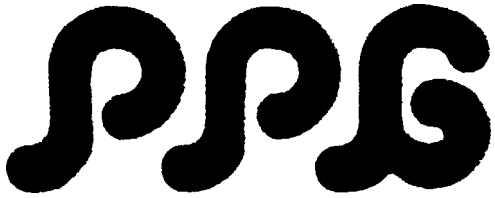


waveterm B

OWNERS MANUAL

--------- PREFACE ----------

The WAVETERM SYSTEM is a computer based music system offering todays most exciting features in ADDITIVE WAVE SYNTHESIS, WAVETABLE CREATION, SAMPLING,SAMPLESHAPING and MIXING, RESONATOR CREATION as well as MUSIC COMPOSITION with up to 32 tracks of digital recording.

The PPG SYSTEM is a modular system based on the "WAVE 2.3" Synthesizer.It can be expanded with the "WAVETERM B", the central control computer and the "EVU",which is a "WAVE 2.3" without keyboard and controllers.The "PRK FD" is the masterkeyboard of the system as well as a Midi masterkeyboard.

The software of the system and the individual components is subject to con stant development and will always supply you with state of the art technology.

Before you start reading this manual, please look up chapter "SOFTWARE UPDATES". Some of the functions might have changed due to software development and you should follow the manual along with the complementing "UPDATE" sections.

NOTE:

Please use DOUBLE SIDED, HIGH DENSITY DISKS only !!!

(We recommend MAXELL MD2-HD 96 TPI)

PPG WAVE-TERM B MANUAL

----- TABLE OF CONTENTS ------

1. PRELIMINARY EXPLANATIONS
   The individual components and their interaction.

2. SETTING UP
   How to connect the units

3. DISK OPERATION
   How to get familiar with the usage of disks
   and the PPG SOUND LIBRARY.

4. THE SCREEN ACCESS
   This section introduces the general principle
   of the systems screen oriented operation.

5. THE INDIVIDUAL PAGES
   A short description of the different PAGES
   and their functions.

6. PAGE "0". SYSTEM ORGANISATION.

7. PAGE "1". ADDITIVE and FREE FUNDAMENTAL SYNTHESIS.

8. PAGE "2". WAVETABLE CREATION and WAVECOMPOUNDS.

9. PAGE "3". TRANSIENT SOUND TOOL and DIGITAL
   MANIPULATION MIX.

10. PAGE "4". RESONATOR.

11. PAGE "5". 32 CHANNEL DIGITAL RECORDING SYSTEM.

12. PAGE "9". DISKHANDLING.

13. SOFTWARE UPDATES

14. WAVE-TERM "A" / "B" TYPE COMPATIBILITY

1. PRELIMINARY EXPLANATIONS

1.0. WHAT IS THE "WAVETERM B"

The "WAVETERM B" is the central computer of the PPG digital music system. It is very easy to operate because it is screen oriented and you don't have to learn a computer language. All the operations are executed with the ten numerical and ten function keys below the screen.

The "WAVETERM B" controls the following functions:

- Natural 16 bit Sound Multisamples,
- Wavecompounds,analog/digital/FM-type and experimental synthesizer sounds,
- Waveform synthesis/analysis/ resynthesis to wavetable,
- Wavetable creation,
- 16 bit soundsampling, digital sound mixing and sample delay,
- Creation of wavetables by means of resonators,
- Real time-, timecorrection based-, and screen oriented composing/arranging,
- Disk handling and organisation.

As a computer terminal it organises the communication of the individual components, visualises your pragrams and communicates with an optional printer.

1.1. UNPACKING THE UNIT

Usually the "WAVETERM B" is shipped in a carton with cushioning material. Be sure that the top of the box is on the upside when you start unpacking the unit. Remove the cushioning from the box and take the accessory parts out. Put the "WAVETERM B" on a suitable table close to the "WAVE 2.3".
The accessory parts are:

- 1 power chord.
- 1 communication cable.
- 1 box with maxel MD2-HD (96 TPI) disks.
- 1 PRACTICE DISK
- 1 complete "PPG SOUNDLIBRARY" (25 disks).
- 1 system disk in SPECIAL ENVELOPE.
- 1 "DEMO 85" disk.
- 1 OWNERS MANUAL.

Notify your dealer if anything is missing.

1.2. THE SYSTEM: THE "WAVETERM B" AND THE "WAVE 2.3/2.2" SYNTHESIZER

THE "WAVETERM B" CANNOT WORK INDEPENDANTLY BECAUSE IT DOESNT HAVE ITS OWN TONE GENERATION.IT ONLY WORKS IN COMBINATION WITH THE "WAVE 2.3/2.2" SYNTHESIZERS AND "EVU" EXPANSION VOICE MODULES. IF YOU HAVE PURCHASED THE "WAVETERM B" TOGETHER WITH A "WAVE 2.3" IT IS ADVISABLE TO FAMILIARISE YOURSELF WITH THE OPERATION OF THE "WAVE 2.3" SYNTHE SIZER FIRST.

1.3. THE "SYSTEM" AND THE "EVU" VOICE MODULES

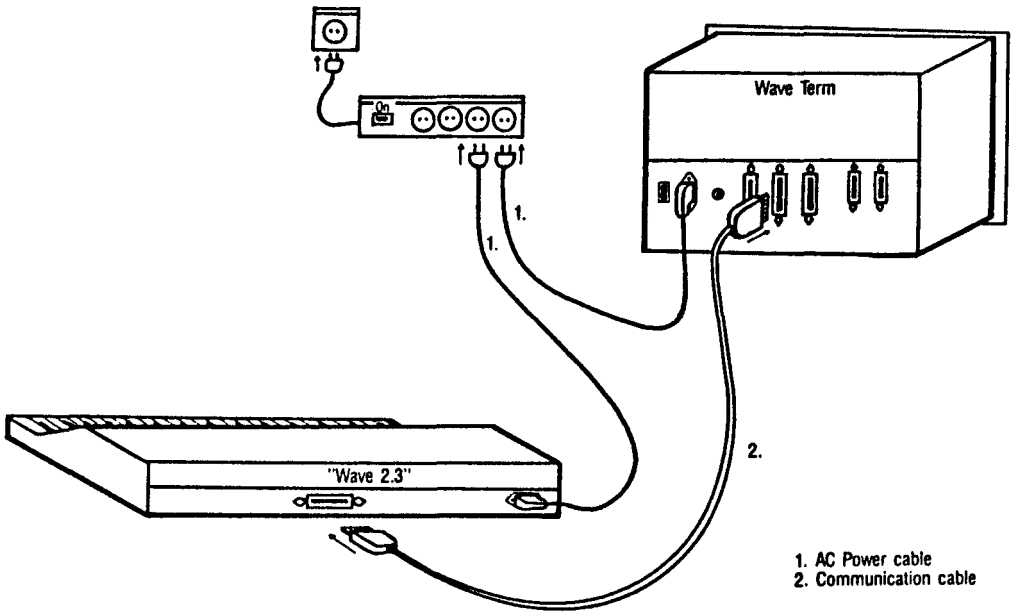
The "EVU" expansion voice unit is technically identical with the "WAVE 2.3" synthesizer. It is possible to increase the power of your individual PPG SYSTEM by using up to 3 "EVU's" along with a "WAVE 2.3" in combination with the "WAVETERM B". This arrangement of high technology gives you 32 channels of digital recording along with the capacity of 32 natural sampled sounds or an unlimited amount of synthesizer sounds or a combination of both. It is also possible to play 32 different samples/ synthesizer sounds at the same time, using the keyboard split facilities of the "WAVE 2.3" and the "EVUs".

NOTE: IT IS POSSIBLE TO CONNECT A "WAVE 2.2" SYNTHESIZER TO THE "WAVETERM B", but there are restrictions in the amount of soundbanks (the "2.2" can load only two 8 bit sounds at a time and youllhave to work in the "WAVETERM A" mode).

NOTE: IT IS POSSIBLE TO CONNECT A "PRK" TO THE "WAVETERM B" AND THE "WAVE 2.3 ."

2. SETTING UP

2.0. CONNECT THE "WAVE 2.3/2.2" TO THE "WAVETERM B"

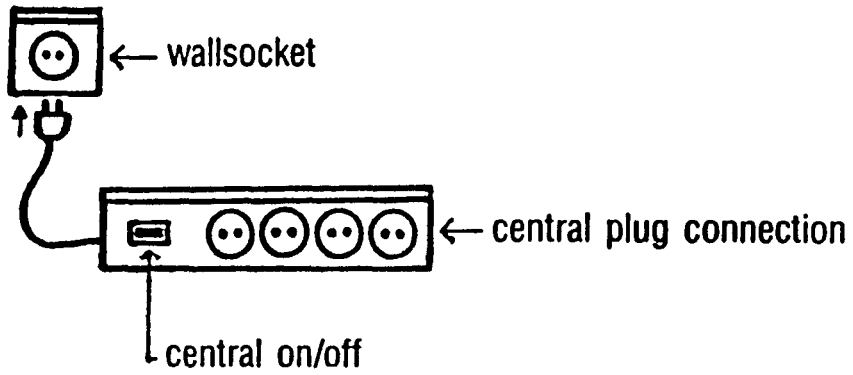


GRAPHIC 1

-A- BEFORE YOU CONNECT THE AC POWER CABLE, MAKE SURE , THAT THE AC RATING SWITCH (220 VOLTS OR 110 VOLTS) IS SET TO THE RIGHT POSITION.--!!-- If this is not taken care of, you might damage the computer severely.

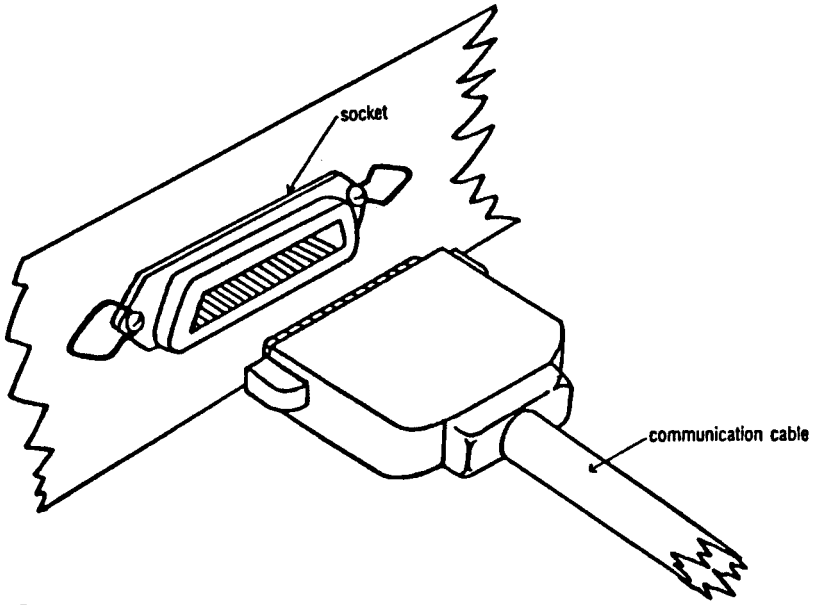
I----------I
I WARNING: I
I Damage caused by plugging the power cable into an I
I outlet,that does not supply 220 or 110 volts, or I
I plugging into an outlet without having checked the I
I right postioning of the AC RATING SWTICH is not I
I covered by your WARRANTY. I
I----------I

-B- Connect both AC power cables ("WAVETERM B" and "WAVE 2.3") to a multi plug connection with central power switch. Do not switch on the units one after the other. Always use a central plug conection with central power switch.



GRAPHIC 2

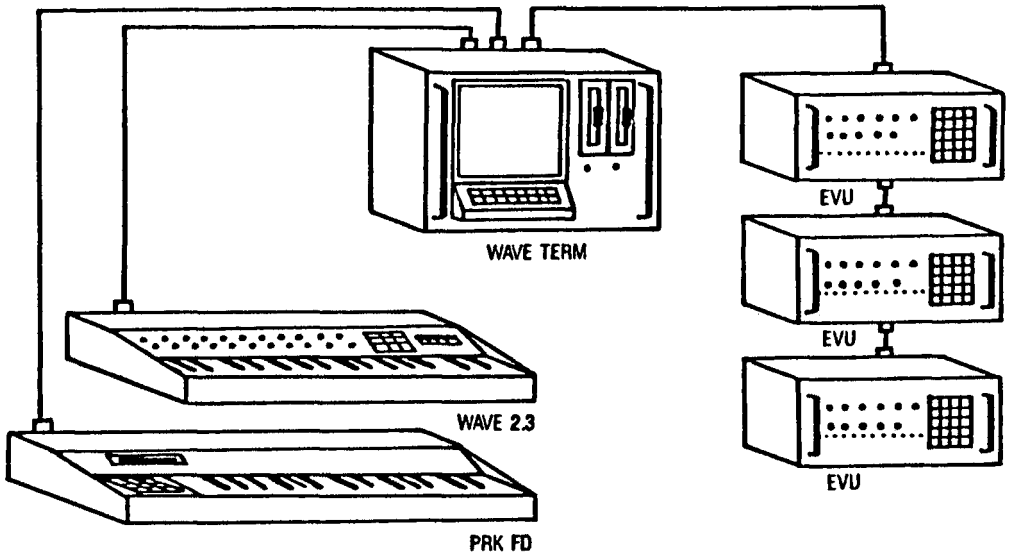
-C- Connect one end of the communication cable to the connector on the "WAVE 2.3" labelled -COMMUNICATION BUS-. Make sure that the housing of the cable matches the wide side on the bottom of the connector socket. Secure connection with the bales.



GRAPHIC 3

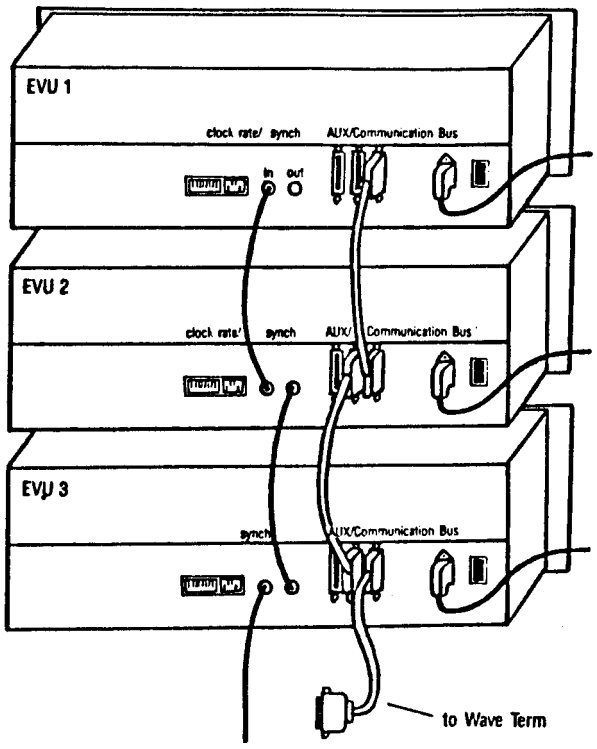
-D- Connect the other end of the communication cable to one of the three connectors on the rear side of the "WAVETERM B" labelled -PPG COMMUNICATION BUS-. Secure connection with the bales.

2.1. CONNECTING A COMPLETE 32 TRACK SYSTEM



GRAPHIC 4A

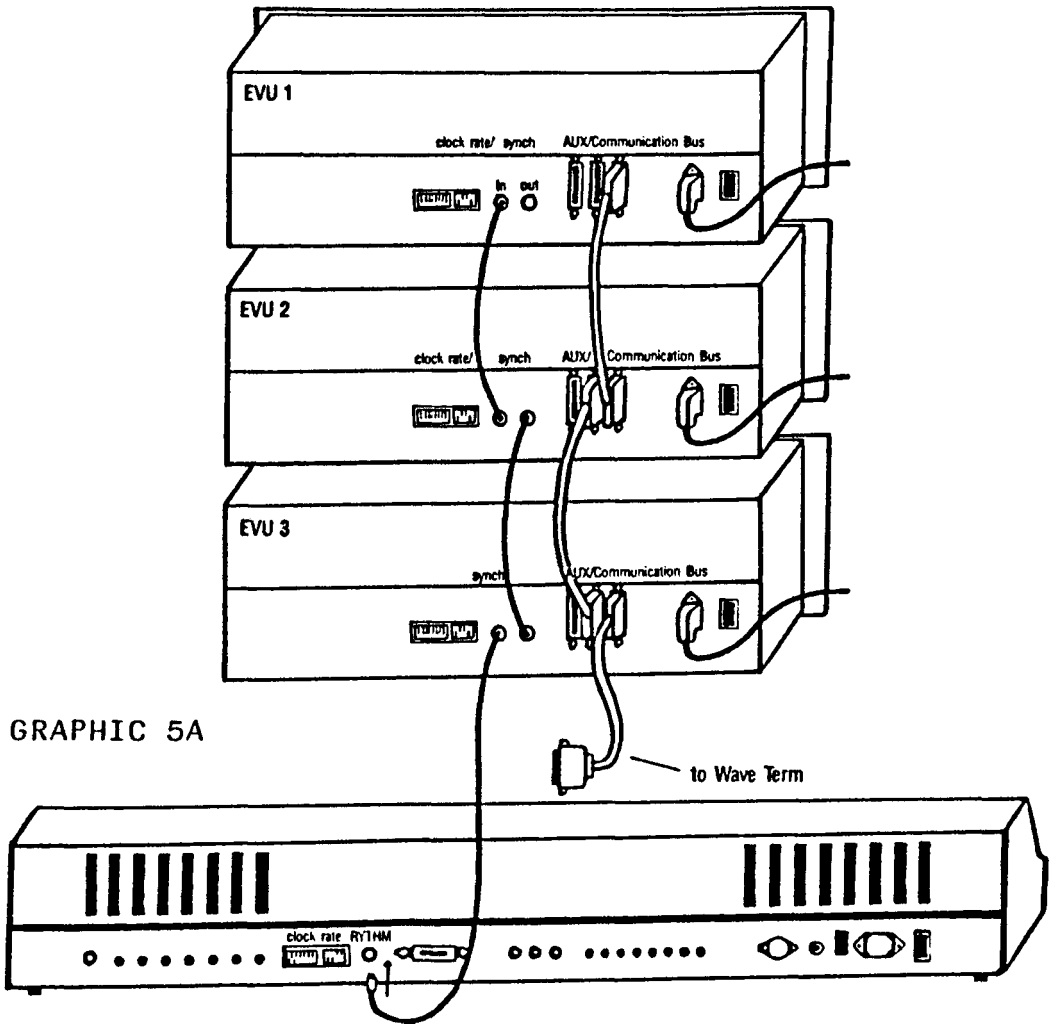
-E- The graphic shows a combination of 1 "WAVE 2.3" and 3 "EVUs", but an arrangement with 2 "WAVE 2.3" and 2 "EVUs" is also possible. If you are working with more units for instance a "PRK" or "PRK FD" and/or one or more "EVU" you have to connect them with communication cables to the remainung -COMMUNICATION BUS- sockets. In case you are working with more than three units, you have to interconnect all extra "EVUs" to one another.



GRAPHIC 4B

-F- Connect one of the "EVUs" to the "WAVETERM B" using the communication cable like quoted above. Connect 2nd "EVU" to 1rst "EVU" by using the remaining free -COMMUNICATION BUS- socket of the first "EVU". DO NOT PLUG INTO THE "AUX" CONNECTOR. SOCKET!!Connect 3rd "EVU" to 2nd "EVU" by using the remaing free -COMMUNICATION BUS- socket of the 2nd "EVU". Connect the "WAVE 2.3" and the "PRK"/"PRK FD" directly to the "WAVETERM B"

2.2. CONNECTING THE SEQUENCER CLOCKS OF THE ENTIRE SYSTEM



GRAPHIC 5A

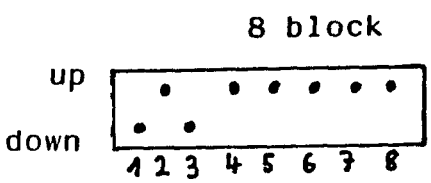
-G- Connect the 5 pin DIN "RHYTHME" connector to the 5 pin DIN "SYNCH. IN" connector of the 1rst "EVU". Connect the 5 pin DIN "SYNCH.OUT" connector of the 1rst "EVU" to the 5 pin DIN "SYNCH.OUT" connector of the 2nd "EVU". Connect the 5 pin DIN "SYNCH. IN" connector of the 2nd "EVU" to the 5 pin DIN "SYNCH.IN" connector of the 3rd "EVU". If your local shop cannot supply you with 5 pin DIN cables, you can use a standard MIDI connection cable as well.

clock connection diagramme:

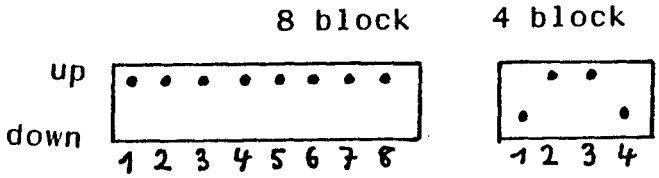
from:		to:
"WAVE 2.3/2.2"	RHYTHME	"EVU"(1) SYNCH.IN
"EVU"(1)	SYNCH.OUT	"EVU"(2) SYNCH.OUT
"EVU"(2)	SYNCH.IN	"EVU"(3) SYNCH.IN

2.3. THE CLOCK RATE - SYNCH.IN/OUT DIP SWITCHES

The clockrate dip switch setting on the sending unit("Wave 2.3/2.2")



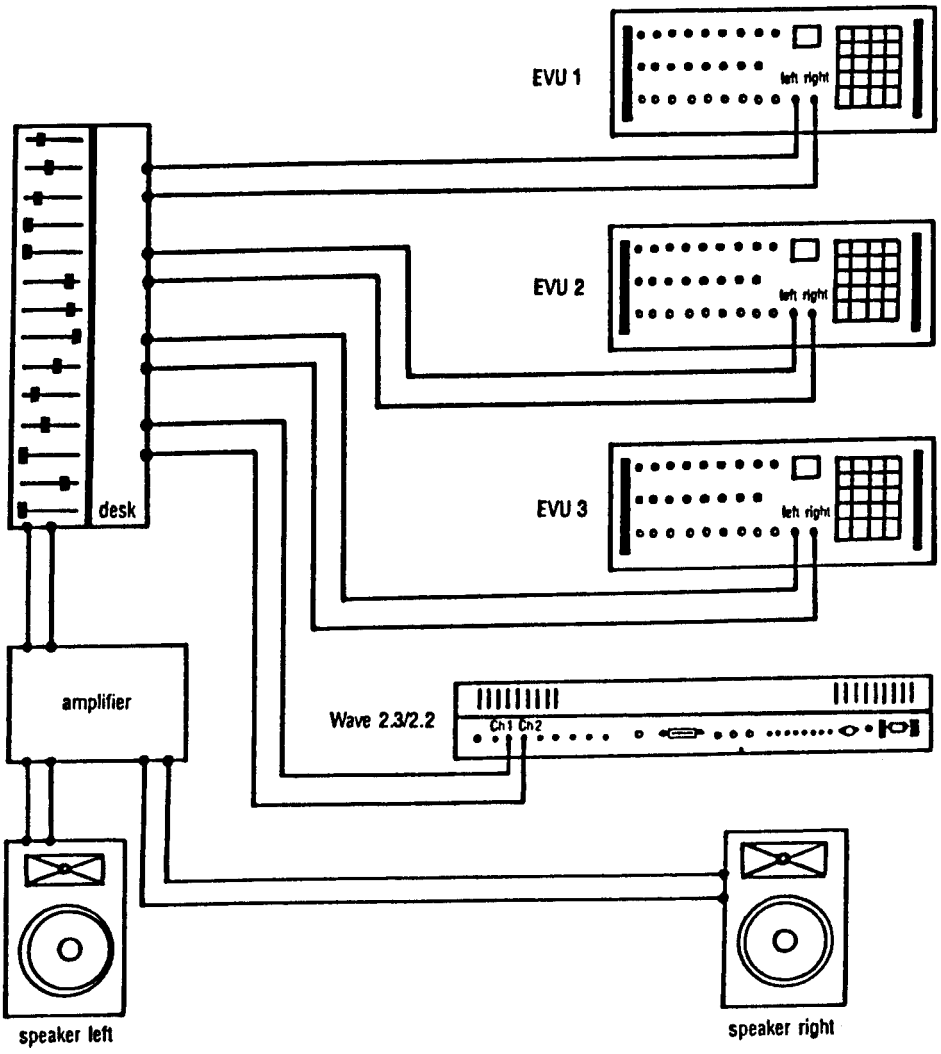
The clockrate dip switch setting on the recieving unit("EVU")



GRAPHIC 5B

The sending unit (any ofthe units can send) has to have the switches set like shown above. The receiving units (any of the units can send) has to have the switches set like shown above. It is always necessary to let one unit drive the others.

2.4. AUDIO CONNECTION



All units are supplied with 2 Stereo outputs, one stereo headphone output and eight individual sequencer outputs.

- connect 2 cables with standard phone plugs to the stereo outputs of the individual units ("WAVE"=CH1 CH2 ,"EVU"=LEFT/RIGHT).
- connect the other ends of the cables to the "line" inputs of your desk or "AUX" or "TAPE PLAY" inputs of your amplifier.

3. DISKOPERATION

3.1. HOW TO TAKE CARE OF YOUR PERSONAL SOFTWARE

Diskettes are storage media.They hold a lot of information and they "memorise" all the work and efforts you have put into your music for a very long time if are taken care of in the appropriate way.

- Store your disks inside the protective jackets.
- Do not bend the disks.
- Keep them in a clean and dry place (no dust etc.).
- Never put the disks in the proximity of magnetic fields. (loudspeakers etc.).
- Do not touch the magnetic foil of the disk.
- Keep disks at a temperature between aprox.50 F - 122 F (10 C - 50 C).
- Always use a disk pen with felt or easy to break tip when writing on disk labels,
- Never use a ballpoint.
- USE DOUBLE SIDED, HIGH DENSITY ONLY (We recommend MAXELL MD2-HD 96 TPI only)

3.2. THE TWO DISK DRIVES

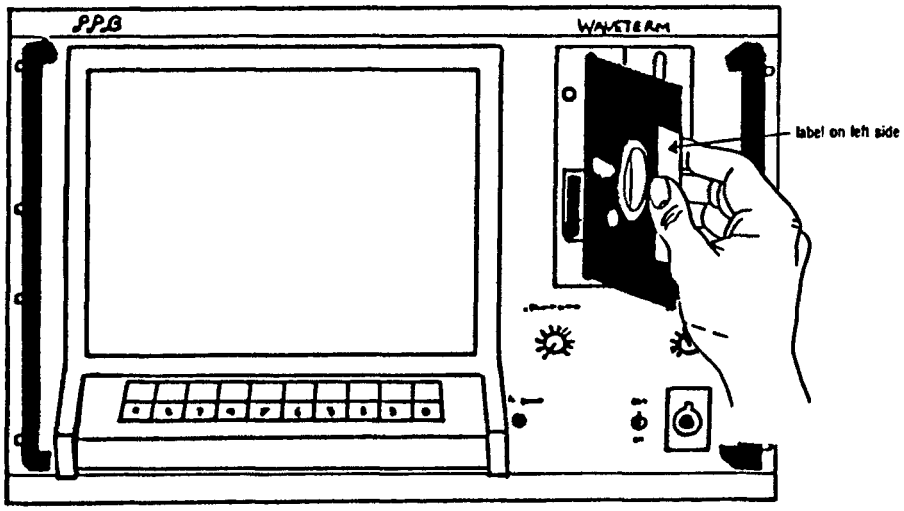
The "WAVETERM B" is shipped with a protective carton in each of the two disk drives. Open up the drive locks and remove the cartons. When ever you want to transport the "WAVETERM B" again put the protective cartons back into the disk drives and lock them up in order to protect the drive's magnetic heads.

== The "WAVETERM B" has two disk drives. ==

== The one to the left is called the SYSTEM DRIVE ==
== The one to the right is called the USER DRIVE ==

3.3. INSERTING THE SYSTEM DISK

The "WAVETERM B" has its own SYStem disk, which is housed in a SPECIAL ENVELOPE. This system disk always has to be put into the left drive.



GRAPHIC 7

A- open up the lock of the left drive.
B- take the SYStem disk out of the special envelope with your right hand.
C- your thumb should cover the disk label.
D- BE CAREFUL, DON'T TOUCH THE MAGNETIC FOIL.
E- the disk has to be in a vertical position.
F- the label has to be on the left side.
G- the disk's magnetic slot has to be in a horizontal position.
H- softly insert the disk until it is all the way in.
I- close the lock (move the lever softly down to the right).
J- SWITCH THE "WAVETERM B" ON.-
K- the red LED of theleft drive now is illuminated.

NOTE: in case you have already switched on the "WAVETERM B" without having inserted the SYS.disk, the screen displays "PPG WAVETERM B". Insert the SYS. disk. After having the disk inserted the unit automatically starts booting.

After 14 seconds 'PAGE O'shows up on the screen and the red LED is switched off.

GRAPHIC 8

Take the "DEMO 85" disk out of the library and insert it into the right hand drive, according to steps "C - I" of this chapter.

3.4. DISK PROTECTION

All the disks of he PPG SOUND LIBRARY are write protected. New disk are not protected. After having a disk farmatted and having saved some of your work on it, you should protect it with a write-protect-tab.

3.5. THE USER DISKS AND THE PPG SOUND LIBRARY

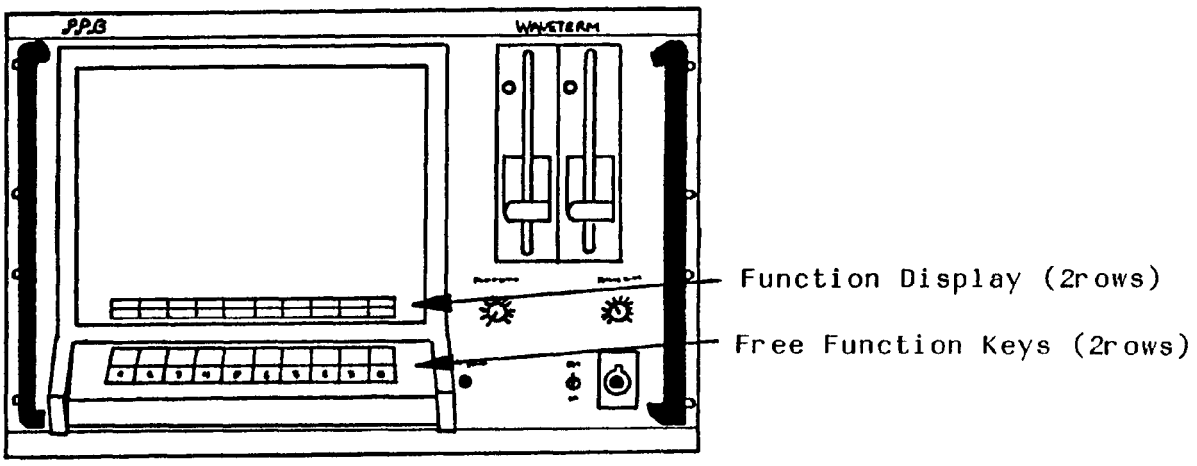
The user and library disks always have to be inserted into the right hand drive. The "WAVETERM B" is shipped with a sound library of 25 disks. They hold well over 400 samples of natural sounds and sound effects with 16 bit quality. Along with the package comes a carton of ten new high quality maxel disks. The library also offers a demonstration disk: "DEMO 85" Please look up chapter 14. for detailed information on the library.

If you don't want to go on reading the next paragraphs and want to hear your new "WAVETERM B" move on to pragraph XXXXXXXXX FAST FAST XXXXXXXXXX

4. THE SCREEN ACCESS

The "WAVETERM B" is a screen oriented easy to operate computer. All the commands are carried out with the ten numerical and the ten blank function keys. We call them "Free Function Keys". Along with the illuminated operational fields (IOF) all programming operations are executed.

4.1. THE FREE FUNCTION KEYS AND THE FUNCTION DISPLAY



The two rows on the bottom of the display correspond to the "WAVETERM B" keypad.

- -
DEFINITION: THE TWO BOTTOM ROWS OF THE DISPLAY ARE
THE "FUNCTION DISPLAY"
- -

The modes of the function keys vary with the different pages and operations. Here is a brief survey on what they can do:

The user disks. your personal disks, contains all your special PPG system data, such as WAVEFORMS, WAVETABLES, WAVECOMPOUNDS, SAMPLED SOUNDS, MIXED SAMPLES, SYNTHESIZER SOUNDS, RESONATOR CURVES, SEQUENCES, UPDATES and SONGS along with all the necessary information about your own library organisation. It is advisable to make "back up copies" of all your disks in case you lose one of them. The "PRACTICE DISK" is an already formated empty disk which comes along in the carton of the maxel disks. You can work with it immediately without going through the formatting procedure. YOU SHOULD USE IT for experimentational purposes when you start reading the manual and get aquainted with the "WAVETERM B".

It is not possible to run a "WAVETERM B" disk on another computer, because PPG has their own disk format. It also is not possible to use a "WAVETERM A" disk in the "WAVETERM B" mode, because they are working with different formats, but nevertheless it is possible to use a "WAVETERM A" disk with the "WAVETERM B" because you can internally switch over from "B" type mode to "A" type mode. For further information please look up chapter 10.(BOOTING).

"0" ESCAPE RETRY COMPON DISPLAY RECORD PLAYBACK MULTI GROUP BANK PRINT

COMMENT:

"1"	ESCAPE	EXECUTE	LEFT	RIGHT	DOWN	UP	Correct	COMPUTE		HELP
	1	2	3	4	5	6	7	8	9	0

COMMENT:

'2'	ESCAPE	EXECUTE	LEFT	RIGHT	DOWN	UP	DISPLAY	COMPUTE		HELP
	1	2	3	4	5	6	7	8	9	0

COMMENT:

"3'	ESCAPE	EXECUTE	LEFT	RIGHT	DOWN	UP	SET	DELETE	SCREEN	HELP
	1	2	3	4	5	6	7	8	9	0

COMMENT:

3.01	ESCAPE	EXECUTE	LEFT	RIGHT	DOWN	UP	FAST		Rick	HELP
	1	2	3	4	5	6	7	8	9	0

COMMENT:

5.02	ESCAPE	EXECUTE	LEFT	RIGHT	DOWN	UP				HELP
	1	2	3	4	5	6	7	8	9	0

COMMENT:

4	ESCAPE	EXECUTE	LEFT	RIGHT	DOWN	UP	SET	DELETE	DRAW	HELP
	1	2	3	4	5	6	7	8	9	0

COMMENT:

"5"	ESCAPE	EXECUTE	LEFT	RIGHT	DOWN	UP				HELP
	1	2	3	4	5	6	7	8	9	0

COMMENT:

"9"	ESCAPE	EXECUTE	LEFT	RIGHT	DOWN	UP				HELP
	1	2	3	4	5	6	7	8	9	0

4.2. THE NUMERICAL FUNCTION KEYS ON THE MAIN PAGES

One of the tasks of the numerical function keys is fast access to all the individual main pages. They have a variety of secondary control functions as well. First lets have a look at all the main pages. We have already switched on the "WAVETERM B" and inserted the "SYSTEM" and "DEMO 85"disk. PAGE "0" is shown on the display. If this is not the case, repeat chapters "3. - 3.4."

PRESS: - "ESCAPE",
- "2",
- "3",
- "4",
- "5",
- "9",
- "3".

