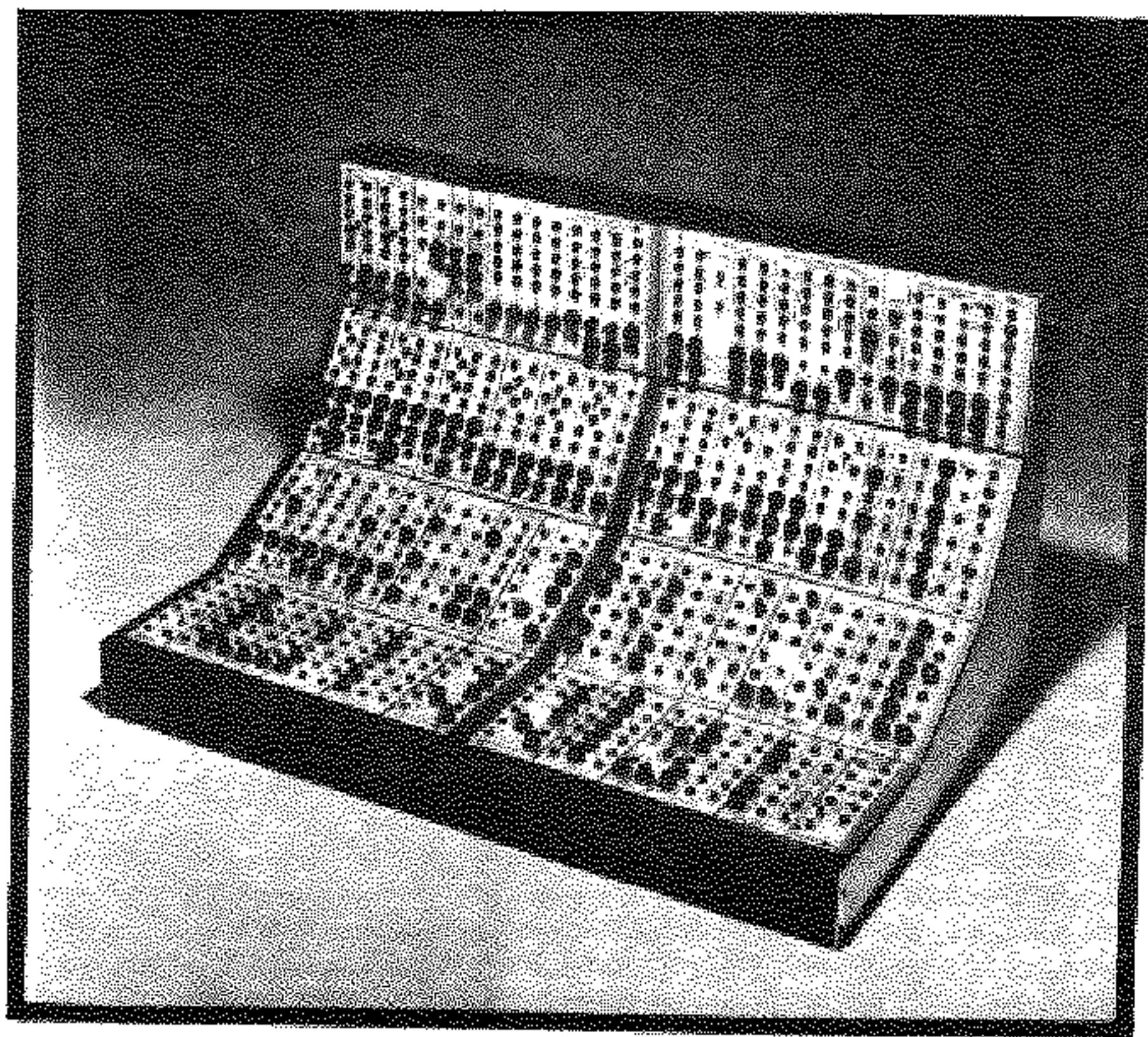


SERGE MODULAR MUSIC SYSTEMS



**THE AFFORDABLE STUDIO
MUSIC SYNTHESIZER**

OUR INTENTION

Our intention is to bring the affordable electronic instrument into personal studios and to provide a modular alternative for live performance uses of the synthesizer. Up to now the electronic music studio and the complex live performance electronic instrument has been an extremely expensive investment. We hope that by offering a versatile, high quality, modular system at a reasonable cost, we can provide an alternative to expensive equipment, limited pre-patched instruments, and restricted range functions.



