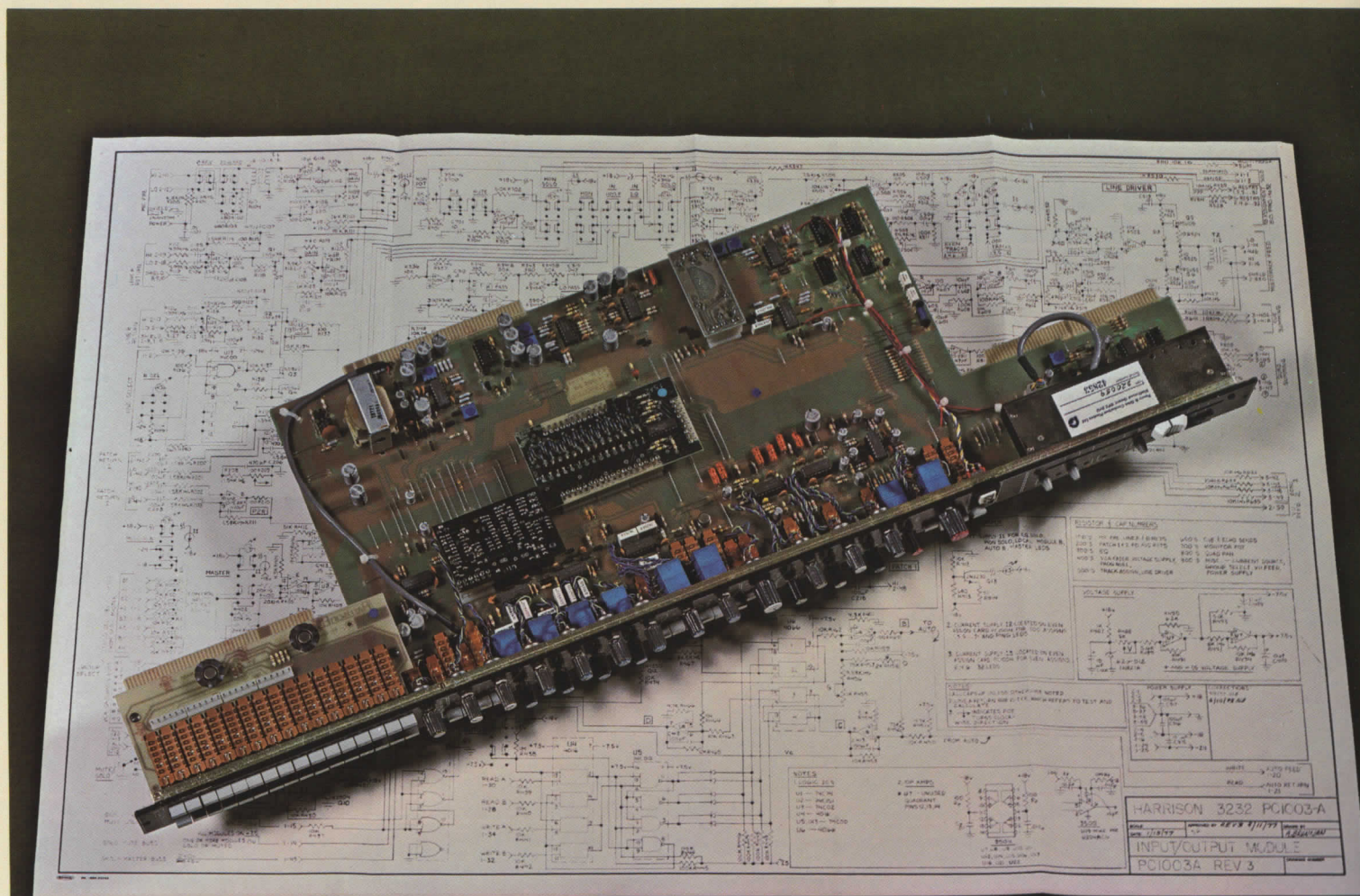
The stereo cue send system on each I/O module consists of a level pot, a stereo pan pot, and a "PRE/POST" switch. The PRE and POST inputs to the cue come individually from the FET switching card.

The 32C series modules have four echo sends on each I/O module. They are arranged in groups of two, with a common "PRE/POST" button for each pair. As with the stereo cue send, the PRE and POST inputs for each pair of echo sends are individually fed from the FET switching card.

The quad panning section on each Input/Output module consists of a front/back level pot, a left/right level pot, and buttons marked "QUAD," "−6," and "ON." The "QUAD" button enables the front/back level pot in the section. The "−6" button changes the characteristics of the left/right pan pot from its normal 3dB down in the center to 6dB down in the center. This is desirable when mixing with less than full separation to achieve maximum mono capability. There is also a button marked "ON" which must be depressed in order to allow signals to flow through the quad panning section.