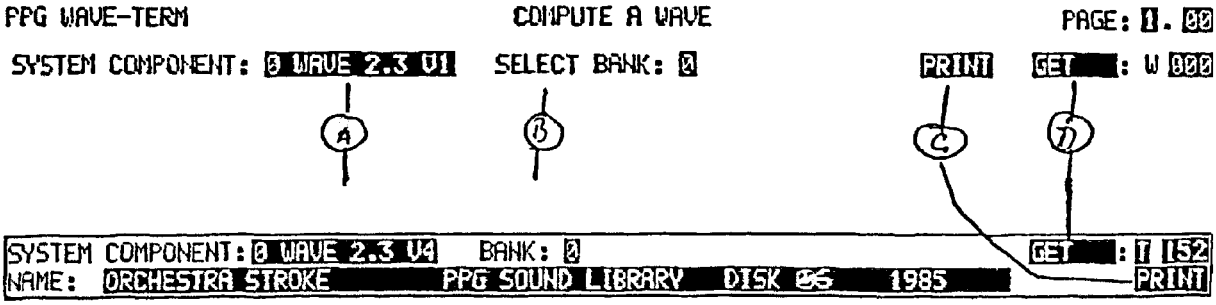
4.3. THE ILLUMINATED OPERATIONAL FIELDS (IOF) AND THE CURSOR

The monitor shows illuminated fields, which are the operational areas. The field which is flashing is the one in action and waiting for your commands and entries.

DEFINITION: THE FLASHING LIGHT FIELD IS CALLED THE *CURSOR*

4.4 THE DISK- AND UNIT COMMUNICATIONS DISPLAY (DUC)

The top of the individual pages except PAGE 0 and "9" all display the same functions. The second row down from the top line always displays the system and disk handling aspects.



A : Select the unit you want to work with.
You can work with a maximum of 4 synthesizers/ expander units.

B : Select one of 8 banks of the selected synthesizer/ expander unit.

C : Print a hardcopy of about it on the display.

D : IOF for diskcommunication.roll to reach COPY .SAVE and GET-funktions.

4.5. THE DIRECT MOTION KEYS

You can move the *CURSOR* from one illuminated field to another, by using the four DIRECT MOTION KEYS "UP", "DOWN", "LEFT" and "RIGHT". which are shown on the FUNTION DISPLAY.

The keys work with two different motion speeds :
- a "stepping" speed which reacts to repeated touching. If you hold down the DIRECT MOTION KEY longer than approx. 2 seconds, you enter:
- a "fast access" speed. The cursor automatically jumps from one illuminated field to another according to the direction you have choosen.

4.6. MOVING TO THE (IOF)s

CALL UP PAGE "3".

PRESS: "ESCAPE", "3". Now PAGE "3" is displayed.

MOVE: the cursor to the position (AUTOMATIC: *RECORD*) Use the direct motion keys until you reach this field. The (AUTOMATIC: *RECORD*) field is flashing. Practice a little bit and then return back to (AUTOMATIC: *RECORD*).

4.7. THE ROLL FUNCTION

Now the FUNCTION DISPLAY shows the features "ROLL-DOWN" and "ROLL-UP". You can change the AUTOMATIC MODE by pressing one of the ten numerical keys.

PRESS:
- "6" (for *START*),
- again "6" (for *LEVEL*),
- again "6" (for *LOOP*),
- again "6" (for *SUSTAIN*),
- again "6" (for *L- MERGE*),
- "1" (reset to *RECORD*),
- "7" (directly jump to *LEVEL*),
- "1" (reset to *RECORD*),
- "8" (directly jump to *LOOP*),
- "1" (reset to *RECORD*),
- "9" (directly jump to *SUSTAIN*),
- "1" (reset to *RECORD*),
- "0" (directly jump to *L- MERGE*).

You can use all the ten numerical keypads for the rolling function. All of the keys have different step width and after a little practice you will know how to save time and "jump" directly from one mode to the next one. Function key "1" always has a "RESET TO STARTING MODE" function. Function keys "6 - 9" always step forward through the modes and stay in place whenever the last mode has been called up. Funktion key "6" steps forward one by one until last mode shows up.
- "7" jumps two steps forward until last mode shows up.
- "8" jumps three steps forward until

last mode shows up.
- "9" jumps four steps forward until last mode shows up.
- "2 - 5" always step BACK through the modes accordingly.

Play around with the cursor.
Play around with the modes.

4.8. THE SUB PAGES

Let us enter a sub page.

MOVE: move the cursor back up to = PAGE: "3".

PRESS: "RIGHT",
"01".
We have entered PAGE: 3.01, the DIGITAL MANIPULATION MIX.

PRESS: "RIGHT",
"02". We have entered the three dimensional sample display. Whenever a sound is loaded into PAGE "3", the main page, this sound is spread three dimensionally on this SUB PAGE.

PRESS: "RIGHT",
- "03". On top of the FUNCTION DISPLAY you can read a comment: "This page is not available" and the computer returns to main page "3".

4.9. THE ESCAPE FUNCTION

The "ESCAPE" function keys always takes you out of the momentary operation back to your actual page. The *CURSOR* shows up on top of the screen at (PAGE: *X*.).

4.10. THE HELP FUNCTION

All the pages except PAGE 0 contain a HELP FUNCTION in the FUNCTION DISPLAY. The "HELP FUCTION" gives you informations on the individual functions and basic instructions on how to operate the computer.

4.11. THE COMMENT LINE

On top of the FUNCTION DISPLAY is the COMMENT LINE. Most of the operations are guided by comments. You can get information about the operations you are executing and comments about the disk content and so on. If you want to call up nonexistant pages, the copumter will tell you that the page does not exist. If something goes wrong the computer will tell you what is wrong.

4.12. THE DRAWING FACILITIES

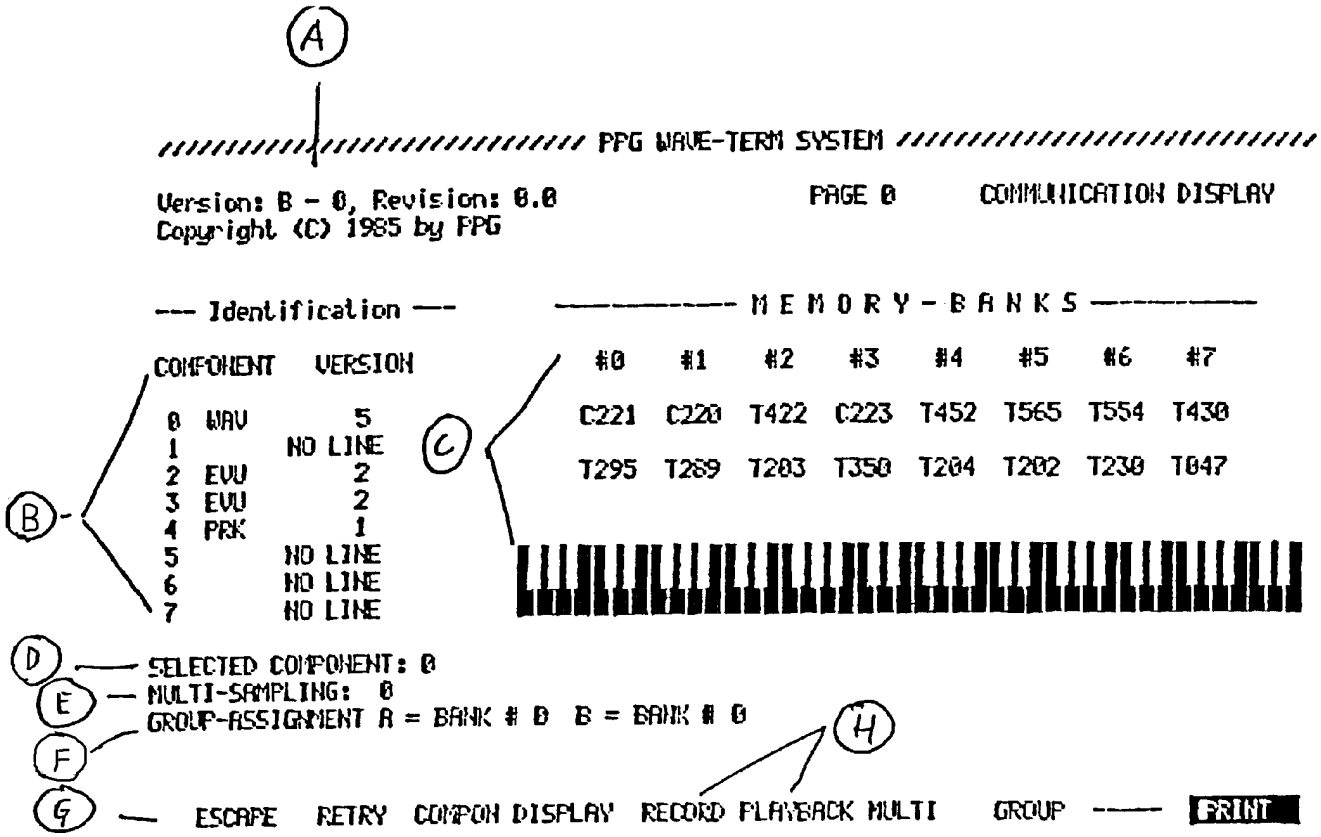
Some of the pages feature drawing facilities. A little cursor point can be moved around with the DIRECT MOTION keys. A "SET" function lets you create envelope points for the graph. The resulting graph can be saved onto disk.

5. THE INDIVIDUAL PAGES

The "WAVETERM B" offers a set of different main pages and secondary pages. Each main page has a special task. The secondary pages are complementing the main pages. It is possible to call up the pages directly, using the numerical keys. After having called up a MAIN PAGE, you can call up the additional SUB PAGES. The "HELP PAGES" are informational pages and help you whenever you don't know how to carry out a special operation. Each function has its own HELP PAGE. Whenever you leave a page, with a few exceptions, the content of this page does not get lost. After coming back to the original page you can go on working immediately.

6. PAGE "0"

PAGE "0" is called the "COMMUNICATION DISPLAY".
It displays information on:
- the software version and type of "WAVETERM",
- how many units are hooked up to the "WAVETERM B",
- if the communnication bewteen the units is working right,
- what kind of transient sounds or wavecompounds have been loaded last into the individual banks of the components,
- if you are working with splitpoints in the individual components,
- what kind of Group Assignment you are using,
- displays the parameters of a WAVE/EVU soundprogramme,
- the RECORD/PLAYBACK mode of the REALTIME RECORDER.



A : System identification.
WAVETERMTYPE,SOFTWARErevision and Copyright are displayed.

B : System-Component Identification.
It is displayed how many units are hooked up to the waveterm,what they are and if the connections are ok.

C : The Memory Banks show the actual content of the individual components .Transientsound and WAVEcomponents been be identified.

D : Selectcmponent fr operations.
Links the WAVETERM with selected components.

E : Splitpoint are displaed on top
of the keyboard and can be with the section keys.

F : The individua banks can be called up
for A and B keyboard arrangement.

G : Funktion Display

H : Realtime Recorder

Comments on:

6.1. WAVETERM TYPES AND SOFTWARE REVISIONS

A - This section displays what type of "WAVETERM" you are working with. Up until now there are two types: "A" and "B" type. the "A" type is working with an 8 bit processor, the "B" type with an 8 bit and a 16/32 bit processor. The "A" type can be upgraded, the 16/32 bit processor board is fully retrofitable. You also get information on what kind of system software you are working with. PPG is constantly developing and supplying you with new software.The type of revision is displayed in this line.

6.2. COMPONENT AND SOFTWARE IDENTIFICATION

B - The "IDENTIFICATION" section gives you information on how many units are linked to the "WAVETERM", what they are (WAVE/EVU/PRK), and what kind of software "VERSION" they are working with. If one of the components does not contain the appropriate software, you'll get a "NEED VERSION X" message, which tells you that you should exchange the software EPROMS of the affected component. If a component position is not occupied you'll get the "NO LINE" message. If you have connected a unit, but it is not identified, you'll get a "NO LINE" message at the left side of this field. Please check if all the connections are right and press the "RETRY" function key.

--- Identification ---

COMPONENT	VERSION
0	NO LINE
1	NO LINE
2	NO LINE
3	NO LINE
4	NO LINE
5	NO LINE
6	NO LINE
7	NO LINE

--- Identification ---

COMPONENT		VERSION
0	WAV	5
1		NO LINE
2	EVU	2
3	EVU	2
4	PRK	1
5		NO LINE
6		NO LINE
7		NO LINE

A- No unit is connected.

B- The following components are connected.
comp0,1 WAVE2.3. softwareversion5
comp2,1 EVU , " " 2
comp3,1 EVU , " " 2
comp4,1 PRK , " " 1

6.3. SYSTEM SOFTWARE LISTING

Actual software 8/85:

WAVETERM A - type	:
WAVE 2.2	:
WAVE 2.3	:
EVU	:
PRK	:
PRK FD	:
WAVETERM B - type	:
WAVE 2.2	:
WAVE 2.3	:
EVU	:
PRK	:
PRK FD	:

6.4. THE MEMORY BANKS

C - The "MEMORY BANKS" display gives information on the actual content of the individual banks of the components. Only transient sounds and wavecompounds are displayed. Synthesizer sound programmes are not displayed. This display interacts with (D) and (E).

6.5. COMPONENT SELECTION

D - When you select a component that you want to work with on PAGE 0, you have to PRESS: the "COMPON" FUNCTION KEY and insert the appropriate component number according to the "-IDENTIFICATION-" section. The "SELECT COMPONENT: X" line interacts with the MEMORY BANK display. If you have connected more than one component, (for instance 1 WAVE and 1 EVU) you can select one of the two components by inserting the number, of the wanted component (SELECTED COPONENT: 2 - for the EVU). Now the keyboard of the MEMORY BANK displays the splitpoints of the EVU keyboard arrangement if you have arranged any for the EVU. The "SELECT COMPONENT: X" line also interacts with (E) "MULTI SAMPLING: X" and (F) "GROUP-ASSIGNEMENT A=BANK 'X', B=BANK 'X'".

6.6. SPLITPOINT ARRANGEMENT

E - If you want to create new splitpoints or correct existing splitpoints in a keyboard arrangement of a component, you'll have to PRESS: function key "MULTI". Now the cursor is at (E) ä MULTI-SAMPLING: *0* ü. There are two different types of splitpoinnt creation:

1. OVERALL EVEN ARRANGEMENT. Any figure bewteen "01" and "28" creates up to eight splitpoints simultaneously and distributes the splitpoints evenly.

PRESS: "MULTI",

INSERT: "12", now a splitpoint occurs every twelth semitone.

2. INDIVIDUAL ARRANGEMENT. The splitpoints can be set anywhere on the keyboard.

PRESS: "MULTI",

INSERT: any figure between "29" - "48"

PRESS: "MULTI" repeatedly until second threat is moved to required position. If you have moved the

threat too far to the right, you can correct the position by PRESSING the "COMPON" function key repeatedly.

PRESS: "ESCAPE",

PRESS: "MULTI" repeatedly until third threat is moved to required position.

PRESS: "ESCAPE",

PRESS: "MULTI" ,

PRESS: "COMPON", in order to create splitpoints in the left keyboard zone. You can correct splitpoints in this area by using both the "MULTI" and "COMPON" functions.

PRESS: "ESCAPE".

YOU CAN STORE THE SPLITPOINT ARRANGEMENT IN THE "WAVE 2.3" OR "EVU" ALONG WITH A COMBIPROGRAMME OR MULTISAMPLE AND CAN SAVE IT ONTO DISK .

IF YOU HAVE CREATED SPLITPOINTS IN THE "WAVE 2.3" PRESS "RETRY" TO TRANSFER DATA FROM "WAVE 2.3" TO PAGE 0 OF THE "WAVETERM B".

6.7. GROUP ASSIGNMENT

F - The GROUP-ASSIGNMENT facility calls up the individual banks of a component. It helps you to check the content of individual banks.

PRESS: "COMPON",

INSERT: "0",

PRESS: "GROUP", the cursor appears at (B = BANK X) on the screen.

INSERT: "7". Push the "GROUP" FUNCTION KEY of the DISPLAY SELECT field of the "WAVE". "GROUP B " LED is lit. The LCD display reads ''GR: b=BK:7'' and the sound on BANK 7 of the "WAVE 2.3" is audible.

PRESS: "GROUP", the cursor appeaars at (A = BANK X) on the screen.

INSERT: "2". Push the "GROUP" FUNCTION KEY on the "WAVE". The LCD display reads ''GR: a=BK:2''.

THE "GROUP" affects the "EVU" in the same way as it does with the "WAVE". It does not affect the PRK.

6.8. THE SOUNDPROGRAMME DISPLAY

H - This is a sub page to PAGE "O". It displays the soundprogramme parameters of a "WAVE" or "EVU" soundprogramme.

```
PPG WAVE-TERM    PAGE: 0   DISPLAY WAVE/EVU PARAMETER SET


PROG: 1 WAVETB:16 MIDI: 0 DTF:0 SPLIT: 0
KEYB:1 TTUNE:440 CASS:0  PPG-WAVE 2.3 V4

PROG: 1  UW0 SW0 KW0 KF3 KL3 MW0 MF0 ML0    PROG: 1  UW0 SW0 KW0 KF3 KL3 MW0 MF0 ML0
GROUP:a  BD1 BI1 TW0 TF1 TL0 TM0 VF0 VL0    GROUP:b  BD1 BI1 TW0 TF1 TL0 TM0 VF0 VL0

PROG: 1  DETU:3 MO:1 MS:1 EO:1 ES:1 BI:1    PROG: 1  DETU:3 MO:1 MS:1 EO:1 ES:1 BI:1
GROUP:a  SEMIT:  24 24 24 24 24 24 24 31    GROUP:b  SEMIT:  24 24 24 24 24 24 24 31

P: 1 60  0 46   4 10 14 20  22   0 14  5    P: 1 60  0 46   4 10 14 20  22   0 14  5
GR:a  0  2 26   0  0 62  0  **  26 54  0    GR:b  0  2 26   0  0 62  0  **  26 54  0

PR: 1 SEQ:99 LOOPS: 0 RECM:0 TMC:0 SP: 0
RUN:0 CH 1:3 2:3 3:3 4:3 5:3 6:3 7:3 8:3


   ESCAPE   RETRY  COMPON DISPLAY  RECORD PLAYBACK MULTI    GROUP -----  PRINT
```

6.8.1. DISPLAY A "WAVE" "SOUNDPROGRAMME".

MOVE: the cursor on the "WAVE" LCD display below one of the eight banks.

INSERT: the number of the soundprogramme.

PRESS: "DISPLAY" function key on the "WAVETERM B". The "DISPLAY SUBPAGE" shows up with the programme parameters of the previously called up "WAVE" soundprogramme.

6.8.2. DISPLAY A "EVU" "SOUNDPROGRAMME".

PRESS: "COMPON" function key on the "WAVETERM B".

INSERT: the identification number of the "EVU".

PRESS: "GROUP" and "GROUP" again. The cursor is at

INSERT: "2". The display now reads: GROUP-ASSIGNMENT: A = BANK 2).

PRESS: "P" function key on the "EVU".

PRESS: "2","5", function keys on the "EVU". The "EVU" display reads "25". You have called up soundprogramme 25 into the 2.bank of the "EVU".

PRESS: "DISPLAY" function key on the "WAVETERM B". The "DISPLAY SUBPAGE" shows up with the programme parameters of the previously called up "EVU" soundprogramme.

NOTE: THE "SOUNDPROGRAMME PARAMETER DISPLAY" ONLY COMMUNICATES WITH THE "A BANK" - "GROUP-ASSIGNMENT".

It is possible to print out a hardcopy of both the MAIN PAGE "0" and the SUBPAGE, if you have connected a printer to the "WAVETERM B". For detailed information, please look up chapter "PRINTER CONNECTION" of this manual.

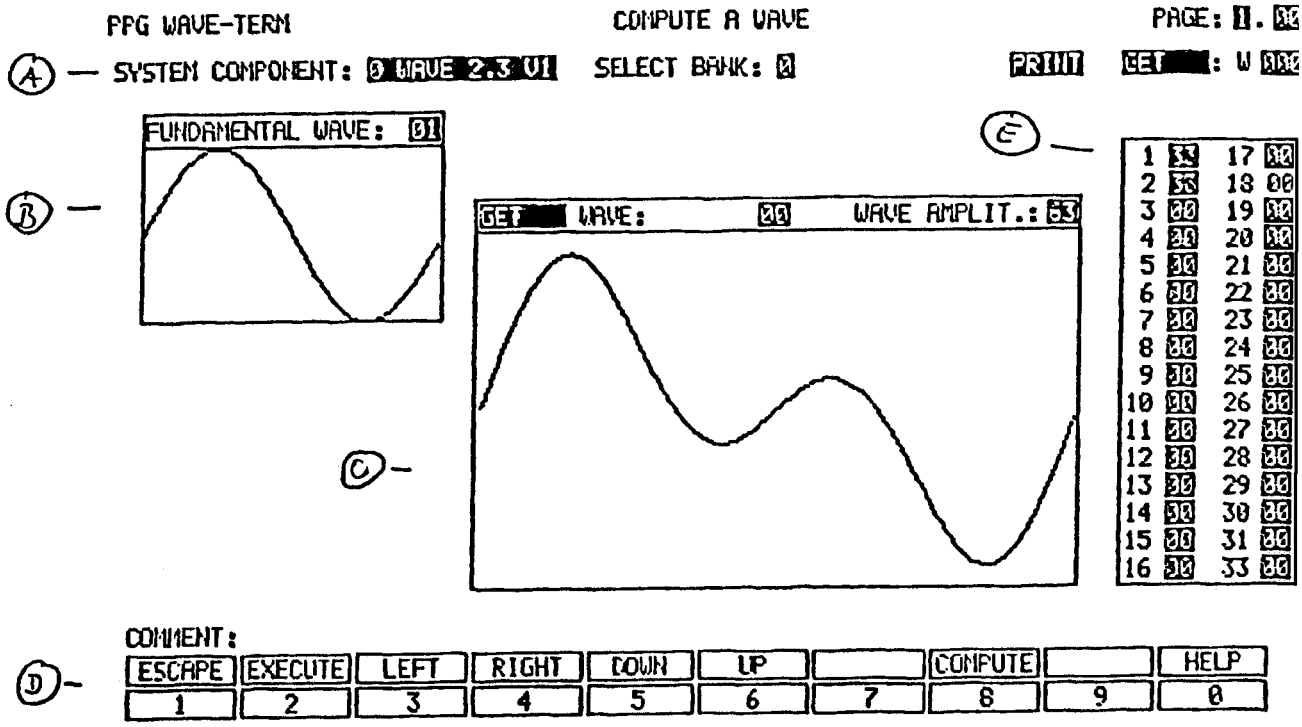
7. PAGE "1"

This page enables you to create a whole world of new "synthesizer" sounds. There are two different ways of waveform synthesis: FOURIER SYNTHESIS and FREE FUNDAMENTAL SYNTHESIS.

The "WAVETERM B" will also features WAVETABLE RESYNTHESIS. It is possible to analyse up to 64 periodical waveforms of a natural sound and create a new WAVETABLE, reducing and reconstructing a natural sound. FOURRIER SYNTHESIS: Fourrier Synthesis is based on the Sine Wave principle. According to Fourrier any complex waveform can be traced back to its individual partial waveforms, the harmonics, and the fundamental waveform, the sine wave. The harmonics are integer multiples of the fundamental waveform. The fundamental waveform in Fourrier synthesis always is the sine wave, a waveform that only sounds at a defined frequency without harmonics. The individual impression of a complex sound is defined by the amount and intensity of the harmonics.

FREE FUNDAMENTAL SYNTHESIS: This new kind of synthesis is based on Fourrier synthesis but in addition uses any waveform as a fundamental waveform, thus increasing the sound variety strongly.

7.1. FOURRIER SYNTHESIS



A - DUC

B - Left window displays the fundamental waveform,which the actual waveform calculation is based on.

C - Centerwindow displays calculated new waveform.

D - Functiondisplays

E - Right window displays 32 harmonics position and IOF, for their amplitudes.

GRAPHIC 10

This pages is working with three windows. The left window displays the fundamental waveform on which the calculation is based, the center window displays the actual new waveform, which also is audible through the "WAVE" synthesizer. The window to the right represents the harmonics (1 - 33) of the fundamental waveform and their individual amplitudes (the light fields behind them).

7.2. CREATE A WAVEFORM

FIRST WE HAVE TO LOAD A PRE PROGRAMMED PARAMETER ADJUSTMENT INTO THE "WAVE 2.3" SYNTHESIZER. THE PRE PROGRAMMED PARAMETERS ENNABLE YOU TO START WORKING WITH THIS PAGE IMMEDIATELY WITHOUT HAVING TO SET UP A SPECIAL PROGRAMME IN THE "WAVE". YOU'LL HAVE TO CALL IT UP ONLY ONCE EVERY TIME BEFORE YOU START WORKING WITH PAGE "1".

PRESS: "ESCAPE", "1". Now we are on PAGE "1".

MOVE: to (*PROG-SET*) ,

PRESS: "EXECUTE".
BANK "0" of the "WAVE" according to SYSTEM COMPONENT and SELECT BANK settings are loaded with the programme parameters for PAGE "1".

Now we have to call up a fundamental waveform. The "WAVETERM B" already offers 4 sine waves with different amplitudes.

INSERT THE PRACTICE DISK INTO THE USER DRIVE.

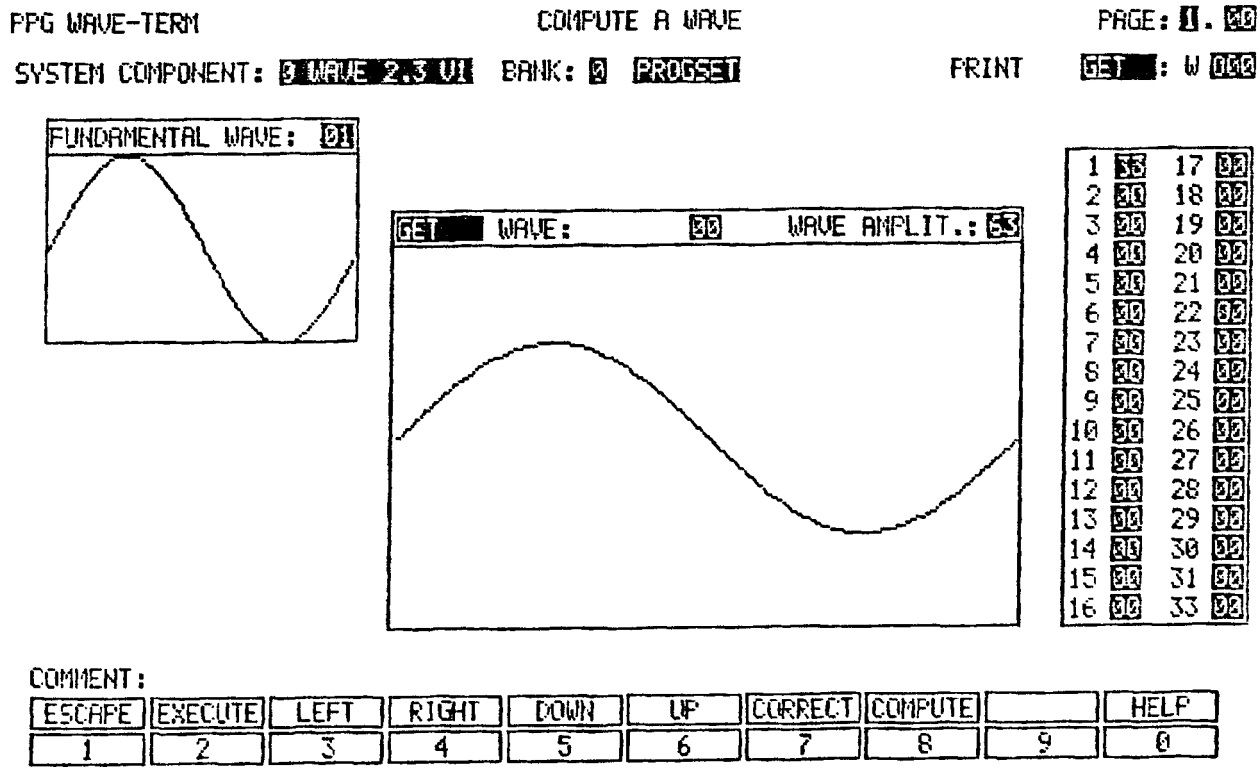
A- MOVE: the cursor to the left window: ("FUNDAMENTAL WAVE: ‹01›) and insert one after the other, "01", "02", "03", "04", "01".

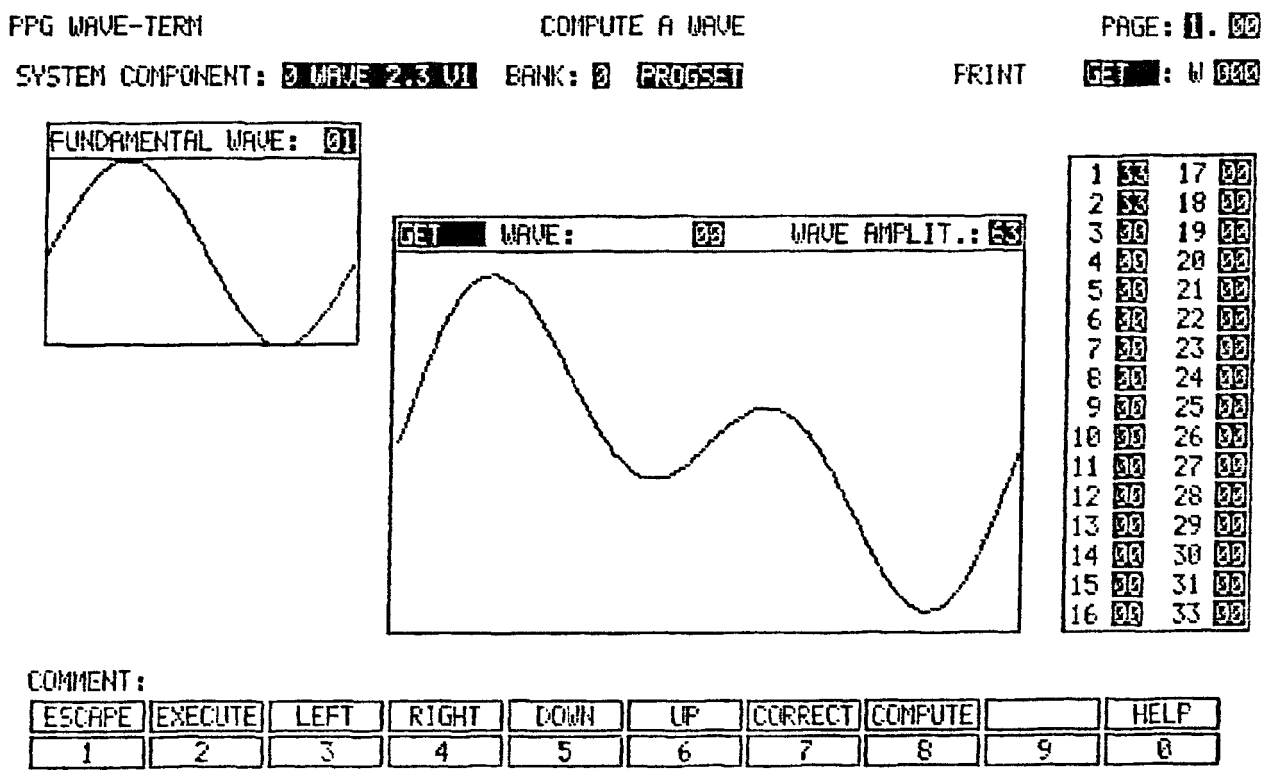
B- MOVE: the cursor to the right window. Now (1 *00*) is flashing. Now you can insert any value between "00" and "63". "00" represents the 'switched off' status, "63" represents maximum value of the harmonic's amplitude.

C-INSERT: "33".The sine wave shows up in the center window.

D- PRESS: "COMPUTE". Play the "WAVE". A sine wave is audible.

GRAPHIC 20



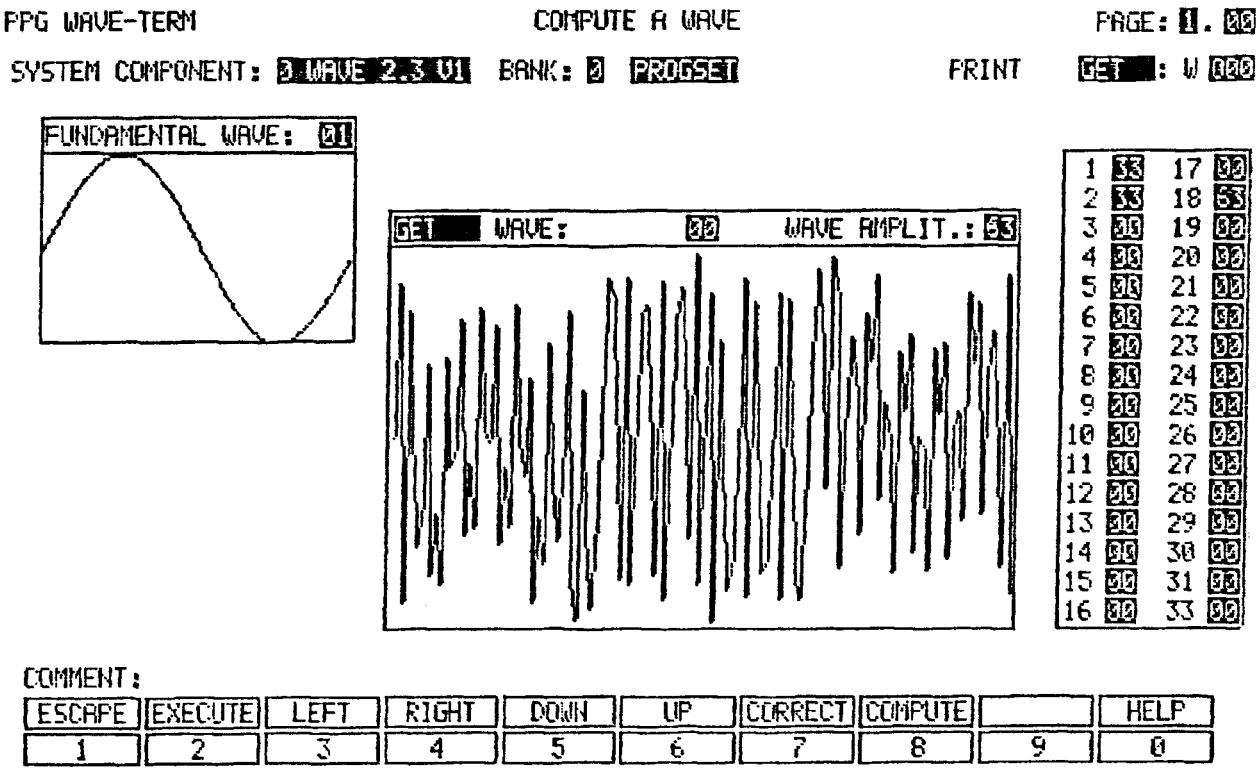

PPG WAVE-TERM
COMPUTE A WAVE
PAGE: 1. 00
SYSTEM COMPONENT: 0 WAVE 2.3 V1
BANK: 0
PROGSET
PRINT
GET : W 000
FUNDAMENTAL WAVE: 01
GET WAVE: 00
WAVE AMPLIT.: 53
1 33 17 00
2 33 18 00
3 00 19 00
4 00 20 00
5 00 21 00
6 00 22 00
7 00 23 00
8 00 24 00
9 00 25 00
10 00 26 00
11 00 27 00
12 00 28 00
13 00 29 00
14 00 30 00
15 00 31 00
16 00 33 00
COMMENT:
ESCAPE 1
EXECUTE 2
LEFT 3
RIGHT 4
DOWN 5
UP 6
CORRECT 7
COMPUTE 8
9
HELP 0

E- PRESS: "DOWN".

F-INSERT: "33". Now a second sine wave with two periods is shown on top of the fundamental sine wave.

G- PRESS: "COMPUTE". The new interpolated waveform is displayed and can be played on the "WAVE".

GRAPHIC 21



F- PRESS: "RIGHT".

G-INSERT: "63". Eighteen periods with high amplitude are displayed on top of our new waveform.

H- PRESS: "COMPUTE". A complex waveform is visible and audible. The level is too high and the waveform is distorted. This is a very nice audio effect, but you can achieve a gain corrected wavefrom as well.