A STUDIO QUALITY SYNTHESIZER

Previously available only custom assembled, SERGE modules in kit form are breaking the price barrier which has for so long prevented the individual musician from owning a studio quality modular synthesizer.

HOW DOES IT COMPARE?

The SERGE MODULAR MUSIC SYSTEM compares favorably with the best of currently available studio systems. Modularity, accurate log/linear voltage control, direct coupling, input scaling, a single patchcord system, and dual-mode triggering are all standard. Unique to the SERGE system is the concept of patch programmability within modules. Such modules can be patch programmed to fulfill a wide variety of functions which in other systems can only be handled by separate fixed-function modules. This means that a relatively small SERGE system can be patched to obtain the same functions as a much larger and more expensive synthesizer.

THE SERGE SYSTEM IS FULLY MODULAR

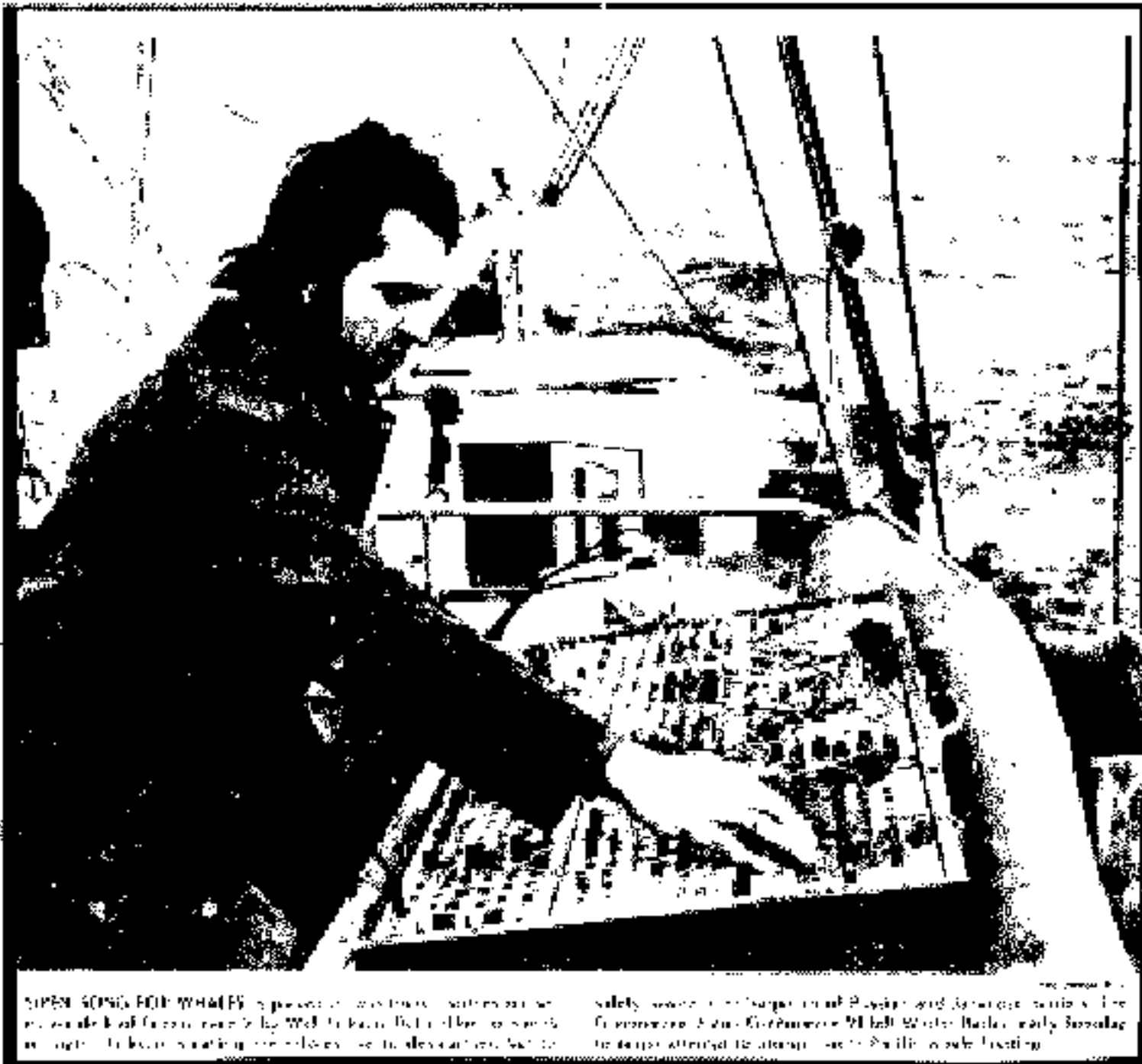
...and therefore it is expandable to suit your present and future requirements. Modules can be bought singly, or in groups fitting into our basic package, the Panel/Rack. Each 16" by 7" Panel/Rack can package up to 16" in length of the modules of your choice. Since most of our modules are from 2" to 4" wide, a Panel/Rack will typically hold from 4 to 8 separate modules. A feeling for the exceptional functional density of the SERGE system can be had by noting that a complement of SERGE modules duplicating those found on a conventional commercial synthesizer can be fitted into a single Panel/Rack.

