

UMi 2B

OPERATING INSTRUCTIONS

UMI-2B (version 4.15)

Sequencing is a time honoured musical process. In 'straight' music a composition consists of 'bars' played one after another. This approach has been adopted in the 'UMI' sequencer with the additional flexibility that instead of bars, patterns are the basic building blocks; these can be of any length between one beat and sixteen bars and they are 'chained' together to form the composition or song. That is all there is to it.

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The subject matter in the following pages has been tackled in the order of its importance. Sections bounded by asterisks thus '***' are generally descriptions of more advanced facilities and can be skipped over without any risk to continuity.

After switching on the Beeb simply type `XUMI` or `XU`, and you will be confronted with the main menu from which the various options can be selected.

Having selected and completed an option from the menu it is possible to jump immediately to any new option by hitting the appropriate red key (see note), though the user may find it easier in the early stage to go via the main menu in order to learn where things are. We shall deal with these options in the order of their importance.

(N.B. immediate interchange is possible between all options except:-

not into `DFLTS/CLOCK/CLIK`
not out of any of the storage options)

-- 'UMI' switch --

There is just one switch on the `UMI-2B` hardware and this is responsible for playing and replaying when in song or pattern mode. We shall refer to it as `R/S`. Even if you are using an external drum machine which is providing the time-keeping clock pulses the system must still be started using `R/S`. (There is just one exception to this - song-play which will be dealt with later.)

Default values are designed to save time in the long run and should be selected for the users particular requirements. Use the ^ cursor keys to bring the flashing cursor under the value you wish to change, then use the cursor keys to adjust the particular parameter to the required value.

-- clock in --

If you are using an external drum machine then set the clock-in value to correspond (a table of commonly available machines and their respective clock outputs is included at the end of this manual). If you are using the 'UMI' hardware as the timekeeper then set clock-in to read internal on the Default section of the main menu. Control over the internal tempo timekeeper is effected using the cursor keys. Rapid adjustment, if required, is achieved by holding down both keys on a first-key-pressed basis.

-- click --

This will probably only be required when an external drum machine is not being used and should be selected to accord with the time signature and the rhythmic stresses of the music being recorded. The default value of 8, which clicks on every quaver of a 4/4 bar, is likely to be the most commonly used.

-- pattern length --

If in working up a particular song you are likely to be recording 4 beat sections then set this value to 4. In any case you will not be committed to the value you select here as in both real and step time modes it can be overwritten.

-- beat --

This value defines the basic rhythmic unit referred to in pattern-length above. It should be set to crotchet for time signatures such as 3/4, 4/4 etc. or to quaver for 5/8, 7/8 and the like.

-- count in --

When recording in real time it is useful to take a preliminary period, or count-in, to gather your faculties and set yourself to the tempo of the drum machine or 'UMI's click. Set this to as long a value as you feel necessary. 4 would be a normal choice when working in 4/4.

-- storage --

If your computer has a DFS (disc filing system) and disc interface fitted then storage will automatically default to 'disc', cassette otherwise. Only disc based systems can store on either medium.

-- aftr-tch --

'UMI' can be made to ignore or record any after-touch information emitted by the synth in use.

(N.B. As a rule of thumb remember that when input from the computer keyboard is required, the delete key is always active and can be used in the normal way to erase an incorrect entry. It is not until the RETURN key is hit that your input is committed. Remember also that any option selected from the main menu can be immediately exited by pressing any key before introducing numeric input or by hitting a red user-key to jump straight to another routine.)

Let us assume that you have not adjusted the pattern length default value on the main menu i.e. this is still set to 8 beats. Having selected the 'write real-time' option you will be prompted to input a pattern number. This can be any number from 1 to 127. So, by typing '7' and pressing RETURN you can set about recording pattern #7 which is 8 beats long (the default length). Should you wish to overrule the default pattern length and make pattern#7, say, 4 beats long then it is only necessary to type '7,4' followed, as usual, by RETURN.

At this point the screen prompts you to hit R/S and commence playing the synth after a 4 beat count-in (or whatever you have selected using DFLT). Alternatively you can trigger the entire system to start just by playing the synth but this assumes that your first note(s) are to occur exactly on beat 1 and that you will not need a count-in. (There is another option here for simultaneous playback of another pattern but we will deal with this later.)

If you are not using an external drum machine you will have to work to the Beeb's internal click. It can be toggled on/off using the 'TAB' key either before or after recording. If the level is insufficient direct the click-out of the 'UMI' hardware into a suitable amplifier.

N.B. When working with the internal clock the tempo can be adjusted, as described in clock-in above, during both the count-in and play-back periods.

Hit R/S (or the synth keyboard) and maintain your performance for the period you have selected (4 beats, 8 beats or whatever) and then cease. The record period is now over and playback will be immediately looped back to you. You can of course continue to play along with the pattern but this will not be recorded.

Hitting R/S at this point will cut off the playback and the screen will display the pattern-editing menu. Let us deal with each of these options in turn:-

-- play pattern --

Looped playback of the pattern just recorded can be successively started and stopped by repeatedly hitting R/S. If using the internal clock adjust the tempo, as described above, using the cursor keys.

*** Whilst pattern is playing, hitting any one of the keys A to P will transfer playback to the channel corresponding to that letter, i.e. pressing 'E' will direct playback through MIDI-channel 5. ***

The following options are accessed from the computer keyboard using the conventional numeric keys (not the red user defined keys).

-- erase notes -- (key '0')

The five dark blue columns represent the standard 61 note keyboard as 5 column-octaves. If you now repeatedly tap 'A' you will notice that your pattern is being played through event by event. (Holding down 'A' instead will fast forward this effect).

In order to erase a note or group of notes from the recorded pattern simply use 'A' to move to the appropriate part of the pattern. (It is important to stop keying as soon as the offending note first appears. If you overshoot you will have to recycle the entire pattern). Now move to the synth keyboard and play the notes you wish to erase, either individually or as a chord; they will be extinguished from the display and erased from the pattern as you do so. Use 'A' to move to various parts of the pattern and repeat the process until all 'rogue' notes have been erased. Press RETURN to exit this routine.

-- auto-correct -- (key '1')

Use this to round off any timing errors in your real-time input. Make sure first that the correction tolerance is set to the right value using the cursor keys and if it is not.

*** pac mod *** (key '2')

You may have noticed that within the edit-pattern menu the byte count of the current pattern is displayed. This is generally of no importance to the user but if you have recorded a pattern with modulation you will notice how quickly memory is eaten up by use of the mod wheel. This option is designed to make a considerable memory saving.

Hitting key '2' will 'squash' the information required to generate the modulation effect and repeatedly pressing '2' will compound the compaction until eventually the modulation will disappear. The memory saving is exactly reflected by the byte-count indicator. As a general rule, four consecutive pac operations will provide the best compromise between saving memory and retention of the modulation effect.

xxx erase mod xxx (SHIFT+ Key '2')

If you have recorded a pattern with modulation that has not quite 'worked out' you can erase the mod entirely and re-enter it using the overdub facility described below.

xxx pac bend xxx (Key '3')

See pac mod above. The principle is exactly the same however the pitch-bend effect will withstand fewer compactions, probably only two or three, before the effect becomes 'peculiar'.

xxx erase bend xxx (SHIFT+key '3')

Operates exactly like erase mod.

xxx erase patch xxx (SHIFT+key '4')

If you have recorded an unsuitable patch change in your pattern you may erase it.