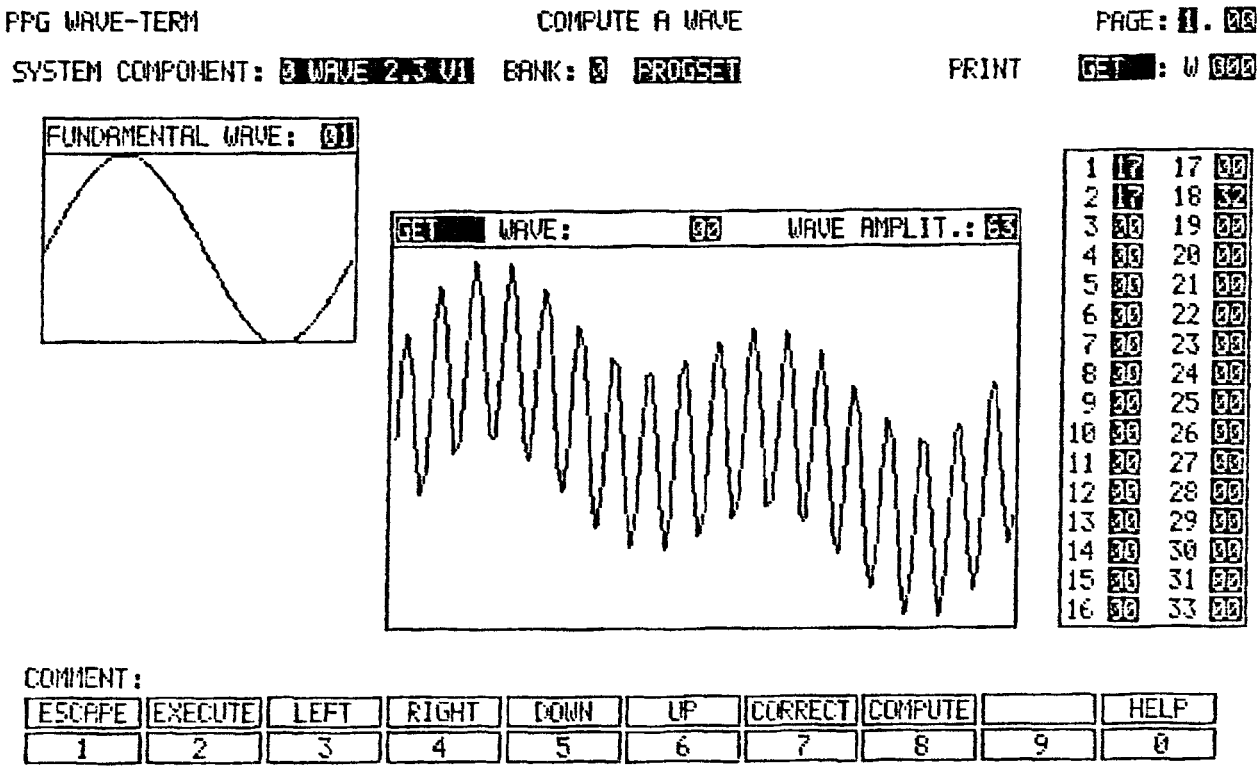
GRAPHIC 22

7.3. THE "CORRECT" FUNCTION AND THE OVERALL AMPLITUDE

It is possible to correct the gain of the waveforms:

I- PRESS: "CORRECT". All the amplitudes of the harmonics have now been calculated again, the corrected individual harmonic amplitudes are displayed in the right window and the center window displayes a smooth sine wave based picture.

GRAPHIC 23



Let us change the overall amplitude of the new waveform:

MOVE: - the cursor to the center window:
(WAVE AMPLIT.: *63*),

INSERT: - any value between "00 and 63".
PRRSS: - "COMPUTE". You can change the overall amplitude as many times as you want.

NOTE: The amplitude function does not correct the waveform, it simply affects the gain.

7.4. "STORE" A NEW WAVEFORM IN THE WORKING MEMORY

Now we can store this new waveform in the temporary "WORKING MEMORY" of the computer.

J- MOVE: the cursor to the center window:
(⟨GET⟩ WAVE: ⟨00⟩).

K- ROLL: to (*STORE* WAVE: 00),

to (⟨STORE⟩ WAVE: *00*),

"10".

NOTE: YOU CAN STORE 99 ORIGINAL WAVEFORMS IN THE WORKING MEMORY. DO NOT STORE "00" - "04" IF YOU NEED THE SINE WAVE AS FUNDAMENTAL WAVEFORM FOR NEW WAVE CREATION.

M-REPEAT: steps "B" - "H" and keep on inserting amplitude values for more harmonics. DON'T HESITATE TO EXPERIMENT !!! CREATE TEN NEW WAVEFORMS AND STORE THEM ALL IN THE WORKING MEMORY IN POSITIONS "10 - 20" OF THE WAVE MEMORY.

7.5. "SAVE" WAVEFORMS ONTO DISK

Now we have to "SAVE" them onto disk.

O- MOVE: to (*GET * : W ⟨000⟩).

P- ROLL: to (*SAVE* : W ⟨000⟩) in order to save the content of your working memory onto disk.

Q- SHIFT: to (⟨SAVE⟩ : W *000*),

R-INSERT: "100".
Now all your new waveforms are saved on the PRACTICE DISK.

7.6. THE "W" FILE

Whenever you save onto disk or get something from disk you always have to identify a "FILE" under which the special data can be saved or loaded. The waveforms of PAGE 1 are stored under "FILE": "W". FILE "W" has two saving functions. On PAGE 1 up to 99 individual waveforms can be stored and because of that is called the WAVE MEMORY. On PAGE 2, 20 new WAVETABLES can be created on base of the WAVE MEMORY of PAGE 1 . Along with the WAVE MEMORY the 20 new WAVETABLES are stored in the "W" FILE.

KEEP IN MIND: THE "W" FILE CONTAINS the WAVEMEMORY and WAVETABLES.

- The "working memory" is the temporary content of the "WAVETERM"s internal memory.
- It can hold all the waveforms of a WAVE MEMORY ("W" FILE) which has been loaded from disk .
- Along with the waveforms of the WAVE MEMORY it cann hold all the newly created waveforms.

7.7. FREE FUNDAMENTAL SYNTHESIS

PPG has developed a new kind of waveform synthesis based on Fourrier Synthesis but increasing its power. PPG made it possible to not only use the sine wave as fundamental waveform for calculation but any waveform which has been previously synthesised.

7.8. EXCHANGING FUNDAMENTAL WAVEFORMS

Let us work with the ten new waveforms you have just created.

PRESS: "ESCAPE",

INSERT: "1",

MOVE: to (⟨GET⟩: W *000*),

INSERT: "100" ,

PRESS: "EXECUTE",

MOVE: to (⟨GET⟩ WAVE: *00*),

INSERT: "10" , one of the waveforms you have created on PAGE "1".

PRESS: "EXECUTE". The waveforms shows up along with the sine wave as a fundamental waveform.

MOVE: to (fundamental wave: *01*),

INSERT: "10" , now the computer automatically exchanges the sine wave with your waveform "10" , automatically calculates the new waveform and displayes it in the center winndow.

PRESS: "CORRECT", in case you like to hear a distortion corrected waveform.

INSERT: all your original waveforms from "11" - "20" as new fundamental waveform for WAVE "10".

STORE: ten of the new waveforms under "21"- "30" in the WORKING MEMORY

IN CASE YOU CAN NOT REMEMBER HOW TO "STORE" WAVEFORMS, PLEASE LOOK UP CHAPTER 7.4. "J - L".

Now let us "SAVE" all the new waveforms, the "WAVE MEMORY" onto disk.

MOVE: to (*GET * : W ⟨XXX⟩),

ROLL: to (*STORE* : W ⟨XXX⟩),

SHIFT: to (⟨STORE⟩ : W *XXX*),

INSERT: "100",

PRESS: "EXECUTE".

Now all new waveforms, the sine wave- and the free fundamental- based ones are saved onto disk on the same "W" "100" FILE.

7.9. PAGE HANDLING AND DISK COMMUNICATION

PAGE HANDLING:

The PAGE HANDLING takes place in the top row of the cennter window,
(⟨ GET ⟩ WAVE: ⟨XX⟩). You can roll the cursor from: *GET* : call up a waveform out of the working memory.

After you have called up one of the 100 waveforms,PRESS: "EXECUTE" for display.

STORE : store a new waveform in the working memory.

DELETE : erase a waveform of the working memory.

DISK COMMUNICATION:

The DISK COMMUNICATION takes place in the second row from the top, (⟨GET⟩ : W ⟨XXX⟩).

GET : load a WAVE MEMORY from disk into the working memory.

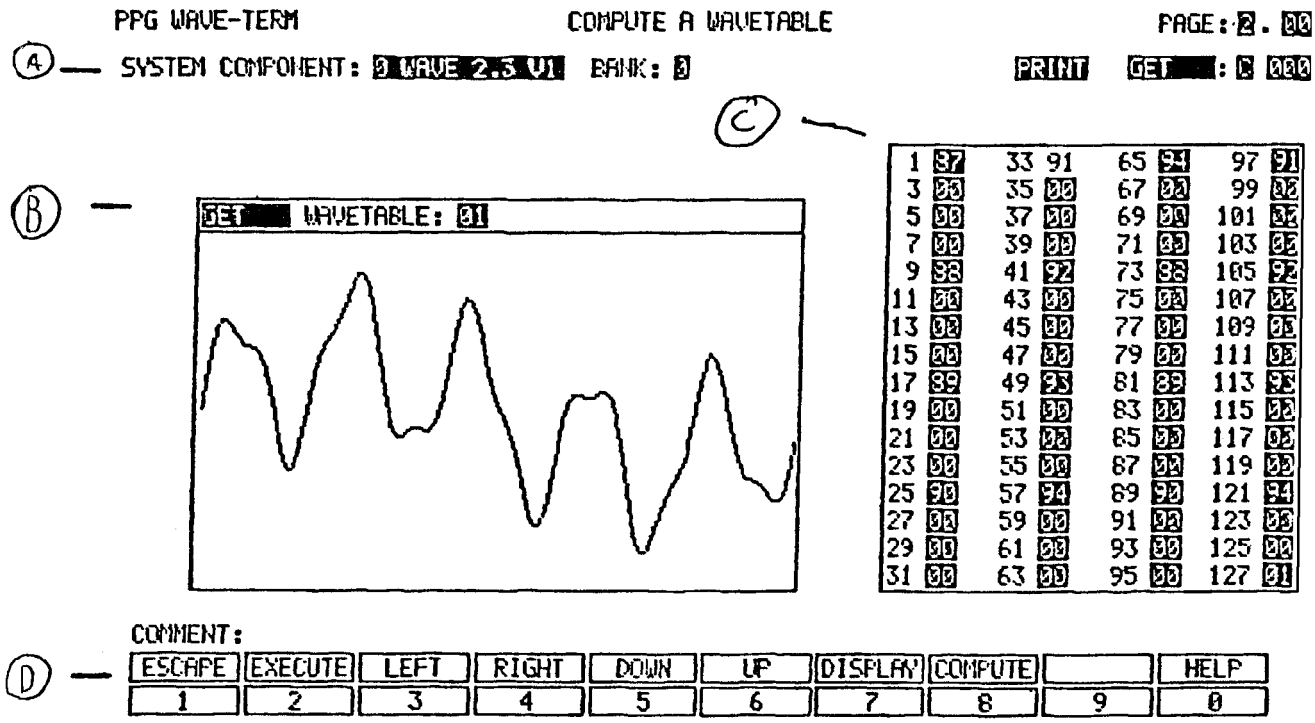
SAVE : the content of the working memory as a WAVE MEMORY onto disk.

COPY : the "W" FILE can be directly copied onto another disk.

The PPG SYSTEM is based on the PPG WAVETABLE PRINCIPLE. Page 2 of the "WAVETER B" is the WAVETABLE creation page. A WAVETABLE is a set of 128 different waveforms. All operations on PAGE 2 are visible on PAGE 2 and directly audible and shapeable on the "WAVE" synthesizer.

GRAPHIC 10

8. PAGE "2"



A - DUC

B - Left window displays either actual waveform,which is inserted into right window's new wavetable,or actual audible waveform during wavetable scanning procedure.

C - Right window displays 64 waveformlocations and corresponding IFO's ,into which the individual waveform of a wavememory can be inserted.

D - Function Display

8.1. CALLING UP A WAVE MEMORY AND WAVETABLES.

There are two preprogrammed WAVE MEMORIES with a number of WAVETABLES on disk "DEMO 85".

BEFORE WE START THE OPERATION, WE'll HAVE TO PREPARE THE "WAVE 2.3". THE "WAVETERM B" OFFERS A PRE PROGRAMMED PARAMETER ADJUSTMENT FOR THE "WAVE 2.3"

----- Let us call up PAGE "2".

PRESS: "ESCAPE", "2".
Now PAGE "2" is displayed.

MOVE: to (*PROG-SET*)

PRESS: "EXECUTE". Now the parameters for the "WAVE 2.3" have been called up and loaded into the "WAVE 2.3" ,BANK "0", according to the SELECTED COMPONENT and SELECTED BANK settigns in the second row of the display.

This operation has to be executed only when you first start to work on PAGE "2".

A-INSERT: the "DEMO 85" disk into user drive.

B - MOVE: to PAGE 2 on the "WAVETERM B".

C - MOVE: to (⟨GET⟩: *C* ⟨000⟩),

D - ROLL: to (⟨GET⟩: *W* ⟨000⟩),

E- SHIFT: to (⟨GET⟩: ⟨W⟩ *000*),

F-INSERT: "001",

G - MOVE: to left window: (⟨GET⟩ WAVETABLE: *00*),

H-INSERT: "01".

I- PRESS: "COMPUTE",wait until the cursor is flashing again.Now the wavetablehas been already transfered

into the "WAVE 2.3" synthesizer.

J- PRESS: "DISPLAY". The computer automatically scans through all the waveforms. Hold down a key on the "WAVE" synthesizer and simultaneously listen to the scanning process. You can stop the "DISPLAY" mode by pressing "DISPLAY" again. Now you hear the waveform which is displayed in the left window. Press "DISPLAY" again and the scanning procedure continues. If you want to leave the scanning procedure while it is still going on, press "DISPLAY" and "ESCAPE".

K-INSERT: "02", and repeat routines I - J. Go on with *04*, *06* and so on. WAVETABLES 1,2,4,6,9,10,11,12,14 are WAVETABLES which are permanently housed in the "WAVE" synthesizer. Now you have the advantage of having a look at these WAVETABLES. You Can rearrange them according to your own taste, save them onto disk and load them back into the "WAVE" synthesizer.

8.2. CREATE A WAVETABLE

Now it is time to create your own WAVETABLE.

A-CALL UP:WAVETABLE "09". All waveform locations display "00".

B-INSERT: (1 *13*), (33 *12*), (65 *99*), (97 *70*) and (127 *22*). You have now inserted only a few waveforms out of the preprogrammed WAVE MEMORY into the new WAVETABLE.

C- PRESS: "COMPUTE". The left window starts rolling up one waveform after the other.

D- PRESS: "DISPLAY". Watch the smooth sweep from one type of waveform you have inserted into the waveform locations to the next one. The computer has interpolated them and created a new WAVETABLE on base of only a few waveforms.

E-INSERT: as many waveforms out of (1 - 99) in as many free locations as you want. Exchange them if

you dont like them.

F- PRESS: "COMPUTE" .

G- PRESS: "DISPLAY". Your new wavetable is visible.

Now you can store it in the working memory. There are twenty locations (OO - 19) for WAVETABLE STORAGE in a "W" FILE.

==== STORE the new WAVETABLE in the working memory:

H - MOVE: to (*GET * WAVETABLE: ⟨OO⟩).

I - ROLL: to (*STORE* WAVETABLE: ⟨OO⟩),

J- SHIFT: to (⟨STORE⟩ WAVETABLE: *OO*),

K-INSERT: "19",

PRACTICE: --------- MAYBE YOU WANT TO PLAY AROUND A LITTLE BIT.INSERT THE PRACTICE DISK. CALL UP YOUR OWN WAVE MEMORY, CREATE NEW WAVETABLES AND STORE THEM.

NOW WE HAVE TO SAVE OUR NEW WAVETABLES ONTO DISK:

L - MOVE: the cursor to (*GET * : ⟨W⟩ ⟨XXX⟩),

m - ROLL: to (*STORE * : ⟨W⟩ ⟨XXX⟩),

N - MOVE: to (°STOREμ : ⟨W⟩ *XXX*),

O-INSERT: (⟨STORE⟩ : ⟨W⟩ *100*),

P- PRESS: "EXECUTE". Now your own WAVE MEMORY along with your new WAVETABLES are saved onto disk under the FILE "W" "100".

8.3. CREATE A COMPOUND

BEFORE WE HAVE STARTED TO WORK ON PAGE "2", WE HAD LOADED A PRE PROGRAMMED PARAMETER ADJUSTMENT INTO THE "WAVE 2.3" SYNTHESIZER. NOW WE ARE GOING TO LOAD A WAVETABLE INTO THE "WAVE 2.3" AND SHAPE THE WAVETABLE WITH SOME OF THE PARAMETERS OF THE SYNTHESIZER.

- Insert your PRACTICE DISK and load one of your

WAVETABLES.
- In case you are not sure how to load a WAVETABLE, look up steps (A -I) of chapter 8.1. and insert the number of your "W" FILE and WAVETABLE.
- Press a key on the keyboard and simultaneously move the "WAVES OSC." control knob gently from the extreme left to the extreme right position.
- What you were doing was a manual scan through the wavetable.
- Along with the analog display you can easily locate the waveforms you like best.
- Now you can manipulate the sound like any other normal synthesizer sound on the "WABE 2.3".
- After you have created a nice new sound, you can SAVE the WAVETABLE along with the parameter settings of the "WAVE 2.3" as a "COMPOUND" onto disk.

MOVE: the cursor to (*GET *: ⟨C⟩ ⟨000⟩),

ROLL: to (*STORE*: ⟨C⟩ ⟨000⟩),

SHIFT: to (⟨STORE⟩: ⟨C⟩ *000*),

INSERT: "100"

PRESS: "EXECUTE".

Now the COMPOUND is saved onto disk and you can directly load it into one of the component banks, either by means of PAGEs "2", "5" and "9".

8.4. PAGE HANDLING AND DISK COMMUNICATION

PAGE HANDLING:

The PAGE HANDLING takes place in the top row of the left window.

GET : call up a WAVETABLE from the working memory. Always PRESS: "EXECUTE" to load it into the "WAVE".

STORE : after you have created a new WAVETABLE on base of the content of the working memory, you can

store it into the working memory.

DELETE : erase aa WAVETABLE out oof the working memory.

DISK COMMUNICATION:

GET : load a WAVE MEMORY from disk into the working memory. ,sp *COPY* : copy the data of a "W"- or "C"-FILE onto another disk.

COPY : directly copy the data of a FILE onto another disk.

9. PAGE "3"

This page features:

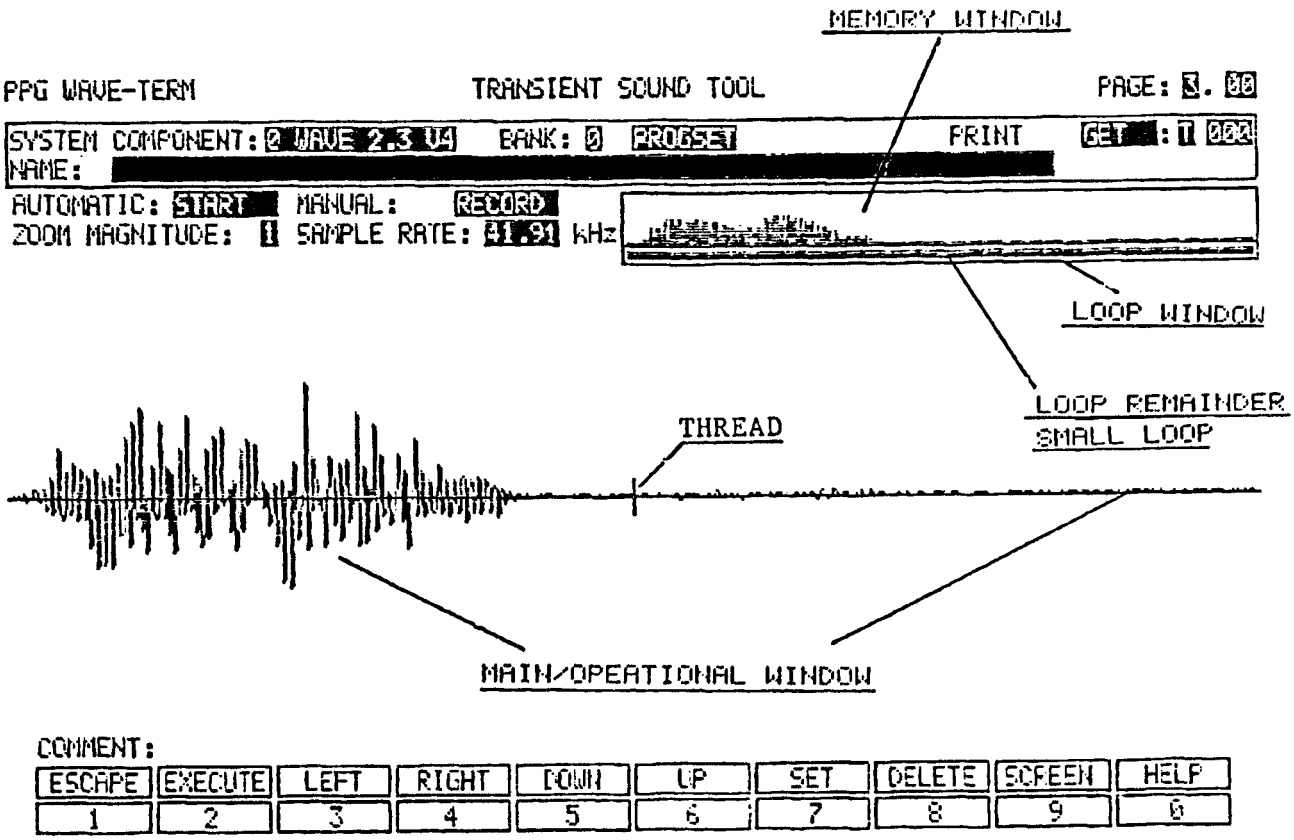
- manual and automatic sound sampling
- manual and automatic looping
- manual and automatic sound shaping
- manual reverse loading
- digital mixing and envelope shaping
- digital delay functions.

9.0.1. THE WINDOWS OF PAGE 3

PAGE 3 uses three different kind of windows:

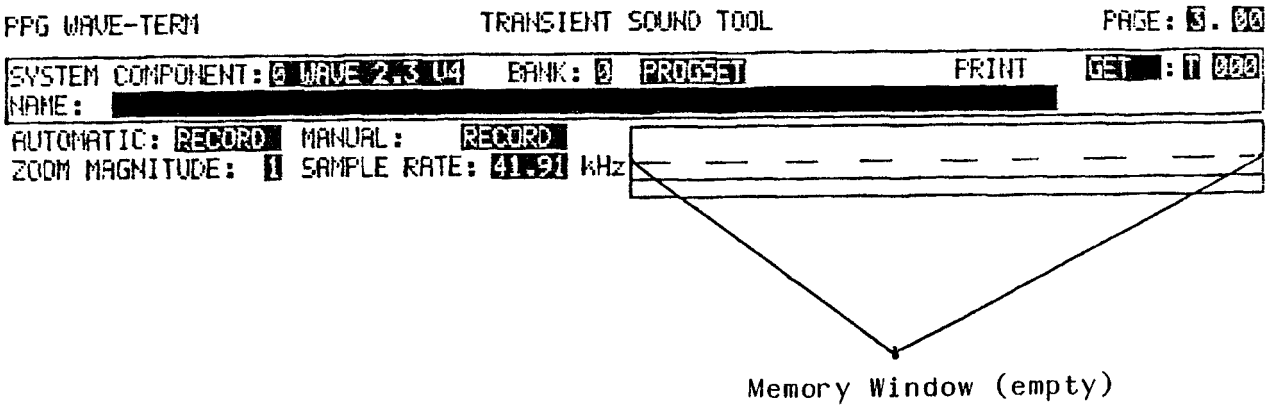
1. The MAIN or OPERATIONAL WINDOW.
2. The MEMORY WINDOW.
3. The LOOP WINDOW.

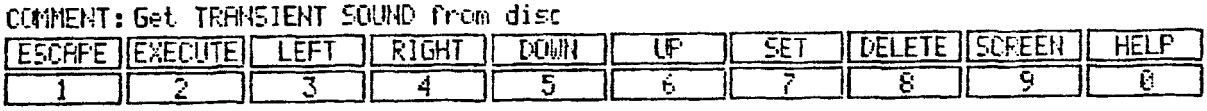
1. THE MAIN/OPERATIONAL WINDOW



COMMENT: The MAIN/OPERATIONAL WINDOW is the window where all the manual and automatic operations are carried out. The displayed wavematerial might not represent the complete content of the wavememory, especially when you are operating with high resolution (high ZOOM MAGNITUDES). For detailed inform ation please look up chapter 9.0.1.

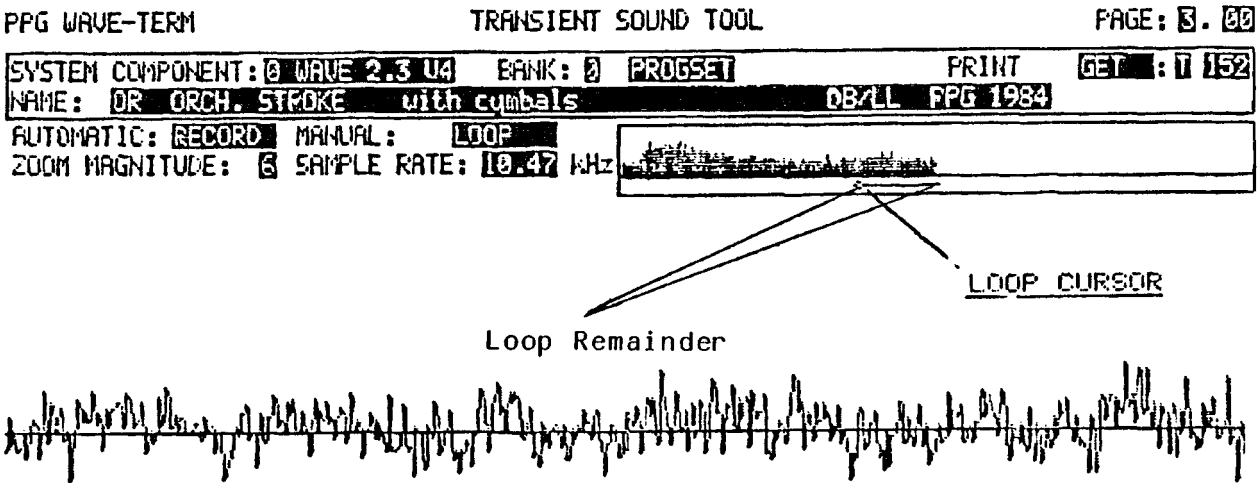
2. THE MEMORY WINDOW

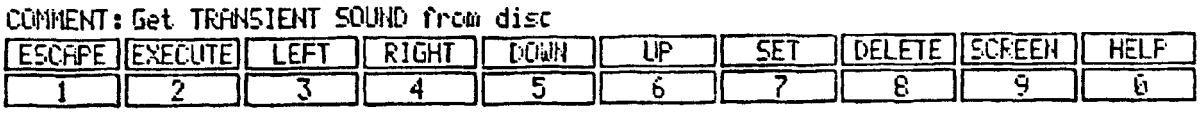




COMMENT: The memory window always displayes 1/2 of the content of the temporary working memory of the "WAVETERM B".

3. THE LOOP WINDOW





COMMENT: The LOOP WINDOW has three different display functions:

1.THE MAIN WINDOW INDICATOR

The illuminated field indicates the part of the memory displayed in the MAIN/OPERATIONAL WINDOW and is called the MAIN WINDOW INDICATOR.

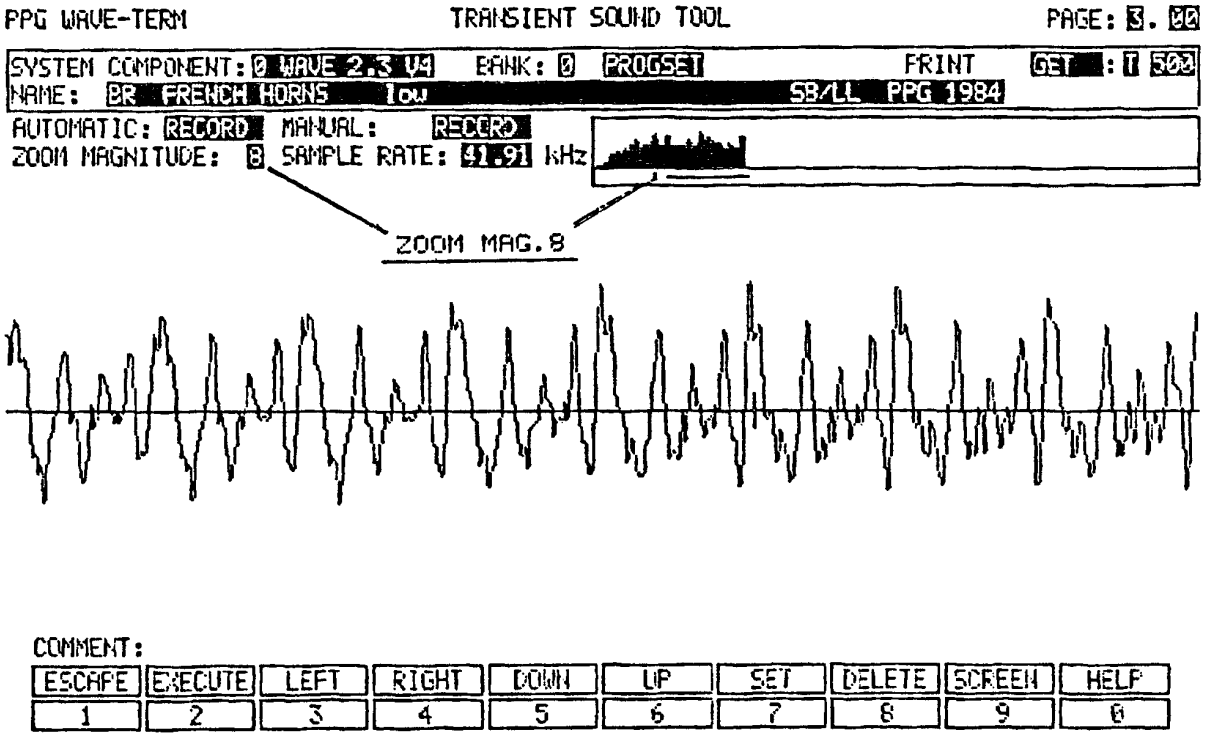
2. THE LOOP REMINDER

The slim line within the MAIN WINDOW INDICATOR displayes the length of a loop which might vary in cases of long loops. Small loops are simply indicated by a dot. You always can check visually what kind of loop and position within the sound has been used.

3. THE LOOP CURSOR

Whenever a loop operation is carried out the LOOP WINDOW changes the display to a little bar which is jumping according to the type of loop you are creating or moving slowly when you move the thread manually always indicating the position of the thread within the memory.

9.0.2 THE ZOOM MAGNITUDES



COMMENT: The ZOOM MAGNITUDE operates like a microscope. The higher the magnitude rate the higher the resolution. For some operations , the computer automatically uses higher resolutions such as looping functions. It is also possible to change the ZOOM MAGNITUDE MANUALLY.

MOVE: to (ZOOM MAGNITUDE: *1*)

INSERT: any figure between 2 - 8. Use the "ROLL - UP" function keys.

PRESS: "EXECUTE".

The resolution of the ZOOM MAGNITUDES:

ZOOM MAGNITUDE:	1	512 PERIODS =	65536 samples displayed.
	2	346 =	32768
	3	128 =	16384
	4	64 =	8192
	5	32 =	4096
	6	16 =	2048
	7	8 =	1024
	8	4 =	512

9.0.3. THE SCREEN ACCESS

Many operations require to move the thread within the MAIN WINDOW in order to find a certain positions.

Whenever you need to test an operation or you want to move the thread immediately you can enter the MAIN WINDOW by pressing the "SCREEN" function key.

Move the thread with the "LEFT" or "RIGHT" function keys.

After having the operation completed you can leave the "SCREEN" mode by pressing "ESCAPE".

The "SCREEN" function does not affect the sound. It serves to get a survey on the sampled material.

If you want to try out this feature and the ZOOM MAGNITUDE you can load a sound into PAGE 3 and experiment. PLease refer to chapter 9.1.

9.1. LOADING A SOUND FROM DISK INTO PAGE "3"

First let us call up one of the transient sounds of the "DEMO 85" disc.

INSERT: "DEMO 85" disk into user drive.

PRESS: "ESCAPE", "3", now you are on PAGE "3",

MOVE: to (⟨GET⟩: ⟨T⟩ *000*).

INSERT: "xxx ",

SHIFT: to (*GET*: ⟨T⟩ ⟨xxx⟩).
the COMMENT line displays:
"Get TRANSIENT SOUND from disc"

PRESS: "EXECUTE".
after 2 seconds the waveforms of the sound appear on the screen and after the complete picture has been built, the sound is audible through the "WAVE 2.3".

In case you want to load a "C" FILE (WAVE COMPOUND), you have to ROLL to (GET: *C* XXX) and PRESS "EXECUTE".

9.2. SOUND SAMPLING

In contemporary music sound samples are quite frequently in use. PPG offers a very powerful new TRANSIENT SOUND TOOL that'll help you to create your own new natural sound samples and sound effects. GRAPHIC 31 PAGE "3"

9.3. THE RECORDING FACILITIES

Recordings can be made either with a normal microphone or with a "LINE" connection.

There are two different ways to record a sound, a manual and an automatic recording function.

With the automatic recording function you can record without having to worry about input gain levels. the computer does all the cumbersome work for you.

NOTE: A RECORDING NEVER CAN BE BETTER IN QUALITY THAN THE INPUT SIGNAL. IT IS VERY IMPORTANT THAT THE INPUT SIGNAL IS NOT DISTORTED.

Please look up the APPENDIX for special tips and tricks.

9.3.1. AUTOMATIC RECORDING
(SAMPLING OF A TRANSIENT SOUND)

CONNECT THE MICROPHONE OR LINE XLR MALE CONNECTOR TO "WAVETERM B"-"AUDIO IN" ON THE FRONTSIDE OF THE UNIT. ADJUST INPUT MODE "MIC"/"LINE" WITH TOGGLE SWITCH.

The computer will only record signals which are above a pre programmed gain level.

All incoming signals below the threshold are rejected (noise etc.) and not recorded.

The threshold depends on the pre programmed gain level and the position of the "SENSITIVITY" input gain control.

The recording starts as soon as the input level is above the threshold.

The level of the recording depends on the input gain level.

For now let us connect a microphone. GRAPHIC 34

Talk into the microphone and check the level.

Hold down the "EXECUTE" function key and adjust the input gain with the "SENSITIVITY" control.

For experimental purposes use the word "HELLO" with a very long " oooo " at the end. Try to stay at a constant pitch with the vowel "o".

The recording automatically starts whenever the threshold of the input gain is exceeded.

The recording automatically ends when the recording time,in dependy on the sample rate is over.

If the level during the recording was too high, the COMMENT LINE displays "OVERFLOW" which results in distortion and you have to record again at a lower input level. Please readjust the "SENSITIVITY" control and re- record the word "HELLO", GRAPHIC 33.

PRESS: "ESCAPE", "3",
now you are on PAGE "3".

MOVE: to (*PROG - SET*),

PRESS: "EXECUTE",
now the pre programmed parameters are adjusted in the "WAVE 2.3" in BANK "0" and "1" according to "SYSTEM COMPONENT" and "BANK:" settings.