EVOLUTION, NOT OBSOLESCENCE

If you own a SERGE system you will be able to update, expand, or interface it with any other analog and digital equipment. This is in contrast with non-modular systems, which can only evolve by trading them in for next year's models.

WHERE HAS IT PLAYED?

In five years of existence the SERGE MODULAR MUSIC SYSTEM has been played in commercial and educational studios, concert halls, art galleries, stadiums, clubs, on film locations, in caverns, on deserts and beaches, New York's Central Park, Lincoln Center, the Sydney Opera House, Tokyo's International Trade Center, and in the streets and plazas of San Diego and San Francisco. It was also used to communicate with whales and dolphins aboard the SS Greenpeace V's Pacific anti-whaling expedition.



SERGE SONG FOR WHALES is played on a SERGE system on the SS Greenpeace V's Pacific anti-whaling expedition. The system is used to communicate with whales and dolphins aboard the ship.

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SOME ARTISTS

As part of TONTO (The Original New Timbral Orchestra) the SERGE has been heard in recent albums by Quincy Jones, Billy Preston, Stevie Wonder, Dave Mason, America, The Isley Brothers, Joan Baez, Ravi Shankar, Chris Rainbow, Bob Margouleff and Malcom Cecil. The SERGE system is currently being used in live performance by many popular and contemporary musicians, and it is the instrument of choice by The Electronic Synthesizer Ensemble (tese).

SOME INSTITUTIONS

Institutions that have resident SERGE systems include the Center for Musical Experimentation at UC San Diego, the Electronic Music Center at Mills College, the electronic music studios of Harvard University, Moorpark College, Australia's LaTrobe University, Cal-State Dominguez Hills, Virginia Commonwealth University, and many others.

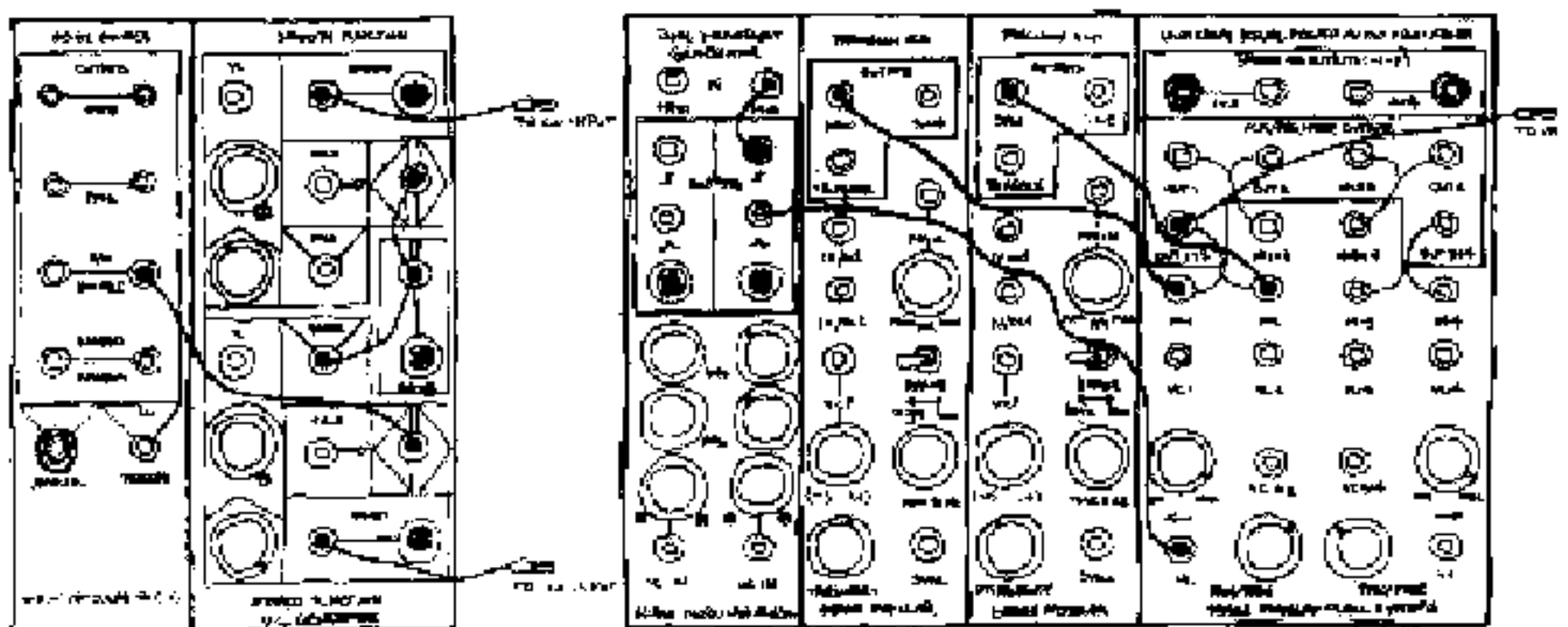
FEATURES OF THE SERGE MODULAR MUSIC SYSTEM

ACCURATE LOG-LINEAR VOLTAGE CONTROL: Nearly all voltage control functions of the SERGE modules are accurately log-linear. This means that a control voltage will be directly proportional to the logarithm of the effect it produces, whether the effect is a change in amplitude, duration, frequency or resonance. Log-linearity is essential because we perceive differences in amplitude, duration, and frequency as a function of the ratio of the change rather than as a function of the difference. We hear an octave (a ratio of 2 to 1 between two pitches) whether the pitches are 200 and 100 Hz or 2000 and 1000 Hz.

ALL TIMING AND FREQUENCY RANGES IN THE SYSTEM ARE WIDE RANGE: The minimum range of any module in the SERGE system is at least 10,000 to 1, from the highest to the lowest frequency, or shortest to longest duration. In many modules the ratio is more like 100,000 to 1, and in some cases exceeds 1,000,000 to 1.