-- re-record -- (Key '4')

Select this option if you are not satisfied with the playback. There is no need to re-enter pattern# or pattern length. Just press Key '4' and follow the original record procedure.

-- cut-off -- (Key '6')

If in attempting to sustain a note or a chord up to the last moment of the pattern you slightly over-shoot into the playback period then the relevant notes will 'hang over' each successive loop of the playback. Use this facility to solve the problem.

-- retrieve -- (Key '5')

Suppose you have auto-connected a pattern which as a result seems to have lost some of its 'feel'; some music needs to be metronomic, some does not. You can immediately retrieve your original input, timing nuances and all, by selecting this option. It will also serve the same purpose on the compaction and erase options (but not on erase notes) if you feel that any of these were inadvisably used.

-- overdub -- (Key letter 'O')

Will permit poly or monophonic overdubbing on the original pattern. After selecting this option you will be prompted to hit R/S and to start overdubbing after a count-in. (Or you can use the auto-start facility by just playing the synth but do remember there will be no count-in and the first note(s) played will define the first beat). If the overdub performance is unsatisfactory this option can be exited at any point and re-attempted. If however the overdub performance is ok you should allow at least the full record period to expire before hitting R/S to stop. After the overdub period, playback of the basic track plus the overdub will be looped and if at this stage you are not content with the result, press R/S to stop then repeat this section. It is worth noting that an overdub could also be pitch bend, modulation or a patch change.

The overdub option is designed to work within one channel only. It is not intended to function as a merge facility for different channels. Neither is this necessary, as the 'play song' option provides all the multi-channel multi-track facilities that could possibly be required).

-- commit overdub --

(key letter 'C')

When you are quite sure that the overdub performance is ok you must use this option to signal your acceptance. It is possible to overdub again and again, up to the polyphonic limits of the synth in use, providing you remember to commit each overdub once it is complete. Remember that committing an overdub is irreversible (although it can of course be erased using the erase notes procedure described above -key '0').

When all the above facilities have been used as required, press the RETURN key to access the main menu or select an appropriated user-key for another option.

*** simultaneous playback during record

If during the recording of the current pattern you wish to simultaneously monitor a previously recorded pattern then hit key 'S' before going into record. Then follow the screen prompts which will ask for pattern#, channel# and transpose value. The channel# and transpose values are optional though entering the latter pre-requires the former. If pattern# only is entered then playback will be directed through the channel# it was originally played from and without transpose. Values entered must be separated by commas. i.e. suppose you wish to simultaneously playback pattern#7 and direct it through channel#2 without any transpose. After hitting 'S' key in '7,2' hit RETURN and follow the usual real-time record procedure. ***

*** input-output ***

Toggling key 'I' when in the real-time record ready state produces or clears a flashing symbol at the upper right-hand corner of the screen. When showing it indicates all input going to UMI will be simultaneously sent to output. This can be very useful when a number of synths are MIDI'd up to the same channel as the concert effect can be monitored during both record and playback periods.
N.B. This facility has been made switchable as some synths fail to respond properly to it.

Select this option to construct an 'unplayable' pattern. Attention will first be drawn by the message on screen and by the flashing cursor to the time-base default values. These are:-

(a) beats per bar

This is straightforward. Waltz time is 3 beats/bar, most pop music is 4 beats/bar.

(b) steps per beat

This must be chosen to correspond with whatever the smallest rhythmic subdivision your pattern contains. e.g. assuming that crotchet has been selected as the default beat value on the main menu page;-

quavers	2 steps/beat
rock shuffle	3 steps/beat
semi-quavers	4 steps/beat (dflt value)
s.q. triplets	6 steps/beat

Using the four cursor keys, position and alter either of these values if necessary and then press RETURN. You will now be prompted to input pattern# and length information. To do this follow the procedure described above for REAL TIME input then press RETURN.

The screen should now display a number of different items.

- (a) a five column-octave representation of the synth keyboard
- (b) an indication of the default velocity setting
- (c) a reminder of the pattern# and its length
- (d) a summary of the various gate-length options which can be selected from the computer keyboard

-- Inputing notes --

Go to the synth keyboard and play a few notes either singly or as a chord. You will notice as you play and replay any note(s) that these are toggled on/off on the display. Pressing the DELETE key at any point will also extinguish all notes currently illuminated. As soon as you have picked out the note(s) you wish to hear at a particular point (those that are illuminated) you may select their key velocity and gate length.

-- Key velocity --

(Some synths have no velocity sensing at all in which case any alteration to this value will be redundant). Hit 'V' on the computer keyboard and you will notice the flashing cursor moves to prompt you to input the velocity value you require. This should be anywhere between 1 and 127. Once selected press RETURN.

-- gate length --

In general, key in the number of steps required and then press RETURN.
Should you require a particularly short gate (i.e. less than 1 step)
then there are three degrees of expression available. These are:-

for a normal (75%) gate press RETURN
for a short (30%) gate press '.'
for a very short (10%) gate ':'

The alternatives described above are summarised on the screen display.

-- Inputting rests --

The procedure for including a number of rest steps is exactly as for notes except that no notes should be illuminated before introducing numeric input. For example, to introduce 4 steps of rests, first ensure that the representation of the keyboard is entirely dark blue (dull in monochrome) then press '4' followed by RETURN.

The display at the bottom right-hand corner of the screen will scroll through the inputs as they are entered and show also the current bar/step number.

Progress in building up a step-time pattern can be monitored at any point, whether complete or not, by hitting R/S. Playback will be looped until R/S is pressed again.

Any mistakes made in keying in the data for a step-time pattern can be corrected by hitting 'B' on the computer. This will backstep the pattern to the point at which the last note-on event occurred. Repeated use of this facility will backstep to the beginning of the pattern.

By way of an example let us build up the following pattern:-



From the main menu select the STEP TIME option, make sure the defaults are set to 4 beats/bar and 4 steps/beat and hit RETURN. You will now be prompted for pattern# and length so type say '4,8' i.e. we are recording pattern#4 which is to be 8 beats long.

Go to the synth and play individually or as a chord the first 3 notes of the pattern, in this case G,C and E. Make sure these three notes are picked out on the computer display. If they are not then hit DELETE to re-enter this step or re-play notes that have been mistakenly played and play the correct notes. Now hit 3 on the computer keyboard followed by RETURN. This completes the first entry. The scrolled display should now be requesting input for step 4. At the synth play the notes for the next entry, namely G,B and D. If you make a mistake in playing the notes follow the routine described above. Now hit RETURN on the computer. This will log into the pattern, and show on the scrolled display, a 'normal gate' for the notes you have just played. We'll procede for the remainder of the pattern in a tabular form:-

- | | |
|-------------|--|
| bar1 step5 | make sure no notes illuminated then hit 1 on computer followed by RETURN. This enters 1 rest. |
| bar1 step6 | play G,B and D on synth then key ':' on the computer. This registers a very short gate for these notes. |
| bar1 step7 | as step5 |
| bar1 step8 | play G and hit '.' on computer. This registers a short gate. |
| bar1 step9 | play G,B and D, then key in number '6' followed by RETURN. This will record 6 steps for these notes. |
| bar1 step15 | play G,B and D. We want to make this step louder so hit 'V' and following the cursor, key in say, '98' (louder than 64), and hit RETURN. This repositions the cursor to await input for the step value. Key in '4' and hit RETURN. |
| bar2 step3 | play F,A and C on synth. Hit 'V' on the computer followed by '30' (a quieter note) and RETURN. Then key in '1' for a single step and RETURN. |
| bar2 step4 | make sure no notes illuminated and key in '1' followed by RETURN. This writes in one rest. |
| bar2 step5 | play F,A and C on synth. We are leaving the velocity at 30 so no need to alter V. Key in '1' followed by return. This writes one step. |
| bar2 step6 | play D,F and A and hit '.'. This gives us a short gate over one step. |
| bar2 step7 | play F,A and C. Key in '8' and RETURN. This registers 8 steps for these notes. |

bar2 step15 the rest of the pattern now consists of rest so either key in '2' and RETURN to complete the 8 beat pattern or, more quickly, hit the space bar to exit this routine. This will automatically write rests up to the end of the pattern.

Having completed a step time input it would be as well to make a few observations.

When Keying in numeric input you can as with most 'UMI' routines afford the luxury of making a mistake and then rectifying errors with DELETE.

By contrast, the shorter gates, normal gate (RETURN), short gate (.) and v.short gate (:), are single key entries. If one of these is used in error use 'B' for backstep and re-enter.

When all notes are extinguished on the keyboard display it is impossible to make any adjustments to velocity (V). This is as it should be since an unilluminated display signals to the software that rests are about to be keyed in.

There are no useful guidelines that can be offered with regard to choice of velocity values, especially since these will interact with sensitivity settings on the synth. Experience will make the choice easier.

Remember, you can listen to a pattern, as far as it has been built up, by hitting R/S at any point. Mistakes can be corrected using 'B' for backstep.

To listen to the pattern at any later stage use option PLAY PATTERN described below.

If you wish to add other embellishments (e.g. mod, pitch-bend, or patch-change) to a step-time pattern then this is most easily effected by using the EDIT PATTERN facility described below.

MISCELLANEOUS PATTERN FUNCTIONS

-- EDIT PATTERN --

(red key 'f3')

STEP TIME as well as REAL TIME patterns will yield to all the pattern editing options and this facility provides the easiest way of introducing, for example, a mod, pitch bend or patch change, into a pattern which has been constructed in the STEP TIME mode. To edit a particular pattern just key in its number, press RETURN, and follow the editing menu which is described above in the latter section on REAL TIME input.

-- COPY PATTERN --

(red key 'f2')

It is useful sometimes to make a backup copy of a pattern in order to try out a few editing experiments. The original pattern is then retrievable should the experiments fail. To copy, say, pattern 3 to pattern 47 type:-

'3' RETURN '47' RETURN

On-screen messages will warn you when either the pattern you are copying from does not exist or the pattern you are copying to is already written (risking overwrite). In this event press any key to return to the main menu.

*** COPY PATTERN can in fact do much more if you also key in the lengths of the source and destination patterns.

(a)

Suppose for example you have already written pattern#4 and this is 8 beats long. You may wish to construct another pattern which is the same as #4 in all except the last 2 beats. If pattern# 17 is free we can put it here. Type:-

'4,6' RETURN '17,8' RETURN

Pattern# 17 will now consist of the first 6 beats of pattern# 4 followed by 2 beats rest. You can now use the EDIT PATTERN facility to overdub the last 2 beats into pattern# 17.

(b)

'4,3' RETURN '29' RETURN

will produce a new pattern# 29 which consists only of the first 3 beats of pattern# 4.

(c)

'4,2,' (note the additional comma) RETURN '104,32'

will write a new pattern#104 which consists of repeats of the first 2 beats of pattern#4 up to a total of 32 beats. i.e. a string of sixteen such repeats. It will become apparent when chaining is discussed how this particular

facility can be useful but keep in mind that building a pattern consisting of repeats of another pattern will use up proportionately more memory. ***

-- ERASE PATTERN --

(red key 'f4')

Key in the number of the pattern you wish to erase and hit RETURN. When entering this option, and similarly with write-pattern copy-pattern and edit pattern, the bottom of the display lists those patterns that have already been worked upon. These appear in either green or white. The white is an indication that the pattern is currently a link in one of the chains (more about these later). If, therefore, chaining is complete the user could happily erase all those patterns that appear green in the list.

-- PLAY PATTERN --

(red key 'f1')

Key in the pattern# you wish to play and hit RETURN. The screen will then prompt you to use the R/S switch to play, stop or replay and to hit the TAB key if you wish to hear the internal click. Playback of the chosen pattern will be looped and will play to the MIDI channel it was recorded from. Hitting any key from 'A' to 'P' will redirect playback to the channel number corresponding to that letter. e.g. hitting 'K' will direct playback to channel 11.

-- NOTES --

(red key 'f0')

Select this option to jot down any information relating to the current song, e.g. tempo, names of synths, synth sounds, equalisation settings or indeed anything at all. No attention need be paid to the layout of the NOTES page which is offered only as a guide. Use the cursor keys to locate any part of the 512 character page and write or overwrite at this point. Saving the song to cassette or disc will save the notes along with it.

Constructing a song

WRITE/EDIT CHAIN (red key 'f5')

The popular term which aptly describes the work of creating a song out of individual patterns or bars is 'chaining'. There are sixteen such chains that can be written in the 'UMI' system and these cover the entire range of addressable channels offered by the MODI format. Pressing key 'f5' will put on screen a key summary (more about this later), a selection indicator at the bottom right-hand corner (showing that track 'A' has been selected if you have just powered up) and a cursor 'X' which is active under all four cursor keys.

(The cursor can always be brought rapidly back to the beginning of the song by holding SHIFT and hitting ^)

Let us suppose that patterns# 1 to 10 have already been written and the intention is to chain together a song (a short one for the sake of this example) out of a selection of these patterns; say the song consists of patterns# 2,7,4,4,1,4 up 2 semitones,10,4 in that order.

The cursor 'X' is already poised next to link#1 and only requires numeric input followed by RETURN. This will move the cursor down one position awaiting input for link#2, and so on. So pressing the following keys will assemble the chain.

```
'2' RETURN (this moves the cursor down 1 line)
'7' RETURN
'4' RETURN
'4' RETURN
'1' RETURN
'4,2' RETURN
'10' RETURN
'3' RETURN
'S' RETURN
```

And this completes the chaining. A few points about the above:-

It is essential to press RETURN after each link number has been keyed in otherwise the cursor keys will remain inactive.

The only exception to this is when jumping straight to another menu option, another track or to the copy-transpose facility described later in this section.

The DELETE key remains operative to delete an incorrect entry until RETURN is pressed.

It is only necessary to use 'S' to indicate the last entry where the song needs to stop dead. Otherwise the entire chain will loop.

Transpose of any pattern above its natural pitch is effected by keying a comma after the pattern# followed by the transpose value in semi-tones. Do not press RETURN until both pattern# and transpose value have been keyed in. Transpositions below the natural pitch should be preceded by a minus(-) sign instead of a comma.