9.3.1.1. CHANGING THE SAMPLING RATE

When you first enter PAGE "3", the sample rate is set to (SAMPLE RATE: * 41.91* kHz). We start working with a sample rate of 20.95 kHz. For this we have to change the sample rate to the appropriate setting.

MOVE: to (SAMPLE RATE: * 41.91 *).

ROLL: to (SAMPLE RATE: * 20.95 *).

The "WAVETERM B" offers four different sample rates:

SAMPLE RATE	AUDIO RANGE	SAMPLETIME	PLAYB. TIME	ORIG.KEY
41.91 kHz	20Hz- 20kHz	4,5 sec.	1,5 sec.	3E
20.95 kHz	20Hz- 10kHz	7,0 sec.	2,4 sec.	2E
13.97 kHz	20Hz- 6kHz	10,0 sec.	3,0 sec.	1A
10.47 kHz	20Hz- 5kHz	13,0 sec.	4,0 sec.	1E

9.3.1. AUTOMATIC RECORDING CTD.

Let us continue to record a sound.

MOVE: to (AUTOMATIC: *RECORD*),

In the "AUTOMATIC MODE", the LED overload indication does not matter because the computer displays the level on the screen level meter.

PRESS: "EXECUTE",
The unit is in the recording mode. During the recording you can watch the level and the remaining space, while the cursor line follows the input level and moves on during the recording horizontically.

After the recording, the screen immediately displays half of the content of the memory in the LOOP WINDOW,as well as in the MAIN WINDOW. The nondisplayed part of the recording still remains in the second half of the memory, although it is not displayed and is available for further operations. The displayed content might be shorter than your recording, which is dependent on the length of the sample and the capacity of the windows. The memory of the "WAVETERM B" however contains the complete recording. The transient sound is automatically sent to the first two banks of the "WAVE 2.3"

Hold key (2E) on the "WAVE 2.3" keyboard and listen to the playback. Most probably it does not start immediately, because you have left a little pause before you started talking, and it does not playback all of your words: the memory capacity of the "WAVE 2.3" is smaller than the memory capacity of the "WAVETERM B" (approx.7,0 seconds).

The playback stops after approx.2,5 seconds.

9.3.2. AUTOMATIC STARTING POINT ADJUSTMENT

ROLL: to (AUTOMATIC: *START*),

PRESS: "EXECUTE", wait until the cursor is flashing again.
The computer automatically calculates the starting point of the transient sound.

Hold (3E) on the "WAVE 2.3". The playback is starting immediately, the little pause is deleted and some more words are audible, the whoÄe transient has been shifted around in the memory.

9.3.3. AUTOMATIC SAMPLE LEVELING

ROLL: to (AUTOMATIC: *LEVEL*),

PRESS: "EXECUTE", wait until the cursor is flashing again. The computer calculates the optimum level of the transient sound and of the playback and accordingly boosts the level of the display.
Hold down key (2E) on the "WAVE 2.3".

9.3.4 SMALL AND LONG LOOPS QUICK INTRODUCTION

The "WAVETERM B" is capable of creating two different kinds of loops:

SMALL LOOPS: An approproiate pitch corrected periodical waveform of the transient sound oscillates at the end of a playback, giving you the impression of a constant tone. The looping point is automatically chosen by the computer, but you can change the starting point of the loop
manually on the "WAVE 2.3".

CHANGE THE SETTING OF THE "ENVELOPE 1 ° WAVES" CONTROL KNOB ON THE "WAVE 2.3" SYNTHESIZER. THE LOOP IS TRANSFERED TO ANOTHER SPOT.

This kind of loop should be used especially for long sustained sounds, which are not subject to timbre changes, such as E-Pianos , voices, percussive and short sounds.

NOTE: CREATING SMALL LOOPS MIGHT AFFECT THE AUDIO QUALITY BECAUSE OF DATA REDUCTION.

LONG LOOPS: An appropriate amount of waveforms taken from a sample are repeated constantly at the original pitch. In some cases this might produce an LFO type of effect due to timbric and pitch changes within a sample. The procedure can be repeated until the result is satisfying.

9.3.5.0. AUTOMATIC SMALL LOOPS

ROLL: to (AUTOMATIC: *LOOP*),

PRESS: "EXECUTE", wait until the cursor is flashing again.

The COMMENT LINE displayes: "SMALL LOOP?"

PRESS: "EXECUTE" for confirmation.
The MAIN WINDOW now displayes with a very high zoom magnitude the first suggestion of the computer for a small loop. This position is located

towards the end of the sample.

The COMMENT LINE displays: "DIFFERENT POSTION?
YES=EXECUTE"

If you want to loop the sample in a different place more towards the top of the sample continue with (---A).

If you want to loop the sample at the position actually offered, continue with (B).

---A PRESS: "EXECUTE".
The LOOP CURSOR automatically jumps to a new place towards the beginning of the sample and the MAIN DISPLAY offers the complementing display.

The COMMENT LINE again offers another loop position. This will repeat until the LOOP CURSOR does not jump any further.

---B PRESS: "ESCAPE".

Now the OPERATION DISPLAY follows a scanning process, which is directed by the computer.

The computer is looking for the optimum looping points for a small loop.

After the looping points are found, a calculation is executed and a new picture of the looped transient sound is displayed. sp You can watch the searching process in the MEMORY WINDOW, the LOOP CURSOR is jumping back and forth in order to find the best loop position.

GRAPHIC 34 LOOP CURSOR

DEFINITION: A short loop is the repetition of a single periodical waveform out of the actual wave memory. The original pitch of the transient sound has been transposed down. The new pitch is defined by the looping point. The pitch of the loop has exactly the same pitch as the waveform material in the orginal. Depending on the length and the original pitch of the sample, the material might have been compressed and reduced to the memory of bank "0" only. The "WAVETERM B" offers the best loop results automatically. You are free to experiment however.

Experiment with the "ENVELOPE 1 ° WAVES" control on the "WAVE 2.3" for different looping points.

If you want to SAVE the sound onto disk, follow the instructions of chapter 9.3.9..

9.3.5.1 AUTOMATIC LONG LOOPS

ROLL: to (AUTOMATIC: *LOOP*)

PRESS: "EXECUTE".

The COMMENT LINE displayes: "SMALL LOOP?"

PRESS: "ESCAPE" in order to enter the long loop mode. The computer automatically offers the first pre calculated starting point for a long loop.

The COMMENT LINE displayes: "DIFFERENT POSITION? YES=EXECUTE"

If you want to check out different start positions, continue with (---A). If you want the actual starting point, continue with (---B).

---A PRESS: "EXECUTE".
The LOOP CURSOR automatically jumps to a new place towards the beginning of the sample and the MAIN DISPLAY offers the complementing display.
The COMMENT LINE again offers another loop position. This will repeat until the LOOP CURSOR does not jump any further.

---B PRESS: "ESCAPE".
Now the computer calculates for approx. eight sec. and comes up with a long loop.

PLAY the sound on the "WAVE 2.3"

If you want to SAVE the sound onto disk, follow innstruction in chapter 9.3.9..

9.3.6. AUTOMATIC SUSTAIN

The automatic sustain function is a level changing device. It boosts the second half of a sample to a constant level. This is incredibly helpful for sounds with a fast decay (cymbals etc.) The decay level of such a sound is increased by the AUTOMAYIC SUSTAIN FUNCTION to an even level at medium volume and lets you control the decay by means of the analog controls of the "WAVE 2.3".

ROLL: to (AUTOMATIC: *SUSTAIN*),

PRESS: "EXECUTE"

The decay level of the transient has been boosted to an even level.

The COMMENT LINE displays "BACK TO ORIGINAL? YES= EXECUTE". In case you do not like the result of the AUTOMATIC SUSTAIN FUNCTION with this sample, you can go back to the original sample by pressing "EXECUTE" again. In case you like the result, press "ESCAPE".

9.3.7. AUTOMATIC L-MERGE

This function works only after having created a loop first.

It can be used for both long and small loops.

Whenever a long loop has been created, the "LOOP MERGE" function helps to get a smoother result, the loop repetition becomes less audible and is changed into a type of pitch depending filter vibrato.

Call up the sound you want to work with. Please refer to chapter 9.2. After the sound has been loaded, you can hear if the sound already has a long loop. If not, please look up chapter 9.4.X (LONG LOOPS) and create a long loop. Now you can start working with the "L-MERGE" function.

MOVE: to (AUTOMATIC: *L-MERGE*)

HOLD: DOWN A KEY OF THE KEYBOARD CONSTANTLY.

PRESS: "EXECUTE" , the sound of the loop repetition has changed and now sounds smoother.

REPEAT: pressing "EXECUTE" while still holding down the key on the keyboard.

The COMMENT LINE displayes: "MODIFY RESULT? YES=EXECUTE".

Go on and modify the result by pressing "EXECUTE" repeatedly. Count the amount of "EXECUTIONs" you have made. Simultaneously watch the changes in the MEMORY WINDOW. The picture displayed in the MEMORY WINDOW, which is identified by the loop line is changing through the "L-MERGE" procedure and should be showing the most even horizontal curve for the best audio result.

GRAPHIC 37

After having found the maximum amount of "EXECUTE" repetitions,

PRESS: "ESCAPE".
The COMMENT LINE displays: "BACK TO ORIGINAL? YES= EXECUTE".

PRESS: "EXECUTE".
You hear the original long loop.

REPEAT the "L-MERGE" functions according to the amount of repetitions for best results. Now you have a smooth loop.

If you are satisfied with the result SAVE the sound on disk according to chapter 9.3.9.

Small loops can be merged as well but the effects might be different from what you have experienced with the long loop function.

Record a sound and, supply it with a small loop and try the L- MERGE function.

The effect is that the loop material is calculated on base of the waveforms of the memory.

It is a matter of experimentation amd experience to find all out about this function in combination with small loops.

9.3.8 AUTOMATIC DYNAMIC - EXPANSION

The AUTOMATIC DYN-EXP is a device which affects the dynamic structure of the sample. It works like a dynamic expander. The loud parts of the sample are increased in volume, the low parts are decreased in volume.

ROLL: to (AUTOMATIC: *DYN-EXP*),

PRESS: "EXECUTE".

The sound has been changed according to its own dynamic structure. This is very helpful in case you have to work with very noisy input signals. THE DYN-EXP function deletes most of the noisy parts and keeps the more "HIFI" parts and boosts them in level. The COMMENT LINE displays "BACK TO ORIGINAL". In case you do not like the result press "EXECUTE"

and the original sound is back in the memory. If you like the result, press "ESCAPE", in order to keep the modified sound.

9.3.9. SAVING A TRANSIENT SOUND ONTO DISK

For now let us name and save the new sound onto disk.

ROLL: to (NAME: * *)

PRESS: "O",
now the function keys display a part of the alphabete and three other functions:
--"MODE" for switching between the remaining part of the alphabete and the figures (0 - 9) .
--"SPACE" for moving the cursor forward and leaving spaces inbetween words.
--"BACKSP" for moving the cursor backwards.

The cursor now is flashing in the NAME field. Write "TEST RECORDING 1". After you have finished writing hold down the "SPACE" function key. The cursor moves rapidly out of the field.

PRESS: "ESCAPE",

MOVE: to (*GET * : ⟨T⟩ ⟨000⟩),

ROLL: to (*SAVE* : ⟨T⟩ ⟨000⟩),

SHIFT: to (°SAVEμ : ⟨T⟩ *000*),

INSERT: "001"

PRESS: "EXECUTE".

The LED of the user drive is switched on, indicating that the saving command is accepted. The data of the transient sound are transfered along with the data of the parameter settings of the "WAVE 2.3".

If you want to go on and experiment with the sample some more, you can immediately do so, because the sample is still in the memory of the "WAVETERM B". You can try out other settings of the "WAVE 2.3" and save the new result under another "T" FILE.

9.4. RECORDING A SOUND MANUALLY

The manual recording follows a different procedure as the automatic recording does. The recorder records permanently and the end of the recording is defined by pressing "EXECUTE".

9.4.1. MANUAL TEST

This feature allows you to read the full content of the memory of the "WAVETERM B". Imagine you have recorded a sound with a sample rate of 10.47 kHz which gives you 13 sec. of recording. The capacity of the "WAVE 2.3" is only 2.5 sec. i.e. 3/4 of a recording never would be audible if you were not able to shift the starting point of a sample read out. The "TEST" function lets you shift the starting point within the entire memory and select individual sample passages.

Record with sample rate 10.47 kHz. Use a microphone for the recording and count from 1 - 10 while you record. The recording is automatically stopped after 13 sec.

Hold down (E1) on the "WAVE 2.3". The playback starts counting at 1 etc. but will last for 4 sec. only.

In order to hear the complete content of the "WAVETERM B" memory you will have to shift the starting point of the read out of the memory.

ROLL: to (MANUAL: * TEST *).

PRESS: "EXECUTE".

MOVE: the thread with the function keys "LEFT" and "RIGHT".

First move the thread to the far right side of the actual display without leaving it. The actual display represents half of the complete recording.

PRESS: "EXECUTE" and wait until the Memory window has changed its display.

Press (E1) on the "WAVE 2.3". Now the playback start counting

at a later point of the original recording.

MOVE: the thread out of the actual display into the second half of the recording.
PRESS: "EXECUTE".
Now the playback starts counting again at a later point if the original recording.

Experiment a little to get familiar with this feature. It is very helpful in situations where you had to record a long event and later on had to find the appropriate starting point. By simply "testing" different areas of the memorry you can find a very good starting point. After you have found this point you simply ROLL to (MANUAL: * START *) and press "EXECUTE" to define a starting point.

9.4.2. MANUAL START

The manual starting point definition lets you create your own starting point of the sample which especially for percussions and drums is a very interesting feature, because you can later on control the feeling of a groove when you start arranging a rhythme track. The later a starting point is set, the more "laid back" a rhythme track is programmable, because you have more control on the read out point of aa sample.

GRAPHIC 38

ROLL: to (MANUAL= *START*),

PRESS: "EXECUTE".

THE COMMENT LINE displayes : "SET START POINT".

USE THE FUNCTION KEYS "LEFT" and "RIGHT", to move the thread. HOLDING DOWN THE FUNCTION KEYS MOVES THE THREAD RADIPDLY, GENTLY TOUCHING THEM SHORTLY MOVES THE THREAD SLIGHTLY.

Whenever you have found a suitable starting position:

PRESS: "EXECUTE".
The sample is shifted to the left side of the display and has an earlier read out point.

9.4.3. MANUAL LOOPING

The manual looping facility offers both types of loopes, long and small loops. Whenever you press "EXECUTE" for the

(MANUAL * LOOP *) function, the COMMENT LINE displayes "LONG LOOP?", asking you if you wish to create a long loop. Now you will have to decide whether you are going to create a small or a long loop. As mentioned earlier, the type of loop should match the sampled material and the purpose. Percussive instruments normally do not need a long loop and can be performed with a small loop if a sustaining sound is required. This applies to most of the woodwind and brass instruments as well. Bowed sustained sounds normally require a long loop but could sound nicely with a short loop as well. Effect sounds can be altered by a long loop and can become very exciting.

NOTE: PPG IS WORKING WITH THE ABOVE MENTIONED TWO KINDS OF LOOPS ONLY. THE ADVANTAGE OF THIS METHOD IS THAT ALL THE LOOPED SOUNDS LATER ON CAN BE EDITED AND MIXED TOGETHER, WHICH WOULD NOT BE POSSIBLE IN CASE OF LOOPS WHICH HAVE NOT BEEN CALCULATED TO A STANDARD FORMAT.

CREATING LOOPS MIGHT REQUIRE DATA REDUCTION AND DATA COMPRESSION IF THE PITCH OF THE ORIGINAL DOES NOT MATCH THE PITCH OF THE SAMPLE RATE PLAYBACK ON THE KEYBOARD.

EXAMPLE: NO DATA REDUCTION:
PITCH OF ORIGINAL: (2E)
SAMPLE RATE: 20.95
OIG. KEY: (2E) on the "WAVE 2.3".

9.4.3.1. MANUAL SMALL LOOPING

RECORD A SOUND according to chapter 9.3.1.

SET A STARTING POINT according to chapter 9.4.2.

ROLL: to (MANUAL: * LOOP *).

PRESS: "EXECUTE".
The COMMENT LINE displayes "LONG LOOP?", asking you if you want to work with a long loop. We want to work with a small loop.

PRESS: "ESCAPE".
The computer now comes up with an offer for a loop position, displayed in both the MAIN WINDOW and the LOOP WINDOW. The little mark on the right hand

side of the LOOP WINDOW defines the part of the memory which is offered for a loop.

HOLDING DOWN THE "LEFT" OR "RIGHT" FUNCTION KEYS ENABLE YOU TO MANUALLY MOVE THE THREAD THROUGH THE MEMORY IN ORDER TO FIND A SUITABLE ZERO CROSSING FOR A STARTING POINT.

The COMMENT LINE displayes : "SMALL LOOP! br (best results on loop length between 1/4 to 1/1 screen)

This means that the start and the end points of the small loop should be defined within the displayed area of the screen.

It does not mean that you are not free to move the thread to any other position within the recording and set starting point.

Once you have set a starting point you should stay within the displayed part of the memory on the screen and define an ending point.

PRESS: the "LEFT or "RIGHT" function key and move the thread to the required position. Simultaneously watch the LOOP CURSOR which gives information on the thread position within the recording. HOLDING down one of the "LEFT" or "RIGHT" function keys, causes the thread to rapidly scan through the wavefroms .

NOTE: ALWAYS LOOK FOR A ZERO CROSSING OF WAVEFORMS WHICH MARK THE BEGINNING OF A PERIODICAL WAVEFORM. USE ZERO CROSSINGS FOR LOOP START AND END DEFINITION ONLY.

GRAPHIC 39

PRESS: "EXECUTE" in order to define the starting point of the loop.

PRESS: "RIGHT" function key and move the thread to another ZERO CROSSING !!!WITHIN THE DISPLAY !!!. Do not move out of the screen.

PRESS: "EXECUTE" in order to define end point for small loop.

NOTE: CREATING LOOPS MIGHT HAVE AN EFFECT ON THE PITCH OF A SAMPLE.

Hold down a key on the "WAVE 2.3" and experiment with the "ENVELOPE 1 WAVES" and "WAVES OSC" controls.

You can shift the starting point of the sample and the loop with these functions.

If you do not like the result, you can try to create a new loop, starting at the same position but ending on a different position.

The COMMENT LINE displayes: "DIFFERENT POSITION?"

PRESS: "EXECUTE".
And change the ending point of the loop.

PRESS: "EXECUTE".

You can repeat this operation until you are satisfied with the loop.

In case you like the loop and you want to keep it, continue with (---A). In case you want to try a long loop, continue with (---B)

---A PRESS: "ESCAPE".

The COMMENT LINE displayes: "BACK TO ORIGINAL?"

PRESS: "ESCAPE".

If you want to SAVE the sound onto disk, please follow the routines of chapter 9.3.9.

---B PRESS: "ESCAPE".

The COMMENT LINE displays: "BACK TO ORIGINAL?"

PRESS: "EXECUTE".

In order to create a long loop move either to (AUTOMATIC: *LOOP*) or follow the instruction in chapter 9.4.3.2.

9.4.3.2. MANUAL LONG LOOPING

Record a sound according to chapter 9.3.1. Use the word "HALLO".

ROLL: to (MANUAL: * LOOP *).

PRESS: "EXECUTE".
The COMMENT LINE displays:

"LONG LOOP ?".

PRESS: "EXECUTE".

MOVE: the thread in order to find a convenient ZERO CROSSING for a start point of the long loop.

PRESS: "LEFT" or "RIGHT" function keys.

Look for proper waveform periods. Use positive zero crossings for start and end points only.

Whenever you have found appropriate material:

PRESS: "EXECUTE" in order to mark the starting point.

The LOOP CURSUR automatically jumps to a different spot to the right within the sample, automatically offering a new display and waveforms for the end point.

Select a proper positive periodical zero crossing for the end point.

MOVE: the thread to appropriate end position.

PRESS: "EXECUTE" and wait until the MEMORY WINDOW has changed.

PLAY the sound on the "WAVE 2.3".

If you have worked properly you should hear a nice loop on the vowel "o", glitch free and very smooth.

The COMMENT LINE displayes: "DIFFERENT POSITION ?".
In case you are not satisfied with the result, continue with (---A). In case you like to keep the sound, continue with (---B).

---A PRESS: "EXECUTE".

MOVE: the thread to the right, searching for another
periodical zero crossing.

PRESS: "EXECUTE"

Repeat the operation until you are satisfied.

---B PRESS: "ESCAPE".

The COMMENT LINE displays: "BACK TO ORIGINAL?"

PRESS: "EXECUTE".

PRESS: "ESCAPE".

If you want to SAVE the sound on disk, please follow the instructions in chapter: 9.3.7.

9.4.4. MANUAL SUSTAIN

The MANUAL SUSTAIN function allows you to create very strong dynamical effects, which are not possible with analog technology.

It is possible to create an envelope on top of a sampled sound thus creating a new dynamical costume of the sound and its audible structure.

Record a sound according to chapter 9.3.1.

ROLL: to (MANUAL: * SUSTAIN *).

PRESS: "EXECUTE".
The COMMENT LINE displayes: "MOVE CURSOR!" "SET ENVELOPE!" COMPUTE = EXECUTE".

The cursor now is a little dot which can be moved and set within the OPERATIONAL WINDOW. It is moved by using the four directional function keys.

PRESS: "UP", until the cursor is moved to the maximum heigth.

PRESS: "SET". A diagonal descending line is automatically drawn.

PRESS: "RIGHT", until the dot is in the center of the WINDOW.

PRESS: "SET". A straight line is drawn from the left side to the center and followed by a descending diagonal line.

PRESS: "DOWN", until the dot reaches the bottom line.

PRESS: "SET". A descending diagonal line is drawn from the left upper
side to the center bottom line.

Take your time and experiment with different envelopes. This type of drawing facilities enable you to create outrageous new envelopes.

In order to correct a dot position after having pressed "SET" just move the dot "UP" or "DOWN" and press "SET" again.

If you want to create an additional dot position you have to shift the dot horzontically. If you forget to do so the last dot position automatically corrected.

You can create "GATE", "DUCKING" and combinations of both as well as not yet named effects.

PRESS: "EXECUTE" . It takes the computer about 2o sec. to do all the necessary calculation before you can hear the result.

The OPERATIONAL WINDOW and the MEMORY WINDW both show up with a picture of the sample which has been modified according to the drawn envelope. The envelope drawing is not visible anymore.

The COMMENT LINE displayes: "MODIFY ENVELOPE ?".

PRESS: "EXECUTE" in case you want to modify the

actual envelope. The original sample is again displayed with the envelope drawing. Now you can go ahead and alter the image. After all the necessary changes have been made:

PRESS: "EXECUTE" and wait again for the new result.

Again you are asked if you want to modify the envelope.

If you do not like the effect at all, you can erase the SUSTAIN ENVELOPE:

PRESS: "EXECUTE" and,

PRESS: "DELETE", the drawing is erased and the original sample audible. Start a new drawing.

Whenever you are satisfied with the results, you can SAVE the sound as it is onto disk.

PRESS: "ESCAPE", to leave the MANUAL SUSTAIN mode.

For SAVING follow chapter 9.3.9.

9.4.5. MANUAL DECAY

The manual decay feature can be used in different ways.

First of all it can be used to mark a tight ending of a sample this is very helpful in case you don't want to use a loop and have to manually define an ending point for the sample. Be sure to set (ENV. WAVES) control to "63" position on the "WAVE 2.3". Second it can be used to chop up samples. Third it can be used to create a smooth volume fade out of a sample. The handling is very easy.

Record a sound according to chapter 9.3.1.

If you have recorded an important sound, save it onto disk first, because the DECAY feature is not equipped with a "BACK TO ORIGINAL" funtion.

ROLL: to (MANUAL: * DECAY *).

PRESS: "EXECUTE".

The COMMENT LINE displayes: "SET START POINT".

MOVE: the thread, using the "LEFT" or "RIGHT" function key to the position where you want to start the decay.

PRESS: "EXECUTE" whenever you have found the right position.

The COMMENT LINE displayes:

"SET END POINT".

MOVE: the thread to the position where you want to end the decay.

NOTE: THE DECAY ALWAYS STARTS AT THE VOLUME LEVEL WHICH OCCURS AT THE STARTING POINT OF THE DECAY PHASE AND GOES DOWN TO ZERO AT THE ENDING POINT OF THE DECAY PHASE.

The effect can be heard as soon as the display is rolling up again (2 sec.)

NOTE: THE MORE YOU CHOP OFF OF A SAMPLE THE LESS IS REMAINING.
YOU CANNOT CALL A SAMPLE BACK FROM THE WORKING MEMORY BECAUSE THE DECAY FUNCTION AFFECTS THE WORKING MEMORY.

9.4.6. MANUAL REVERSE

The manual REVERSE function changes the sample around, so it can be played backwards. This is a common procedure in modern recording technique but sometimes might become very difficult for reasons of timing. With the "WAVETERM B" things become easier because you can REVERSE any sound very quickly and integrate it into your compositional and arranging work during preproduction. Record a sound according to chapter 9.3.1.

ROLL: to (MANUAL: * REVERSE *)

PRESS: "EXECUTE".
The sound appears now reversely. Short sounds are shifted to the right side of the display and maybe out of the memory capacity of the "WAVE 2.3" and not audible. For this reason you will have to create a new starting point at the beginning of the reverse sample. Please follow the instructions

of chapter 9.4.2.

If you want to use the sample in a play back, you will have to check the timing and maybe redefine the starting point of the read out.

If you want to go back to the original recording, you will have to repeat the REVERSE operation again.

9.4.7. MANUAL PHASE MERGE

The "WAVETERM B" offers a Phase Merging function which operates as an audio processing installation.It enables you to shift the phase of a sample and merge it with the original, thus creating room simulation, echo, static flanging as well as slow second fade in effects.

The effects you achieve can be totally different from what you are used to with normal studio audio processing equipment. It takes some time to find out all the possibilities and to put them in the right place of a playback. But whenever you have familiarized yourself with this function, you will enjoy creating very interesting sound effects.

Another very helpful aspect is the smoothening of long loops.

GRPHIC 947 WOLFGANGS SCHAUBILD.

NOTE: THE HIGHER THE ZOOM MAGNITUDE, THE HIGHER THE RESOLUTION OF THE DELAY TIME FOR THE FIRST REFLECTION (SMALLER ROOMS).

NOTE: THE WIDER THE GAP BETWEEN THE TWO THREADS, THE SOFTER THE REFLECTION WILL BE FADED IN AND THE LESS ATTACK IS AUDIBLE.

CALL UP ⟨T⟩ 632 from "DEMO 85" disk.

9.4.7.1 MANUAL STATIC PHASING AND CHORUS EFFECTS

PRESS: "SCREEN".

MOVE: the thread to the left ("LEFT" function key) until the thread is at the extreme left of the display.

PRESS: "ESCAPE"

MOVE: to (ZOOM MAGNITUDE: * X *).

ROLL: to (ZOOM MAGNITUDE: * 8 *).

PRESS: "EXECUTE". The screen most probably displayes a couple of hard to identify lines, which mark the beginning of the sample. Check out the position of the cursor in the LOOP WINDOW, which indicates the positon of the content of the MAIN WINDOW whithin the complete sample. This cursor should indicate a position very close to the beginning of the window.

MOVE: to (MANUAL: * PHASE-M *).

PRESS: "EXECUTE".

The COMMENT LINE displayes: "SET PHASE-POINT 1 ".

Move the thread with the "LEFT" or "RIGHT" function key.

Move the thread as much as possible to the far left until you reach the ultimate beginning of the recording and step four times back to the right.

PRESS: "EXECUTE".

The COMMENT LINE displays: "SET PHASE POINT 2 ".

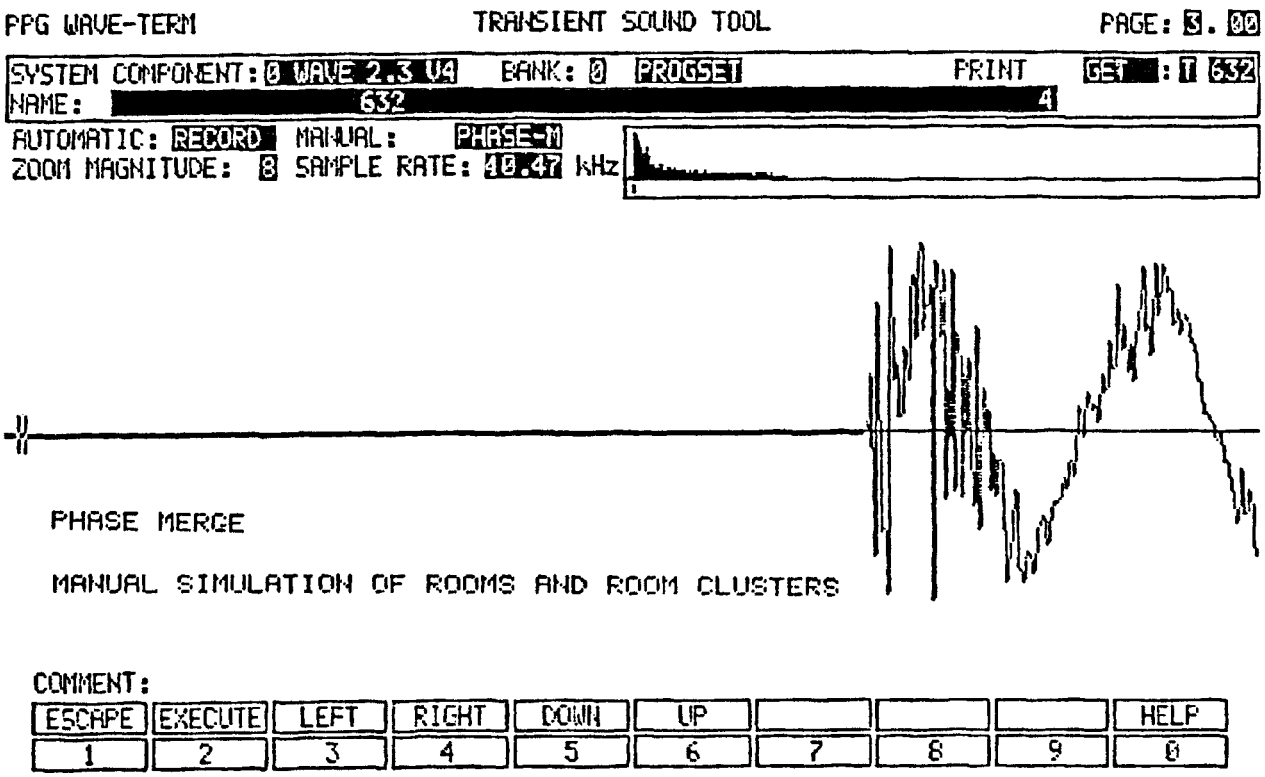
Move the thread four steps to the right.

PRESS: "EXECUTE".

Wait for approx. 1o sec. until the calculation has been carried out. Play (2E) on the keyboard of the "WAVE 2.3". A in volume slightly decreased and phase shifted sounding effect is audible.

The COMMENT LINE displayes: " BACK TO ORIGINAL ?"

PRESS: "EXECUTE".

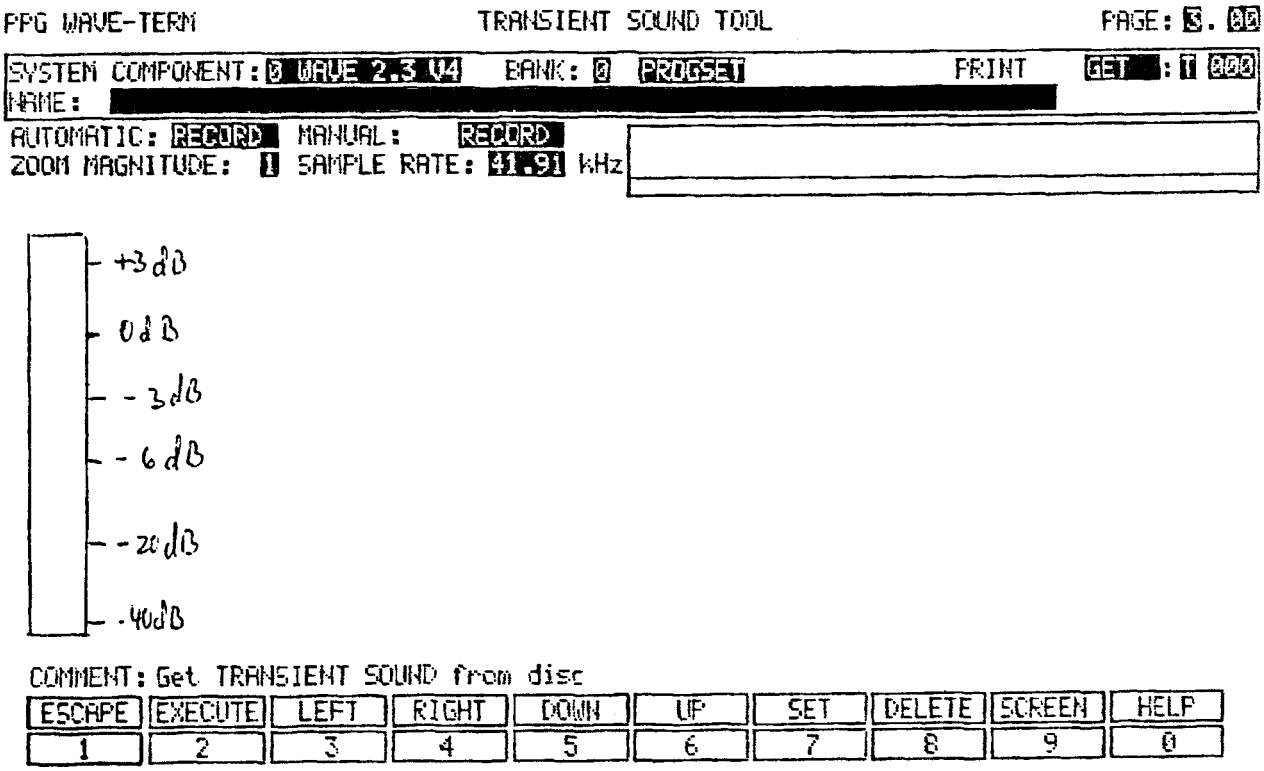


After a couple of seconds the original sound is audible again.

For static chorus effects, repeat the operations of this chapter, but set PHASE POINT 1 approx. 2 inches from the left side of the screen.

PRESS: "ESCAPE", to leave the PHASE MERGE mode.

PRESS: "EXECUTE",
Now a level meter shows up on the left side of the screen.



9.4.7.2. MANUAL SIMULATION OF ROOMS AND ROOM CLUSTERS

Record the word "HELLO" according to chapter 9.3.1.

First of all let us create the ambience of a small room:

MOVE: the CURSOR to (ZOOM MAGNITUDE: * X *)

ROLL: to (ZOOM MAGNITDE: * 4 *) for medium resolution and shortest delays.

PRESS "EXECUTE". The display now shows a picture of medium resolution.

MOVE: to (MANUAL: * PHASE- M *).

PRESS: "EXECUTE".

The COMMENT LINE displayes: "SET PHASE - POINT 1 ".

Move the thread to the left side with a 1/2 inch distance to the left border line.

PRESS: "EXECUTE" in order to set the first phase point.

The COMMENT LINE displayes: "SET PHASE - POINT 2 ".

Move the thread four steps to the right.

PRESS: "EXECUTE" and wait for approx. 10 seconds, until the computer has calculated the result and shows up with a new picture on the screen.

Hold down (2E) on the keyboard. You can hear an ambient sound, resambling the freuency structure of a small box.

The COMMENT LINE displays: " BACK TO ORIGANAL ?".

PRESS: "EXECUTE". Wait for aprox. 3 sec. until the original is audible again.

Repeat the procedure but this time leaving 1 inch of space between the beginning of the recording and the first phase point.

The result is a voice talking in a small room.

Repeat the procedure several times leaving three, four, etc.

inches of space.

The bigger the distance from the beginning of the sample to the first phase point, the bigger becomes the size of the room.