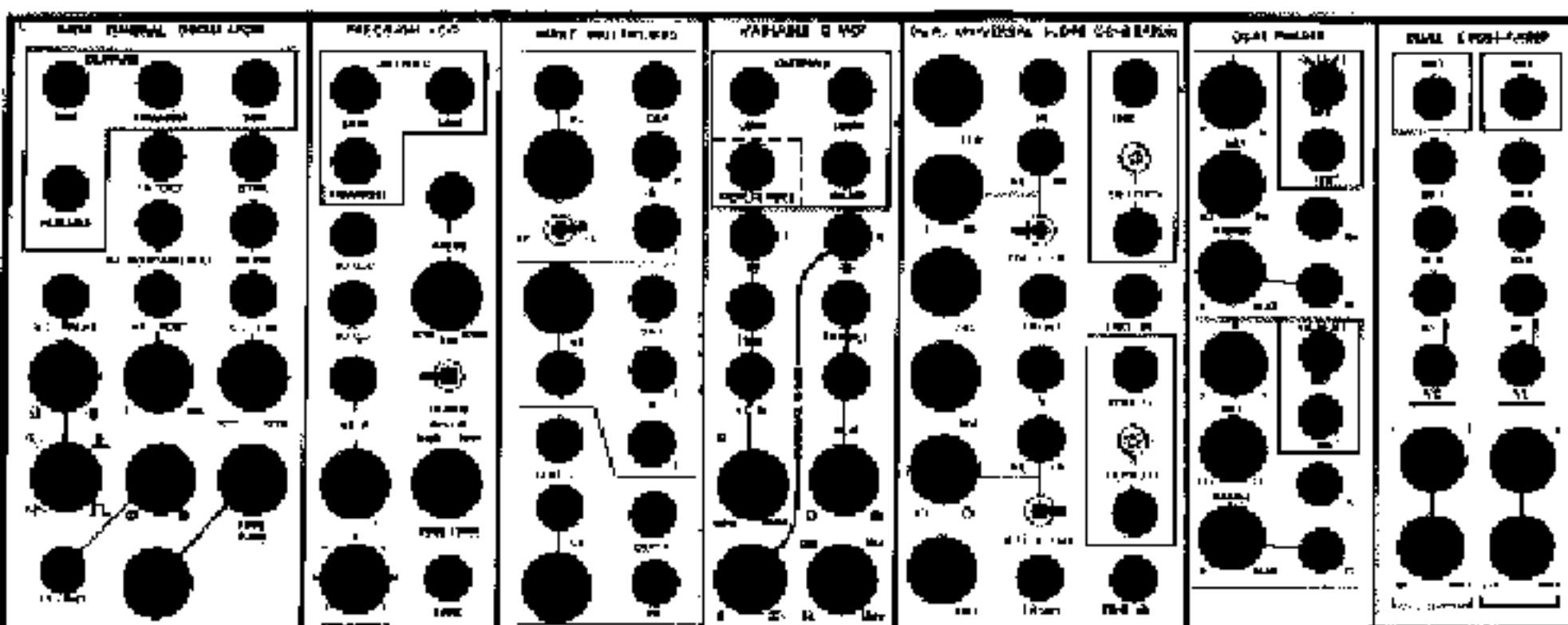
INPUT PROCESSING AT MANY VOLTAGE CONTROLLED INPUTS: This allows a voltage to be scaled at an input with regards to both the depth and intensity of its effect as well as its polarity. This means that the performer can easily adjust the amount of the effect and the direction in which it affects the parameter being controlled. For example, an increasing voltage change of one volt can be adjusted to change the pitch of an oscillator by any amount up to two octaves or can be set to decrease the oscillator's pitch by any amount down to two octaves.

PRE-SCALED INPUTS: Experience has shown that it is also desirable to have pre-scaled control voltage inputs at 1 volt per octave, especially when using keyboard or computer control. Most SERGE modules, such as the New Timbral Oscillator, the Voltage Controlled Filters and the Dual Universal Slope Generator have 1 volt per octave inputs.



PATCH PROGRAMMABLE MODULES: These modules are at the heart of the versatility of the SERGE system, as they are able to be used in a wide variety of ways not normally available in other synthesizers. Examples of this versatility can be appreciated in the data sheet descriptions of such modules as the Smooth & Stepped Function Generator, the Universal Equal Power Audio Processor and the Dual Universal Slope Generators.

A UNIQUE PACKAGING SYSTEM: The SERGE system owes much of its versatility, portability, and low cost to the way it is packaged. Nearly any configuration of modules can be grouped together into one or more of our standardized Panel/Racks. All holes are pre-punched to accomodate the entire line of SERGE modules. Face plate graphics are applied to the front Panel and then overlaid with a clear sheet of protective Mylar. Jacks, switches, and other components are fitted into the Panel's pre-punched holes, then the printed circuit boards are fitted into the Rack assembly behind the front Panel. Since the Rack opens out like the page of a book from the front Panel, wiring is simplified, and all circuitry and wiring is accessible with the removal of four screws.