Here is a list of some transpose numbers and their pitch equivalents:-

UP		DOWN
,1	semitone	-1
,2	tone	-2
,3	minor 3rd	-3
,4	major 3rd	-4
,5	4th	-5
,6		-6
,7	5th	-7
,8		-8
,9	6th	-9
,10		-10
,11	major 7th	-11
,12	octave	-12

Transpose can range anywhere between +127 and -128 though as MIDI only permits a range of 128 semitones the use of such extreme values will cause a wrap around effect.

-- editing the chain --

Overwrite is achieved by moving the cursor to any link# which needs to be overwritten. As soon as numeric input is keyed in the original entry is obliterated and the new value can be keyed in as normal.

Insert. First bring the cursor to the point where insert is required, press the '^' key (this moves the entire chain up one place from the insert link#) and write in the insert value.

Delete. Bring the cursor to the link to be deleted and hit the DELETE key. The entire chain above this link# will shift down one place.

Writing a constant transpose value over a long continuous section of a chain can be achieved in a particularly easy way. Bring the cursor alongside a link which has been given a transpose value, hold **SHIFT** and press **COPY** - the links of the rest of the chain will assume the same transpose value. Adopting

the same procedure later in the chain but writing in a transpose value of zero (e.g. 17,0 or just 17 -pattern#17 with no transpose) will clear the 'tail' of the chain. This is a much faster way of introducing transpose in a song where it occurs in chunks - write the entire chain without transpose then work through the chain from the beginning to the end using the copy-transpose facility.

-- writing chains for other tracks --

There are sixteen tracks in the 'UMI' program, each one corresponding to any selectable MIDI channel. (It is described below how to assign tracks to channels). To write/edit the chain corresponding to another track enter the write/edit chain mode, hit any one of the sixteen keys A to P and follow the chaining procedure described above. It is quite acceptable to select a new track having keyed in numeric input for a particular link# on your current track without hitting RETURN.

*** Entire chains can be copied to other tracks with or without an offset to the link numbers. Having written a chain and whilst in the write/edit chain mode hit the COPY key. The flashing message at the bottom right-hand corner of the screen will ask for track (one of letters A thru P) and offset (optional) followed by RETURN. The display will now show the track which has been copied to and with the link#s incremented by the chosen offset value. Where the choice of offset is too high (resulting in a link# greater than 127) the computer beeps and stops the copying process at this point.

Here are a few suggestions as to how this facility might be used:-

- a) copy a chain over to four or five tracks with zero offset, i.e. identical copies, and set the relevant tracks to transmit on the same channel number. This can create a close DDL type effect on certain sounds but make sure not to exceed the voicing capabilities of the synth or to push too much traffic through MIDI - this might create data error or buffer full messages.
- b) Let us suppose you have already written a master track using perhaps slightly fewer than twenty different patterns and you need to construct a parallel track different from this but with changes occurring at mostly the same places. Do a track copy with an offset of 20 and your chain is already 'pre-written'. It is now only necessary to write the individual patterns remembering that pattern#(N) on the master track corresponds to pattern#(N+20) on the parallel track. This can also be a help in real-time write-pattern

when employing simulplay as you can be sure that, given an offset of 20, pattern#23 should be constructed while listening to pattern#3. It might help to keep track of things.

c) Make an identical copy of a track i.e. zero offset and use the fast transpose facility described above to render the copy an octave above the original. Assigning the two tracks to one channel could provide a very usable 'octavider' effect on either a bass line or a chord part.

*** routemap pointers

'Straight' music has at its disposal a very compact set of instructions (it would be worthwhile acquiring a small handbook on the rudiments of music if the user is not acquainted with their use) for indicating when sections or subsections of a song should be repeated. Most of these have been incorporated into the 'UMI' language and we will discuss their implementation.

If the pointer is a position marker e.g. marking the position of the coda or where a section to be repeated commences, then the symbol should precede the link#. If it is a 'do something' marker e.g. 'go to coda' or 'repeat last section' then it should follow the link#. Let us construct a simple example.

We wish to finish a song consisting of links 1 to 74 with a 'repeat to fade'. Let us suppose that the repeat section runs from links 59 to 74. If link#59 is pattern#12 and link#74 is pattern#15 up 3 semitones the chain should be thus:-

```
link#1  ...
      2  ...
      3  ...
      .
      .
      .
      59 12
      60 ...
      61 ...
      .
      .
      .
      74 15,31
```

This will produce an endless loop. To repeat a section just twice it would be necessary to incorporate '1st and 2nd time bars'. To illustrate all the available symbols in action we will design a short sequence and 'read' it through longhand. To make matters simpler we have made the pattern#s correspond to the link#s. So, the following chain:-

PLAY SONG (red key 'f6')

Having selected this option the screen displays the chain information of the last selected track. To display any other track whilst in the song-play ready state simply hit one of the keys A thru P. Use the R/S switch to start playing the song from the beginning, to stop the song once started and to re-start from the beginning when required. If having stopped you wish to recommence playing the song from the stop-point then hit the space bar on the computer. This action alone will set the system into play but will not perform the stop function. The arrow indicates progress through the song as it is being played. Hit any irrelevant key (whilst not in song-play) to exit this mode or jump into another mode using the red user-keys.

-- Playing from within the song --

Enter the write/edit chain mode and using the cursor keys move the cursor to the link# you wish to start playing from. Immediately hit the red user-key 'f6' (song play) and key the R/S button to start playing from this point. This start point will be remembered whether or not you move in and out of other menu options provided the main menu is not accessed. In all other respects this option is the same as PLAY SONG.

Which ever point you choose to play the song from the option is always open to run into the first-time bar or the second-time bar simply by hitting black key '1' or '2' while in the ready state.

It is often the case that a count-in period needs to be set up at the beginning of a song. This is most easily done in the real-time mode by writing a pattern with the required number of beats but without playing anything on the synth.

You may find occasionally that you have written part of your song using a patch that has a slightly 'lazy' sound e.g. strings with a slow attack. The above option allows the construction of an empty bar (or a few beats) with a specific number of clock pulses. Using a fine-adjust at the beginning of a song (or indeed anywhere within it) will allow for compensation of any lateness or earliness that a synth sound might normally introduce. The software on 'UMI-2B' operates on a clock rate of 24 pulses/beat irrespective of any external rate selected, so, inserting a fine-adjust bar of length 94 pulses will 'pull up' the performance of anything which follows. This helps to deal with the intrinsic 'lateness' of some string sounds.

It is important to remember that track A is the 'navigating' track within the 'UMI' system. All other tracks will follow the routine of track A and therefore you should write your fine-adjust bars into the chain of track A. Corresponding links in other tracks need only be 'spacers'. To illustrate the idea of spacers consider the following example. Imagine that link#7 of track A is a pattern of 8 beats in length and that track D has at the same link# a pattern of length 4 beats. Track A, being the master track, will insist on playing through its full 8 beats at this point and track D will be left hanging for 4 beats while it does so. Similarly a pattern on one of the fifteen 'slave' tracks will be cut short if the corresponding pattern on track A is shorter. So if, for example, one of the slave tracks consists mostly of silence with perhaps a few links playing in a repeat-to-fade section then this chain can be most speedily written by using a 'ghost' bar or spacer i.e. a bar which has not been written and is therefore of unspecific length; track A will determine when to move from one link to the next. Only those links in the slave tracks which contain music need correspond exactly with their counterparts in track A.