The "MUTE/SOLO IN PLACE" button is an electronically latched, momentary contact switch with an associated LED indicator. The normal function of the I/O module "MUTE/SOLO IN PLACE" button, when depressed, is to mute that particular module, at which point the associated LED is extinguished. If the master MUTE/SOLO programming switch is in "SOLO" mode and the I/O module's "LOCAL" switch is not depressed, that module's "MUTE/SOLO IN PLACE" switch acts as a solo button. When depressed, all other I/O modules are muted, leaving the selected module as the only one on and audible on the monitor speakers. Any I/O module can be removed from the solo in place system by depressing the "LOCAL" button on that module.

There are two status switches on each input/output module: one marked "MODULE B," and the other "Auto B."

The first pertains to the Module Status switches. When this switch is not depressed, the Input/Output module is controlled by the "A" group of master status switches. An associated LED indicator illuminates whenever the "B" group has been selected. The second status selector switch relates to the Automation Status. When this switch is not depressed, the Input/Output module automation interface is being controlled by the "A" group of master Automation Status switches. When depressed, it is being controlled by the "B" group of master Automation Status switches. An associated LED indicator illuminates whenever the "B" group has been selected.

Two null lights indicate the position of the fader relative to the automation return level. With the Harrison VCA grouping submaster feature, any number of input positions can be assigned to any one of nine grouping busses, while the audio signals to be controlled remain isolated on separate output channels. There is a switch on each input position marked "MASTER" which, when depressed, makes that position's attenuator the Group Master for whichever group is selected on the thumbwheel switch. Any attenuator within a group can be assigned this function. An associated LED indicator is illuminated indicating that that input attenuator has been selected as the Group Master.

COMMUNICATION MODULE.
The communication module contains the necessary switches and logic controls for slate, communicate (headset cue), and studio talk back, with gain trims for each. Also included is an instrument quality test oscillator, master switching controls which switch the LED bar graph meters between VU and PPM, meter peak threshold adjust control, a button which removes the +48v. power supply from each Input/Output module, and a row of 10 LED illuminated user definable switches.

GROUP MASTER MODULE.
The group master module contains echo returns one through four, the A and B console module status programming switches, the A and B automation status programming switches, CMOS logic for console related switching, and the overall "grand master" fader.

QUAD MASTER.
The quad master contains echo returns five through eight, level trims for cue, echo, and quad busses, and the quad buss master fader.

MONITOR MODULE.
The monitor module contains switching for the phase meters, auxiliary meters, foldback 1 and 2 source select, and studio and control room mode and source select. Also included are studio and control room mute and level controls.
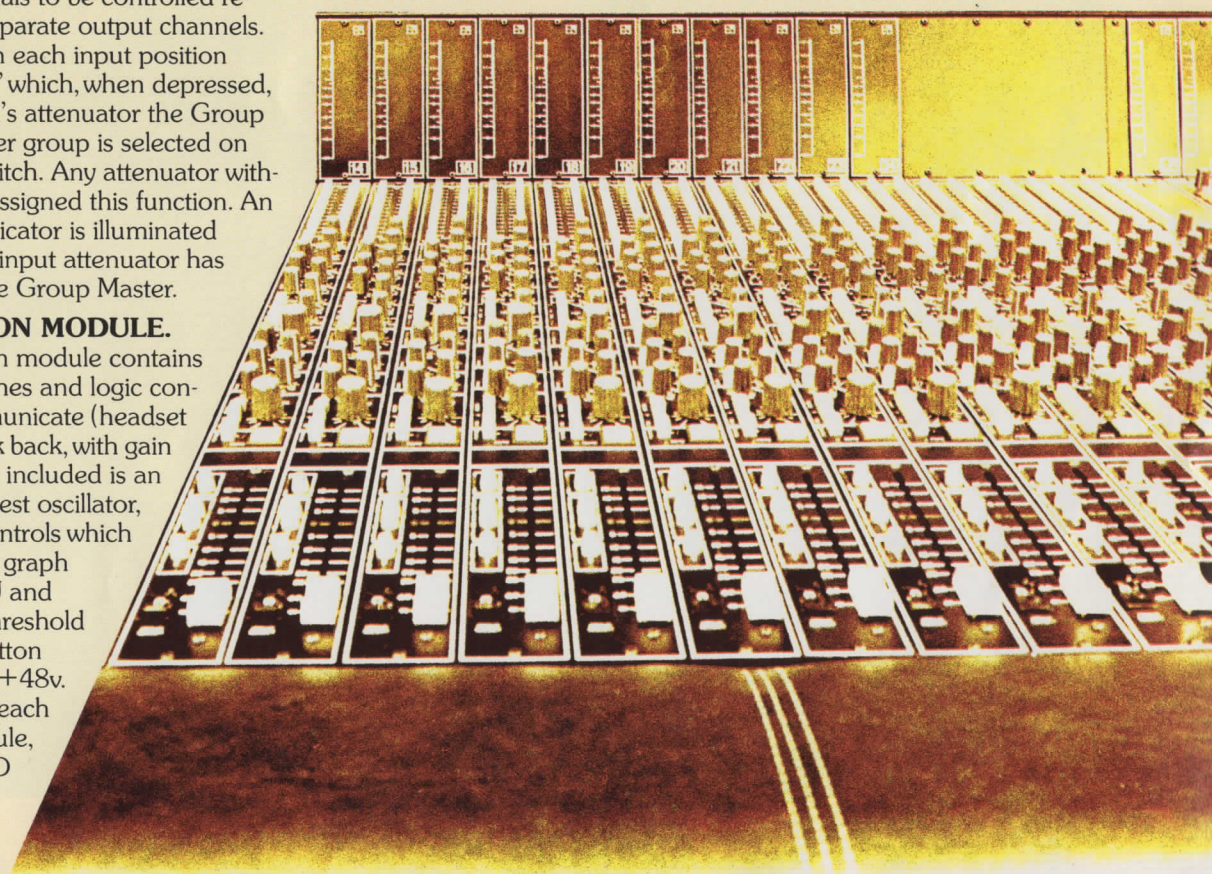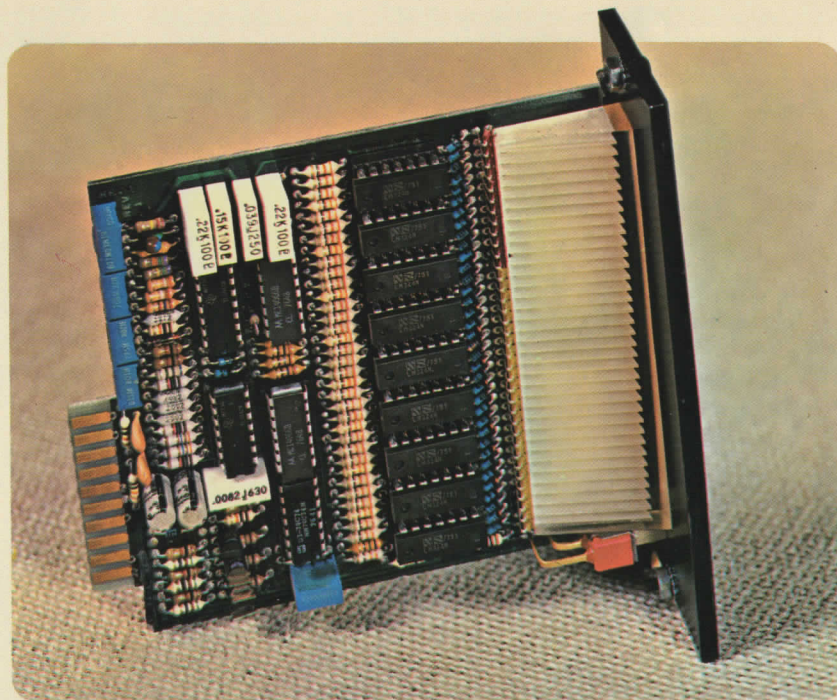
AFFORDABLE AUTOMATION

