AMDRUM

Digital Drum System for the

Amstrad 464/664/6128

INSTRUCTION MANUAL

Cheetah
Marketing

CONTENTS

1 WELCOME – GETTING TO KNOW YOUR AMDRUM

The Amdrum converts your Amstrad 464/664/6128 into a programmable Digital Drum System, using digital recordings of real drum sounds to achieve the degree of realism found until now, only on specialist machines costing hundreds of pounds or more.

A "KIT" of eight different drum sounds is provided; alternative sounds may be loaded from cassette tape/disc.

Rhythm patterns can be written using the on-screen display, or in "REALTIME" by tapping the computer keyboard, making writing even the most complicated rhythms quick and easy.

16 different Songs can be stored in memory; these may be saved to and loaded from cassette or disc.

Each of the 16 Songs may contain 64 different rhythm patterns. A Song is written by writing rhythm patterns, filing them, then linking them together in order.

The best way to get to know the Amdrum system, and to see how easy it is to write your own rhythm patterns and Songs, is to try it out for yourself. Most keys and functions are listed on-screen. Refer to the relevant section in the Manual for full explanations of the various functions.

2 SETTING UP AND LOADING

Before switching on the computer, insert the Amdrum module into the expansion port, making sure that the pins on the connector line up with those on the computer.

Connect the Amdrum lead into the input of your amplifier. If you are using a hi-fi amplifier use the LINE or AUX. input, NOT the MIC. or PHONO input. You will need an adaptor if your amp. does not have the right type of input socket. Set the volume low initially.

Insert the cassette at the beginning of side A, and type:

RUN"   (then press PLAY and any key)

Make a note of the tape counter setting after the screen has finished loading. If in future you don't want to load the screen set the tape to this point and type: RUN"DRUM

When the system has loaded, the computer will beep. To start the program press any key EXCEPT "D". (see BOOTING to DISC)

For convenience the program starts on the LOAD/SAVE page. First, a "Kit" of sounds must be loaded. Set the cassette to the beginning of side B, press PLAY, then type:

5 (LOAD VOICE)

9 (and ENTER) (tells the system to load a whole KIT)

AMKIT (and ENTER) (name of KIT)

When the Kit has been found the word "KIT" will appear after the name. When the kit has loaded the "5" next to LOAD VOICE on the screen will return to white.

If you do not wish to LOAD previously written Songs,

PRESS: R to RETURN to the MAIN PAGE (see MAIN PAGE section)

Nine demonstration Songs are provided on the cassette. To LOAD these:

PRESS: 3 then 99 then ENTER

When the Songs have LOADed their names will appear in the Song list on the left of the screen.

PRESS: R to RETURN to the MAIN PAGE.

Now the Demo Songs can be played. NOTE: Playing a Song will start the cassette motor. Set cassette to STOP unless using SYNCRO (see MAIN PAGE).

PRESS: C then the Song number, then ENTER.
PRESS: D to play the Song. SPACE to stop.

Good, eh?

Read the MAIN PAGE section for a description of the other functions on the MAIN PAGE, and before going any further, the General Features section on how to INPUT numbers and names.

To see how any of the Songs is built up from its component patterns,

PRESS: E to select the EDIT Song PAGE, and you can step through the Song section by section. Look at the EDIT Song section of the manual to see what the numbers mean and which keys to press. Try altering some of the Pattern and Loop numbers.
PRESS: Q for QUIT, then Y to go back to the MAIN PAGE.

To see how the Patterns in a Song are displayed,
PRESS: P to select the PATTERN PAGE. Read the PATTERN PAGE section to see how to write Patterns of your own, and how to GET Patterns out of the FILE to look at, listen to, and modify.
PRESS: Q for QUIT, then Y to go back to the MAIN PAGE.

By now, you should have a fairly good idea of how Patterns and Songs are written and displayed.

To start writing a Song from scratch, you must first create a new Song by CHOOSEing an empty Song number on the MAIN PAGE:

PRESS: C for CHOOSE SONG then INPUT (see General Features) a Song number (1-16) without a name next to it.

DIV/BEAT: ? will now flash, requiring a number to be INPUT. This is the no. of time Divisions per Beat for the Song (see MAIN PAGE) and cannot be changed once chosen. 3 or 4 are good values to start with, unless you are feeling ambitious, or silly!