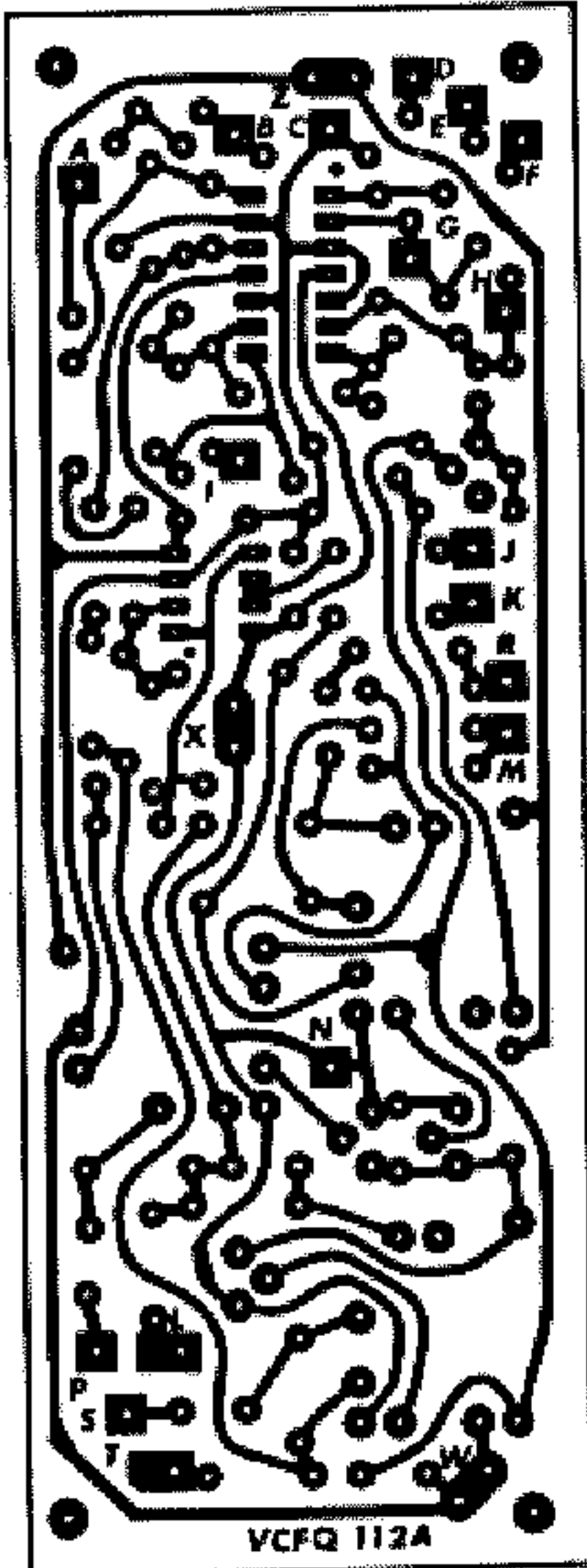


COMPATABILITY WITH OTHER EQUIPMENT: SERGE systems are electrically compatible with other synthesizers and audio equipment. In most cases interfacing can be handled at each module's processing input. Special adaptors and patchcards can be easily implemented within the Panel, and special jacks can be fitted into the system if desired. The SERGE provides an exceptionally powerful and economic way of expanding an existing system. Our factory engineers will gladly assist in handling special requirements.

EASE OF INCORPORATING CUSTOM MODULES: This is another benefit of the Panel/Rack package. In most cases, a custom circuit assembly can be installed into a system without drilling a single hole. Using standard Vectorboard, circuits can be fitted into the Rack and wired to front panel components. Custom face plate graphics are easily applied to the Panel without any special materials. The end result is a custom module that can be integrated into the system with minimum effort.

NOTES CONCERNING THE KITS

Our kits are designed to work the first moment power is applied, even when built by people new to electronic kit building. We have taken great care to achieve this result.



CLEAR INSTRUCTIONS.

We provide detailed drawings showing the wiring, and we try to avoid lengthy instructions. If these simple steps are followed, the kit will work perfectly the moment power is applied. Also included is a list of simple checks you may make to insure that each module is performing according to specifications.

THE PHYSICAL LAY-OUT OF OUR KITS MAKES THEM SIMPLE TO BUILD.

Our front Panel and the printed circuit board Rack (Panel/Rack) opens up like a book in front of the kit builder. This feature makes wiring of the circuit boards to the Panel an easy task, since all wiring can be seen and checked at a glance.

WE FURNISH PRE-ASSEMBLED, TESTED AND CALIBRATED CIRCUIT BOARDS. Because of the precision and complexity of our modules, we ship factory-built tested and calibrated circuit boards with our kits. Thus, to build a SERGE kit, the kit builder merely mounts front panel components (jacks, switches, etc.) and wires them up to square or oval pads on the circuit boards. As can be seen in the illustration, these pads are clearly labelled to ease assembly.

A MODULE CAN BE SENT FOR REPAIR WITHOUT DISABLING THE ENTIRE SYSTEM.

If a module does not function according to the check-out procedures, its circuit board can be easily disconnected from the Panel and sent to the factory for testing free of charge.