There is a very fast way of writing a chain such as the one in the example above i.e. say 40 links of silence followed by a repeat-to-fade. Pick a pattern# which has not been written, say #99.

Write this value into link#1 of the chain and after hitting RETURN bring the cursor back alongside link#1. Now hold down the insert (^) key and you will find that the chain automatically fills up with links of the same pattern#. Finally finish off by writing the fade section in the normal way. Pattern#99 would, from this point on, have to be reserved as a spacer and should not contain music, but remember it can behave, entirely at the whim of track A, as a spacer of any length while it is employed on one of the slave tracks.

CHANNEL-TRACK ASSIGNMENTS (CTRL and red key '45')

The MIDI format allows the possibility of sixteen independantly addressable channels. It is probably easiest to visualise these channels as sixteen parallel tracks on a multi-track tape machine or, with equal validity, as sixteen independant synths.

Most synths coming onto the market today can be switched to recieve on any MIDI channel and it is this flexibility you should exploit when selecting your track-channel assignments.

Any pattern written in the UMI sequencer can be included in any track and can therefore be assigned exclusively (or universally) to any one (or all) channel(s). You could, for example, have written your bass line on track#6; assigned track#6 to channel#2; copied a subsection of track#6 to track#13 and had this routed to channel#5 where the bass-line would be 'doubled' in these subsections. The possibilities are extensive.

Having selected this option use the four cursor keys to position and alter the assignment values.

MIDI information is transmitted in a serial fashion and is therefore much slower than it might have been had a parallel data bus been adopted. This will generally not cause a noticable problem but if the flow of MIDI 'traffic' is high i.e. several simultaneous channels each playing independant polyphony then a facility adopted in 'UMI-2B' should be utilised.

The hardware has two completely independant ACIAs and these have been assigned to tracks A thru H and I thru P respectively. These are quite independant systems which effectively double the data-processing potential of MIDI. When several tracks are being used ensure that these are distributed as evenly as possible between the two ACIA's i.e. fill tracks A B C I J and K rather than A B C D E and F.

The current version of the 'UMI' program allows storage to tape or disc (the latter only if a DFS is fitted) of complete songs and of sounds programmed on the Yamaha 'DX7'. We will deal first with song storage.

-- DISC --

SAVE SONG

(CTRL and red key 'f8')

Once you have sequenced a song and wish to save it for future retrieval it must be given a name. For simplicity's sake and because the DFS in the BEEB limits file names to seven letters, song names must be similarly restricted. Any attempt to give a song a longer name will result in an error message. When an error message occurs simply hit any key to access the main menu and start again.

Key in the song name and hit RETURN. The screen message will then ask if you are sure. When using disc storage this is an important safety message for an existing file called 'SONG' will be overwritten by a new file with the same name. To reduce such a risk you may at any point call up the disc catalogue by holding SHIFT and hitting 'X', even if you are half way through keying in your song name.

Disc users should also be aware that the Beeb's DFS can address four different drives. These are numbered 0,1,2 and 3. If you have a single drive this is most likely to respond to the name '0' but not necessarily. If you need to access a different drive hit ':' followed by the drive number (0 to 3 inclusive). The screen will at all times indicate the currently selected drive.

LOAD SONG

(CTRL and red key 'f7')

This procedure is exactly as for SAVE SONG except that there is no safety message. The disc catalogue can be put on screen and the drive number changed as above.

-- CASSETTE --

Loading songs to and from cassette operates exactly as for disc. However when saving, 'UMI' files away each song as two files so you will have to respond to the 'RECORD and RETURN' message twice.

Saving and loading of DX7 sounds is accomplished using CTRL and red keys 'f2' and 'f1' respectively.

Save and load entire banks of DX7 sounds using the same red 'user keys' but hold the SHIFT key instead.

The Beebs DFS requires that any named sound (or bank) should be given a file name (seven letters or less) under which it is saved or loaded. This name can be chosen irrespectively of the DX7 name. Follow the prompts and the flashing cursor.

Refer to the MIDI section of the DX7 manual for a complete account of the various initialisation procedures for saving or loading sounds or banks of sounds.

When saving sounds it may be necessary to hit the DX7 patch number a few times before it is recieved by the computer. A 'beep' indicates a succesful transmission.

-- Connecting 'UMI' and the Beeb --

Make sure both units are switched off. Place 'UMI' on top of the Beeb and pull the two ribbon cables round the back and under the Beeb. Whilst steadying 'UMI' at its back lift up the front of the Beeb and have a look underneath. The cables must be inserted into the sockets marked 1Mhz BUS and user port and with the red strip to the right in both cases. Take care to push the connectors home straight. There should be a faint clicking sound as the retainers close in. To remove the connectors push the retainers outwards. This action alone will usually jetison them.

Where in this section 'UMI' is described as having been put into the play mode, it is assumed that a play funtion such as PLAY PATTERN or PLAY SONG has already been selected.

-- Synchronising 'UMI' to other sequencers/drum machines --

Connect the clock out on drum machine to clock in on 'UMI' interface. Connect start/stop on 'UMI' to start/stop on drum machine. Select the desired clock input value on the default section of the UMI menu (described under DFLTS CLOK/CLIK). Make sure 'UMI' and the drum machine are both in STOP mode. Having selected an appropriate option from the main menu you will be able to simultaneously start 'UMI' and the drum machine by pressing R/S. With this configuration, tempo should be adjusted from the drum machine. Pressing R/S again will stop both units.

-- Synchronising other sequencers/drum machines to 'UMI' --

Select internal clock on the 'UMI' menu as described under DFLTS. If the drum machine is fitted with a synch-24-in DIN socket then first making sure both units are in STOP mode, connect a 5 pin DIN lead from 'UMI's synch-24 out to synch-24 in on the slave unit. Pressing R/S now will start 'UMI' and the drum machine together with the drum machine playing at the tempo selected on the 'UMI' interface. Pressing R/S again will stop both units.

If the drum machine is not fitted with a synch-24-in DIN socket then connect 'UMI' clock out to clock in on the drum machine. Connect 'UMI' start/stop to start/stop on the drum machine. Make sure that both units are in STOP mode. Pressing R/S will now start 'UMI' and the drum machine together with the drum machine playing at the tempo selected on the 'UMI' interface. Pressing R/S again will stop both units. Note that the 'UMI' clock-out is at 24 pulses per quarter note.

SYNCHRONISING 'UMI' TO TAPE

-- Recording 'UMI's synch code onto tape --

Connect 'UMI's synch out to line input on mixer. Assign synch code to one track of tape machine. Switch out any noise reduction on that track if possible and put that track into READY. Start 'UMI' and adjust the level of the synch code at the mixer to read -3dB on the tape machine's meter (with some experimentation you may find that lower levels are quite adequate). Stop 'UMI' and put tape machine into record, wait 5 seconds and start 'UMI'. Record synch tone for the duration of the song.

-- Overdubbing 'UMI' to original master recording --

Connect tape machines' line-output of synch code track to 'UMI's synch in. Select 24 pulses/crotchet on the DFLT section of the 'UMI' menu. Start the tape machine and press R/S whereupon 'UMI' will start playing as soon as the synch code starts.

CLOCK RATES

The clock rates of some common machines are listed below. The list is not complete.