When you have INPUT your Divisions per Beat, the name "Song" will appear in the list by its number, and at NAME. You have created a new empty Song called "Song", and with a Tempo (speed) of 125 Beats Per Minute. The NAME and TEMPO can be changed now or later using the functions on the MAIN PAGE.

Having created your Song, you can start writing rhythm Patterns, filing them, then linking and Looping them using the PATTERN and EDIT Song PAGES. All you need to know about each Page in the program can be found in the relevant section in the manual.

Have fun, and give the neighbours a thought!

3 GENERAL FEATURES and TERMS USED

All the functions available are displayed on-screen with their associated keys.

e.g. N NAME:

When a function is selected the relevant key square on the screen turns green.

INPUTing

When a number is required by the program a flashing "?" appears by the relevant function.

To INPUT a number, type it in, then press RETURN

All numbers required may have up to two digits except TEMPO, which may have three. After the first digit has been typed, the "?" is replaced by that digit, and a line, _, appears after it. The line shows that the number may have another digit. A full stop shows that no more digits may be used.

A wrongly typed in number may be corrected before pressing Enter by pressing CAPS SHIFT and Ø to DELETE.

NAMEs are INPUT in the same way, but of course letters, (upper or lower case), are required.

The BEAT is the basic rhythmic unit in music. It is the regular pulse of the music (the one you tap your foot to). (If you can tap your fingers to the beat of a song, you can program the Amdrum.) The tempo of music is expressed as the number of Beats Per Minute.

The rhythm Patterns in the Amdrum are divided into beats. These are shown on the Pattern Display. The beats are also sub-divided. THE VALUE GIVEN TO DIV/BEAT IS THE NUMBER OF TIME DIVISIONS PROGRAMMABLE IN EACH BEAT OF THE PATTERNS IN A SONG. That is, DIV/BEAT gives the number of drums that can be fitted one after the other in the space of one beat.

DIV/BEAT can be set from 1 to 32. Care must be taken when choosing the divisions per beat for a Song, bearing in mind the rhythms you want to program. 3 or 4 divisions per beat are often sufficient, but higher numbers allow more rhythmic variety and "feel". See Hints on Programming.

Most music is also divided into groups of Beats called BARS. The number of Beats per Bar (BEATS/BAR) is definable for each Pattern written, and is called the "time signature" of the rhythm. However, from a rhythm writing point of view, this only affects the way that a Pattern is displayed. At any time when writing a Pattern BEATS/BAR may be altered; this changes the display, but not the sound of the Pattern.

The Amdrum has 8 VOICES, (1-8), each of which holds a drum sound. The voices are grouped into 3 CHANNELS.

CHANNEL	VOICE	SOUND (AMKIT)
1	1	KICK (Bass Drum)
	2	SNARE
2	3	MID TOM
	4	LOW TOM
	5	COWBELL
3	6	HIHAT Closed
	7	HIHAT Open
	8	CLAPS

Sounds on the same CHANNEL cannot be sounded simultaneously. (But see Hints on Programming.)

4 LIST OF FUNCTIONS AND KEYS

The Amdrum Digital Drum System has been designed to be very simple to use, most functions requiring only a single key press. With a few exceptions, the options available are displayed on the screen with their corresponding keys. Key labels on screen turn green to show the selected function.

There are four main sections to the program, called PAGES.

The MAIN PAGE is the central page from which the other parts of the program are selected.

The PATTERN PAGE displays rhythm patterns on the screen and allows patterns to be written using the display and cursor, or by tapping the keyboard. The Pattern Page has three sub-pages: REALTIME, FILE, and TEMPO/FORMAT.

The EDIT SONG PAGE allows the patterns written to be linked together and Looped to form a complete Song.

The LOAD/SAVE PAGE allows Songs to be loaded from cassette or Songs in memory to be saved. Also individual drum sounds or complete Kits of eight sounds may be loaded.