The Harrison 2824 and 3624 are ideally suited for smaller studio operations. The Harrison 24 series consoles feature full 24 channel output assign, 3 band reciprocal parametric equalization with parametric high pass filter, stereo cue system, and two echo send busses. *Automation Ready* VCA faders with 9 subgroups are standard in the Harrison 24 series consoles. The Harrison 2824 and 3624 Master Recording/Remix Consoles come equipped with the standard 12 segment bar graph VU meters, although the 36 segment High Resolution Light Meters are available at extra cost.

AUTO·SET is not a single piece of equipment. Rather it is a system of process control micro-computers designed for the entertainment industry, and manufactured by Harrison Systems.

The first implementation of the AUTO-SET system is the 864 AUTO-SET version 1.0. This version of AUTO-SET is currently available from Harrison Systems and is for use with the Harrison 24 series and 32 series consoles.

Additionally, the 864 AUTO-SET V1.0 can be used in any application where control signals must be stored and recalled with data management capabilities. This includes, but is not limited to audio, video, lighting and special effects.

There are four basic differences between AUTO-SET and previous automation "programmers". They are:

Physical Presentation
Data Management
Software Control
Open-ended System

Physical Presentation: AUTO-SET's obvious difference is the physical presentation of the system to the operator. The physical package appears to be a small computer terminal.

Data Management: Data management is the not so obvious difference between AUTO-SET and most previous automation systems.

Data management, in simple terms, is the ability to manipulate the data. This includes the ability to merge or separately use individual components of various data sets.

Data management in the 864 AUTO-SET V1.0 is extensive but is presented in such a way that even a novice operator can beneficially use the system with a few minutes instruction.

The data management capability includes the ability to store up to four independent mixes or dynamic sets of data on one track of an audio recorder.

Data management also includes the ability to store "Snapshot mixes" or static sets of data on a data cartridge machine included in AUTO-SET. Up to 630 individual sets of data can be stored on each cartridge.

Software Control: Internally AUTO-SET is a software or more correctly, a firmware driven machine. This means that there are many features and refinements of operation that could not economically be offered with a traditional "hard logic" design.

Open-ended System: AUTO-SET is modular. Future hardware and software modules will be available to perform many new functions.

HARRISON PRODUCTS ARE AVAILABLE

THROUGH THE FOLLOWING DISTRIBUTORS: