

MAUDEVILLE

1- VOLTAGE SOURCES — ALL AVAILABLE DEVICES

- a. FOOT OPERATED (MOOG)
- b. JOY STICK
- c. TAPE [4 CHANNEL]
- d. ALL TYPE KEYBOARDS

2. SIGNAL SOURCES

- a. HI QUALITY TEST GENERATORS I.E. HEWLETT PACKARD
- b. Buchla 200 SERIES SYNTHESIZER
- c. PROVISION FOR FULL TRACK TAPE PLAYBACK
 1. AT LEAST 3 SEPARATE T.R. IMP. 2 + 4 CHANNEL
- d. DELAY SYSTEM AS PER MY ARTICLE
- e. MICROPHONES (ALL PURPOSE, DIRECTIONAL, SHOTGUN, CONTACT)
- f. Variable speed control
 1. associated pre-amps

3. SIGNAL CONTROL

- a. Filters
 1. Band pass (BK Equalizers)
 - 2.
- b. Reverberation (EMT)
- c. Buchla 200 Series
- d. Automated Processes Mixdown

4. Live performance Orientation

- a. 3 synth A.K.S Briefcase Synthesizers

5. Monitoring system

6. Fund for custom interface devices

Sky's the limit Complex Studio Complex

AN ASSEMBLY IN ONE BUILDING OF THE FOLLOWING:

- Q315* 1) An augmented Moog studio retaining its basic direction as an integrated tape-synthesizer studio (See Warren's proposal)
- Q306* 2) A Buchla 200 series synthesizer studio - emphasis on live performance
- 1) and 2) should have facilities for 4-channel recording and monitoring and frequency to voltage converters for tape storage of complex voltage envelopes.
- New* 3) An extensive tape studio including facilities for fast, easy editing, loop playing, complex tape delay, variable speed, complex filtering and amplitude enveloping. The emphasis of this studio would be on ~~concrete~~ sound manipulation.
- APS* 4) A computer controlled studio using
- [a) a fully developed computer controlled analog synthesizer (such as Synthi 100 + PDP-8 + software)
 - [b) terminal and D/A conversion for use of university computing facilities and/or department owned computer.
- HC*
134 5) A laboratory complex of small teaching "synthesizers" as needed for Music 105 assignments and any others. These could be easily constructed using ARP encapsulated modules and others in our own packages.
- Ritterbachs* 6) An assembly studio with
- a) a library of tried and true circuits
 - b) parts and PC boards for building the above
 - c) breadboarding setups, parts and test instruments for experimental and educational circuit building.
 - d) tools for circuit building and tools and materials for packaging fabrication.
- Lewis office* 7) A collection of signout equipment including:
- a) suitably modified presently owned Buchla 100 series modules and power supplies.
 - b) 8 or 16 track recorders and tape.
 - c) small studio mixer
 - d) highest quality portable recorders and mikes
 - e) playback facilities for concertizing
 - f) *3-Synthi AKS Briefcase Synthesizers*
- 409E* 8) Recording facilities - small soundproof room(s) with external tape recorder (and provisions for using 8 or 16 track recorder from 7)).
- New* 9) An extra listening space for critical acoustic evaluation.
- Q35W* 10) A technicians workshop. (with a perfect technician and assistants)
- New* 11) A library and lounge

respectfully submitted by David E. Gamper

Proposal - Part 1. Study Units

Three units.

- 1) Synthesizer
- 2) Interface
- 3) Recording Equipment & Playback.

1) Synthesizer - suggest we build these ourselves with Buella as a 2nd choice

A. Signal

1. 6 VCOs
2. 3-VCA's
- ~~3. 3 Filters~~
3. 3 Filters - 1 VC High pass; 1 VC Low pass; 1 VC Band pass. (2 Band pass)
4. 1 Ring Modulator
5. Noise
6. 2-6 channel mixers & 4-~~6~~ ea. multiples

B. Control

1. 3 Envelope Generators
2. 2 Envelope Followers - Detectors (1)
3. 1 Keyboard
4. 1 Joystick - (Home built)
- 5a. 1 sequencer - 8 step 3 rank (0)
6. 4 integrators (1)
6. 3 Control Voltage Processors (2)
7. 4 Pulse Generators
8. 2 Random Control Voltages (0)

2) Interface - A patch panel with At Least 8 trunks between synthesizer & recording equipment

3) Recording Equipment

- 1) 2 Vitrizing Playback Decks
- 2) 1 Sing ~~or~~ or Better - 1/2 tr. Stereo Deck
- 3) Head phones & Preamp for Playback

6 of the above - (4) - built into corel arrangements of some kind.

Proposal Part 2. (A) Updating the Moog Studio

1. Tape
2. Mixing
3. Synthesizing

I) Tape

- A. 3-4 channel recorders (1)
- B. New heads on the three existing 2 channel machines
- C. Variable Speed on the existing Ampex Repaired (plus variable on another?)
- D. The Eltro put in good shape & in the room
- E. A new 4 head variable speed tape loop machine (R. Close)
- F. A tape delay machine (Oliveros)

II)

MIXING

- A. A ten in 4 out mixer with panning & eq. on each channel
 - 1) Manual mix, pan & EQ.
 - 2) Also Volt Cont. " " & " "
 - 3) All panning can be 2, 3, or 4 channel
- B. 2- 4in 4out Matrix-VC Mixers (with optional manual mixing)
- C. 2- 4in 4out VC mixers (with optional manual mixing)
- D. 3- 4in 4out decoupled mixers.
- E. 4- 6in 4out unity gain mixers
- F. A new patch panel with 20 trunks between mixing & tape

III

Synthesizing

- A. Signal
 - 1) 2 More VCOs.
 - 2) 2 Entire Range Sweep VCO
 - 3) 7 VCAs
 - 4) 6 Hi Gain Amplifiers
 - 5) 1 Stereo or 2 Mono - $\frac{1}{2}$ octave filters
 - 6) 2 frequency shifters
 - 7) 1 resonant filter of 1965-7 vintage
 - 8) 12-4 each multipliers
- B. Control

W.B. 10/11

W.B. 10/11

Proposed parts of the Model

- 1) - 3 Envelope Followers
- 2) - 4 Joysticks
- 3) - 4 Sequencers (Moog) or 2 (Putney)
- 4) - 1 - 12 channels of John Roy's Random Analog Generator
- 5) 18 integrators (12)

~~3 - 4 Putney Sequencers~~

(I) Tape
 A 3-channel recorder
 B New version of the three existing channel machines
 C Variable speed and existing tape machine (1/2 speed)
 D The 12 channel generator
 E New three channel speed tape machine (1/2 speed)
 F New 18 integrators (12)

III

Proposal - Part 2 B

Buchla studio

In addition to everything everyone else suggests.

- 1) 6 Hi Gain Amplifiers
- 2) 6 Frequency to Voltage Converters
- 3) 4 Schmitt triggers
- 4) 4 8in-1out sequential switches (Homemade)
- 5) 12 Integrators.
- 6) 2-10 octave Filters
- 7) 1-10in 2out VC Mixer
- 8) 1- Voltage Source Touch Controlled - 10 Keys

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70000
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(Q315)
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409E
+ TV
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Q315
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Deluxe
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respectfully submitted by David E. Gamper

SOUND
RECORDING

SYNTHESIS

ANALYSIS

VISUAL
RECORDING

MAINTENANCE
&
FABRICATION

V. RESEARCH (individual instruction)	G08 L03 Facility for Documentation & Research	CME RL CME Controlled-** access analog studio	**	Video documenta- tion facility ↓	✓ G44 Technician lab & check-out of equipment.
VI. INSTRUCTION (class)	G08 TR Teaching facility	TR (3) Mix CONTROL SOURCES MONITORS G07 SYNTHESIZERS EQUALIZERS Analog studio for student use & instruction.*	← TR Instructional station including scope, computer terminal to Center's machine, etc.	L03A L03B Instructional use of sound for video or film. <i>Sound Tracks + Communications</i>	L03B Student shop for fabrication and instruction.

G39 Where does that equipment come from.

*basic preparatory electronic work should be done in "practice rooms" at a Music 20 or related level.

Where does this equip. come from?

**It is assumed that the highest level of faculty research in these areas will be accommodated by the Center's facilities.

MIXING -
RECORDING
2 CHANNEL
BASIC SOUND
PRODUCTION
& CONTROL
OSCILL.
GATES
ATTACK
DELAY
MOD.
CONVULS.

Roger Reynolds

May 15, 1973

TO: The Music Faculty

FROM: The Committee on Electronics in the Mandeville Center

SUBJECT: A request for input on a basic position. PLEASE READ AND COMMENT
BY MAY 25 (TO THE MUSIC OFFICE).

The Committee attempted to develop an overall picture of the ideal needs that the Department might foresee in the area of electronics.

We drew five general categories:

- I. Equipment for faculty offices/studios.
- II. Equipment for general classroom use.
- III. Equipment supporting undergraduate service courses.
- IV. Equipment serving undergraduate majors and graduate students [this to include specialized facilities in which faculty has priority].
- V. Equipment for faculty research.

At this point, we suggest the following:

- 1) tape machine and monitor system for each faculty office/studio
- 2) tape and record playback appropriate to space with option to record with mikes and cables signed out
- 3) continue and up-grade present Music 1 and Music 10 laboratory facilities
- 4) and 5) these together may be seen in the accompanying chart. We suggest five general categories each of which may have a research (or guided, one-to-one instruction) and/or instructional aspect.

attach.