CHASSIS BOX



PATCHCORD KIT



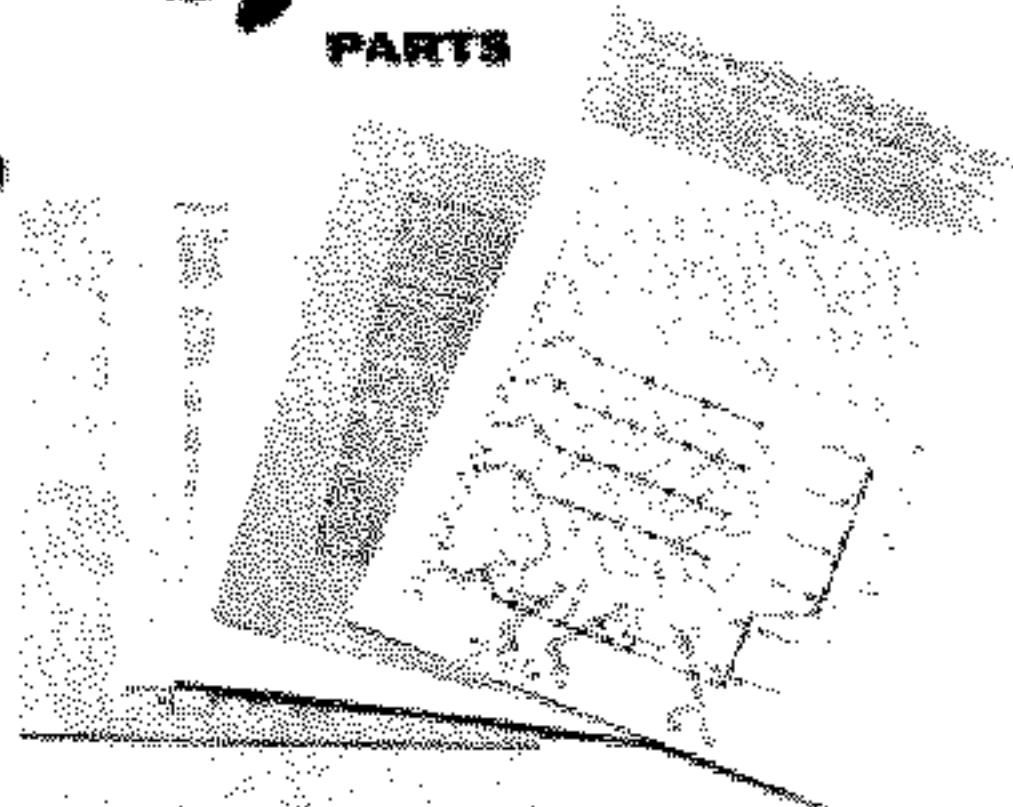
PC BOARD RACK



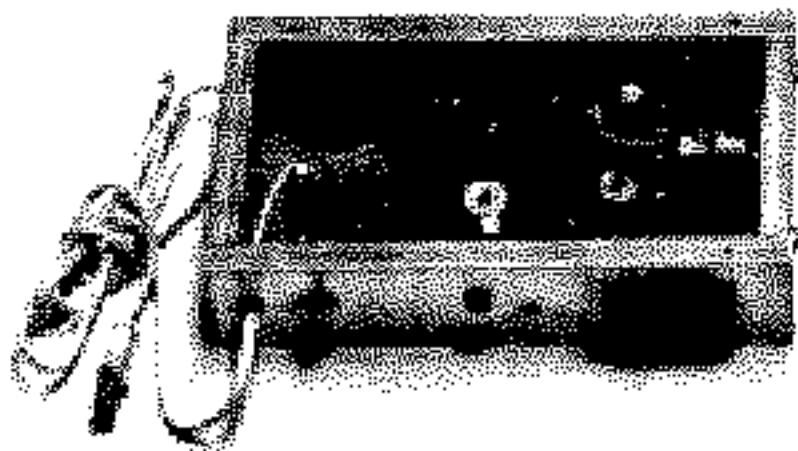
PARTS



PANEL



MANUALS



POWER SUPPLY

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NOTES CONCERNING OUR FACTORY ASSEMBLED SYSTEMS

We take extra care to insure that our systems will provide years of trouble-free operation and we offer continuing factory support to all assembled systems. The SERGE system has performed exceptionally well under the most difficult conditions, such as hands-on educational applications, and rigorous road and concert tours. Each system undergoes a series of electronic and operational tests, and all factory assembled units carry an unconditional warranty on all parts and workmanship.

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