PROGRAM STRUCTURE
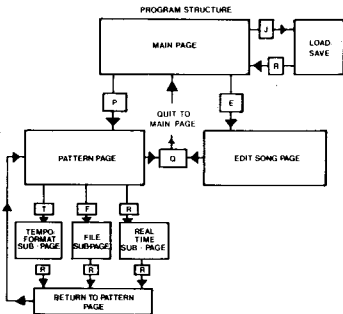
MAIN PAGE FUNCTIONS

KEY

C CHOOSE SONG

Press C. A flashing "?" appears after the words CHOOSE SONG to show that a number is required. INPUT the number (type in number, press RETURN of the required Song (1-16). The Songs in memory are listed with their names on the left of the page. If there are no Songs in memory (i.e. when the program first loads), the CHOOSE SONG option is automatically selected.

Before a new Song can be written it must first be created. To create a new Song, CHOOSE an unwritten Song by INPUTing a number which has no adjacent name in the list. DIV/BEAT at the top left of the screen will flash. The number required is the number of time divisions per beat for the Song, that is, the number of drums which can be inserted between each beat (see PATTERN PAGE).

DIV/BEAT must always be defined for a Song before it can be written. The range is 1 to 32.

A new Song will be given the name "Song" until a name is chosen (see NAME).

A green square indicates the current Song in the list.

D DRUM PLAY

Press D to play the current Song. NOTE: The cassette should be STOPPED when playing Songs or Patterns unless SYNCRO is being used. While the AmDrum is playing the Tempo may be altered using:

KEY

↓ - Tempo down

↑ - Tempo up

Press SPACE to stop. The new Tempo in Beats Per Minute is shown at the bottom of the screen, and at TEMPO bpm:

S SYNCRO

Press S to switch SYNCRO on or off. The SYNCRO function allows the AmDrum to be synchronised with a tape recorder for multi-tracking or speed control. When playing patterns or Songs the AmDrum puts out pulses to the cassette port of the computer. These pulses may be recorded by the internal cassette (464), or onto an external tape recorder via the TAPE socket (664/6128). When using SYNCRO on the 464 the PLAY button should be depressed (and REC when recording pulses). The tape will start when the Song is played. The pulses occur at each division of the beat, so for example a Song with 24 DIV/BEAT will put out 24 pulses for each beat (= 24 pulses per quarter note).

With the tape set to the beginning of the recorded pulses, press PLAY, set SYNCRO ON, and press D for DRUM PLAY. The AmDrum will synchronize itself with the tape, following the pulses. Care should be taken that there is no spurious noise on the tape, as this may cause false triggering.

P PATTERN

Press P to select PATTERN PAGE.

E EDIT SONG

Press E to select EDIT SONG PAGE.

N NAME

The current Song can be named by pressing N and typing the name (up to 5 letters), then RETURN . The name will appear by the Song number in the list.

T TEMPO

The Tempo of the current Song may be defined. Press T, and INPUT the required Tempo in Beats Per Minute (1-999).

F FINISH

When you have finished writing a Song, pressing F will "tidy up" the Song, giving the Patterns consecutive numbers, and optimising the amount of memory used.

J LOAD/SAVE

Press J to select the LOAD/SAVE PAGE.

CLR COPY SONG
To copy the current Song, press CLR and then INPUT the number of the destination Song.

DEL DELETE SONG
Press DEL, then Y to delete, or any other key to escape.

5 PATTERN PAGE

Press P on Main page to select
Press Q to Quit to Main page

The Pattern page allows rhythm patterns to be written using the PATTERN DISPLAY and the cursor.

The five functions displayed at lower left of the page are:

KEY

F   FILE Selects sub-page allowing patterns to be stored or retrieved from the Pattern File.

R   REALTIME Selects sub-page allowing rhythms to be written by tapping the computer keyboard.

T   TEMPO/FORMAT Selects sub-page allowing no. of beats per bar and no. of bars in the Pattern to be defined.

D   DRUM PLAY The displayed pattern is played and repeated. The Tempo may be altered while the pattern is playing by pressing ↓ (slower) or ↑ (faster). The new Pattern Tempo will be shown at the bottom of the page when SPACE is pressed.

S   SHIFT The displayed pattern is rotated to the left to allow a new start point to be chosen.

THE PATTERN DISPLAY

When the PATTERN PAGE is selected a pattern of two four-beat bars is displayed, with drum 6 (HIHAT C) inserted on each beat. Bars are equal groups of beats within each pattern. Patterns are displayed in bars to help writing in various time signatures. (This does not affect the actual sound.) The number of beats per bar (BEATS/BAR) may be altered from the TEMPO/FORMAT sub-page (see below).