NOTE: THE STRONGEST ROOM SIMULATION EFFECTS YOU CAN GET WITH CLUSTERS OF PHASE MERGED SAMPLES.

Repeat the above described steps, leaving different spaces between the beginning of the sample and the first phase point, but do not go back to the ORIGINAL. After the COMMENT LINE dsiplayes "BACK TO ORIGINAL", you have to:

PRESS: "ESCAPE", in order to keep the result of the PHASE -M operation and to go back to start a new PHASE -M calculation.

PRESS "EXECUTE" and now you are back int the PHASE -M mode an should continue with the calculation of the next roomsize, in order to add on to the roomcluster.

After every second calculation you should move to (AUTOMATIC: * LEVEL *) and boost the level, because the Phase- Merging decreases the overall level strongly.

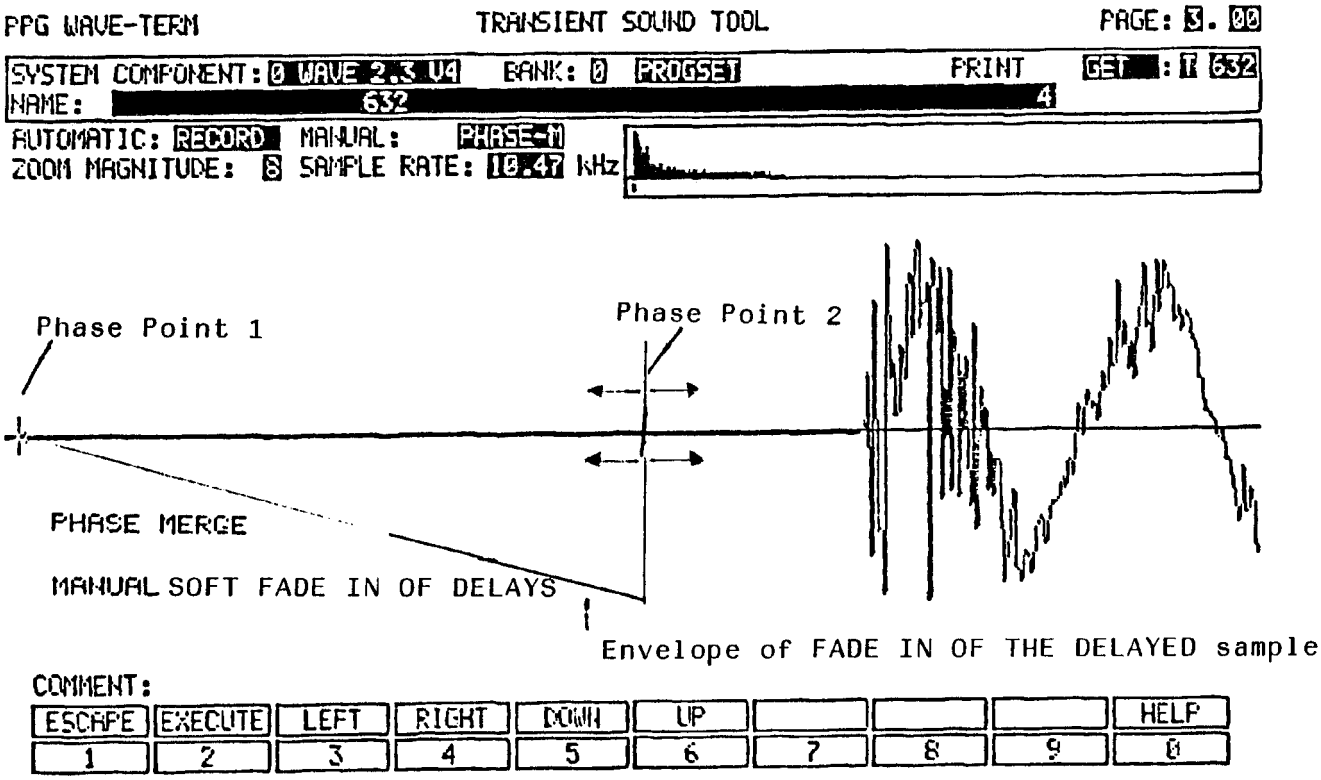
Whenever you like the result, feel free to SAVE it onto disk. Please follow chapter 9.3.9.

9.4.7.3. MANUAL SOFT FADE IN OF DELAYS

Up until now we have delt with hard attack delays in various dealy times and have cr eated room ambience and clusters of rooms.

Now we should get familiar with another feature of the PHASE MERGE function. It is possibe to create soft fades of sample repetitions. Here is another GRAPHIC, discussing the situation.

GRAPHIC 9473


PPG WAVE-TERM
TRANSIENT SOUND TOOL
PAGE: 3. 00
SYSTEM COMPONENT: 0 WAVE 2.3 V4
BANK: 0 PROGSET
PRINT
GET : T 632
NAME: 632 4
AUTOMATIC: RECORD
MANUAL: PHASE-M
ZOOM MAGNITUDE: 8 SAMPLE RATE: 10.47 kHz
Phase Point 1
Phase Point 2
PHASE MERGE
MANUAL SOFT FADE IN OF DELAYS
Envelope of FADE IN OF THE DELAYED sample
COMMENT:
ESCAPE
EXECUTE
LEFT
RIGHT
DOWN
UP
HELP
1
2
3
4
5
6
7
8
9
0

PLEASE REPEAT THE ROUTINES OF CHAPTERS 9.4.7.2. INCREASE THE DISTANCE BETWEEN THE FIRST PHASE POINT AND THE SECOND PHASE POINT STEP BY STEP.

The result of this work are delays, rooms and clusters of rooms, which DO NOT repeat all of the sample. The attack phase is left out more and more, along with the growing distance between the two phase points. Only the later parts of the sample should become audible in the delay.

9.4.7.4. MANUAL PHASE SHAPING

The PHASE-M function can also create phase shaping effects, by using phase deleting and phase enhancing technology.

This effect can create new overtones within the playback of a sampled sounds.

LOAD: T (040) of the "BASSES" DISK of the SOUNDLIBRARY into PAGE 3. Please refer to chapter 9.3.1.

MOVE: to (ZOOM MAGNITUDE: *8*).

PRESS: "EXECUTE".

MOVE: to (MANUAL: *PHASE-M*).

PRESS: "EXECUTE".

MOVE: the thread to the beginning of the sample. The sample starts with a negative period. Set the thread on the NEGATIVE ZERO CROSSING of this period..

PRESS: "EXECUTE". PHASE POINT 1 now is set.

MOVE: the thread to approx. 1/2 inch to the right.

PRESS: "EXECUTE".

After the display has changed, the COMMENT LINE displays: "BACK TO ORIGINAL ?"

Play a key on the "WAVE 2.3". The second overtone of the fundamental (1 oct. & 1/2) of the bass sound is audible strongly.

NOTE: SOME SOUNDS DO NOT ALLOW DIFFERENT OVERTONE CREATIONS BECAUSE OF THEIR HARRMONIC STRUCTURE. IT IS A MATTER OF EXPERIMEMTATION AND EXPERIENCE TO ACHIEVE THE BEST RESULTS.

9.4.7.5. MANUAL PHASE SHAPING FOR LONG LOOPS

This way of using the PHASE-M function allows you to achieve perfect results with long loops.

Any sound that has been supplied with a long loop can be treated.

After having called up the sound in question, you should try first the "AUTOMATIC: L-MERGE" function according to chapter 9.3.7. and maybe "AUTOMATIC: SUSTAIN" according to chapter 9.3.6.

The loop should already sound very good.

Some sounds however, according to rapid timbric changes or level drop outs always will have an identifiable long loop.

Call up the "MANUAL: PHASE- M" function.

Set the first phase point slightly after the first peak of the sample and the second phase point close to the right side of the screen in order to get a very soft fade in effect.

Press "EXECUTE" and check the result on the "WAVE 2.3". The sample should sound clearer and tthe loop should be smoother as well.

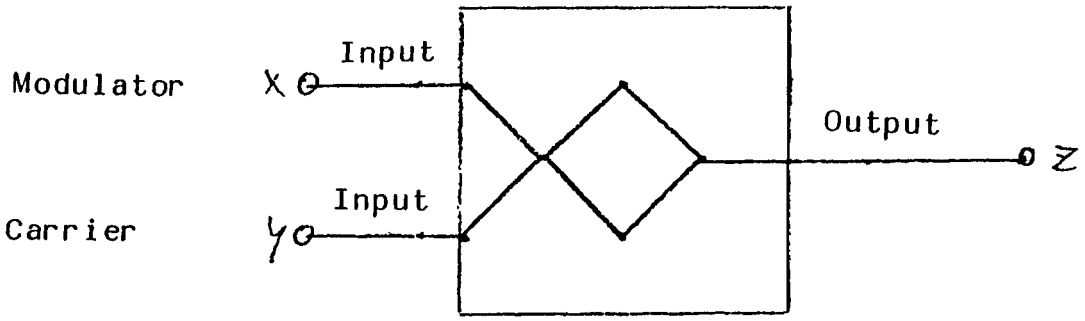
Again it is a matter of experimentation and experience to achieve optimum results.

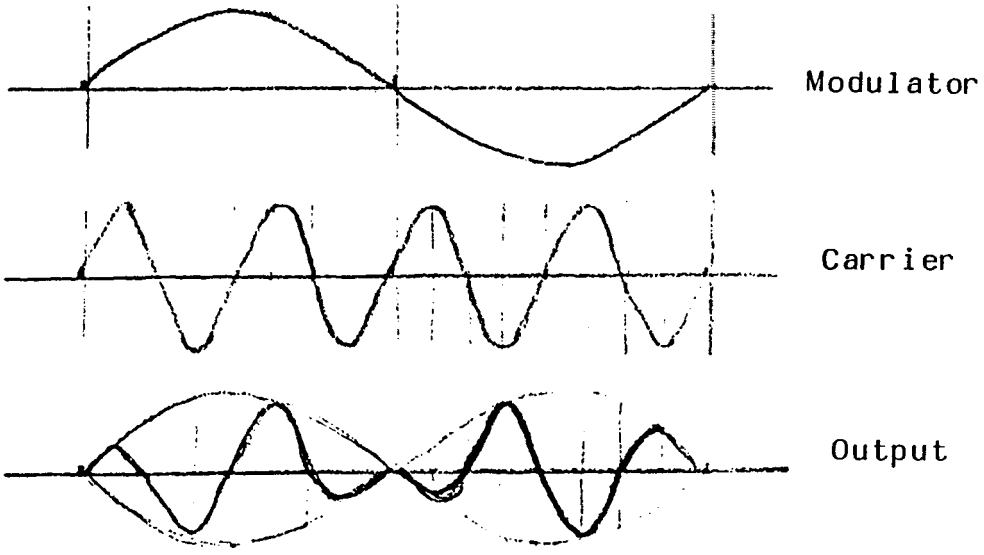
9.4.8. MANUAL RINGMODULATION

With the RINGMODULATOR, a sample or the waveforms of a wavetable can be modulated by any type of waveforms of another wavetable at any modulation frequency between 4 and 2000 periods over the whole input sound material.

For better understanding we should explain this feature with a GRAPHIC:

Graphic Ringmodulator

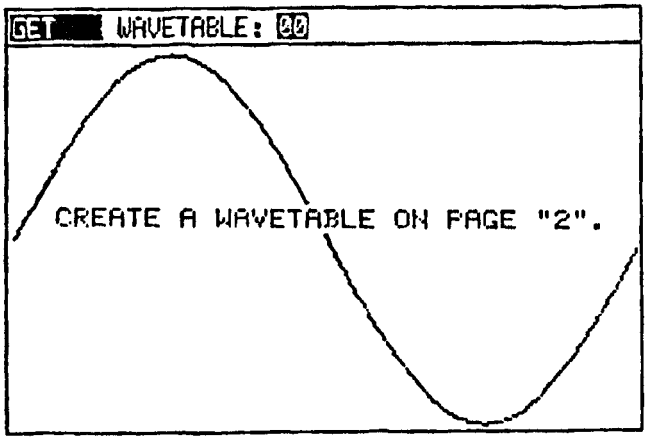




PPG WAVE-TERM COMPUTE A WAVETABLE PAGE: 2 . 00

SYSTEM COMPONENT: 0 WAVE 2.3 V1 BANK: 0 PROGSET PRINT GET : C 000

GET WAVETABLE: 00



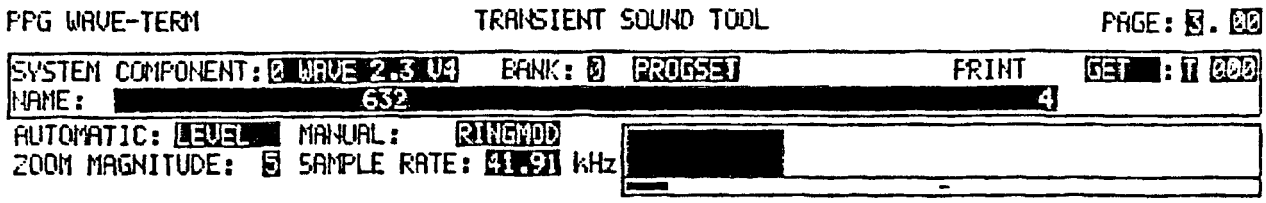
1	05	33	00	65	00	97	00
3	00	35	00	67	00	99	00
5	00	37	00	69	00	101	00
7	00	39	00	71	00	103	00
9	00	41	00	73	00	105	00
11	00	43	00	75	00	107	00
13	00	45	00	77	00	109	00
15	00	47	00	79	00	111	00
17	00	49	00	81	00	113	00
19	00	51	00	83	00	115	00
21	00	53	00	85	00	117	00
23	00	55	00	87	00	119	00
25	00	57	00	89	00	121	00
27	00	59	00	91	00	123	00
29	00	61	00	93	00	125	00
31	00	63	00	95	00	127	01

COMMENT:

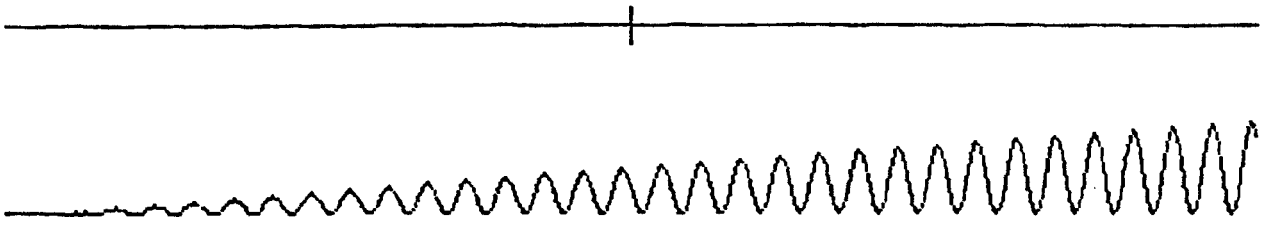
ESCAPE	EXECUTE	LEFT	RIGHT	DOWN	UP	DISPLAY	COMPUTE		HELP
1	2	3	4	5	6	7	8	9	0

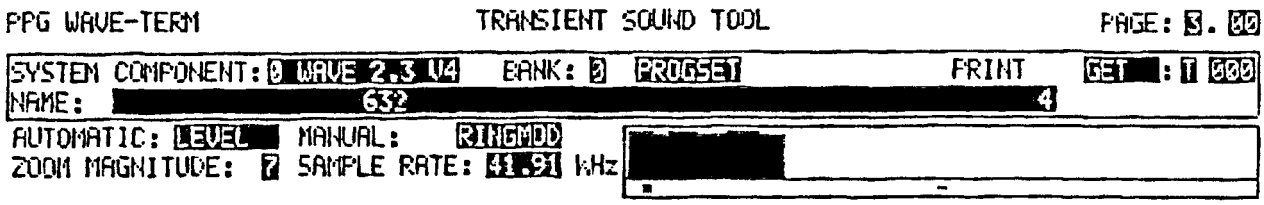
GRAPHIC 948 CARRIER & MODULATOR

CARRIER (WAVEFORMS OF A SAMPLE)

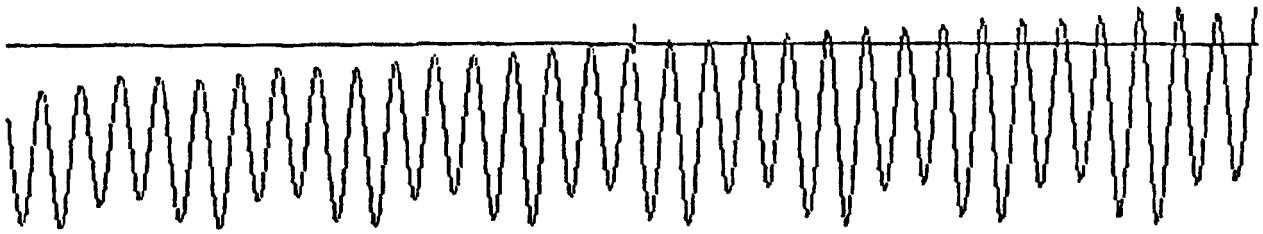


MODULATOR (WAVEFORMS OF A WAVETABLE)





RESULTING WAVEFORMS (OUTPUT RINGMODULATOR)



The waveforms of the modulator function not only as envelopes for the carrier waves but are multiplied and divided with the carrier waves.

It is possible to create analog type of ringmodulator effects, vocoder effects, amplitude vibrato and FM based sounds.

9.4.8.1. BASIC INSTRUCTIONS FOR THE RINGMODULATOR

9.4.8.1.1. AMPLITUDE VIBRATO

Record the word "HELLO" according to chapter 9.3.1.

Save the recording on disk according to chapter 9.3.9.

MOVE: to PAGE "2".
First we have to built up a wavetable. For now we do not want built up any special waveforms but want to concentrate on simple sine waves which are already preloaded in the display of PAGE "2".

PRESS: "COMPUTE".
The wavetable is calculated on base of 128 sine waves and now loaded and available for the ringmodulator calculation.

PRESS: "3".
We move back to PAGE "3".

CALL: the prerecorder word "HELLO" from disk
according to chapter 9.2.

MOVE: to (MANUAL: * *).

ROLL: to (MANUAL: * RINGMOD *).

The COMMENT LINE displays: "SET FREQUENCY".

In order to set the modulation frequency you have to press the "RIGHT" and "LEFT" function keys.

PRESS: "LEFT" shortly.
A Frequency value of 256 is visible. This Frequency represents an relative value because the modulation frequency is fully dependent on the sampling rate and the audio frequency of the original.

PRESS: "LEFT", until "001" is displayed.

PRESS: "EXECUTE". WAIT until:

The COMMENT LINE displays: "BACK TO ORIGINAL?".

Play (2E) on the keyboard. What you hear now is an amplitude vibrato affecting the original caused by the sinewave modulation of the wavetable.

If you like the effect you can store this sound. If you want to go on experimenting:

PRESS: "EXECUTE".
The original recording is displayed again and audible whenever the * RINDMOD * cursor is flashing again.

9.4.8.1.2. VOCODER EFFECTS

Repeat the operations of chapter 9.4.8.1.1. but set the modulation frequency to "20".

In order to increase the effect, save the sound onto disk (chapter 9.3.9.) and use the PHASE MERGE function with a very short room simulation (look up chapter 9.4.7.2.).

9.4.8.1.3. RINGMODULATION EFFECTS

Repeat the operations of chapter 9.4.8.1.1. but set the modulation frequency to "511". A sound with a very strong modulation feedback is audible. The Frequency of the feedback is dependent on the "SET FREQUENCY" rate.

In order to increase the effect repeat the operation, using the same modulation frequency (511).

9.4.8.1.4. FREQUENCY MODULATION FM TYPE SOUND

This type of modulation is carried out simply by wavetable based operations. One carrier wavetable is modelled by a modulator wavetable.

Any two kinds of wavetables will suit the purpose.

The carrier wavetable has to be saved as a COMPOUND first to match the working format of PAGE "3".

The modulator wavetable can be called up directly from PAGE "2".

9.4.8.1.5. BASIC INSTRUCTIONS FOR "FM"

MOVE: to PAGE "2".

PRESS: "COMPUTE".

MOVE: to PAGE "3".

MOVE: to (GET: *T* XXX).

ROLL: to (GET: *C* XXX).

ROLL: to (GET: *C* *XXX*).

INSERT: "000".

PRESS: "EXECUTE".

MOVE: to (MANUAL: * *)

ROLL: to (MANUAL: *RINGMOD*)

PRESS: "EXECUTE"

The COMMENT LINE displayes: "SET FREQUENCY".

Change the frequency with "LEFT" or "RIGHT" function keys anywhere within the FREQUENCY RANGE between 001 and 511 .

PRESS: "EXECUTE". Wait until the cursor is flashing again.

Play the sound on the "WAVE 2.3".

The COMMENT LINE displays: "BACK TO ORIGINAL ?"

If you want to keep the sound:

PRESS: "ESCAPE".

Now you can SAVE this sound as a "C" or "T" FILE. Follow the SAVING instruction of chapter 9.3.9.

In case you want to go on experimenting MOVE: to (AUTOMATIC: * *).

ROLL: to (AUTOMATIC: *LEVEL*).

PRESS: "EXECUTE".

Repeat the RINGMOD operation several time without going back to the original. Create layers of modulations. Do not forget to automatically adjust the level inbetween RINGMOD operations.

Go back to PAGE "2", create new WAVETABLE, SAVE them as "C" FILEs and load them back into PAGE "3", after having called up and computed another WAVETABLE on PAGE "2", in order to get completely new waveform material for the FM calculation.

You can alter the parameters on the "WAVE 2.3" and reshape the sound. In case you want to MIX it with other natural sound samples you should SAVE it as a "T" FILE.

9.4.8.1.6. FADE IN RINGMODULATION, FM, ETC.

The "WAVETERM B" has a special WAVEFORM PRESET which is set to a neutral position. This WAVEFORM is stored in the Systemsoftware and can be called up at any time. The number of this WAVEFORM is "05"!!! With this waveform you can simulate an "effect fade in" for the FM and other RINGMOD possibilities. Whenever you put this WAVEFORM "05" in a wavetable for a modulator, modulation does not take place because the waveform "05" is neutral and does not affect the carrier waveforms at the certain point where they were brought in.

CREATE A WAVETABLE ON PAGE "2".

USE WAVEFORM "05" FOR HALF THE WAVETABLE (INSERT: "1 *05*" and "65 *05*")

AND INSERT THE SINEWAVE AT THE END (INSERT: "127 *01*").

MOVE TO PAGE "3" AND CALL UP A SAMPLED SOUND.

MOVE TO (MANUAL: *RINGMOD*) PRESS "EXECUTE".

THE RESULT WILL BE HALF THE ORIGINAL SOUND AND HALF A FADED RINGMODULATED SOUND.

EXPERIMENT WITH WAVECOMPOUNDS AS CARRIERS AS WELL.

TRY COMBINATIONS OF "RINGMOD" AND "PHASE-M" OPERATIONS.

9.5. PAGE "3.01." THE DIGITAL MANIPULATION MIX

This page features a new type of mixer. With this mixing facility it is possible to mix four samples or a mixture of samples and synthesizer sounds together, without loss in audio quality and extended memory consumption.

Each of the four inputs can be given an individual volume envelope and a starting delay within the playback of the output.

The output offers a mixture of all the information together and feeds the result into only one bank of the "WAVE 2.3".

The first software revisions restrict the capacity of the individual input channels to sounds which are using one bank only. Sounds which require two banks lose half of their information within the input channels.

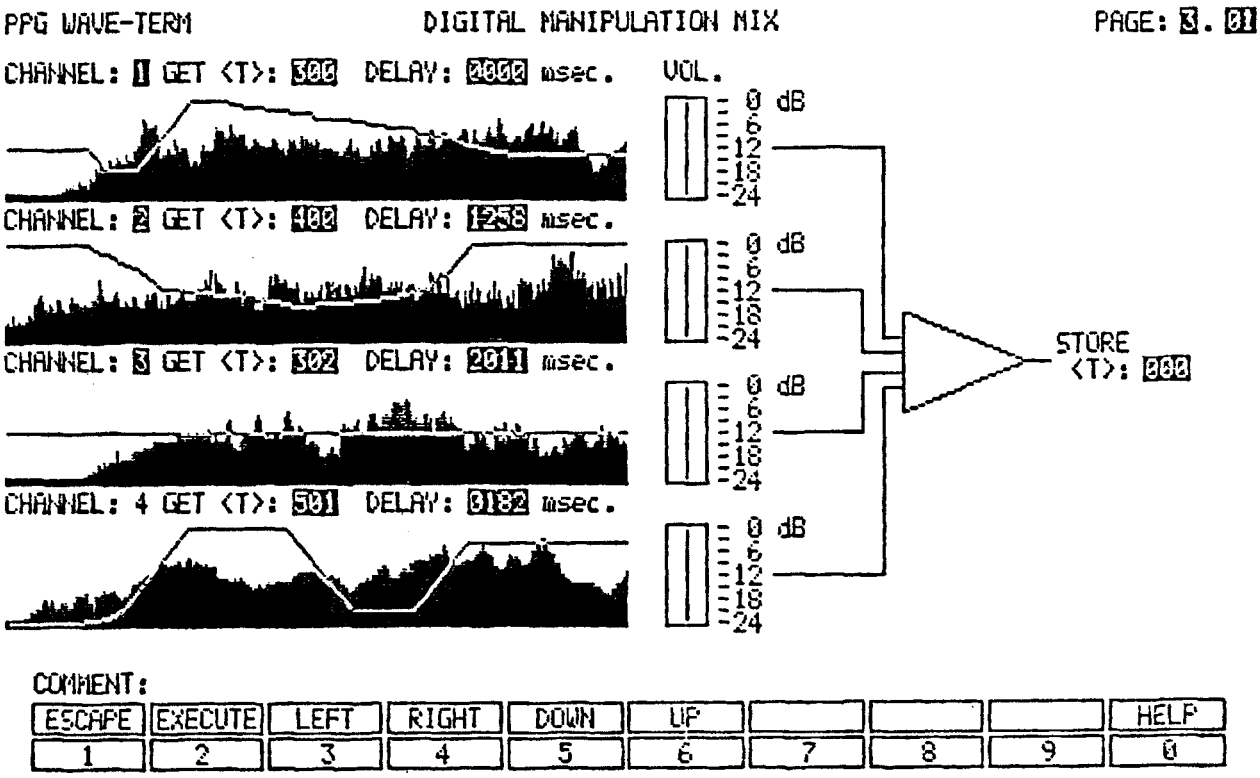
It is possible to reshape a sound which requires two banks and to reduce the data to match the capacity of one bank of the "WAVE 2.3".

- Load the sound into PAGE 3.

- Create manually a long loop within the first quarter of the MEMORY DISPLAY.

- SAVE the sound onto disk.

The sound uses one bank only and now is useable in PAGE 3.01.


PPG WAVE-TERM
DIGITAL MANIPULATION MIX
PAGE: 3. 01
CHANNEL: 1 GET <T>: 300 DELAY: 0000 msec.
CHANNEL: 2 GET <T>: 400 DELAY: 1258 msec.
CHANNEL: 3 GET <T>: 302 DELAY: 2011 msec.
CHANNEL: 4 GET <T>: 501 DELAY: 0182 msec.
VOL.
0 dB
6
12
18
24
STORE
<T>: 000
COMMENT:
ESCAPE
EXECUTE
LEFT
RIGHT
DOWN
UP
HELP
1
2
3
4
5
6
7
8
9
0

9.5.1. THE ROUTING OF THE DIGITAL MANIPULATION MIX

The PAGE features four input channels, CHANNEL:1 - CHANNEL:4.

Each channels is assigned a certain bank in the "WAVE 2.3":

CHANNEL:1 is audible on BANK: 1 of the "WAVE 2.3".
CHANNEL:2 BANK: 2
CHANNEL:3 BANK: 3
CHANNEL:4 BANK: 4

The Mixture is audible through the (SAVE: ⟨T⟩: 000) location and is audible on BANK: 0 of the "WAVE 2.3".

9.5.2. MIXING SAMPLES

Call up PAGE 3.01, by inserting (PAGE: 3.*01*) on the left side on the top of PAGE 3.

INSERT: the "DEMO 85" Disk into the left drive,

MOVE: the cursor to (CHANNEL: 1
GET ⟨T⟩: *000*)

INSERT: "080".

PRESS: "EXECUTE".

As soon as the cursor is flashing again, you can call up BANK: 1 on the "WAVE 2.3" and play the sound, which in this case is an orchestral stroke.

A- MOVE: the cursor to (CHANNEL: *1*
GET ⟨T⟩: 080).

B- PRESS: "EXECUTE".

The VOLUME FADER display now shows a level of 12 dB. Let us set an even level at 12 dB.

C- PRESS: "EXECUTE".

D- PRESS: "QUICK".

A volume level line is drawn on top of the entire sample at

a level of 12 dB.

PRESS: "ESCAPE".

MOVE: down to (CHANNEL: 2 GET ⟨T⟩: *000*).

INSERT: "334".

PRESS: "EXECUTE".

As soon as the cursor is flashing again, you can call up BANK: 2 on the "WAVE 2.3" and play the sound, which in this case is a soft low gong with a long loop.

Repeat steps (A- to D-) of this chapter for VOLUME LEVEL setting of CHANNEL: 2.

Now let us mix the two sounds together without further shaping operations.

PRESS: "COMPUTE".

Call up BANK: "0" on the "WAVE 2.3" synthesizer.

The orchestral stroke is audible together with the soft gong. The sound is played back with a long loop because the sound which had been loaded last had a long loop.

NOTE: THE LOOP OF THE OUTPUT DEPENDS ON THE KIND OF LOOP OF THE SOUND LOADED LAST.

It is always possible to reload the individual sounds into PAGE 3.01 in order to achieve a different kind of loop for the output signal.

After having SAVED the sound on disk, please look up chapter 9.6., you can immediately load the sound into PAGE 3 and supply the sound with the type of loop you want.

9.5.3. CREATING INDIVIDUAL ENVELOPES

It is possible to create an individual envelope for each of the four sounds, which are going to be mixed on PAGE 3.01.

This enables you to create individual volume envelopes and to crossfade the four sounds.

For example you can start one sound and have a second sound fade in slowly, while the first sound fades out slowly. You can do this with a maximum of four sounds.

INSTRUCTIONS:

A- LOAD: T (080) into CHANNEL:1.

B- MOVE: to (CHANNEL: *1*).

C- PRESS: "EXECUTE".

D- MOVE: the VOLUME LEVEL INDICATOR by pressing "UP" or "DOWN" function keys
Move the fader to the starting position. Hold the function key in order to move fast from one to another fader position.

E- PRESS: "EXECUTE".
The computer starts to draw an envelope line on top of the sample.
Shape the line by using "UP" or "DOWN" functions.

F- PRESS: "EXECUTE" again in order to erase the envelope and draw a new envelope line.

G- PRESS: "QUICK" whenever you do not need to draw the line further on.
The computer automatically draws a horizontal line at the last actual volume level.

H- PRESS: "ESCAPE", to leave the drawing mode.

I- PRESS: "COMPUTE".

Call up BANK "0" of the "WAVE 2.3" and listen to the result by pressing a key.

REPEAT steps (A- to I-) of this chapter by loading sound T (334) into CHANNEL:2 . The audible result on BANK "0" now consists of two shaped sounds mixed together.

Load two more sounds, shape and mix them. In order to SAVE the MIX sound look up chapter 9.6.

9.5.4. CREATING INDIVIDUAL DELAYS

Each channels can have its individual delay.

The ("DELAY: *0000* msec.) is the operational area.

Although this display is indicating steps in milliseconds, the actual delay time might not correspond with the indicated delaytime for reasons of not matching original pitch, sample pitch and playback pitch and loop transformations. It is the interaction of these four parameters which strongly influence the actual delay time.

The dealay time range is "0001" - "9999" msec.

Please repeat the operations of chapters 9.5.2. but use T (080) for both channels and 9.5.3. but create a maximum level envelope.

The DIGITAL DELAY can create chorus, flanging, echoe and roomsimulation effects.

RULE: USING THE SAME SAMPLE AND DELAYING
ONE OF THEM CREATES:

1. FLANGING DELAY: 0001 - 0010 msec.
2. CHORUS DELAY: 0010 - 0040
3. ECHOE DELAY: 0040 - 9999

Roomsimulation can be created by using four time the same sample with four different delay times

LOAD T (080) in all four channel and set the delay times as follows:

CHANNEL: 1 DELAY: 0000
CHANNEL: 2 DELAY: 1000
CHANNEL: 3 DELAY: 2000
CHANNEL: 4 DELAY: 4000

The ROOMSIZE we have created gives the sample more impact and the feeling of a bigger hall.

NOTE: THE HIGHER YOU PLAY A MIXIED SOUND WITH DELAY ON THE KEYBOARD,THE SHORTER IS THE AUDIABLE ROOM.

Please call up other samples and experiment with the delay function.

You can SAVE the sound onto disk according to chapter 9.6.

You can also load it back into PAGE 3 and create a loop or treat it with the other processing features.

Any MIXED AND MANIPULATED sample can be REMIXED AND MANIPULATED with a set of other samples and so on.

9.6. DISK COMMUNICATION

In order to SAVE the sound onto disk you have to execute the following operations:

A-MOVE: to (SAVE ⟨T⟩: *000*)

B-INSERT: any number between "000" and "999".

C- PRESS: "EXECUTE".

The MIXED AND MANIPULATED sound can be called up again in PAGE 3 and can be loaded into any of the eight banks of the "WAVE 2.3".

It also can be loaded into the four channels of PAGE 3.01. and be remixed with other sounds.

9.7. PAGE "3.02"

This PAGE has graphic functions only.

It displays natural sound samples, mixes of sound samples , wavetables, resonator wavetables and compounds.

The display shows the content of the pages three dimensionally.

It is possible to print out the content of the display with an optional printer.

9.7.1. WAVETABLE DISPLAY

MOVE: to PAGE 2.

PRESS: "COMPUTE".

PRESS: "ESCAPE"

INSERT: "3"

PRESS: "RIGHT"

INSERT: "02".

9.7.2. COMPOUND DISPLAY

Load a compound into PAGE 2 or PAGE 3.

PRESS: "ESCAPE"

CALL: call up PAGE 3.02.

9.7.3. SAMPLE DISPLAY

Load a transient sound into PAGE 3.

PRESS: "ESCAPE"

PRESS: "RIGHT".

INSERT: "02".

9.7.4. RESONATOR WAVETABLES

Create a Resonator Wavetable on PAGE 4.

PRESS: "ESCAPE".

INSERT: "3".

PRESS: "RIGHT"

INSERT: "02"

9.7.5. THREE DIMENSIONAL DISPLAY PRINT OUT

Connect an appropriate printer according to chapter xx??xx.

MOVE: to (*PRINT*).

PRESS: "EXECUTE".

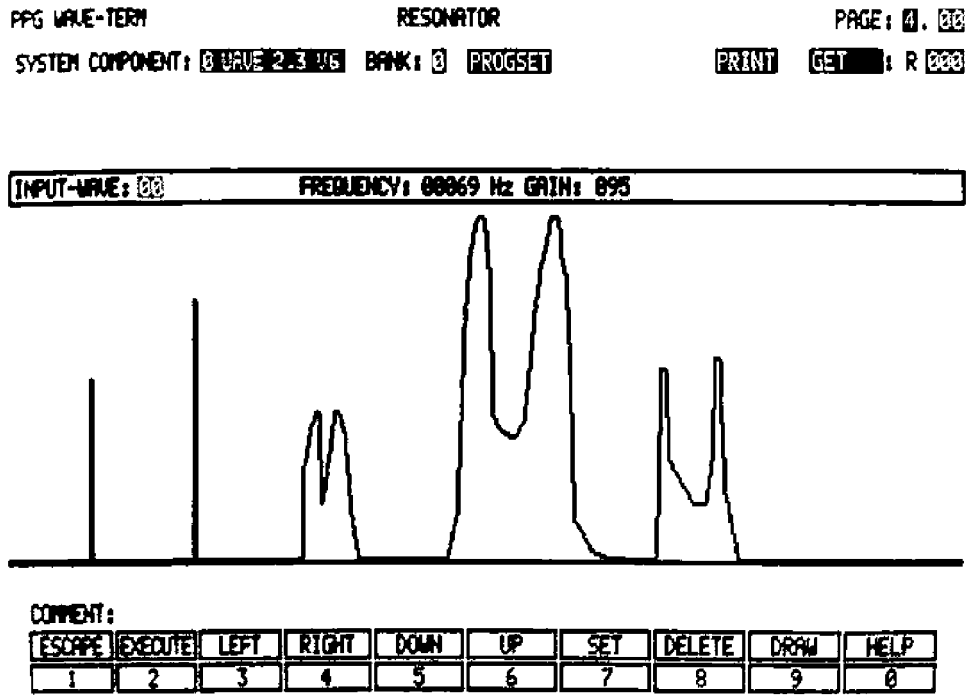
10. PAGE "4"

This page features a digital RESONATOR.