Linn LM1	48 pulses/quarter-note
LinnDrum	24 (set trigger to 'HI')
Oberheim	96
Drumulator	24
Roland	24 (in most cases use 'UMI's sync-24 out)
Simmons	24
Sequential Circuits	Let 'UMI' do the driving with S.C.'s input set to 24
Yamaha	Operate as Sequential Circuits

1/4" Jack sockets:-

CLOCK IN: 2V minimum (24,48 or 96 pulses per 1/4 note).

CLOCK OUT: 5V at 24 pulses per 1/4 note

SYNCH FROM TAPE: 200mV minimum

SYNCH TO TAPE: 800 mV (3KHz gated on and off, this has the advantage over conventional tape synch codes in that because it consists of short bursts of audio it is possible to use the code as a marker for precise tape edits).

CLIK OUT: 800mV (also sent to the Beeb's internal loudspeaker).

TRIG OUT: 5V. Sent at same rate as clik-out.

START/STOP (out only): momentary ground operated under software control from UMI's START/STOP button.

5 Pin (180 deg) DIN sockets

MIDI OUT1: two sockets wired in parallel, serial data output from ACIA (asynchronous communications adaptor) running at 31.25KBaud.

MIDI OUT2: as above but completely independent ACIA

MIDI IN: serial data input to ACIA via opto-isolator to prevent ground loops.

SYNC-24 OUT: 5V start/stop and 5V clock at 24 pulses per 1/4 note.

34 and 20 way ribbon cables terminated with IDC connector for connection to BBC's 1MHz bus and User port.

UMI-2B series 5 update

Enclosed is software update and the protection dongle.
Do read the fitting instructions carefully before
starting.

It would be wise to retain the antistatic tubing your
eproms have been delivered in. Although the program has
been thoroughly field tested there is always the
possibility that some obscure bug could manifest itself.

If reprogramming of the eproms is required they can be
returned to Umusic through the post in the protection of
the tubing. For the same reason you should hang on to
the 4.17 chip so that this could be used as a stop gap
in such an event.

As pointed out in the last letter the series 5 works
perfectly with MIDI pointers. UMI does however still
require a conventional clock to keep time; it will not
run under a MIDI clock. So the Roland SBX80 is fine,
the units from Bokse and Fostex are not.

Disclaimer: Whilst every effort has been made to ensure
that this product and accompanying documentation are
reliable and complete, Umusic Limited cannot accept any
responsibility for any loss or damage arising from
errors, omissions or software 'bugs'.

N.B. When importing 4.17 songs into S.A software this may have to be adjusted

N.B. In pattern edit mode selection of erase functions has been better rationalised for single key action. Consequently what was originally described as 'commit-overdub' (hit letter 'C') has become 'fix' (hit letter 'F').

1) Tempo and clock-type are saved with the song to disc.

2) If for some reason the Beeb crashes or freezes the Break key will have to be hit. Tempo and clock-type will however now be preserved after using Break.

3) In all the appropriate modes the pattern number currently being worked is displayed in clear double height characters along with the current pattern length.

4) Input-output toggle works during overdub and in simulplay. So for example you can now build up a drum pattern without having to work blind (deaf actually).

5) Override-channel

Its quite lamentable that to date Yamaha have not provided an update to enable the DX7 to transmit on anything other than channel 1 !! Override-channel will do the trick. It may even provide a faster alternative than changing the transmit channel on those synths that can reach the channels other.....

Via the input-output facility (described over simply by some as a midi-thru) this utility will make the DX7 behave as though it were transmitting on any channel you like. Furthermore the input-output facility though still toggleable will automatically be selected when you have chosen to use override channel and deselected when not. **In real-time record and having selected a pattern (record-ready state) use the up-down cursor keys to locate 'override channel' and the left-right keys to alter the value. Alternatively if you are happy with the default length pattern you can select your override channel as you key in the pattern# by using a double comma. e.g. 7,,4 will record pattern#7 on override channel 4.**

6) Fixed velocity output

Whether or not a velocity sensing keyboard is providing the input in real-time record this option completely ignores the subtleties of your digits and imposes a specific, user adjustable velocity through the pattern. This will enable you to simulate finger bruising fortississimo (or virtuoso pianississimo even) in real time and provides an easy way to elicit a consistent velocity-determined timbre from a synth in real time. Useful also for ensuring an electro-funk fixed level snare drum when inputting drum patterns from say a DX7. **Use cursor keys as in (5) above.**

7) Erase drum

Many users are now programming their drum machines straight into UMI from keyboards using drum/note assignments. The immediate advantages are bypassing any sync requirements and the convenience of saving the entire song, drum parts and all, to the BBC disc system. The software on most drum machines allows the programmer to wipe an entire drum from a pattern hence a new and vital facility which should be called 'erase-all-occurrences-of-one-pitch' but for obvious reasons has been named 'erase drum'. *Hit 'D' then play the note you want to erase.*

8) Drum patterns from the RX11 (and I imagine most other drum machines) can now be dumped into UMI.

9) Switchable Midi clock out. *Defaults page. Only output on ACIA 2.*

10) Sustain off

If a pattern has been recorded using the sustain pedal and playback is stopped before the pedal-release codes have been transmitted the dreaded drone will result. On hitting 'Stop' a pedal-off code is now transmitted on all channels to obviate this problem.

11) Omni off

Some synths and not others (eg the Mirage but not the DX7) respond to the Omni all-notes-off command and this has now been implemented. If you have the dreaded drone problem on your Akai S900 this will clear it up.

12) Erase controller

At the moment 'erase' can operate on pitch-bend, modulation and patch-change. 'Controller' has now been added to the list of erasables. On power up it assumes the value 64 (sustain pedal) but can be changed to any other value by going into the defaults page.

13) In chaining mode it is now possible to use all seven teletext colours (rather than yellow only) to write in the pattern numbers. At first sight this might seem a rather frivolous offering but I have found this facility something I could no longer do without. How many times when confronted with a list of repetitive monochrome pattern numbers have you lost count when trying to mark the transition pattern from a chorus to a verse? (or vice-versa?). You will now be confronted with neat, sharply delineated blocks of colour to mark out the song routine clearly. The routine operates as it should in respect of insert, delete and across all 16 tracks.

To colour a pattern# and all those in the chain that follow hold SHIFT and hit an appropriate red user-key before keying in the pattern#. There will be no apparent action until you re-select the chaining page whereupon colours will be displayed in all their glory. To effect colour change on one particular link hold SHIFT and CTRL together and then hit a 'colour' key (red user-key). Colours are:-

f1	red
f2	green
f3	yellow (default)
f4	dark blue
f5	pink
f6	light blue
f7	white

Colour changes can be made at any time either globally or selectively by just overwriting the colour prefix - no need to write the entire

pattern number in.

N.B. After importing an existing song into the new software you should at least set your colour to the default yellow by introducing the colour prefix into link#1 as described above.

14) A fast cursor facility has been incorporated into the chaining mode. *Hold SHIFT when using up down cursor keys.*

15) When selecting a point from which to play a song it will no longer be necessary to enter the chaining mode. This can be effected in song-play itself.