The Pattern Display shows up to three lines of a pattern at once. The centre line (white background) is the write/edit line and contains the cursor (the vertical black line). The upper and lower lines show the preceeding and following lines of the pattern as appropriate. Of course, a pattern may be more than three lines long and the display may be moved up and down through a pattern using the Cursor Keys (see Writing Patterns below).

PATTERN DISPLAY
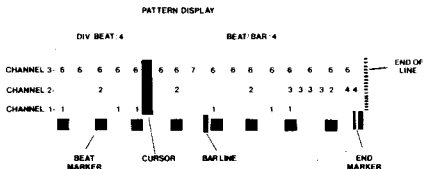
The bottom (light blue) part of each line shows the position of the start of each beat (-) and the end of each bar (ı). Above this, numbers corresponding to the drum numbers (shown at the bottom right of the page) indicate the positions of the drums occuring in the pattern.

Normally a whole number of bars will be displayed on each line. If a bar is too long to fit into one line then the display will automatically "squash" itself by using half the horizontal space for each division.

WRITING PATTERNS USING
THE DISPLAY AND CURSOR

Drums are written into the displayed pattern by moving the cursor to the required position then pressing the number (1–8) of the drum to be inserted. The number of the drum will appear at the cursor position and will overwrite any drum on the same channel already at that position. (Drums on the same channel cannot be sounded simultaneously). Drums may be deleted by pressing SYMBOL SHIFT and the number of the drum.

The Cursor Control keys:
> → moves the cursor RIGHT by one division
> ← moves the cursor LEFT by one division
> ↑ moves the cursor UP to the preceeding line
> ↓ moves the cursor DOWN to the following line
> CLR inserts an extra division to the right of the cursor, allowing space to be inserted at any point, lengthening the pattern.
> DEL deletes the division at the cursor position, shortening the pattern.

If held down these keys will auto-repeat.

THE TEMPO/FORMAT sub-page
(To select press T on PATTERN PAGE)
Functions:
> KEY
> B BEATS/BAR Press B then INPUT number of beats per bar required (1-32). NOTE this will not change the pattern itself, just the way it is displayed.
> N NO. OF BARS Press N then INPUT number of bars required in the pattern. CAUTION: THIS WILL CREATE THE REQUIRED AMOUNT OF SPACE, BUT WILL ERASE ANY PATTERN ALREADY IN THE DISPLAY. To increase the length of an already written pattern use CLR on the PATTERN PAGE.

If the number of bars chosen would exceed the maximum allowed pattern length, then the system will give the maximum number of bars possible.

KEY
H INSERT HIHAT Drum 6 is inserted on each beat in
the pattern.
K INSERT KICK Drum 1 is inserted on the first beat of
each bar.

These INSERT functions may be used to create an
audible guide for REALTIME programming.

While writing patterns the Pattern Tempo may be
changed independently of the current Song Tempo. The
tempo may be transferred using:

KEY
1 Transfers Song Tempo to Pattern Tempo
2 Transfers Pattern Tempo to Song Tempo

Finally . . .

R Return to PATTERN PAGE

THE REALTIME sub-page
(To select press R on PATTERN PAGE)

This sub-page allows patterns to be written, added to,
or edited by tapping the rhythm on the computer
keyboard while the pattern is playing.
NOTE: If a pattern is to be written from scratch in
Realtime then an audible tempo guide is required. This
may be provided by the INSERT HIHAT and INSERT
KICK functions on the TEMPO/FORMAT sub-page, and
can be deleted later. The two bar pattern provided when
the PATTERN PAGE is first selected has HIHATs (drum
6) already inserted for this reason.

One voice at a time may be written in Realtime. Press
keys (1-8) to select the voice to be written. This will be
indicated by the corresponding number (lower right
panel) turning green, and the name of the drum appearing
after the word WRITE.

Having selected the voice, press

KEY
W for WRITE

The pattern will start playing and will repeat until SPACE is pressed. The screen border flashes white at the beginning of the pattern.

TAPPING THE CONTROL KEY will now insert the selected drum at that point in the pattern, corrected to the nearest division.

HOLDING DOWN THE SHIFT KEY will delete the selected drum while the key is depressed.

KEY
D DRUM PLAY As for PATTERN PAGE. Useful here for setting tempo.
S SYNCRO See SYNCRO section.
R RETURN to PATTERN PAGE. Rhythms written in Realtime will now be displayed (for correction if necessary!).