It can create new WAVETABLES on base of any singular waveform.

10.1. WHAT IS THE DIGITAL RESONATOR

The RESONATOR is a kind of digital filter, working in the audio frequency range of 16 HZ to 16.896 HZ and approximately 40 dB dynamic range . The filter is not one of the types you would find in an average recording studio, it operates differently. A normal audio filter affects any kind of appropriate input. The RESONATOR affects only single waveforms. It filters a waveform according to the settings of an RESONATOR GRAPH, which can be drawn on the screen. It filters the single waveform like a 64- band graphic equalizer would ,(if there was one available) and recreates the single waveform 64 times with different shapes according to the RESONATOR GRAPH.



10.2. DRAWING A RESONATOR GRAPH

Call up PAGE "4".

PRESS: "ESCAPE", "4".

MOVE: to (*PROG-SET*), call up BANK "0" in the "WAVE 2.3".

PRESS: "EXECUTE",

PRESS: "DRAW", a little cursor point shows up on the left side of the GRAPHIC WINDOW.

PRESS: "RIGHT", "LEFT", "UP", "DOWN" function keys to move the cursor point.

PRESS: "SET" to draw a filter outline.

- You can move where ever you want, backwards in order to correct etc.
- PRESS: "DELETE" if you don't like a graph,
- PRESS: "ESCAPE" to leave the drawing mode.
- The (FREQUENCY: XXXXX HZ GAIN: XXX) always displays the actual

freuency- and gain level positions of the cursor point.

10.3. CREATING A NEW WAVETABLE WITH THE RESONATOR

INSERT: "DEMO 85" disk into user drive,

PRESS: "ESCAPE", "2". Now you are back on PAGE "2". We have to call up a WAVEMEMORY because we need a waveform for the RESONATOR calculation.

MOVE: to (*GET* : ⟨W⟩ ⟨XXX⟩),

SHIFT: to (°GETµ : ⟨W⟩ *XXX*),

INSERT: "000" ,

PRESS: "EXECUTE", now WAVE MEMORY "000" is loaded into the working memory of the "WAVETERM".

PRESS: "ESCAPE", "4", in order to go on to PAGE "4",

MOVE: to (⟨GET⟩ : R *000*) on PAGE "4",

INSERT: "000",

PRESS: "EXECUTE", a RESONATOR GRAPH shows up on the screen.

MOVE: to (INPUT-WAVE: *00*),

INSERT: "99", this is a square wave out of WAVE MEMORY "000".

PRESS: "EXECUTE", now a new WAVETABLE is calculated on base of the RESONATOR GRAPH and the square wave.

PRESS: "ESCAPE", "2", in order to go back to PAGE "2",

GRAPHIC 41

PAGE "2" shows up and displays the figures "50 - 81" in the first and second columne of the right window. Those are the WAVEFORM LOCATIONS (1 - 63) which are reserved by the computer, for waveforms created by the RESONATOR. All waveforms which previously were housed in these locations have now been deleted. The WAVEFORM LOCATIONS (65 - 127) hold a sine wave. This is why the second half of the WAVETABLE displayes a smooth scan form waveform "81" back to waveform "00".

PRESS: "COMPUTE",

HOLD DOWN a key on the keyboard of the "WAVE 2.3" and

PRESS: "DISPLAY". The left window displays the new waveforms of the RESONATOR WAVETABLE one by one and you can simultaneously hear them on the "WAVE 2.3".

MOVE: to (*GET * WAVETABLE: XX) of the left window,

ROLL: to (*STORE* WAVETABLE: ⟨XX⟩),

SHIFT: to (⟨STORE⟩ WAVETABLE: *XX*),

INSERT: "01", Now your new WAVETABLE is stored in the working memory of the "WAVETERM B" .

Now it is time to work with the new RESONATOR WAVETABLE on the "WAVE 2.3".

"WAVE":
- Enter the digital display.
- Move the cursor below "KWO".
- Insert "4".
- Enter the analog display.
- turn the "WAVES OSC." control knob to "63" position.

Now the waveforms of the new RESONATOR WAVETABLE are distributed evenly onto the keyboard of the "WAVE 2.3". Play chromatically.

If you like the new WAVETABLE, you can SAVE it onto Disk.

INSERT: your PRACTICE DISK,

MOVE: to (⟨GET ⟩ : *C* ⟨000⟩),

ROLL: to (⟨GET ⟩ : *W* ⟨000⟩),

SHIFT: to (*GET * : ⟨W⟩ ⟨000⟩),

ROLL: to (*STORE* : ⟨W⟩ ⟨000⟩),

SHIFT: to (⟨STORE⟩ : ⟨W⟩ *000*),

INSERT: "010",

PRESS: "EXECUTE". Now the "W" FILE is saved onto the PRACTICE DISK.

You can go back to PAGE "4" , draw your own graph, call up a waveform out of the current WAVE MEMORY, or call up another WAVE MEMORY and use other wavefroms, let the computer calculate RESOATOR WAVEABLES and store them. Furthermore you can create new synthesizer sound with the RESONATER WAVETABLES and save them as COMPOUNDs. If you need detailed information PLEASE LOOK UP CHAPTERS 7.ff., 8.ff., and 10, ff.

10.4. DISK COMMUNICATION

The disk handling takes place in the second row from the top (*GET*: R ⟨XXX⟩).

GET : call up a RESONATOR GRAPH from disk.

SAVE : save a RESONATOR GRAPH onto disk.

COPY : directly copy the data of a RESONATOR GRAPH onto another disk.

11. PAGE "5"

CAPACITY:

This page features a 32 track event generator. The event generator is a sequencer with multiple control functions.

FLEXIBILITY:

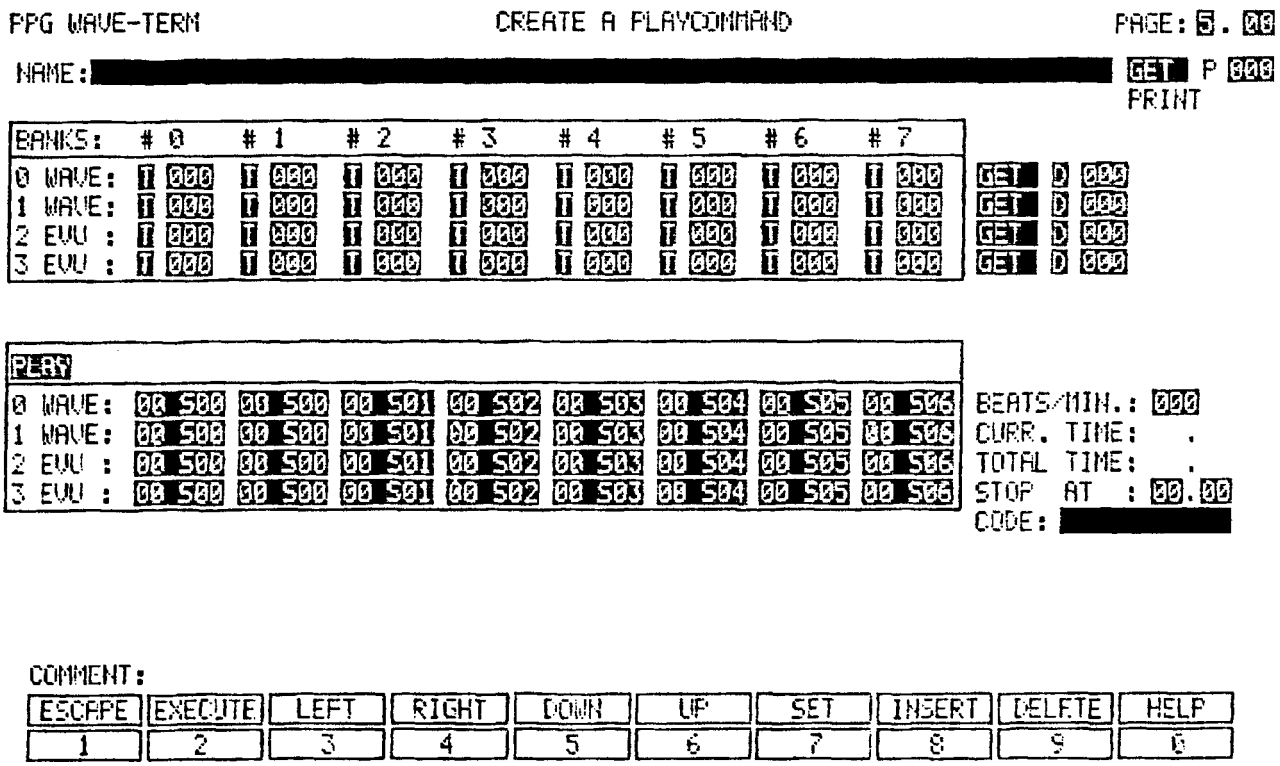
Any of eight sounds within a component can be played with up to eight voices polyphonically in any of eight channels at any time.

VERSATILITY:

The event generator/sequencer can help you in creating, composing, arranging and rearranging, recording and performing your own music .

11.1. THE TRACK SHEET

GRAPHIC 50



The TRACK SHEET displays two windows.

The upper one contains the information on the content of the individual banks of maximum four components.

It is this window that gives you direct access to all the individual banks of a component during the loading from disk procedure.

If you want to work with a combination of synthesizer and natural sounds, you can load a complete "D" FILE first, call up the preprogrammed "CP" and then load the natural sounds.

You also can load a complete "M" FILE.

The lower sheet contains sequences and the amount of loops they should be played back with as well as a survey on which sequences of the components belong together within a play command (song).

Additional features are:
- - - - - - - - - - - - -

--"BEATS/MIN", allowing you to define a speed for
the complete song.

--"CURR.TIME" is a real time clock which reads out the current time of the playback.

--"TOTAL TIME" gives information on the lenght of a complete song or on the time where you stopped the playback.

--"STOP AT" lets you stop the playback at a choosen time.

-- "CODE" lets you make notes about the type of sync code you are using for this song.

11.2. LOADING FILES INTO PAGE 5

The track sheet is a communication facility.

You can load up to 32 banks with individual TRANSIENT SOUNDS (T - FILE), COMPOUNDS (C - FILE) or synthesizer sounds (D FILE).

It is also possible to automatically load a set of up to eight sounds into the individual components. (A MAXIMUM of four components).

A set of up to eight sounds is called "MULTISAMPLE" (M - FILE).

11.2.1. LOADING "T", "C, "M" AND "S" FILES

The track sheet helps you to load each bank of a component independently.

The display shows four components and the corresponding banks.

On the right side of the track sheet four disk communication fields are displayed (GET M 000).

This section allows you to automatically load the MULTISAMPLES and synthesizer sound programmes and combination programmes (D - FILE) into the appropriate unit.

It also allows you to SAVE M - FILES and D - FILES onto disk.

For now let us load some individual transient sounds into the banks of the "WAVE 2.3".

MOVE: to PAGE 5.

INSERT: the "DEMO 85" disk.

MOVE: the cursor to (BANKS: 0 / 0 WAVE: ... T * 000 *) in case you load a "WAVE 2.3".

MOVE: to (BANKS: 2 / 2 EVU: ... T * 000 *), in case you want to load an "EVU".

INSERT: "625".

PRESS: "EXECUTE", wait for 2 seconds.

PLAY: BANK "0" on the "WAVE 2.3". A bass drum is audible.

MOVE: to (BANKS: 1 / 0 WAVE: ... T * 000 *).

INSERT: "632".

PRESS: "EXECUTE", wait for 2 seconds.

PLAY: BANK "1" on the "WAVE 2.3". A snaredrum is audible.

Go on loading the rest of the banks with:

BANK:	"2"	T	203	HI HAT
	"3"	T	230	CRASH
	"4"	T	204	TOM
	"5"	T	039	BASS
	"6"	T	852	RHODES
	"7"	C	000	

When loading the "C" sound, you have to:

MOVE: to (BANKS: 7 / 0 WAVE: *T* 000),

ROLL: to (BANKS: 7 / 0 WAVE: *C* 000),

MOVE: to (BANKS: 7 / 0 WAVE: C *000*),

INSERT: "000"

PLAY WITH ALL THE SOUNDS.

In order to play the sounds of the "EVU", please look up chapter 11.2.3.1.

If you want to play with a different set of sounds, you can call up a set of eight new sounds by calling up a MULTISAMPLE (M - FILE).

A- MOVE: to (O WAVE: --- GET *D* OOO),

B- ROLL: to GET *M* OOO),

C- MOVE: to GET M *OOO*),

D- INSERT: GET M *888*),

E- PRESS: "EXECUTE".
AFTER 16 sec.all new sounds are loaded.

PLAY WITH ALL THE SOUNDS.

CREATE SEQUENCES.

In case you are not too familiar with the sequencer of the "WAVE 2.3", you can call up a preprogrammed demo sequence, (single sequence).

Call up the first set of eight sounds by simply calling up the appropriate preprogrammed MULTISAMPLE, (M- 999).

X- REPEAT routines (A- E) of this chapter and insert "999" instead of "888".

F-MOVE: to PAGE 9

G-MOVE: to the field on the top of the right side:
(GET: C OOO).

H-ROLL: to (GET: *S* OOO).

I-MOVE: to (GET: S *OOO*).

J-INSERT: "099"

K-PRESS: "EXECUTE".

L-PRESS: "ESCAPE".

M-INSERT: "5". PAGE 5 shows up.

N-PRESS: "RIGHT" function key.

O-INSERT: "01". PAGE 5.01 EVENT GENERATOR shows up.

P-PRESS: "TEST".

Q-PRESS: "1" on the "WAVE 2.3" numerical keypad.
The sequence is audible.

11.2.2. LOADING SYNTHESIZER SOUNDPROGRAMMES ("D" FILES)

It is possible to load up a component with a set of 172 synthesizer soundprogrammes and 20 combi programmes (D-FILE) along with eight transient sounds and/or compounds. LOAD THE "WAVE 2.3" with a (D- FILE):

A-MOVE: to (0 WAVE: --- GET *M* 000),

B-ROLL: to (GET *D* 000),

C-MOVE: to (GET D *000*),

D-INSERT: (GET D *230*)

now the FILE is loaded and all 172 synthesizer sounds and 20 combiprogrammes are available.

Maybe you want to load some of the synthesizer sounds directly into one of the banks of a component.

This operation is similar to loading "T"- and "C"- FILES.

The operation is not necessary when you are working with the "WAVE 2.3" because you can load soundprogrammes directly into the banks of the "WAVE 2.3" internally.

11.2.3. LOADING SYNTHESIZER SOUNDS INTO THE "EVU"

The "EVU" does not have the direct loading feature and so it is necessary to load soundprogrammes into the individual banks via PAGE 5 of the "WAVETERM".

In order to load a synthesizer soundprogramme into an "EVU", you first have to load the appropriate D- FILE. PLEASE LOOK UP steps (A- D) of chapter 11.2.2.

Load the D- FILE into the corresponding component (2 EVU: --- GET D 230)

Load a synthesizer sound into BANK 1 of the second component, the first "EVU".

MOVE: to (BANKS: 1 / 2 EVU: ... *C* 000),

PRESS: "EXECUTE".
"C 000" is loaded into BANK1 of the "EVU". This initiates a Bankpointer which routes all incoming operations to this BANK of the "EVU".

PRESS the "EDIT" key on the "EVU" twice.

Two dots show up. The "EVU" now is controllable by the "WAVE 2.3"

Press the "P" key on the "EVU" and insert for example "2", "0" in the "EVU" keypad.

Turn down the volume of the "WAVE 2.3" and the volume of the "EVU" up. Play on the "WAVE 2.3" keyboard. Sound 20 on the "EVU" us audible.

Press "EDIT" on the "EVU" once to leave this function.

11.2.3.1. THE "EVU" PLAY MODE AND THE EDIT MODE

In order to play and hear all of the banks of an "EVU", you have to enter the PLAY MODE.

PRESS: the "EDIT" keypad on the "EVU" once.
One dot shows up in the "EVU" display. Now the "EVU" is in the PLAY MODE and is controllable with the keyboard of the "WAVE 2.3".

In order to call up individual banks and maybe to alter the sounds of the "EVU", we have to enter the EDIT MODE.

PRESS: the "EDIT" keypad again. A second dot shows up in the display of the "EVU".

Call up BANK 1 of the "WAVE 2.3" . The "EVU" moves to BANK 1 accordingly.

PLAY some notes on the "WAVE 2.3" and turn down the volume on the "WAVE 2.3" and turn up the volume on the "EVU".

The synthesizer sound is audible on the "EVU". You can alter the "EVU" sound by changing the setting of the "WAVE 2.3" controls which now are linked with the "EVU" and alter the "EVU" soundprogramme.

After having left the "EVU" EDIT Mode, you can store the sound within the "EVU" with the "STORE" , "9", "P" "X X" function.

Please look up the "EVU" manual for detailed information.

IN GENERAL: If you want to hear the individual sounds (T-, C-, or synthesizer sound of an "EVU", you have to enter the "EVU EDIT MODE" as descibed above.

11.3. STORING A MULTISAMPLE

After having loaded all the banks of the units you wanted to work with and maybe having altered the sounds according to the needs of the playback, you can store all data under an "M"- File (MULTISAMPLE).

With the M- FILE the following information is combined and stored:

- the numbers of the BANKS a "T" and/or "C" FILE has to be loaded into.
- the file numbers of the "T" and/or "C" FILES.

- the parameter settings of the "WAVE 2.3" or "EVU" edits which belong to the individual "T" and/or "C" FILES.

Lets imagine you have loaded the "WAVE 2.3" with eight sounds and created a song with these sounds.

Now you want to store the sounds under an M- FILE in order to call them back automatically later on.

MOVE: to (O WAVE: --- * GET * D OOO),

ROLL: to (--- *SAVE * D OOO),

MOVE: to SAVE *D* OOO),

ROLL: to SAVE *M* OOO),

MOVE: to SAVE M *OOO*),

INSERT: the number under which you want to register this MULTISAMPLE.

NOTE: THE INDIVIDUAL FILES OF A MULTISAMPLE ("T" AND "C") CAN ONLY BE LOADED PROPERLY WHEN THEY ARE AVAILABLE ON THE SAME DISK.

YOU HAVE TO COPY THEM FROM THEIR ORIGINAL DISK ONTO THE DISK IN ACTUAL USE, IN ORDER TO LOAD THEM AUTOMATICALLY WITH THE "GET M - FILE" COMMAND.

PLEASE LOOK UP CHAPTER

11.4. CREATING SEQUENCES AND EDITING SEQUENCES

There are two different ways of creating sequences:
- with the "WAVE 2.3" sequencer.
- with the "WAVETERM B" EVENT GENERATOR.

Let us start with the "WAVE 2.3" because we will get aquainted with the EVENT GENERATOR while editing sequences anyway.

11.4.1. CREATING, SAVING, LOADING AND PLAYING BACK A SEQUENCE

For now we create sequences with the "WAVE 2.3".

This is the most convenient way to create music for musicians,who can play a keyboard.

The sequencer of the "WAVE 2.3" is a unique recording device. Unlike other sequencers it features a mixture between "STEP"- and "REALTIME" programming.

Please look up the complementing chapter of the "WAVE 2.3" owners manual for further information on the features and the usage of the sequencer of the "WAVE 2.3" in case you are not familiar with it.

NOTE: ONLY SEQUENCES THAT WERE RECORDED UNDER "SEQ: 00" IN THE "WAVE 2.3" CAN BE TRANSFERED AND WORKED WITH IN THE "WAVETERM B". ALL OTHER SEQUENCES (SEQ: 1 - SEQ: 9) CANNOT BE TRANSFERED TO THE "WAVETERM B".

LOAD: "M 999" into the "WAVE 2.3"

CREATE: a sequence under "SEQ: 00", using different

BANKS and sequencer channels.

NOTE: ALWAYS ERASE THE TEMPORARY CONTENT OF THE "WAVE 2.3" SEQUENCER BEFORE CREATING A NEW SEQUENCE. ERASE BY INSERTING TWICE "RECM: 8".

SAVE: the sequence onto disk. This can accomplished on PAGE 9.

MOVE: to PAGE 9.

MOVE: to (GET: C 000),

ROLL: to (*SAVE:* C 000),

MOVE: to (SAVE: *C* 000),

ROLL: to (SAVE: *S* 000),

MOVE: to (SAVE: S *000*),

INSERT: any figure between "000" - "099".

PRESS: "EXECUTE". The sequence data are saved onto disk.

NOTE: SEQUENCES WITH REGISTER NUMBER HIGHER THAN "099" CANNOT BE USED WITHIN A SONG (PLAY COMMAND).

Now let us load the sequence back into the "WAVE 2.3 and simultaneously into the EVENT GENERATOR of the "WAVETERM".

MOVE: to (*SAVE:* S *0xx*),

ROLL: to (*GET:* S *0xx*),

In case the register number of your sequence still is displayed,

PRESS: "EXECUTE"

In case it is not displayed, you have to insert it and then press "EXECUTE".

PRESS: "ESCAPE",

INSERT: "5". Page 5 shows up.

PRESS: the "RIGHT" function key.

INSERT: "0" , "1" . PAGE 5.01, the EVENT GENERATOR shows up.

PRESS: "TEST", the sequence is transfered into the WAVE 2.3 memory.

PRESS: "PLAY", the sequence is played back. Adjust the speed of the playback with "SP: 00" on the "WAVE 2.3".

PRESS: "STOP" to stop the playback.

11.4.2. SEQUENCING WITH THE "WAVE 2.3" AND "EVU"

When you are using an "EVU" along with the "WAVE 2.3" it is necessary to create the sequences on the "WAVE 2.3" first and then load the MULTISAMPLE and the single sequences into the "EVU".

Create a sequence on the "WAVE" which has 4 BAR s, which is the same length as the precounter when the "WAVE" is in recording mode.

You will need it when playing single sequences back on the "EVU" (which does not give you for clicks) and simultaneously recording new complementing tracks on the "WAVE" (which does use the four clicks because it is in recording mode).

Connect the two units with a rhythme cabel. The "WAVE 2.3" clock should be master, the "EVU" should be slave.

Load the "WAVE with a second MULTISAMPLE.

Load the "click" sequemce and the single sequence you want to add tracks to into the "EVU", using the approrpiate fields in the PLAYCOMMAND window.

Load sequence "00 S 00" into the "WAVE2.3" PLAYCOMMAND location .

Move to "PLAY" and press "EXECUTE".

Set the "WAVE2.3" to recording mode and press the "RUN" key on the "EVU". ("r1") is displayed.

Start the "WAVE 2.3" sequencer. The two sequences are played

by the "EVU", the "WAVE" metronnome is audible along with it.

Now you can add to the existing tracks with a second arrangment on the "WAVE.2.3"

11.4.2. THE SEQUENCE EDITING FEATURES

The EVENT GENERATOR offers a large amount of edit features.

Each note can be edited according to the following parameters:

- BEAT NUMBER.

- TIME within a beat.

- GATE time.

- OCTAVE range.

- SEMITONE transposition.

- BANK (the sound it is played with)

- UPDATE (VARIATIONS in: Pitch, Loudness, Filter cut off frequ., Waveforms and Filter attenuation.)

- CHANNEL (one of eight within the actual component).

FOR EASY UNDERSTANDING LET US WORK WITH THE SAME MATERIAL.

PLEASE CALL UP "M 999" and "S 099".

In case you do not know the loading procedures already by heart, please follow the instructions of chapter 11.2.1 ("X" and "F - Q").

After you have loaded "M 999" and "S 999" and have moved to PAGE 5.01,

PRESS: "TEST",

PRESS: "PLAY".

PRESS: "EDIT", the EDIT PAGE of the EVENT GENERATOR is displayed.

INSERT: "0001".

Now the display reads:

E D I T :

(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)
BEAT No.	TIME	GATE	OCT.	SEM.	BANK	UPDAT.	CH.
0001	0/4	0,2	1	G	0	56	1
0001	0/4	0,3	1	D	2	52	3
0001	0/4	1,0	1	A	5	56	5
0001	2/4	0,2	1	D	3	62	3
0001	3/4	0,2	1	D	1	56	2

This display shows the notes which were played on the first METRONOME BEAT of the "WAVE 2.3" sequncer and represent the first BEAT of the first BAR of the demo sequence.

The sequence was written in a 4/4 Beat, so lets start the explanation on base of this kind of measure.

(A)- BEAT No.: corresponds to the number of the METRONOME BEAT within this sequence.

(B)-TIME: defines the place of the note within a beat.

0/4	=	the first 16th note in a beat.
1/4		second 16th
2/4		third 16th
3/4		fourth 16th

GRAPHIC time 0/4, 3/4, 5/7, 15/16 on base of 4/4 measure

mit noten

(C)-GATE: represents the time the complemeting key was held down during recording. This value represents an internal code, not real time.

0,1	represents the length of 1/32 note value
0,2	2/32
0,4	4/32 = 1/8
1,0	8/32 = 1/4
2,0	16/32 = 1/2
15,7	length of four entire bars.

NOTE: USING TOO MANY " 0,1 " GATE TIME EVENTS WITHIN A SEQUENCE MAY RESULT IN TIMING PROBLEMS DURING THE PLAY BACK OF A PLAYCOMMAND.

EITHER USE HIGHER BASIC SPEED WITH HIGHER RESOLUTION, OR SET GATE TIME TO " 0,2 " INSTEAD OF " 0,1 " IF THE ARRANGEMENT ALLOWS YOU TO DO SO.

Graphic gate mit noten

Let us put it together:

The first row of our display contains the following values:

0001	0/4	0,7	1	G	0	56	1

GRAPHIC row 1

mit noten

The whole BEAT would read like this:

GRAPHIC beat 1 noten

As we have already learned, the TIME feature defines the rythme.

A sequencer can only be as rythmical as the resolution of the computer allows you to compose.

RESOLUTION WITHIN A BEAT on base of a 4/4 measure :

(1 metronome click = 1 quarter note)

	0/1	=	1/4	note value
0/2,	1/1	=	1/8	
0/4, 1/4,	2/4, 3/4	=	1/16	
0/8, 1/8, 2/8,	---, 7/8	=	1/32	
0/16,2/16,3/16,	---,15/16	=	1/64	

triplets etc. are created by : 0/3, 0/6, 0/9, 0/12.
other values are possible: 0/5, 0/7. 0/10, 0/11, 0/13, etc.

NOTE: THE RESOLUTION IS STRONGLY INCREASED WITH SHORTER MEASURES.

If you want to get 1/128 resolution, you should record a quarter note on every second metronome click (1 metronome click = 1 eighth note) and so on.

Normally, the resolution is defined by the "TMC: " function of the "WAVE 2.3". "TMC: " = TIMECORRECTION normally is set to a defined value before recording a track on the "WAVE 2.3" sequencer.

"TMC: " can have the following values which represent each a different resolution on the EDIT PAGE of the "WAVETERM B" within an "S"- FILE.

TMC:	0	=	/16	= 1/64 note
TMC:	1	=	/1	= 1/4
TMC:	2	=	/2	= 1/8
TMC:	3	=	/16	= triplet value
TMC:	4	=	/4	= 1/16
TMC:	8	=	/8	= 1/32

NOTE: SEQUENCES WHICH USE ODD MEASURES OR RHYTHMES HAVE TO BE QUANTIZED DIFFERENTLY AND CANNOT BE SAVED AS "S"- FILE. PLEASE REFER TO CHATER XXXX E- FILES XXXX

(D) - OCT.: represents the octave range, the note was played in the lowest octave range on the "WAVE

2.3" is represented by "0" etc.

(E)- SEM: represent the actual pitch within the defined octave range.

(F) - BANK: represnts the BANK on which the sound, the note was played with, is located within the "WAVE 2.3".

(G) -UPDAT.: represents one of the values, described under 11.4.2.

(H)- CH.: represents one of the eight sequencer channels, the note was recorded into.

THE CLREV FUNCTION

With the "WAVETERM B" you can leave the EVENT GENERATOR (PAGE 5.01) and even Main PAGE 5 without loosing the data presently housed in the EVENT GENERATOR memory.

This makes work much faster.

If you wanted to erase a complete single sequence, you would have to DELETE all the tracks individually, which would require eight operational steps.

With the "CLREV" -clear Events- function,you can erase the complete content of this page at the touch of this button.

11.4.2.1. THE E -FILE

In the last chapters we were dealing with resolution.

The "WAVETERM B" is capable of realising even higher degrees of resolution.

In some cases it is necessary to use this feature.

The feature is called EVENT TABLE (E - FILE).

The EVEN TABLE has a very high quantisation.

Some rhythmes which are based not on 4/4 measures but use other time signatures need a higher resolution.

A shuffle for example played at medium speed only can groove properly when using the resolution of the EVENT TABLE.

In order to use this feature it is necessary, to store a single sequence under "E" EVENT TABLE.

You also have to load the "E" File back into the "WAVE 2.3" when you want to edit the sequence, or add more tracks to it.

Do the alterations and store the resulting sequence again under "E".

After the sequence is finished, call up the "E" FILE and store the content of this FILE under "S" as well, in order to use it within a PLAYCOMMAND.

The "S" File is played back with the resolution of the corresponding "E" File within a PLAYCOMMAND.

11.4.3. EDITING SEQUENCES

Now that we know most of the EDIT features, let us change some of the values etc.

It is possible to shift an EVENT (= a recorded note) to any position within the sequence (or even outside of the existing sequence),to transfer it from one channel to another, transpose it, swap sounds, change the value of a note and copy it into other beats etc.

11.4.3.1. COPYING AN EVENT AND CHANGING THE RHYTHME (TIME)

Let us stay within the first BEAT (BEAT No. 0001) of our demo sequence.

The bass drum is located in BANK "0" and is played once at the beginning (the first 1/16 note = TIME 0/4 of BEAT No. 0001).

Let us create four bass drum beats within the first BEAT.

MOVE: the cursor to (*0001* ..... CH.1).

PRESS: "COPY" three times.
Now this EVENT (the bassdrum) is displayed four times on the first four row from the top.

Now we have to change the TIME in order to achieve four even 1/16 note value bass drum kicks.

MOVE: to the fourth row from the top and place the cursor at (0001 *0/4* .....).

USE THE "UP" AND "DOWN" FUNCTION KEYS, TO PLACE THE CURSOR.

INSERT: "0", "3", "0", "4".
The EVENT immediately is shifted down to the other 3/4 values.

MOVE: to the third row from the top and place the cursor at (0001 *0/4* .....).

INSERT: "0", "2", "0", 4".
The EVENT immediately is shifted down to the other 2/4 values.

MOVE: to the second row from the top and place the cursor at (0001 *0/4* .....).

INSERT: "0", "1", "0", "4".
The EVENT immediately is shifted down to the other 1/4 values.

PRESS: "ESCAPE"

PRESS: "TEST"

PRESS: "PLAY".

PRESS: "STOP", whenever you want to stop the playback.

For rythmic effects you can press "PLAY" repeatedly.

Four sixtenth note bass drum kicks are played in the first BEAT of the playback.

Maybe you lost your way during the copy instructions.

PLEASE CALL UP SEQUENCE "S 090" (which contains the four kicks).

11.4.3.2. THE MASTER COPY PAGE

How To Use The COPY Page

You can use the COPY Page to copy (duplicate and transfer) either a whole Sequence or parts of a Sequence. This can serve to either double the length of a Seqeunce (Example 1) or to change events using other BARS (Example 3). Voices can be copied to a Channel with higher BAR numbers (Example 2). The normal procedure is to first define the BAR numbers to which a part is to be copied and only then to define which parameters are to be changed. If a 9 is entered an X will always appear which means that no change will be made.

Example 1:

If you wish to extend a 4 BAR Sequence to say 16 BARS first press the key COPY and then the key BAR No.The cursor first jumps to DESTINATION. Here you can enter:

```
DESTIN.: FROM BAR No.: 0005
           TO BAR No.: 0016
```

BARS 01 to 04 serve as the source for BARS 05 to 16. So now press the key BAR again. The cursor now jumps to SOURCE and you can now enter:

```
SOURCE.: FROM BAR No.: 0001
           TO BAR No.: 0004
```

After pressing the key EXECUTE the Sequence will be extended to 16 BARS length. which means that the original Seqeunce will play 4 times. Now you must erase the old *****END***** at BAR 0005 and enter a new *****END***** at BAR 0017 by first typing in this BAR No. and then a "99" at TIME. By now pressing TEST you can load the new Sequence either into the WAVE 2.2 or EVU and the Sequence can then be started by entering a "1" at RUN on the WAVE 2.2 or by pressing the key

PLAY on the WAVE TERM.

EXAMPLE 2:

This example will demonstrate how an 8 bar Sequence can be extended using the COPY Page. Let us imagine that this Sequence has a certain number of notes recorded on to Channel 2 (Group B). The first job is to copy these notes on to Group A (Channels 1, 3, 5 and 7) so that Channel 2 is simply doubled. This is done as follows:

Press COPY (on the MAIN PAGE 5, not on the EDIT Page!). Press BAR No. At DESTINATION enter BAR No. 0001-0008. At CHANNEL enter 3 (4, 5, 6, 7 or 8 are all possible but not 1!). Press BAR No. again. At SOURCE enter 0001-0008 and at CHANNEL a 2. When you now press EXECUTE Channel 2 will be copied on to whichever other Channel you have selected. In addition other alterations such as BANK can also be simultaneously copied. It is, however, not possible to copy the events of one Channel (as SOURCE) on to the BAR Nos. of a Channel (as DESTINATION) which has a smaller Channel number than the SOURCE Channel. It is therefore possible to copy Channels 1-7 on to other higher numbered Channels. In order though to copy Channel 8 on to another Channel a special procedure must be followed. Let us imagine that we now wish to copy Channel 8 on to BARS 0001-0008 (to continue the example commenced above):

Press COPY. Press BAR No. At DESTINATION enter 0101-0108. At CHANNEL enter Channel number required (eg 1). Press BAR No. again. At SOURCE enter 0001-0008. At CHANNEL now enter 8 and then press EXECUTE. BARS 0001-0008 are now on Channel 1 as required but at BARS 0101-0108. These BARS can now be copied to 0001-0008 as follows:

Press COPY. Press BAR No. At DESTINATION enter 0001-0008. Press BAR No. again. At SOURCE enter 0101-0108. Press EXECUTE. For BAR Nos. 0001-0008 Channel 1 now has the same values as Channel 8. Do not forget to delete BAR Nos. 0101-0108 (see also Chapter DELETE). Press key DELETE (on MAIN Page 5). Press BAR No. and enter 0101- 0108. Press EXECUTE and the BAR Nos. are erased.

Your old Seqeunces will have a 0 under BANK which means that only Group A will be controlled. In order to assign the Channels of your old Sequences to both Groups enter BANK 1 at the required Channels for Group B, copy them on to other BAR Nos. and then back again as described above.