16) It will no longer be necessary (unless you wish) to enter the 'Track-channel assignments' page to alter Midi output channels. These can be altered directly whilst in song play or chaining mode. *Use the < and > keys on the bottom row of the keyboard.* The Track-channel page will be retained also to provide an 'overview' of the various Midi routings

17) Soloing of tracks in song play. *Toggle between solo and concert by hitting 'S' while in the 'ready' state.*

18) Routing to the two system ACIAs can now be switched in the software directly on the song-play page. So you'll no longer need to exercise any concern over the deployment of tracks A-H and I-P. While retaining the advantage of two completely independant Midi output busses all tracks now have access to either ACIA. Apart from freeing the user from the need to 'plan' the Midi traffic this facility is likely to remove the need for repatching on many occasions. *Use the < and > keys on the bottom row of the keyboard as in (16) above but hold down SHIFT as well. Remember that in song play the two ACIA's transmit quite exclusively so if you hope to hear anything from your synth, selection between ACIA's is just as important as picking the right MIDI channel. It is very possible that when importing your existing song files into the new software you will have to check the ACIA routing on some of your tracks. Once properly set re-save song to disc.*

19) Tempo display in song play.

20) Real time clock (mins and secs) displayed and continuously updated in song play.

21) *Click on/off is toggleable while song is playing. Also during pattern play and the looped-playback phase of real-time record.*

22) Serial pattern merge

Copy pattern pattern has been radically re-designed. Apart from its obvious 'safety copy' function it will now operate as a completely universal serial merge. You can now combine any segment of any length of the front, tail or middle of any pattern to that of any any other pattern/s.

Copy patterns in the normal way. To copy or add together segments of patterns you must specify start and end beats to. e.g. to add together the first 5 beats of pattern# 1, beat 6 of pattern# 2 and the last 2 beats of pattern# 3 (an 8 beat pattern) type

'1,5 + 2,5-6' + 3,6-8' <RETURN> and key in the destination pattern#. Note commas, plus sign, and the horizontal dash (under the pound sign

on the keyboard). As we are using the first 5 beats of pattern# 1 there is no need to write this as '1,0-5'

'7 + 2' <RETURN> will add together patterns 7 and 2

'9 + 9 + 9 + 9' <RETURN> will form 4 consecutive repeats of pattern# 9

and will prompt you for a suitable destination pattern# in which to store the result.

23) Context record

This is a first draft of a brand new routine. Having written the first few links in a song chain this facility enables you to hear these played back in song play mode before making a stab at the next link. At your preselected point the routine jumps instantaneously from song play to pattern record (real time of course). The routine is set up for fast re-attempt.

Only on track 'A'. On the chaining page precede the pattern# to be context recorded with the letter R. Introduce override channel (and therefore input-output) by keying in a comma (not a double comma) and channel# after the pattern# as though it were a transpose value. Play from any point in the song and start playing during the chosen link#. The arrow will stick at the previous link. The pattern length will automatically be assumed to be that selected on the defaults page so change that if necessary. Playback of the pattern will be looped as though in the normal real-time record mode and edit menu will come up when you hit stop. When either chaining page or song play are subsequently selected a beep will sound reminding you that the system is primed for a context record. Re-write the link without its' preceding 'R' (and into the appropriate chain) if you want to retain your performance otherwise pattern will auto-erase on hitting R/S.

24) Pattern save and load

Individual patterns can now be saved to or loaded from disc. When saving you will be asked first for the pattern number you wish to save (obvious) then hit RETURN and you will be asked for the name you want to give the pattern when it gets stored to disc. This is optional under the normal 'BBC disc laws' ie up to seven letters long, but unless you want the name to suggest something it might be wise to name the pattern identically as its number. (numbers can be used for disc file names)

25) Drive number can now be selected more easily using the left/right cursor keys.

26) Fast interchange now operates between all save and load modes without the need to return to the main menu.

27) Companding of velocity values

If you've ever recorded a bass part in real-time on the DX7 you may have noticed the apparently exaggerated dynamics on playback. Using the internal sound chip, two notes a high and a low, represent the dynamic extremes in the pattern, and hitting < for compression or > for expansion causes the interval between these notes, and therefore the dynamics of the pattern, to converge or diverge. The 'interval' representation gives a very clear idea of the companding being effected and the facility operates extremely quickly (obviously pattern-length dependant) covering the range from absurd to centred

within typically a second or two.

28) Fast velocity adjust

The laborious method of modifying velocity values in Step-time has been retained but those who have a DX7 (or a synth which sends the same midi-codes) will be able to use its Data Entry slider for extremely fast control over this parameter.

29) Rapid re-record

A real-time recorded pattern can really stretch dwindling keyboard abilities. As efforts deteriorate lurch over to the UMI box, hit R/S followed by black key '4' for yet another go. This isn't too much of a chore on UMI but I fancied streamlining it more. In 'rapid re-record' the idea is having fluffed the pattern yet again just hitting one note on the synth (user selectable but defaults to bottom 'C') the entire system is primed ready for a re-record without any need to go near the Beeb. **Turn this facility off or select the restart-note on the defaults page.** It is generally best to select the extreme top note of your synth when recording low parts and the lowest note otherwise.

30) Rapid simulplay

Setting up simulplay can take time. This option searches all your song chains and sets up the appropriate selections of patterns for monitoring, up to the usual maximum of four. No need to key them in. The patterns can be individually switched out in the normal way. Clearly, the chains on at least two tracks must have already been written for this facility to operate at all. You may decide therefore that it is worthwhile pre-chaining a 'working' version of your song before even writing any patterns. This operates in all relevant modes i.e. real-time rec. step-time rec. and edit-pattern. **Hit S when on main menu to toggle this facility on or off**

31) Exclusive voice and Bank directories

The DX7 Bank and voice dumping and loading options will now generate separate directories (V and b respectively). This happens quite automatically and can remain transparent to the user. There are two main advantages:

When cataloguing the disc, Banks and voices will be clearly marked with their own prefix and separated into neat blocks.

It will be quite acceptable now to give a song, voice or a Bank an identical name on the same disc. This should certainly save wear and tear on the brain when trying to remember which bank to load for a particular song. The software will make the necessary distinction and load up the correct file.

You will have to rename your existing voices or banks. Break out of UMI into the BEEB's normal power on mode i.e. BASIC. Suppose your voice is called 'voice' then type

***RENAME voice v.voice' and hit RETURN**

The voice has been given the prefix 'v.' Do this for each of your stored voices on disc.

Similarly, Banks should be renamed with the prefix 'B.' e.g.

***RENAME BANK B.BANK' (hit RETURN)**

Incidentally *RENAME can be abbreviated to *REN. (full stop important)

32) *The Beeb's SPACE bar will perform all the run/stop operations as well as UMI's R/S button. The UMI hardware could be tucked out of sight freeing the computer top for perhaps drives or monitors.*

33) *Continuously accessible disc reference manual*

Most users will of course be very fluent with their UMIs by now but I felt it would be worthwhile including the disc-help facility to give a preview of how this might work with the Micro editor. When this becomes available, it will be the biggest single utility within the UMI system and will by its very nature engender large amounts of status and operational information - some of which would be better confined to an auxiliary page.

For the moment 'help' can be called up by hitting ESCAPE when on the chaining and step time pages. The error message 'channel' will appear if the manual program is not on your currently selected drive. As there is a tendency to hit ESCAPE sometimes by accident the option to turn this facility off completely is available on the defaults page as 'disc prompts'. The disc-based manual itself will be ready well in advance of the micro editor for which it is principally intended.