THE FILE sub-page
(Press F on PATTERN PAGE)

Allows storing, retrieving, and erasing of patterns in the current Song's Pattern File.

A song may have up to 64 different Patterns in its Pattern File. The Pattern File is used by the SONG EDIT PAGE to build up the Song itself. Each filed Pattern is given a number (1-64). The numbers of the filed Patterns are listed in the top right window.

To file the Pattern just written (i.e. the Pattern in the display), press:

KEY
P for PUT then INPUT number 1-64 to give the Pattern its file number.

After pressing ENTER the number will appear in the list to show the Pattern has been filed. If a Pattern with this number is already filed it will be replaced by the new Pattern.

To get a Pattern from the File to the display, press:

G for GET then INPUT the number of the Pattern required. This can now be edited on the display or in Realtime without altering the filed Pattern.

To erase a Pattern from the file, press:

E for ERASE then INPUT the Pattern number. The number will disappear from the list, showing it to be ERASED.

TO ESCAPE FROM THE PUT, GET, OR ERASE FUNCTIONS IF SELECTED BY MISTAKE, INPUT Ø AS THE PATTERN NUMBER.

R RETURN to PATTERN PAGE.

6 EDIT SONG PAGE

To select press E on MAIN PAGE
To Quit to MAIN PAGE press Q

This page allows Patterns already filed to be linked together to form a Song. This is done by forming a list of the Pattern numbers in the required order.

There may be up to 255 entries in the list, giving a Song of up to 255 sections, each of which may be looped 1 to 255 times.

Each section in the Song is represented by two numbers, the PATTERN number, and the LOOP number (i.e. the no. of repeats).

The Song list is displayed horizontally across the bottom part of the screen. The upper of the two numbers in each entry is the PATTERN number, the lower is the LOOP number. if the list is empty two Ø's will be shown in the black central window.

To set the two numbers in the window to the required Pattern and Loop numbers the following keys are used:

KEY
1 Decrease PATTERN number
2 Increase PATTERN number
3 Decrease LOOP number
4 Increase LOOP number

Note that the Pattern number must be set first and that the Loop number is then set automatically to 1. (You cannot have Ø repeats!)

KEY
→ Move RIGHT through list
← Move LEFT through list

To write another entry move RIGHT. This moves the window to the next entry. (Actually the list moves left). If the previous entry was the last in the list the window will again show two Øs. These must be set before moving right again. Move LEFT to take the window back to previous entries.

The number at STEP on the left of the screen shows the entry in the list (i.e. the section of the Song) that the window is currently showing.

Entries may be deleted or extra entries inserted into the list using:

KEY
DEL Deletes the entry shown by window
CLR Inserts an empty entry (Ø,Ø) to the left of the window.
The window will show the inserted entry which must be set before continuing.

In this way a list of up to 255 entries may be written to build up a Song from its filed Patterns.

KEY

D for DRUM PLAY Plays the Song from the current
window position in the list. This also enables
Patterns in the File to be quickly listened to and
identified without returning to the Pattern Page.

Q for QUIT The message "Quit Selected? Y" will
appear. Press Y to return to the Main Page, any
other key to remain on the Song Edit Page. If the
"Out of Memory – File not Put" message appears
after pressing Q, then the list will not be accepted
unless it is shortened by deleting entries.

7 THE LOAD/SAVE PAGE

The LOAD/SAVE PAGE allows Songs to be loaded from
and saved to cassette tape or disc. Alternative drum sounds
or "KITs" of eight sounds may also be loaded.

KEY

C CHOOSE SONG

Press C then INPUT the number that you wish the
Song to be loaded to or saved from. Songs cannot be
loaded to already occupied places in the list.

1 LOAD SONG

After choosing the Song number, press 1. A ? will
appear after NAME:, indicating that you must name
the Song to be loaded. When the name has been
INPUT, the Song will be loaded.

2 SAVE SONG

The chosen Song will be saved immediately SAVE
SONG is selected, so if using tape make sure that you
are recording before pressing 2. NOTE THAT SONGS
SAVED ON THE SAME SIDE OF A DISC OR
CASSETTE MUST HAVE DIFFERENT NAMES.