EXAMPLE 3:

In this example Channels 2. 4, 6 and 8 of a 16 BAR Sequence have to be assigned to BANK 1. BARS 0101-0116 will be used for this. Copy BARS 0001-0016 to BARS 0101- 0116 together with the neccessary alteration. Now erase the old Channels from BAR Nos. 0001-0016 and then copy BAR Nos. 0101-0116 to BAR Nos. 0001-0016. Do not forget to erase the BAR Nos. 0101-0116. Procede as follows:

Press BAR No. At DESTINATION enter 0101-0116. Press BANK and enter here a "1". Press BAR No. again. At SOURCE enter 0001-0016. Press CHANNEL and first enter a "2". Now press EXECUTE. At CHANNEL now enter a "4" and press EXECUTE. Continue the procedure with Channels 6 and 8.

EXAMPLE 4:

In this example we have a Sequence with BARS 0001-0004. Let us imagine we now wish to extend only Channel 2 to 16 BARS length. First press BAR No. and enter the BAR Nos. 0005-0016 at DESTINATION. Now press CHANNEL. The cursor remains at DESTINATION. Enter a "2" at CHANNEL. Now press BAR No. again. The cursor now is at SOURCE and here enter BAR Nos. 0001-0004. Press CHANNEL again and enter also here a "2". Set ****END**** at BAR No. 0017 as described above. If you now start the Sequence you will here the first four BARS as before and then Channel 2 of these BARS three times. Of course the events of Channel 2 can also be copied on to another Channel if desired. BANK can also be simultaneously changed.

EXAMPLE 5: Copying with UPDATE Values

By entering appropriate codes you can also change UPDATE values. The UPDATE codes entered at DESTINATION represent multiplication or subtraction factors. The code 00 corresponds to a multiplication by 0. The code 32 represents a multiplication by 1, and the code 62 a multiplication by 2. This means, if you copy UPDATE values using the code 00 they will all be copied with 0 value. If you enter the code 32 the UPDATE values will remain as they are and code 62 means that they will be doubled. All even numbers from 00-62 can be used as UPDATE values. Here is an example:

In a 16 BAR Sequence it is required that the UPDATE values of Channel 1 be doubled. First press BAR No. At DESTINATION enter BAR Nos. 0101-0116. Now press UPDATE and

enter here 63. Press BAR No. again and enter 0001-0016. Press CHANNEL and enter here 1. Press EXECUTE. BAR Nos. 0101-0116 now contain Channel 1 with doubled UPDATE values. Copy the BARS back to their original position as described above.

EXAMPLE 6:

Let us now imagine we have an 8 voice Sequence 16 BARS long. It is required that every note beginning on the downbeat in Channel 2 be copied to BARS 17-32. Procede as follows:

Press BAR No. At DESTINATION enter BAR Nos. 0017-0032. Press TIME and enter here 00/02.

Press BAR No. again. At SOURCE enter 0001-0016. Press CHANNEL and enter here a 2. Press TIME and enter here 00/02. 04. 08. The second number must of course correspond to the number in the Sequence. If neccessary call up the EDIT Page to check the numbers. Press EXECUTE.

SELECTION can be cancelled by entering a 9.
An x appears again at this position.

DELETE

The key DELETE on the MAIN Page 5 (not on the EDIT Page!) can be used to erase either single Channels or whole parts of Sequences. Procedure is similar to use of the COPY Page.

Deleting procedure will be explained in the following examples:

In an 8 voice 16 BAR Sequence parts of the Sequence have to be erased:

1) BARS 0005 and 0006 are to become rests. Press DELETE. Enter BAR Nos.0005-0006. Press EXECUTE.

2) Channel 3 is to be erased from BARS 0009-0011. Press DELETE. Enter BAR Nos.0009- 0011. Press CHANNEL and enter 3. Press EXECUTE.

3) In every BAR notes in register Octave 2 which sound on the second half of every beat (TIME 1/2) are required to be erased. Press DELETE. Enter BAR Nos. 0001- 0016. Press TIME and enter 1/2. Press OCTAVE and enter 2. Press EXECUTE.

11.4.3.3. TRANSPOSING AN EVENT

Let us continue with our altered demo sequence.

In case you did not follow the previous instructions, please call up "S 090" from the "DEMO 85" disk.

Now we want to transpose some of the bass drum kicks

PRESS: "EDIT"

INSERT: "0001" . BEAT No. 0001 shows up.

MOVE: to the top row and place the cursor at (0001 ..... OCT. *1*).

USE THE "LEFT" AND "RIGHT" FUNCTION KEYS.

INSERT: "3"

PRESS: "DOWN" function key four times.
the cursor is placed at the second bassdrum EVENT.

PRESS: "RIGHT" function key once.
the cursor is placed at (0001 1/4 ... 1 *G* ...) .

INSERT: "2". the functions key display changes to the musical alphabete. The cursor now shoes up behind "D".

PRESS: "8" for "" notation.

PRESS: "LEFT" once.

INSERT: "2".

PRESS: "DOWN" once.

INSERT: "2".

PRESS: "ESCAPE".

PRESS: "TEST".

PRESS: "PLAY".

The sequence starts out with four differently pitched bass drum kicks.

The result of this operation is documented under "S 091".

11.4..3.4. SWAPPING SOUNDS

Let us still go on with our demo sequence.

In case you did not follow the previous instructions, call up "S 091" from the "DEMO 85" disk.

Now let us swap the bass drum sound with the tomtom sounds. The bass drum kicks should be played by the tom toms.

PRESS: "EDIT"

INSERT: "0001"

PRESS: "RIGHT" five times until the cursor is placed at (0001 ..... BANK *0* ....).

INSERT: "4". This is the BANK, the TOM TOM is located at.

PRESS: "DOWN" three times.

INSERT: "4", in order to swap the second kick.

PRESS: "DOWN" once.

INSERT: "4", in order to swap the third kick.

PRESS: "DOWN" twice.

INSERT: "4", in order to swap the fourth kick.

PRESS: "ESCAPE"

PRESS: "TEST"

PRESS: "PLAY"

The bass drum kicks now are played by four toms.

The result of this operation is documented under "S 092"

11.4.3.5. SWAPPING CHANNELS

It is possible the "bounce" one event from one sequencer channel to another.

Let us still go on with our demo sequence.

In case you did not follow the previous instructions, call up "S 092" from the "DEMO 85" disk.

PRESS: "TEST"

PRESS: "EDIT"

INSERT: "0001".

MOVE: the cursor within the top row to
(0001 ..... CH. *1*).

INSERT: "7".

REPEAT: this procedure with the remaining three EVENTS on CH.1.

PRESS: "ESCAPE"

PRESS: "TEST". Now the channels have been swapped.

11.4.3.6. CHANGING THE GATE TIMES

It is possible to change the length of a note within the EDIT mode. This is accomplished by changing the GATE time.

For detailed information on the GATE time please look up chapter 11.X X

Let us continue with another demo sequence.

PLEASE CALL UP "M 900" and "S 001" from "DEMO 85" disk.

PRESS: "TEST"

PRESS: "PLAY".
What you hear is a short piece of music. A little "ostinato" pattern with a triplet feeling can be heard (it actually plays in a 4/4 measure too). This little pattern sounds very smooth.

Our task for now is to give this pattern a "staccato" feeling.

PRESS: "EDIT"

INSERT: "0001"

The pattern was played on channels 5,6,7 and played with the sound on BANK 6.

We have to change the GATE times of all the EVENTS which were played with the sound on BANK 6.

The GATE times now all are set to "0/6".

We have to change them to "0/1".

PLEASE USE THE "UP" "DOWN" "LEFT" "RIGHT" function keys in order to reach the appropriate GATE - locations of the EVENTS of BANK 6.

The GATE time has to be changed with the insertion of "0","0","1".

After you have finished the operation on BEAT "0001"

PRESS: "NEXT". BEAT "0002" shows up.

Continue to change the GATE times. Move on to the following BEATs etc. if you like to.

Whenever have have finished changing the GATE times,

PRESS: "ESCAPE"

PRESS: "TEST"
PRESS: "PLAY"

The altered passages are played back with a "staccato" feel.

11.4.3.7. CHANGING THE UPDATES

Certain parameters can be changed dynamically through the "UPDATE" function. The parameter list can be looked up at chapter 11.1.XXXX

Let us continue to work with our actual demo sequence.

In case you did not follow the previous instructions, please call up "M 900" and "S 001".

What we want to do now is to change the UPDATES for the HI HAT pattern.

The hi hat playes in the background at low volume and with a certain rythme which is adding to the groove.

The pattern would sound nicer if it had a dynamical costume.

Let us create level dynamics for the hi hat.

PRESS: "TEST".

PRESS: "ESCAPE"

INSERT: "0001"

The hihat-sample is locateed at BANK 2 and recorded on CH 4.

MOVE: the cursor to the fifth row from the top to (0001 ..... UPDAT. *56* 4).

INSERT: "4", "0".

MOVE: to the next hi hat EVENT.

INSERT: "5", "2".

MOVE: to the last hi hat EVENT of this BEAT,

INSERT: "6", "2".

Repeat the operation with as many other BEATS as you like.

After you have finished,

PRESS: "ESCAPE".

PRESS: "UPDATE" function key.

THE UPDATE PAGE SHOWS UP.

The eight channels are displayed with a value of "0" for each.

PRESS: "CHANNEL"

PRESS: "0"

PRESS: "NEXT"

PRESS: "0"

Repeat this procedure until you reach the fourth CHANNEL.

INSERT: (ChANNEL: 4 : *6*). "6" is the code volume UPDATES.

NOTE: A CHANNEL CAN ONLY BE ASSIGNED TO ONE KIND OF UPDATE. IT IS NOT POSSIBLE TO USE TWO DIFFERENT KINDS OF UPDATES WITHIN ONE CHANNEL.

PRESS: "ESCAPE"

PRESS: "TEST"

PRESS: "PLAY".

The hi hat is audible with a certain dynamic pattern.

In case the other instrument cover the hi hat, stop the playback and adjust the basic volume of the other instruments on the "WAVE 2.3" for better audibility of the hihat effect.

CHANGING THE PLAYBACK SPEED OF A SINGLE SEQUENCE

It is possible to change the speed of a sequence with the (SP: XX) function on the "WAVE 2.3" and store the information with the "RECM: 9" command.

"EVU" sequences and "WAVE 2.3" sequences can also be altered in speed with the "SPEED: XX" control on the UPDAE PAGE.

Any SPEED value between "00" and "63" can be inserted (internal code).

TRANSPOSING A SINGLE SEQUENCE WITHIN A PAYCOMMAND

A single sequence can be transposed within a PLAYCOMMAND. This is carried out chromatically.

The alteration is enteres on the UPDATE PAGE under "BASETUNE : X".

A single sequence can be transposed up to three octaves chromatically.

SYNTHESIZER SOUND PROGRAMME CHANGES WITHIN A PLAYCOMMAND

In case some of the BANKS of a component are loaded with synthesizer sounds, they can be changed within a PLAYCOMMAND.

It is however not possible to switch inbetween sounds which use different wavetables.

If you want to use this function, you must use sounds which use the same wavetable.

Insert the number of the soundprogramme on the UPDATE PAGE "PROGRAM : XX".

For easy handling, it is advisable to use only one BANK for soundprogramme changes.

The soundprogramme change is only executed within a PLAYCOMMAND, not when you play back single sequences.

When you playback a PLAYCOMMAND you have to set the BANK cursor on the "WAVE 2.3" below the bank where the sound programme change shoukd be executed.

In order to set the CHANGING BANK within the "EVU" you have to enter the "EVU" edit mode and call up the bank, then leave the E

11.5. LOADING A PLAYCOMMAND (SONG)

A PLAYCOMMAND is a chain of sequences linked together to a complete piece of music.

PLAYCOMMANDS are created on the PLAY WINDOW of PAGE 5.

After you have created all the sequences you want to play within a song, and having loaded the appropriate MULTISAMPLE into the corresponding component, you can create a PLAYCOMMAND.

For a demonstration load "P 999" which is a little song

MOVE: to PAGE 5.

MOVE: to (GET: P *xxx*)

INSERT: "999".

PRESS: "EXECUTE".

MOVE: down to (*PLAY*) of the PLAYCOMMAND window.

PRESS: "EXECUTE".

The loading cursor indicates the loading operation of the "WAVETERM".

The COMMENT LINE displays: READY FOR START.

PRESS "1" on the "WAVE 2.3" keypad.

The little demo song is played back.

NOTE: CALLING UP A PLAYCOMMAND ACTIVATES
THE FOLLOWING FUNCTIONS AUTOMATICALLY:

- THE MULTISAMPLES ARE DISPLAYED IN THE INDIVIDUAL BANK.

- THIS INCLUDES THE "C" AND "M" FILES.

- ALL THE SEQUENCES ARE DISPLAYED.

MOVE: to (GET: M *999*)

PRESS: "EXECUTE".

MOVE: to (*PLAY*).

PRESS: "EXECUTE".

All you have to do is to start the units.

In order to stop the playback PRESS: "ESCAPE"

In case you are using Synthesizer sounds for your own play commands, you will have to load the "D" FILES first.

MOVE: to the component which has to be loaded.

ROLL: to (GET: *D* xxx)

MOVE: to (GET: D *xx*)

INSERT: the register number of your "D" FILE.

Call up the appropiate "CP" in the "WAVE 2.3".

NOW load the MULTISAMPLE.

11.6. CREATING A PLAYCOMMANND

FIRST: STORE the "D" FILE which is needed for the song.
STORE the MULTISAMPLE.

SECOND: LOAD the "D" FILE back into the component.
LOAD the "M" FILE back into the component.

MOVE: to the PLAYCOMMAND window (*PLAY*)

PRESS: "DOWN".
The cursor is at the first sequence location.

INSERT: the number of loops and the register number of the sequence

EXAMPLE: Lets imagine you want to start with sequence "050" and want to play it back twice. INSERT "0" "2" for the amount of loops and "0" "5" for the sequence itself.

The sequence location should display (*02 S50*).

In case you have inserted the wrong figures, repeat the operation until the the right figures are displayed.

NOTE: A PLAYCOMMAND ACCEPTS ONLY SEQUENCES WITH REGISTER NUMBERS BELOW "100" (S: 000 - 099).

PRESS: "RIGHT".
The cursor jumps to the next location to the right.

INSERT: amount of loop and the register number of the sequence you want to playback next.

PRESS: "RIGHT"
The cursor jumps to the next location to the right.

Repeat this procedure until you have completed your song.

If your song consists of more than seven single sequences, the display will scroll automatically to the left giving you more free locations .

In such a case you cannot read the PLAYCOMMAND in total.

READ A PLAYCOMMAND:

In order to read the complete PLAYCOMMAND move the cursor to the left again and hold the "LEFT" function key.

The sequences are automatically scrolled backwards.

Use the "RIGHT" and "LEFT" function keys to move within the PLAYCOMMAND.

EDIT A PLAYCOMMAND:

If you have to do some alterations, for example you have forgotten to insert a certain sequence along the line,

move to: "PLAY"

and roll to "EDIT".

Place the cursor at the location which is in front of the sequence that has to be inserted, press the INSERT function key, the sequence of the cursor location is duplicated.

Move one location to the right and insert the loops and the number of the missing sequence.

If you have inserted a seuqence at the wrong place, move the cursor to this sequence and press the "DELETE" function key.

DEFINNING THE END OF A PLAYCOMMAND:

Whenever all the sequences for the song have been inserted, it is necessary to set the END - MARKER.

This is accomplished by moving the cursor to the location one sequence behind the last sequence and pressing the "SET" function key.

The COMMENT LINE will display: Set new START? (YES=EXECUTE).

This feature enables you to start within the PLAYCOMMAND at any sequence.

THE "NEW" FUNCTION

In case you want to erase the content of the complete PLAYCOMMAND window,

roll "PLAY" to "NEW"

and press: "EXECUTE".

THE "STOP AT" FUNCTION:

This function enables you to set a defined END of the playback, depending on the time which is inserted and independent of the END marker of the PLAYCOMMAND.

THE TIME DISPLAY:

The TIME display reads out in minutes and seconds.

The "CURR. TIME: XX.XX" displayes the current time of a playback.

The "TOTAL TIME: XX.XX" displayes the total time of the playback at the end of the song and keeps it during the following playback.

Whenever another playback is executed and stopped, it automatically keeps the new total time.

THE "BEATS/MIN.: FUNCTION:

This function overrides the speed of the single sequences but calculates speed changes within a PLAYCOMMAD if any have been programmed.

Each single sequence has been stored with a defined playback speed.

(RECM. "9" on the "WAVE 2.3", or "SPEED" on the UPDATE PAGE of the "WAVETERM B").

This speed can be altered for a complete PLAYCOMMAND with the BEATS/MIN function.

If a value is inserted in this field, this speed will be taken for the playback.

EXAMPLE: You were using different tempi for your single sequences and the tempo changes were made according to the feeling of the song. The BEATS/MIN. function keeps those changes in mind, but calculates them according to the new overall speed.

THE "CODE" NOTATION:
- - - - - - - - - - -

This field can be used for notes on the kind of sync. facilities and codes you were using with this song.

The writing facilities are layed out like the NAME function.

11.7. SAVING A PLAYCOMMAND

After everything is the way you want it to be, the sounds, the single sequences, speed etc. you can save the PLACOMMAND onto disk.

NAMING A SONG:
- - - - - - - -

MOVE: to (NAME: *---------*).

PRESS: "O"
The function display is switched to the writing mode. Use "SPACE" and "BACKSP" function keys for movement, use "MODE" for second half of alphabete and numeric insertions. Use "SPACE" to move out of the function, by holding this key down until the display is flashing.

MOVE: to (*GET* P XXX)

ROLL: to (*SAVE* P XXXX)

MOVE: to (SAVE P*xxx*)

INSERT: a register number.

PRESS: "EXECUTE".

In case the register number has already been used for a PLAYCOMMAND in the actual disk, the COMMENT LINE shows:

"THE SPECIFIED FILE ALREADY EXISTS ! DELETE OLD FILE ?"

In case you want to erase the old FILE,

PRESS: "EXECUTE".

In case you want to keep it,

PRESS: "ESCAPE"
and insert a different register number.

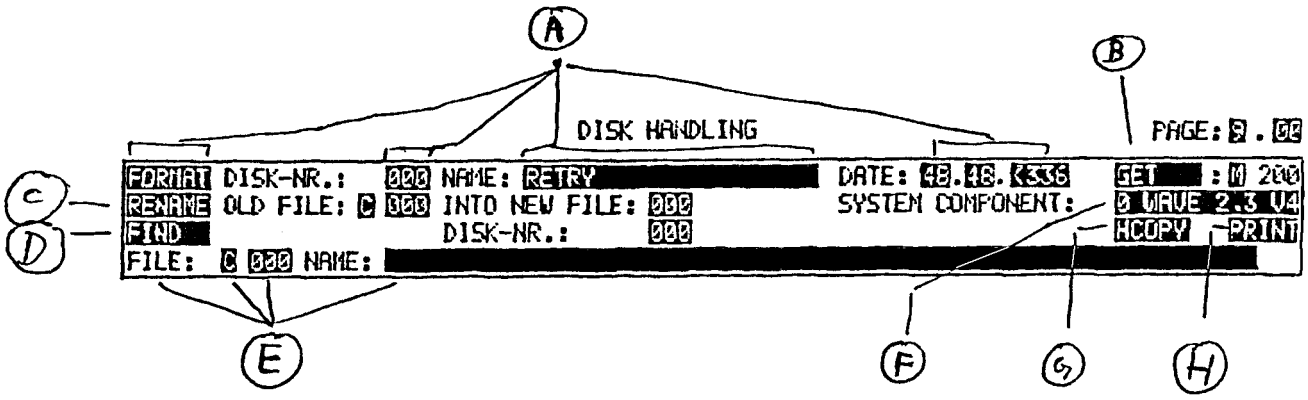
PRESS: "EXECUTE".

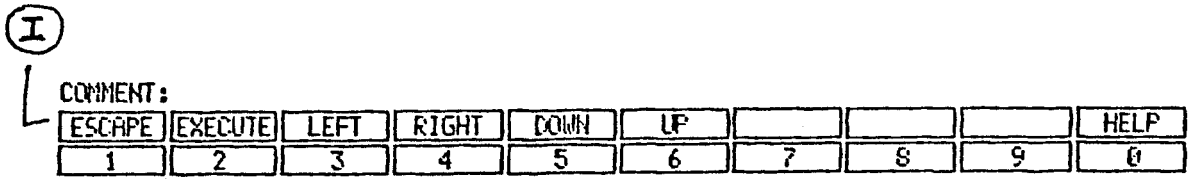
The song is transfered to disk.

12. PAGE "9" DISKHANDLING

In this page the diskhandling takes place. You can SAVE all the FILES onto disk, load them back into the "WAVETERM B" and the other PPG components. You can name and rename the individual FILES, name the individual disks, set up a directory of all your disks and their FILES, and display all information on the screen.

GRAPHIC 100





A - Formating routines

B - Disk Communication

C - Renaming Files

D - Catalogue of all files

E - Naming files

F - Component selection

G - Disk to disk copy

H - Printer connection

I - Function display

12.1. FORMATTING A DISK

Insert a new disk into the user drive. Lock the drive.

Every new disk has to be formatted before you can use it with the "WAVETERM B". There are six illuminated light fields at your disposal:

GRAPHIC 101

PRESS "ESCAPE", "9".
PAGE "9" shows up on the display.

PRESS: "LEFT", "RIGHT".
Now you should catalogue your disk.

INSERT: the number you want to register the disk under (three digits).

PRESS: "RIGHT".

PRESS: one of the numerical function keys.
Now the function display features the first half of the alphabet and three other functions.

"MODE": switches the function display from one half to the other half of the alphabet.

"SPACE": moves the cursor forward without printing a letter.

"BACKSP": moves the cursor backwards and erases the letters.

The cursor appears in the field (NAME:*_____). Insert the name of the new disk. Press "BACKSP" or "MODE" and "BACKSP" when you want to erase a letter, Press "SPACE" when you want to leave spaces or when you want to leave the NAME field. The name field starts flashing again when you have moved the cursor out of it.

PRESS: "RIGHT".
Now you'll have to enterr the actual date.

INSERT: the actual date (for example 11.11.1985).

PRESS: "RIGHT",
the cursor jumps back to (*FORMAT*).

PRESS: "EXECUTE".
Now the COMMENT line displays: "ARE YOU SURE?" This is a question for your own savety: are you sure that you want to erase everything that might already be on this disk, if it was already used.

PRESS: "ESCAPE"
if you are not sure if you want to erase the content of the disk and check the FILES of the disk. Refer to chapter GGGG.

PRESS: "EXECUTE",
if you want to erase the content and format the disk. NOW the COMMENT line displays: "SCATCH DISK IN DRIVE 1 ?" Drive 1 is the user drive. If you are sure that you want to format go on.

PRESS: "EXECUTE".
The WAVETERM starts to format the disk and now the COMMENT line displays: "FORMATTING will take only 1.30 minutes.". This indicates the time of the formatting procedure end that no other function is available during that time.

Whenever the formatting is finished, the COMMENT line displays: "FORMATTINNG COMPLETE!", indicating that you can start working with the new disk.

PRESS: "ESCAPE".
Start working with the new disk.

12.2. DISK COMMUNICATION: - LOADING AND SAVING FILES

All the disk oriented operations can be executed on Page "9".

MOVE: to (*GET * : ⟨C⟩ ⟨000⟩),
this is the disk directing field. The following commands are available:

*GET *: LOAD any FILE into any unit.

SAVE: SAVE any FILE from any unit onto disk.

COPY: transfer any single FILE from one disk to another.

12.3. COMPONENT COMMUNICATION

All the pages can communicate at any time with any PPG component, provided they are connected to "WAVETERM B" by a communication bus.

The unit control field (SYSTEM COMPONENT: ⟨0 WAVE 2.3 V4⟩) can be rolled up and down to link the individual components

to the "WAVETERM B". Any FILE can be loaded into any unit. Any available FILE can be saved from any linked component onto disk.

12.4. NAME INDIVIDUAL FILES

Any individual FILE can be given a name.

There are three illuminated operational fields at your disposal:

GRAPHIC 102

MOVE: to (FILE: *C* ⟨000⟩ NAME:
_____),

INSERT: the kind of FILE you want to give a name.

SHIFT: to (FILE: ⟨C⟩ *000* NAME:
_____),

INSERT: the number of the FILE.

SHIFT: to (FILE: ⟨C⟩ ⟨000⟩ NAME:
_____).

PRESS: one of the numerical function keys,

Insert the name of the FILE. Now the FILE has to saved again.

PRESS: "ESCAPE",

MOVE: to (*GET *: ⟨X⟩ ⟨000⟩),

ROLL: to (*STORE*: ⟨X⟩ ⟨000⟩),

SHIFT: to (⟨STORE⟩: *C* ⟨000⟩),

INSERT: the type of the FILE,

SHIFT: to (⟨STORE⟩: ⟨C⟩ *000*),

INSERT: the register number of the FILE,

PRESS: "EXECUTE".
The FILE now has its own name and is saved onto disk.

12.5. RENAME A FILE

It is possible to give a FILE a new register number. Rename "old" FILE C 999 into "new" FILE C 888 :

12.6. THE DIRECTORIES

Each disk has its own directory. The INDIVIDUAL DIRECTORY contains all the different FILES, their register number, and their names.

GRAPHIC 103

The OVERALL DIRECTORY contains all the FILES of your complete disk library.

12.6.1. THE INDIVIDUAL DIRECTORY

Let us have a look at the directory of the "DEMO 85" disk. Insert the "DEMO 85" disk into the user drive.

MOVE: to (*FIND*),

PRESS: "EXECUTE",
The screen immediately displays a listing of the FILEs and their names. If there are more Files than the display can hold, the COMMENT line shows: "CONTINUE LISTING ?". If you want to go on,

PRESS: "EXECUTE" again.
If you want to leave the directory, PRESS: "ESCAPE".

12.6.2. THE OVERALL DIRECTORY

The PPG SOUND LIBRARY

13. BOOTING THE WAVETERM "B" AND "A" TYPES

The "WAVETERM B" is able to work in both the "A" and "B" type modes.

In order to work with the computer, you have to load the appropriate system software first.

Without this software the WAVETERM cannot work.

Loading the system software is called "BOOTING".

13.1. BOOTING THE WAVETERM "B" TYPE

Before you start working, load the system software into the "WAVETERM" by inserting the system disk either before you switch on the unit or by inserting the system disk after you have switched it on and restarted it with the RESTART button.

It takes 12 seconds to boot the "WAVETERM B". After the unit is booted, PAGE "0" shows up.

Now you can start working.

13.2. BOOTING THE WAVETERM "A" TYPE

The "WAVETERM B" accepts the software of its predecessor the WAVETERM ("A"-TYPE).

It is a tradition with "PPG" not to release a new synthesizer or computer terminal model every year.

Nevertheless modern digital technology is developing so fast, that it is necessary to alter the software and in certain cases the hardware in order to stay up to date.

Due to this marketing strategy, "PPG" has developed new hardware and software for their computer terminal, the "WAVETERM".

Many people have bought the "WAVETERM" since it has been released in 1982.

Now the "WAVETERM B" has been released and many people want the new features without having to sell their "WAVETERM".

This is possible by simply upgrading their computer.

Most of the people who have worked with the "WAVETERM A" for the last three years have built up a large private library of sounds, songs and other files and naturally want to be able to use all their special data in the future with the "WAVETERM B" type too,.

The two types of WAVETERM are working with different disk formats. A disk with the format of the "A" type does not work with the "B" type and vice versa.

PPG made it possible to use all the dat of the "A" type library.

There are two ways of working with the "WATERM A" library. One way is to reboot the "A" type software and to work with the "A" type sounds in the "A" type mode.

This might be very helpful during the time when you have to study all the new features of the "B" type but still want to be able to rely on your experience and working routines with the "A" type.

The other possibility is to convert all the important sounds of your "A" type data library and work with them in the "B" type mode.

REBOOTING TO "A" TYPE WAVETERM

A-INSERT: "REFORMAT 68000" DISK INTO LEFT DRIVE.

B- PRESS: "RESTART". The LED of this drive now is illuminated for 12 seconds.

After the LED is switched off, remove the "REFORMAT 68000" disk immediately.

C-INSERT: "SYS. DISK" of the WAVETERM "A" type

immediately.All disks from (SYS. E VERSION 2.2. - 2.3.3) are accepted.

NOTE: YOU HAVE 16 SECONDS TIME TO INSERT THE DISK AND LOCK THE DISK DRIVE, THE WAVETERM HAS A WAITING LOOP BUILT IN.

The WAVETERM is now loading the "A" type software automatically.

After 13 seconds "PAGE 0" of WAVETERM "A" is displayed and you can start working with the "A" type.

13.3. CONVERTING "A" TYPE DATA TO "B" TYPE FORMAT

All the individual FILES of an "A" type disk can be converted independently.

For the conversion you need an empty new disk with "B" type format, the REFORMAT 68000 disk, the REFORMAT 6809 disk and your original disk.

REPEAT STEPS (A - B) OF CHAPTER 13.1. AND CONTINUE AS FOLLOWS:

After having loaded the REFORMAT 68000 disk, insert the REFORMAT 6809.

After the REFORMAT 6809 is loaded the computer displayes the DISK REFORMAT UTILITY.

INSERT: the "A" type disk you want to copy from into the left drive.

INSERT: the "B" type disk you want to copy to into the right drive.

PRESS: "COPY".

Whenever you are ready:

PRESS: "YES" function key.

Now the computer asks you if you want to copy a WAVE-COMPOUND. If this is the case continue with step (---D).

If you want to copy another FILE, press "NO" function key repeatedly until the wanted FILE is displayed.

D-PRESS: "YES"

INSERT: the registration number of the FILE, using the numerical keys.

NOTE: IN CASE YOU HAVE INSERTED A WRONG OR NONEXISTANT REGISTRATION NUMBER WAIT UNTIL THE SCREEN SHOWS UP WITH AN EMPTY DISPLAY AND REPEAT THE COPY OPERATION.

IN CASE YOU HAVE CALLED UP THE WRONG FILE OR HAVE JUMPED TOO FAR, PRESS THE "ESCAPE" FUNCTION KEY.

IN CASE YOU HAVE MADE A FATAL ERROR BY USING AN ILLEGAL COMMAND YOU HAVE TO RELOAD THE COPY SOFTWARE. FOLLOW THE INSTRUCTIONS OF THIS CHAPTER.

All the FILES follow the normal copy procedure except the ⟨T⟩ FILES:

Copy procedure for 8 bit sounds:

- copy: ⟨T⟩ FILE only.

Copy procedure for 16 bit sounds 1 Bank:

- copy: ⟨T⟩ FILE and
"TRS SECOND HALF" ⟨X⟩ File.

Copy procedure for 16 bit sounds 2 Banks:

- copy: ⟨T⟩ FILE ,
"TRS SECOND HALF" ⟨X⟩ FILE,
"TRS THIRD HALF" ⟨Y⟩ FILE and
"TRS FOURTH HALF" ⟨Z⟩ FILE.

8 bit sounds are sounds which have been sampled with the "WAVETERM A".

16 bit sounds are sounds which have been previously sampled by PPG and have been released with the PPG SOUNDLIBRARY.

Whenever all the necessary conversions have been made, remove the disk from left drive, insert the "WAVETERM B" SYSTEM DISK and press the "RESTART" button.

Call up PAGE"9".

MOVE to (*FIND*) and press "EXECUTE" in order to check if the conversion has been executed properly.