34) **MIDI Pointers.** Select song page. Ensure that the MIDI out of the SMPTE device is plugged into UMI's MIDI in and that a clock is also being provided to UMI's clock input. From then on there is no need to hit R/S on UMI, the SMPTE device will provide all the cues for starting and stopping.

Umusic Limited reserves the right to change specifications without notice

Converting 4.17 songs for series 5 software

- 1) Prepare (format) a blank disc to receive your new files.
(Not absolutely necessary but a wise precaution)
- 2) Load up a song
- 3) Select chaining page and hold SHIFT while pressing red key f3. Hit RETURN and reselect chaining page which should now show all pattern numbers in yellow. (You could have picked another colour - see section 13 of the instruction notes)
- 4) Select 'defaults' (CTRL-f9) and adjust clock-in to suit requirements.
- 5) If in (4) above you are using internal clock then return to main menu and set internal clock tempo. (When you save song to disc tempo will be saved also)
- 6) Selecting either song-play or chaining page go through each track and ensure that channel and ACIA are adjusted to correspond with your patching at the MIDI outs. See sections (16) and (18) for method of adjustment.
- 7) Save song to your new disc.
- 8) N.B. Before converting your next song you must:-
 - a) return to basic (CTRL-BREAK)
 - b) type *FX200,2 and hit RETURN
 - c) do another CTRL-BREAK

This clears the entire beeb's RAM and gives you a clean slate for the next conversion.

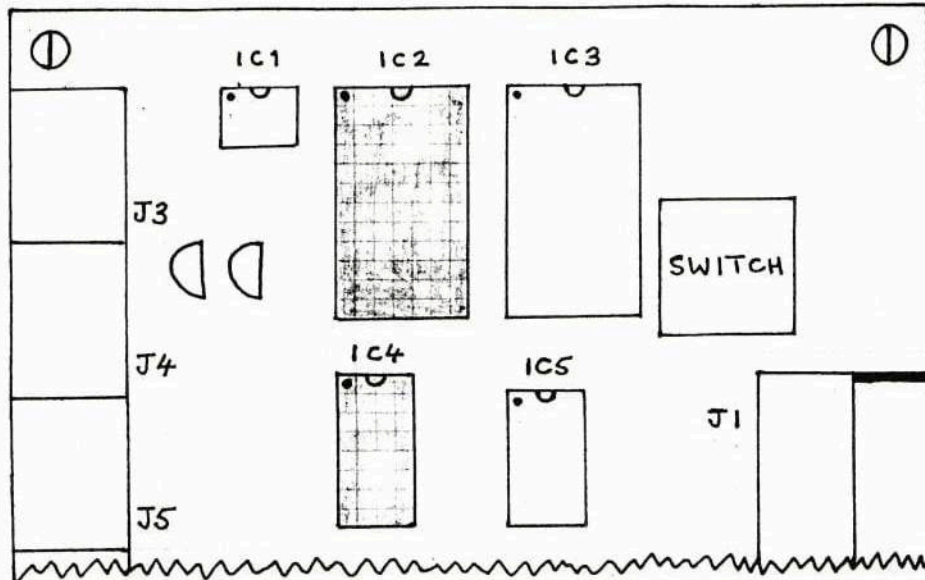


FIGURE 1

Location of IC2 & IC4 on the main UMI-2B board (shown shaded).

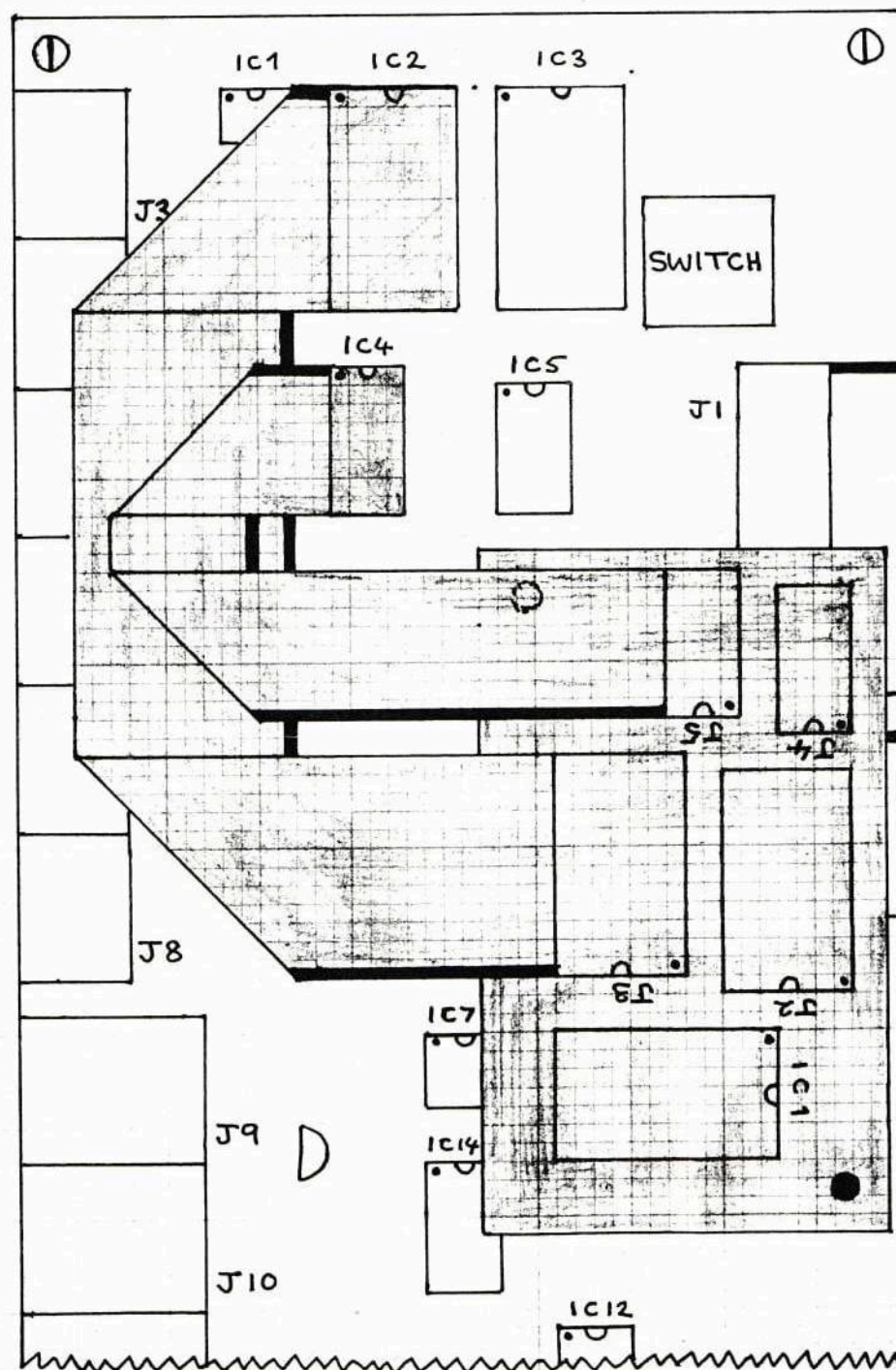


FIGURE 2

Fitting the UMI-2B-D board and connecting cables (shown shaded).