3 LOAD DUMP

When 3 is pressed a ? appears after LOAD DUMP.
A number in the range 1-99 is required to specify
which Dump is to be loaded. Once this number is
INPUT, ALL THE SONGS IN MEMORY WILL BE
ERASED, and the Dump previously SAVEd under that
number will be LOADed.

4 SAVE DUMP

This SAVEs all Songs in memory in one block, or Dump. Dumps are identified by a number 1-99; thus up to 99 Dumps may be SAVEd on one disc or cassette. Again, the ? after SAVE DUMP. indicates that the Dump number is required. Once this is INPUT, the Dump will be SAVEd under that number. MAKE SURE THAT DIFFERENT NUMBERS ARE USED FOR EACH DUMP SAVED ON ONE SIDE OF A DISC OF CASSETTE, OR PREVIOUSLY SAVED DUMPS MAY BE LOST.

N NAME

The name of a Song to be loaded may be specified by pressing N, typing the name, and pressing RETURN.

5 LOAD VOICE

Press 5, then INPUT the number of the voice (1-8) to which you wish the sound to be loaded. The name of the sound currently in that voice will appear and will be replaced by the name of the loaded sound. Note that sounds may be loaded only to certain groups of voices. The voices to which a sound may be loaded are specified on the tape.

To load a complete KIT of eight sounds, INPUT 9 as the voice number.

R RETURN to MAIN PAGE

ERROR REPORTS

The usual Amstrad disc messages appear on the bottom two lines of the screen. If there is an error, i.e. File not found there will be a short pause followed by a buzz and the AmDrum LOAD ERROR message, after which you may try again.

The disc message "Retry, Ignore or Cancel?" will wait for R, I or C to be pressed. If for example the disc is missing, you may either insert the disc and press R for Retry, or just press C for Cancel in which case the "Bad Command" message will be followed by a return to the AmDrum system.

8 HINTS ON PROGRAMMING

As you get to know the Amdrum system, you will find for yourself various "short cuts" and ways to speed up writing your rhythm patterns and Songs.
Here are some tips and general points which may be useful.

SHIFT

The SHIFT pattern function on the Pattern Page may be used in conjunction with the INSERT and BEATS/BAR functions on the Tempo/Format Page to quickly insert voices 1 or 6 throughout a Pattern at any spacing desired. For example, to insert 2 HIHATs per beat:

PRESS:
T to select Tempo/Format Page
H to insert voice 6 (HIHAT C) on every beat
R to Return to Pattern Page
S until start of Pattern is between 6s
T Tempo/Format
H insert again
R Return to Pattern Page
S until original start point comes round

You now have twice as many 6s per beat, spaced according to how much the Pattern was SHIFTed before INSERTing.

DIV/BEAT

It is worth paying some thought to the number of DIV/BEAT chosen when writing a new Song, especially if the rhythms you intend to write are complex.
Bear in mind not only that the number chosen must be big enough to cope with the FASTEST notes in the Song, but also that certain rhythm combinations may require a higher number than is obvious at first.

For Example,
to play triplets (3 notes per beat) requires
3 DIVs/BEAT
to play semiquavers (4 notes per beat) requires
4 DIVs/BEAT

However,
triplets AND semiquavers (3s against 4s) at the same time, or in the same Pattern or Song, require 12 (3 x 4) DIVs.

Similarly, 3s and 2s require 6 divisions per beat, 8s and 3s require 24. The number required is the LOWEST COMMON MULTIPLE, not just one number times the other; 6s against 9s require 18 divisions, not 54.

Although sounds on the same channel cannot occur simultaneously, the impression that this is happening can sometimes be achieved by using a large number of DIVs/BEAT placing the sounds on adjacent divisions, one after the other. This is best done by trial and error. Never be afraid to experiment.

Interesting effects can also be obtained by writing groups of, say, four (or more) notes consecutively when using a large number of DIVs/BEAT. For example, create a Song with 24 DIV/BEAT, then, using the SHIFT and INSERT technique described above, write a Pattern with four or more HIHATS at the beginning of each beat. Experiment with other sounds and combinations.

EFFICIENT MEMORY USE

The Amdrum, being computer based, has a much greater storage capacity than most drum machines, but it is always worth while to use the memory as efficiently as possible. The extremely flexible dynamic filing system does much of this for you, allocating as much memory as required to what is being written without wasting space on unwritten Patterns or Songs. This means that all the memory can be used for one (very) long Song, or up to 16 shorter Songs, as required.