=====end=====

```
****************************** F F G ***************************************
*
*                        SOUND LIBRARY DEFINITIONS
*
****************************************************************************
```

BA = BASSES	SB = SINGLE BANK
BR = BRASS	DB = DOUBLE BANK
DR = DRUMS	
EF = EFFECTS	SL = SHORT LOOP
GT = GUITARS	LL = LONG LOOP
KB = KEYBOARDS	
NN = NATURAL NOISES	
OR = ORCHESTRAL SOUNDS	
PC = PERCUSSIONS	
PS = PERSONAL SOUNDS	
ST = STRINGS	
VO = VOCALS	
WO = WOODWINDS	

dp

DISK NAME: PPG SOUND DISK 85-01

FILE:	C:	NAME:	SPECIFICATION:		
M000	KB	GRAND PIANO	T601-608		PPG 1985
T601	KB	GRAND PIANO 1		SB/SL	PPG 1985
T602	KB	GRAND PIANO 2		SB/SL	PPG 1985
T603	KB	GRAND PIANO 3		SB/SL	PPG 1985
T604	KB	GRAND PIANO 4		SB/SL	PPG 1985
T605	KB	GRAND PIANO 5		SB/SL	PPG 1985
T606	KB	GRAND PIANO 6		SB/SL	PPG 1985
T607	KB	GRAND PIANO 7		SB/SL	PPG 1985
T608	KB	GRAND PIANO 8		SB/SL	PPG 1985
T850	KB	FENDER RHODES 1		SB/SL	PPG 1984
T851	KB	FENDER RHODES 2		SB/SL	PPG 1984
T852	KB	FENDER RHODES 3		SB/SL	PPG 1984
T853	KB	FENDER RHODES 4		SB/SL	PPG 1984
T854	KB	FENDER RHODES 5		SB/SL	PPG 1984
T855	KB	FENDER RHODES 6		SB/SL	PPG 1984
T856	KB	FENDER RHODES 7		SB/SL	PPG 1984
T857	KB	FENDER RHODES 8		SB/SL	PPG 1984
M850	KB	FENDER RHODES	T850-857		PPG 1984

DISK NAME: PPG SOUND-DISK 84-02

FILE:	C:	NAME:	SPECIFICATION:		
T230	DR	CRASH CYMBAL	acoustic drum set	SB/LL	PPG 1984
T228	PC	TIMPANI	orchestral percussion	SB/LL	PPG 1984
T201	DR	SNARE DRUM 1	acoustic drum set with rev.	SB/SL	PPG 1984
T200	DR	BASS DRUM 1	acoustic drum set	SB/SL	PPG 1983
T220	DR	RIDE CYMBAL 1	acoustic drum set	DB/LL	PPG 1984
Y220					PPG 1984
T221	PC	TAMBOURINE		SB/SL	PPG 1984
T205	DR	HI HAT CLOSED	acoustic drum set	SB/SL	PPG 1984
T202	DR	RIMSHOT	acoustic drum set	SB/SL	PPG 1984
T203	DR	HI HAT OPEN	acoustic drum set	SB/SL	PPG 1984
T204	DR	ROCK TOM	acoustic drum set tuned	SB/SL	PPG 1984
T206	DR	CRASH CYMBAL 2	acoustic drum set	DB/LL	PPG 1984
Y206					PPG 1984
T222	PC	HAND CLAPS 1	natural: ten people drunk !	SB/SL	PPG 1984
T223	PC	COW BELL		SB/SL	PPG 1984
S000	DR	DRUM SET	please load M000 and listen !		PPG 1984
M000	PC	DRUM SET	T200 - 206 acoustic drum set		PPG 1984
M001	PC	ORCH. DRUM SET	T228 222 220 225 223 221 230		PPG 1984
S001	PC	ORCH. DRUM SET	please load M001 and listen		PPG 1984
T225	PC	TRIANGLE		DB/LL	PPG 1984
Y225					PPG 1984

DISK NAME: PPG SOUND-DISK 84-03

FILE:	C:	NAME:	SPECIFICATION:			
T253	PC	TABLA TITTA 1			SB/SL	PPG 1984
T254	PC	TABLA TITTA 2			SB/SL	PPG 1984
T251	PC	TABLA TA 1	more open		SB/SL	PPG 1984
T240	PC	HIGH CONGA			SB/SL	PPG 1984
T241	DR	LOW CONGA			SB/SL	PPG 1984
T260	PC	SHAKER 1			SB/SL	PPG 1984
T224	PC	TAMBOURINE 2			SB/LL	PPG 1984
T255	PC	GAIDA GI	straight		SB/SL	PPG 1984
T256	PC	GAIDA KI			SB/SL	PPG 1984
T262	PC	SHAKER 2			SB/SL	PPG 1984
T257	PC	GAIDA GI	with pitch		SB/SL	PPG 1984
T252	PC	TABLA TIN			SB/SL	PPG 1984
T263	PC	SHAKER 3			SB/SL	PPG 1984
T265	PC	CABASA			SB/SL	PPG 1984
T250	PC	TABLA TA 2			SB/SL	PPG 1984
T245	DR	TOM TOM 1	acoustic drum set	short	SB/SL	PPG 1984
T244	DR	TOM TOM 2	acoustic drum set		SB/SL	PPG 1984

DISK NAME: PPG SOUND-DISK 84-04

FILE:	C:	NAME:	SPECIFICATION:		
T050	BA	DOUBLE BASS 1	plucked	SB/LL	PPG 1984
T053	BA	DOUBLE BASS 2	plucked	SB/SL	PPG 1984
T054	BA	DOUBLE BASS 3	plucked	SB/SL	PPG 1984
T055	BA	DOUBLE BASS 4	plucked	SB/SL	PPG 1984
M002	BA	BASS SET 1	T050 053-055 plucked		PPG 1984
M003	BA	BASS SET 2	T040-047 different E-basses		PPG 1984
T041	BA	E BASS 2		SB/SL	PPG 1984
T042	BA	E BASS 3		SB/SL	PPG 1984
T043	BA	E BASS 4		SB/SL	PPG 1984
T044	BA	E BASS 5		SB/SL	PPG 1984
T045	BA	E BASS 6		SB/SL	PPG 1984
T046	BA	E BASS 7		SB/SL	PPG 1984
T047	BA	E BASS 8		SB/SL	PPG 1984
M004	BA	BASS SET 3	A: T050 053-055 B: T047 040 SPL: 24		PPG 1984
M000	BA	BASS SET 4	T049 051 052 056 bowed double bass		PPG 1984
T049	BA	DOUBLE BASS 5	bowed	SB/LL	PPG 1984
T051	BA	DOUBLE BASS 6	bowed	SB/SL	PPG 1984
T052	BA	DOUBLE BASS 7	bowed	SB/SL	PPG 1984
T056	BA	DOUBLE BASS 8	bowed	SB/SL	PPG 1984
T040	BA	E BASS 1		SB/LL	PPG 1984

DISK NAME: PPG SOUND-DISK 84-05

FILE:	C:	NAME:	SPECIFICATION:		
T410	GT	GUITAR E	with strong touch	SB/SL	PPG 1984
T411	GT	GUITAR A		SB/SL	PPG 1984
T412	GT	GUITAR G		SB/SL	PPG 1984
T413	GT	GUITAR H		SB/SL	PPG 1984
T414	GT	GUITAR E		SB/SL	PPG 1984
T415	GT	GUITAR C		SB/SL	PPG 1984
T417	GT	GUITAR SCRATCH		SB/SL	PPG 1984
T416	GT	GUITAR	muted	SB/SL	PPG 1984
T350	KB	HARPSICHORD	low	SB/SL	PPG 1984
T353	KB	HARPSICHORD	high	SB/SL	PPG 1984
T800	PC	MARIMBA E		SB/SL	PPG 1984
T801	PC	MARIMBA c'		SB/SL	PPG 1984
T802	PC	MARIMBA a'		SB/SL	PPG 1984
T803	PC	MARIMBA g''		SB/SL	PPG 1984
T804	PC	MARIMBA e'''		SB/SL	PPG 1984
T805	PC	MARIMBA c''''		SB/SL	PPG 1984
T352	KB	CEMBALO	mid	SB/SL	PPG 1984
M410	GT	GUITAR 1	T410 - 415 417 416		PPG 1984
M800	PC	MARIMBA	T800 - 805		PPG 1984

DISK NAME: PPG SOUND-DISK 84-06

FILE:	C:	NAME:	SPECIFICATION:		
T300	OR	STRING ORCHESTRA	low	SB/LL	PPG 1984
T301	OR	STRING ORCHESTRA	mid	SB/LL	PPG 1984
T302	OR	STRING ORCHESTRA	mid	SB/LL	PPG 1984
T303	OR	STRING ORCHESTRA	high	SB/LL	PPG 1984
T500	BR	FRENCH HORNS	low	SB/LL	PPG 1984
T501	BR	FRENCH HORNS	mid	SB/LL	PPG 1984
T502	BR	FRENCH HORNS	high	SB/LL	PPG 1984
T152	OR	ORCH. STROKE 1	with cymbals	DB/LL	PPG 1984
Y152					PPG 1984
T402	OR	ORCH. STROKE 2	with organ	DB/SL	PPG 1984
Y402					PPG 1984
T060	BR	HORNS	mid night session...	SB/LL	PPG 1984
T068	VO	MIXED CHOIR		SB/LL	PPG 1984
T066	VO	MIXED CHOIR	vocal "I"	SB/LL	PPG 1984
T431	OR	STROKE	bass drum cymbal and hammond	SB/LL	PPG 1984
T065	OR	ORCH. STROKE 3	with brass	SB/LL	PPG 1984
M503	OR	HORNS ORCHR ORGAN CHOIR T060 500-502 152 400 431			PPG 1984
M066	OR	MIXED CHOIR ORCHESTRA T068 066 065 500 400 431 152			PPG 1984
M067	OR	MIXED CHOIR ORCH. T068 066 065 500 400 431 402			PPG 1984
M305	OR	STRINGS HORNS CHOIR T300-303 500-502 400			PPG 1984
M500	BR	FRENCH HORN	T500 501 502		PPG 1984
M300	ST	STRING SECTION	T300 - 303		PPG 1984
T400	VO	CATHEDRAL CHOIR		SB/LL	PPG 1983

DISK NAME: PPG SOUND-DISK 84-07

FILE:	C:	NAME:	SPECIFICATION:		
M270	DR	3 DIFF. CYMBALS AND GONG T270 271 272 229			PPG 1984
T271	DR	RIDE CYMBAL 3	acoustic drum set	DB/LL	PPG 1984
Y271					PPG 1984
T272	DR	RIDE CYMBAL 4	acoustic drum set	DB/LL	PPG 1984
Y272					PPG 1984
T226	PC	CHIMES		DB/LL	PPG 1984
Y226					PPG 1984
T264	PC	SHAKER 4		SB/LL	PPG 1984
T229	DR	GONG 4		DB/LL	PPG 1984
Y229					PPG 1984
T270	DR	RIDE CYMBAL 2	acoustic drum set	DB/LL	PPG 1984
Y270					PPG 1984
T243	PC	DONKEYS JAW		SB/SL	PPG 1984
T209	DR	SNARE 2	acoustic drum set	SB/SL	PPG 1984
T242	PC	WOODBLOCK		SB/SL	PPG 1984
T210	DR	STRONG SNARE 3	acoustic drum set	SB/SL	PPG 1984
T208	DR	SIMMONS SNARE 1	electronic drum set	SB/SL	PPG 1984
T261	PC	SHAKER 5		SB/SL	PPG 1984

DISK NAME: PPG SOUND-DISK 84-08

FILE:	C:	NAME:	SPECIFICATION:		
T530	GT	BANJO D0		SB/SL	PPG 1984
T531	GT	BANJO G0		SB/SL	PPG 1984
T532	GT	BANJO D1		SB/SL	PPG 1984
T533	GT	BANJO A1		SB/SL	PPG 1984
T534	GT	BANJO D2		SB/SL	PPG 1984
T535	GT	BANJO G2		SB/SL	PPG 1984
T497	WO	INDIAN SHAWN		SB/SL	PPG 1984
T496	WO	INDIAN FLUTE 1		SB/SL	PPG 1984
T495	WO	INDIAN FLUTE 2		SB/LL	PPG 1984
T477	WO	MOUTH ORGAN	mid	SB/SL	PPG 1984
T478	WO	MOUTH ORGAN	high	SB/SL	PPG 1984
T479	WO	MOUTH ORGAN	high	SB/LL	PPG 1984
T112	WO	OBOE	high	SB/SL	PPG 1984
T080	OR	ORCHESTRA 4	minor chord	SB/SL	PPG 1984
T476	WO	MOUTH ORGAN	low	SB/SL	PPG 1984
T108	WO	BASSON		SB/LL	PPG 1984
T111	WO	OBOE	low	SB/SL	PPG 1984
M530	GT	BANJO	T530 -535		PPG 1984

DISK NAME: PPG SOUND-DISK 84-09

FILE:	C:	NAME:	SPECIFICATION:		
M420	GT	FUZZ GUITAR	T424, 420, 421, 423, 427, 426, 428		PPG 1984
T373	KB	HARPSICHORD	HIGH 1	SB/SL	PPG 1984
T424	GT	FUZZ GUITAR	attack sound rhythm	SB/LL	PPG 1984
T420	GT	FUZZ GUITAR	tube sound with sustain, low	SB/LL	PPG 1984
T421	GT	FUZZ GUITAR	tube sound with sustain, mid	SB/LL	PPG 1984
T427	GT	FUZZ GUITAR	screaming 1	SB/SL	PPG 1984
T426	GT	FUZZ GUITAR	screaming 2	SB/SL	PPG 1984
T428	GT	FUZZ GUITAR	long sustain with harm. tone	DB/LL	PPG 1984
Y428					PPG 1984
T490	WO	GERMAN FLUTE	LOW	SB/LL	PPG 1984
T491	WO	GERMAN FLUTE	MID	SB/LL	PPG 1984
T492	WO	GERMAN FLUTE	HIGH	SB/SL	PPG 1984
T422	GT	FUZZ GUITAR		SB/LL	PPG 1984
T370	KB	HARPSICHORD	LOW	SB/LL	PPG 1984
T371	KB	HARPSICHORD	MID	SB/LL	PPG 1984
T372	KB	HARPSICHORD	HIGH MID	SB/SL	PPG 1984
T374	KB	HARPSICHORD	HIGH 2	SB/SL	PPG 1984
M370					
M490					
T423	GT	FUZZ GUITAR	tube sound with sustain high	SB/LL	PPG 1984

DISK NAME: PPG SOUND-DISK 84-10

FILE:	C:	NAME:	SPECIFICATION:		
M000	DR	SIMMONS SNARES 1	T281 - 288		PPG 1984
M001	DR	SIMMONS SET 1	T289 280 291 - 296		PPG 1984
T282	DR	SIMMONS SNARE 3	electronic drum set ,dry	SB/SL	PPG 1984
T283	DR	SIMMONS SNARE 4	electronic drum set ,reverb	SB/SL	PPG 1984
T285	DR	SIMMONS SNARE 6	electronic drum set , reverb	SB/SL	PPG 1984
T286	DR	SIMMONS SNARE 7	electronic drum set ,reverb	SB/SL	PPG 1984
T280	DR	LINN SNARE	electronic drum set	SB/SL	PPG 1984
T281	DR	SIMMONS SNARE 2	electronic drum set	SB/SL	PPG 1984
T284	DR	SIMMONS SNARE 5	electronic drum set ,reverb	SB/SL	PPG 1984
T287	DR	SIMMONS SNARE 8	electronic drum set, long	SB/SL	PPG 1984
T289	DR	SIMMONS SNARE 10	electronic drum set	SB/LL	PPG 1984
T290	PC	LINN CLAP	electronic drum set	SB/SL	PPG 1984
T291	DR	SIMMONS TOM 1	electronic drum set ,dry	SB/SL	PPG 1984
T293	DR	SIMMONS TOM 3	electronic drum set ,low	SB/SL	PPG 1984
T294	DR	SIMMONS BASS 1	electronic drum set ,noise	SB/SL	PPG 1984
T295	DR	LINN BASS 1	electronic drum set	SB/SL	PPG 1984
T296	DR	LINN BASS 2	electronic drum set	SB/SL	PPG 1984
T288	DR	SIMMONS SNARE 9	electronic drum set ,pitch	SB/SL	PPG 1984
T292	DR	SIMMONS TOM 2	electronic drum set ,reverb	SB/SL	PPG 1984

DISK NAME: PPG SOUND-DISK 84-11

FILE:	C:	NAME:	SPECIFICATION:		
M450	ST	HARP	T 450-454		PPG 1984
M405	GT	SPANISH GUITAR	T 405-408		PPG 1984
T406	GT	SPANISH GUITAR		SB/SL	PPG 1984
T407	GT	SPANISH GUITAR		SB/SL	PPG 1984
T408	GT	SPANISH GUITAR		SB/SL	PPG 1984
T172	WO	ACCORDEON	HIGH	SB/LL	PPG 1984
T171	WO	ACCORDEON	MID	SB/LL	PPG 1984
T471	WO	CLARINET	MID	SB/SL	PPG 1984
T473	WO	CLARINET	HIGH	SB/SL	PPG 1984
T170	WO	ACCORDEON	LOW	SB/LL	PPG 1984
T450	ST	HARP	LOW	SB/SL	PPG 1984
T451	ST	HARP	MID	SB/SL	PPG 1984
T452	ST	HARP	softly touched by moonlight	SB/SL	PPG 1984
T453	ST	HARP	HIGH	SB/SL	PPG 1984
T454	ST	HARP	HIGH	SB/SL	PPG 1984
T462	BR	TROMBONE 1		SB/SL	PPG 1984
T470	WO	CLARINET	LOW	SB/SL	PPG 1984
T472	WO	CLARINET	MID lyric	SB/SL	PPG 1984
T405	GT	SPANISH GUITAR		SB/SL	PPG 1984

DISK NAME: PPG SOUND-DISK 84-12

FILE:	C:	NAME:	SPECIFICATION:		
M000	EF	MIXED EFFECTS 1	T143 142 782 150 145 432		PPG 1984
M001	EF	MIXED EFFECTS 2	T732 730 744 738 745 747		PPG 1984
T143	VO	VOICE		DB/LL	PPG 1984
Y143					PPG 1984
T142	VO	LAUGHTER	with a kick from champagne	DB/SL	PPG 1984
Y142					PPG 1984
T150	OR	ORCHESTRA 5	cluster	SB/LL	PPG 1984
T145	VO	SOPRAN 2	slightly detuned	SB/LL	PPG 1984
T432	OR	ORCHESTRA 6	excerpt from Emmerson L & P	SB/LL	PPG 1984
T732	EF	WATERFALL		DB/LL	PPG 1984
Y732					PPG 1984
T730	EF	APPLAUSE		DB/LL	PPG 1984
Y730					PPG 1984
T744	EF	WATER BLUP		SB/SL	PPG 1984
T738	EF	CAR HORN		SB/LL	PPG 1984
T745	EF	GLASS 2		SB/SL	PPG 1984
T747	EF	POURING	water into a glass	SB/LL	PPG 1984
T739	EF	TEARING	up paper	SB/SL	PPG 1984
T728	VO	SOPRAN 1	from a well known opera...	SB/LL	PPG 1984

DISK NAME: PPG SOUND-DISK 84-13

FILE:	C:	NAME:	SPECIFICATION:		
M190	PC	AFRO PERCUSSION	T 192-196, 785, 279, 710		PPG 1984
M700	PC	VIBES	T 701-703, 718; bank 4-7 free		PPG 1984
T192	PC	WOOD DRUM 1	african drum set	SB/SL	PPG 1984
T193	PC	WOOD DRUM 2	african drum set	SB/SL	PPG 1984
T194	PC	WOOD DRUM 3	african drum set	SB/SL	PPG 1984
T195	PC	WOOD DRUM 4	african drum set	SB/SL	PPG 1984
T196	PC	WOOD DRUM 5	african drum set	SB/SL	PPG 1984
T785	PC	GONG	with strong loop for effects	SB/LL	PPG 1984
T701	PC	VIBES	LOW	SB/SL	PPG 1984
T703	PC	VIBES	HIGH	SB/SL	PPG 1984
T269	PC	GONG 1	very bright	DB/LL	PPG 1984
T239	PC	GONG 2		DB/LL	PPG 1984
Y239					PPG 1984
T279	PC	BAMBOO CHIMES	african drum set	SB/LL	PPG 1984
T710	PC	VIBES	chord: c f g	SB/LL	PPG 1984
T702	PC	VIBES	MID	SB/SL	PPG 1984
T718	PC	GLASSES		SB/LL	PPG 1984
T278	PC	BAMBOO CHIMES 2	african drum set	SB/LL	PPG 1984
Y269					PPG 1984

DISK NAME: FPG SOUND-DISK 84-14

FILE:	C:	NAME:	SPECIFICATION:		
T779	EF	LAUGHTER 2	it's the same old joke...	DB/LL	FPG 1984
Y779					FPG 1984
T766	EF	BREATH		DB/LL	FPG 1984
Y766					FPG 1984
T739	EF	PAPER 2		SB/SL	FPG 1984
T267	EF	CARS 3	old motorcycle horn	SB/SL	FPG 1984
T755	EF	SIREEN		DB/LL	FPG 1984
Y755					
T717	EF	GLASSES	rubbing a glas	DB/LL	FPG 1984
Y717					
T770	EF	CARS	grand prix	DB/LL	FPG 1984
Y770					
T753	EF	PHONE DIALING		SB/SL	FPG 1984
T752	EF	PHONE RINGING	v.i.p is calling...	SB/SL	FPG 1984
T764	EF	GLASSES	percussion glass	SB/SL	FPG 1984
T784	EF	WEATHER	plane and thunder	SB/LL	FPG 1984
T765	EF	GLASSES	ringing glass	SB/LL	FPG 1984

DISK NAME: PPG SOUND-DISK 84-15

FILE:	C:	NAME:	SPECIFICATION:		
T238	DR	TIMPANI 1	classic drum set	DB/LL	PPG 1984
Y238					PPG 1984
T331	PC	ORCH. BELL 1	classic drum set	SB/LL	PPG 1984
T247	PC	THUNDER 1		SB/LL	PPG 1984
T275	PC	BONGO 1		SB/SL	PPG 1984
T297	PC	CUCUMBER 2		SB/SL	PPG 1984
T276	PC	BONGO 2		SB/SL	PPG 1984
T277	PC	BONGO 3		SB/SL	PPG 1984
T341	PC	FINGER PIANO 2	african percussion	SB/SL	PPG 1984
T340	PC	FINGER PIANO 3	african percussion	SB/SL	PPG 1984
T219	DR	JAVA GONG	classic drum set ,low	SB/LL	PPG 1984
T236	DR	TIMPANI 2	classic drum set	SB/LL	PPG 1984
T342	PC	FINGER PIANO 1	african percussion	SB/LL	PPG 1984
T248	PC	THUNDER 2		SB/LL	PPG 1984
T330	PC	ORCH. BELL 2	classic drum set	SB/LL	PPG 1984
T298	PC	CUCUMBER 1		SB/SL	PPG 1984

DISK NAME: FPG SOUND-DISK 84-16

FILE:	C:	NAME:	SPECIFICATION:		
T190	PC	AFR. MARIMBA 1	rhythm with loop	DB/LL	FPG 1984
Y190					FPG 1984
T722	EF	QUEECKA 1		SB/SL	FPG 1984
T215	EF	FLEXATONE 1		SB/LL	FPG 1984
T723	EF	QUEECKA 2		SB/LL	FPG 1984
T726	EF	QUEECKA 3		SB/SL	FPG 1984
T721	EF	QUEECKA 4		SB/LL	FPG 1984
T212	EF	FLEXATONE 2		SB/LL	FPG 1984
T218	DR	SAMBA DRUM 2	small	SB/SL	FPG 1984
T213	PC	WOODBLOCK 3		SB/SL	FPG 1984
T211	EF	FLEXATONE 4		SB/LL	FPG 1984
T724	EF	PIPE		SB/SL	FPG 1984
T436	EF	ORCHESTRA 7	vangelis effect	SB/LL	FPG 1984
T191	PC	AFR. MARIMABA 2	rhythm	SB/SL	FPG 1984
T214	PC	WOODBLOCK 2		SB/SL	FPG 1984
T216	EF	FLEXATONE 3		SB/LL	FPG 1984
T217	DR	SAMBA DRUM 1	small	SB/SL	FPG 1984

DISK NAME: PPG SOUND-DISK 84-17

FILE:	C:	NAME:	SPECIFICATION:		
M551	BR	BRASS SECTION 5			PPG 1984
M550	BR	BRASS SECTION 6			PPG 1984
T550	BR	TRUMPET 1		SB/SL	PPG 1984
T551	BR	TRUMPET 2		SB/SL	PPG 1984
T552	BR	TRUMPET 3		SB/SL	PPG 1984
T554	BR	TRUMPET 4		SB/SL	PPG 1984
T663	WO	SAXOPHONE 1		SB/SL	PPG 1984
T664	WO	SAXOPHONE 2		SB/SL	PPG 1984
T665	WO	SAXOPHONE 3		SB/SL	PPG 1984
T564	BR	TRUMPET 5	two trumpets together	SB/SL	PPG 1984
T565	BR	TRUMPET 6	two trumpets together	SB/SL	PPG 1984
T566	BR	TRUMPET 7		SB/SL	PPG 1984
T567	BR	TRUMPET 8		SB/SL	PPG 1984
T556	BR	TRUMPET 9	soft	SB/SL	PPG 1984
T558	BR	TRUMPET 11	soft	SB/SL	PPG 1984
T553	BR	TRUMPET 12		SB/SL	PPG 1984
T555	BR	TRUMPET 13		SB/SL	PPG 1984
T559	BR	TRUMPET 14	metalic	SB/LL	PPG 1984
M553	BR	BRASS SECTION 1	T550-554 tp 663-665 sax B: 20 36		PPG 1984
M552	BR	BRASS SECTION 2	T564-567, 550-554 tp B: 08 29 41		PPG 1984
M555	BR	BRASS SECTION 4	T663-665 sax 550-554 tp B: 08 29 41		PPG 1984
T557	BR	TRUMPET 10	soft	SB/SL	PPG 1984
M554	BR	BRASS SECTION 3	T663-665 sax 556-558 554 tp B:24 41		PPG 1984

DISK NAME: PPG SOUND-DISK 84-18

FILE:	C:	NAME:	SPECIFICATION:		
T570	BR	BRASS MIX 1	2 sax, 1 tp	SB/SL	PPG 1984
T571	BR	BRASS MIX 2	2 sax, 1 tp	SB/SL	PPG 1984
T576	BR	BRASS MIX 4	2 sax, 1 tp	SB/SL	PPG 1984
T581	BR	BRASS MIX 5	4 trumpets	SB/SL	PPG 1984
T584	BR	BRASS MIX 8	4 trumpets	SB/SL	PPG 1984
T590	BR	TRUMPET 15	piccolo	SB/SL	PPG 1984
T591	BR	TRUMPET 16	piccolo	SB/SL	PPG 1984
T592	BR	TRUMPET 17	piccolo	SB/SL	PPG 1984
T685	BR	BRASS MIX 9	5 trumpets, 2 saxophones	SB/SL	PPG 1984
T686	BR	BRASS MIX 10	5 trumpets, 2 saxophones	SB/SL	PGG 1984
T687	BR	BRASS MIX 11	5 trumpets, 2 saxophones	SB/SL	PPG 1984
T688	BR	BRASS MIX	5 trumpets, 2 saxophones	SB/SL	PPG 1984
T680	BR	BRASS MIX 13	a few saxophones	SB/SL	PPG 1984
T573	BR	BRASS MIX 3	2 sax; 1 tp	SB/LL	PPG 1984
T582	BR	BRASS MIX 6	4 trumpets	SB/SL	PPG 1984
T583	BR	BRASS MIX 7	4 trumpets	SB/SL	PPG 1984
T681	BR	BRASS MIX 14	4 trumpets	SB/LL	PPG 1984
M570	BR	BRASS SECTION 7	T570 571 573 576 581-584	B:24 36 48	PPG 1984
M590	BR	BRASS SECTION 8	T590-592 570 571 573 576	B:24 36 48	PPG 1984
M686	BR	BRASS SECTION 9	T685-688 590-592	B:24 36 48	PPG 1984
M687	BR	BRASS SECTION 10	T685-688 570+71 573 576	B:24 36 48	PPG 1984
M591	BR	BRASS SECTION 11	T590-592 581-584	B:24 36 48	PPG 1984
M685	BR	BRASS SECTION 12	T685-688 581-584	B: 8 29 41	PPG 1984

DISK NAME: PPG SOUND-DISK 84-19

FILE:	C:	NAME:	SPECIFICATION:							
M511	GT	E GUITAR MIX 6	A: M510	B: M515	BSPL: 20 30 40					PPG 1984
M520	GT	STRAT FUZZ 1	T520-523							PPG 1984
M521	GT	E GUITAR MIX 1	A: M520	B: M515	BSPL: 20 30 40					PPG 1984
M522	GT	E GUITAR MIX 2	A: M525	B: M510	BSPL: 20 30 40					PPG 1984
M526	GT	E GUITAR MIX 3	A: M525	B: M510	BSPL: 24 36 48					PPG 1984
M527	GT	E GUITAR MIX 4	A: M525	B: M520	BSPL: 24 36 48					PPG 1984
M528	GT	E GUITAR MIX 5	A: M525	B: M515	BSPL: 24 36 48					PPG 1984
M515	GT	STRAT FUNKY	T515-518							PPG 1984
M510	GT	STRAT CLEAN	T510-513							PPG 1984
M525	GT	STRAT FUZZ 2	T525-529 with harmonizer effect							PPG 1984
T525	GT	STRAT FUZZ 21	with harmonizer effect						SB/LL	PPG 1984
T526	GT	STRAT FUZZ 22	with harmonizer effect						SB/LL	PPG 1984
T527	GT	STRAT FUZZ 23	with harmonizer effect						SB/SL	PPG 1984
T528	GT	STRAT FUZZ 24	with harmonizer effect						SB/LL	PPG 1984
T510	GT	STRAT CLEAN 1							SB/LL	PPG 1984
T511	GT	STRAT CLEAN 2							SB/LL	PPG 1984
T512	GT	STRAT CLEAN 3							SB/SL	PPG 1984
T513	GT	STRAT CLEAN 4							SB/SL	PPG 1984
T520	GT	STRAT FUZZ 11							SB/LL	PPG 1984
T521	GT	STRAT FUZZ 12							SB/SL	PPG 1984
T522	GT	STRAT FUZZ 13							SB/SL	PPG 1984
T523	GT	STRAT FUZZ 14							SB/SL	PPG 1984
T515	GT	STRAT FUNKY 1							SB/SL	PPG 1984
T516	GT	STRAT FUNKY 2							SB/SL	PPG 1984
T517	GT	STRAT FUNKY 3							SB/SL	PPG 1984
T518	GT	STRAT FUNKY 4							SB/SL	PPG 1984
T529	GT	STRAT FUZZ 25							SB/LL	PPG 1984

DISK NAME: PPG SOUND-DISK 84-20

FILE:	C:	NAME:	SPECIFICATION:		
M820	PC	GLOCKENSPIEL	T820-823		PPG 1984
T811	PC	XYLOPHONE MID		SB/SL	PPG 1984
T812	PC	XYLOPHONE HIGH		SB/SL	PPG 1984
T820	PC	GLOCKENSPIEL LOW		SB/SL	PPG 1984
T821	PC	GLOCKENSPIEL MID		SB/SL	PPG 1984
T822	PC	GLOCKENSPIEL MID 2		SB/SL	PPG 1984
T823	PC	GLOCKENSPIEL HIGH		SB/SL	PPG 1984
T274	DR	GONG 3	classic drum set	DB/LL	PPG 1984
Y274					PPG 1984
T232	DR	TIMPANI 2	classic drum set ,short	SB/SL	PPG 1984
T332	PC	FINGER CYMBALS		SB/LL	PPG 1984
T335	PC	STEEL DRUM 1		SB/SL	PPG 1984
T336	PC	STEEL DRUM 2		SB/SL	PPG 1984
T345	PC	STEEL DRUM 3		SB/LL	PPG 1984
T810	PC	XYLOPHONE LOW		SB/SL	PPG 1984
T333	PC	VIBES GLISSANDO	with pedal	SB/LL	PPG 1984
T334	DR	TAM TAM	classic drum set ,in tune	SB/LL	PPG 1984
M810	PC	XYLOPHONE	T810-812		PPG 1984

DISK NAME: PPG SOUND-DISK 84-21

FILE:	C:	NAME:	SPECIFICATION:		
M485	BR	BRASS SECTION 13	soft trombones T485-489		PPG 1984
M486	BR	BRASS MIX 15	trombones and T153 504 157 BSPL: 24		PPG 1984
M489	BR	BRASS MIX 16	trombones and T474 666 157 BSPL: 24		PPG 1984
M572	BR	BRASS SECTION 14	T572 574 577		PPG 1984
M573	BR	BRASS SECTION 15	T572 574 577 504 666		PPG 1984
M574	BR	BRASS SECTION 16	T572 574 577 474 666		PPG 1984
M487	BR	BRASS SECTION 17	trombones and T572 574 577		PPG 1984
T485	BR	TROMBONE 2	soft,low	SB/SL	PPG 1984
T486	BR	TROMBONE 3	soft,mid	SB/SL	PPG 1984
T487	BR	TROMBONE 4	soft,mid	SB/SL	PPG 1984
T488	BR	TROMBONE 5	soft,high	SB/SL	PPG 1984
T489	BR	TROMBONE 6	soft,high	SB/SL	PPG 1984
T153	OR	ORCH. STROKE 8	with timpani	SB/LL	PPG 1984
T504	BR	BRASS MIX	sampled from a record	SB/LL	PPG 1984
T157	OR	BR AND ST	brass and strings, not tuned	SB/LL	PPG 1984
T474	WO	BASS CLARINET		SB/SL	PPG 1984
T666	BR	TRUMPET 18	barock	SB/SL	PPG 1984
T572	BR	BRASS MIX	low	SB/LL	PPG 1984
T574	BR	BRASS MIX	mid	SB/LL	PPG 1984
T577	BR	BRASS MIX	high	SB/LL	PPG 1984
T435	OR	ORCH. STROKE 9	from Vangelis	DB/LL	PPG 1984
Y435					PPG 1984
T434	OR	ORCH. STROKE 10	with snare	SB/LL	PPG 1984

DISK NAME: PPG SOUND-DISK 84-22

FILE:	C:	NAME:	SPECIFICATION:		
M544	GT	GUITAR 3	T544-548 456 549		PPG 1984
T536	GT	GUITAR 21	major chord	SB/LL	PPG 1984
T537	GT	GUITAR 22	glissando up	SB/SL	PPG 1984
T538	GT	GUITAR 23	lead sound	SB/LL	PPG 1984
T541	GT	GUITAR 26	short with reverb	SB/LL	PPG 1984
T543	GT	GUITAR 28	minor chord with harmonizer	SB/LL	PPG 1984
T544	GT	GUITAR 31	minor chord	SB/LL	PPG 1984
T545	GT	GUITAR 32	major chord	SB/LL	PPG 1984
T546	GT	GUITAR 33	with terz	SB/LL	PPG 1984
T547	GT	GUITAR 34	arpeggio	SB/LL	PPG 1984
T456	GT	GUITAR 36	african plucking instrument	SB/SL	PPG 1984
T549	GT	GUITAR 37	rhythm	DB/LL	PPG 1984
Y549					PPG 1984
T457	GT	GUITAR 38	african plucking instrument	SB/SL	PPG 1984
T542	GT	GUITAR 27	minor chord with harmonizer	SB/LL	PPG 1984
T548	GT	GUITAR 35	arpeggio	SB/LL	PPG 1984
M536					

DISK NAME: PPG SOUND-DISK 84-23

FILE:	C:	NAME:	SPECIFICATION:		
M618	DR	BASS DRUMS 1	T618-625		PPG 1984
M610	DR	BASS DRUMS 2	T610-617		PPG 1984
T618	DR	SIMMONS BASS 10	with a kick	SB/SL	PPG 1984
T619	DR	SIMMONS BASS 11	whomm and small reverb	SB/SL	PPG 1984
T620	DR	SIMMONS BASS 12	snarelike in tune	SB/SL	PPG 1984
T621	DR	SIMMONS DRUM 13	special kick and reverb	SB/SL	PPG 1984
T622	DR	SIMMONS BASS 14	powerfull without kick	SB/SL	PPG 1984
T623	DR	SIMMONS BASS 15	extreme reverb	SB/SL	PPG 1984
T624	DR	SIMMONS DRUM 16	two strokes	SB/SL	PPG 1984
T625	DR	SIMMONS BASS 17	with pressure and dry kick	SB/SL	PPG 1984
T610	DR	SIMMONS BASS 2	dry and short	SB/SL	PPG 1984
T612	DR	SIMMONS BASS 4	with noise and short	SB/SL	PPG 1984
T613	DR	SIMMONS BASS 5	with white noise and phased	SB/LL	PPG 1984
T614	DR	SIMMONS BASS 6	super powered and with phase	SB/SL	PPG 1984
T616	DR	SIMMONS BASS 8	like a snare	SB/SL	PPG 1984
T617	DR	SIMMONS BASS 9	with a sound in tune	SB/LL	PPG 1984
T611	DR	SIMMONS BASS 3	with kick and reverb	SB/LL	PPG 1984
T615	DR	SIMMONS BASS 7	with a strong kick	SB/SL	PPG 1984
T626	DR	SIMMONS BASS 18	with reverb and super kick	SB/SL	PPG 1984

DISK NAME: PPG SOUND-DISK 84-24

FILE:	C:	NAME:	SPECIFICATION:		
M630	DR	SIMMONS SNARES 2	T630 631 635 632 633 634 636		PPG 1984
M637	DR	SIMMONS SET 2	T673-641 697 694		PPG 1984
T630	DR	SIMMONS SNARE 11		SB/SL	PPG 1984
T631	DR	SIMMONS SNARE 12		SB/LL	PPG 1984
T635	DR	SIMMONS SNARE 13	in tune with reverb	DB/SL	PPG 1984
Y635					PPG 1984
T632	DR	SIMMONS SNARE 14	with reverb	SB/LL	PPG 1984
T633	DR	SIMMONS SNARE 15	with noise	SB/SL	PPG 1984
T634	DR	SIMMONS SNARE 16		SB/SL	PPG 1984
T636	DR	SIMMONS SNARE 17		SB/SL	PPG 1984
T637	DR	SIMMONS SNARE 18		SB/LL	PPG 1984
T638	DR	SIMMONS SNARE 19	phasing	SB/SL	PPG 1984
T639	DR	SIMMONS SNARE 20		SB/SL	PPG 1984
T640	DR	SIMMONS SNARE 21	like a whip	SB/SL	PPG 1984
T641	DR	SIMMONS TOM 4	with reverb and tuned	SB/LL	PPG 1984
T697	EF	SIMMONS EFFEKT 1		SB/SL	PPG 1984
T696	EF	SIMMONS EFFEKT 3		SB/SL	PPG 1984
T694	EF	SIMMONS EFFEKT 2		DB/LL	PPG 1984
Y694					

DISK NAME: PPG SOUND-DISK 84-25

FILE:	C:	NAME:	SPECIFICATION:		
M895	V0	VOICES 1	T894-896 843-845 634 636 S0 MI		PPG 1984
M890	V0	VOICES 2	T890-893 humming		PPG 1984
M894	V0	VOICES 5	T894-896 S0		PPG 1984
M843	V0	VOICES 6	T843-845		PPG 1984
T894	V0	SINGING S0	low	SB/LL	PPG 1984
T895	V0	SINGING S0	mid	SB/LL	PPG 1984
T844	V0	SINGING MI	mid	SB/LL	PPG 1984
T890	V0	HUMMING 1	low	SB/LL	PPG 1984
T891	V0	HUMMING 2	mid	SB/SL	PPG 1984
T892	V0	HUMMING 3	mid	SB/LL	PPG 1984
T893	V0	HUMMING 4	high	SB/LL	PPG 1984
Y899					PPG 1984
T864	V0	SINGING JU		SB/LL	PPG 1984
T865	V0	SINGING LE		SB/LL	PPG 1984
T860	V0	SINGING HA		SB/LL	PPG 1984
T896	V0	SINGING S0	high	SB/LL	PPG 1984
T843	V0	SINGING MI	low	SB/LL	PPG 1984
T845	V0	SINGING MI	high	SB/LL	PPG 1984
T846	V0	SAYING PE		SB/LL	PPG 1984
M891	V0	VOICES 3	A: humming B: MI		PPG 1984
M892	V0	VOICES 4	A: humming B: S0 BSPL: 20	29	PPG 1984
T899	V0	SPIRANTIC		DB/LL	PPG 1984