As a general rule, try not to write Patterns which differ only slightly and otherwise duplicate each other. If possible, make a separate shorter Pattern of the part the others have in common so that this need only be stored once. For example, if you find you have several two bar Patterns with differences only in the second bar, then make a Pattern from the first bar only, and store only the second bars of the others. You will have more Patterns in the File, and the Song List will be longer, but less memory should have been used.

Also remember that the more divisions per beat used, the more memory is used for each beat, in direct proportion.

Unless you wish to store several long complex Songs at once, memory space should not be a problem. You may prefer to write lots of 16 bar Patterns, – it's up to you.

SYNCRO and multitracking

The AmDrum does not have separate outputs for each voice, but using the SYNCRO facility each sound in a Song can be recorded separately onto different tracks of a multitrack tape machine, allowing individual treatment (eg, reverb, etc.) and mixing, and of course the use of alternative sounds in the same Song.

NOTE: The CPC464 has no external tape socket, so on this machine the SYNCRO facility can only be used for automatic tempo control, not for external triggering.

Having written the complete Song, connect the TAPE OUT lead (the one used for SAVing) of your 664/6128 to the record input of a track of the multitrack. Play the Song, recording the Sync pulses onto the track. (Find a recording level which will trigger the AmDrum without leaking onto other tracks. If necessary leave the adjacent track free. This depends on your tape machine.)

Next, COPY the Song (CAPS SHIFT 9 MAIN PAGE), and in each copy delete all the sounds except those you wish to isolate. (Use the Realtime sub-page). Then, for each copy select SYNCHRO ON, and DRUM PLAY, and replaying the Sync track into the TAPE IN side of the cassette socket, record the output of the AmDrum onto a new track.

In this way a tape can be built up with separate synchronized sounds on each track, ready for remixing.

THE POSSIBILITIES ARE ENDLESS!

BOOTING TO DISC

To transfer the AmDrum system to disc on 664 or 6128, load the program from tape as usual (you need not load the screen as this will not be transferred). The computer will beep when the program has loaded. With a formatted disc inserted, press D. The program will save to disc then reset the computer. Before re-Loading from disc, the kit must also be transferred. A program to do this is provided on side B of the cassette. Type:

```
¦ tape (ENTER)
run"boot (ENTER)
```

When BOOT has loaded, play side B of the cassette from the start. The kit will be loaded from tape then saved to disc under the name "AMKIT". The computer is reset.

To re-load the system type:

```
run"drum (ENTER)
```

SERVICE INFORMATION

ONE YEAR GUARANTEE

Your new **Cheetah** product has been tested and inspected before leaving the factory. It is guaranteed against defective materials or workmanship for a period of one year from the original purchase date provided it has been properly operated and maintained.

During the above guarantee period, any defects in parts or workmanship will be repaired by Cheetah Marketing Limited at no charge, except for a handling and return transportation charge of £1.50 which must be enclosed when returning your unit for service. Make remittance by cheque or postal order payable to Cheetah Marketing Limited. Do not send cash or stamps. Return your unit postpaid to Cheetah Service Department,   (C.O.D. packages will not be accepted).
Please pack your unit carefully with proper wrapping to avoid breakage as no liability can be accepted for damage or loss in transit.   To expedite processing, please ensure nature of failure is indicated.

At its option, Cheetah Marketing Limited, may elect to replace the entire unit, rather than repair it.

This guarantee does not cover replacements of cases or screws.

This guarantee is void if the defect is due to use of the product for other than the purpose it is designed for, or to accidental damage (whether in transit or otherwise), misuse, neglect or repair other than by the manufacturer.

Cheetah Marketing Limited disclaim any liability for incidental or consequential damages.

This guarantee becomes effective only if a letter is completed and mailed within ten days of purchase giving the following details:—

When and where purchased, with copy of receipt.
These statements in no way prejudice the statutory rights of the purchaser.

This applies to UK only.

Cheetah Marketing

CHEETAH MARKETING LTD.
1 WILLOWBROOK SCIENCE PARK,
CRICKHOWELL ROAD, ST. MELLONS, CARDIFF
TEL : CARDIFF (0222) 777337   TELEX: 497455