Operators Manual

DN3698

Version 3.61

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INTRODUCTION

The Klark Teknik DN3698 is a rugged, portable, hand held remote control unit for the Klark Teknik DN3600 Programmable Graphic Equalisers and the DN3601 Programmable Slave Equalisers. It allows fast access to all the parameters and functions of up to 49 graphic equalisers (98 channels) from a single, enhanced control surface.

Operation/Connection

Switch the unit on and off by pressing the power switch on the rear panel.

Connection

The DN3698 can be connected to a Pro-MIDI loop of mixed DN3600 and DN3601 (see DN3600/3601 manual) units in one of 3 ways:

- Connect the DN3698 unit into the Pro-MIDI loop as if it were a DN3600, using the Pro-MIDI in and out connectors on the rear panel. Cable length should not exceed 15 metres, unit to unit.
- Connect the DN3698 unit to the optional, rack mounted Docking Station via the 5-pin XLR connector on the back panel, using the special 5-pin XLR cable provided. Cable length should not exceed 100 metres. Connect the Docking Station into the Pro-MIDI loop as if it were a DN3600, using the Pro-MIDI in and out connectors on the rear panel.
- Use the optional wireless link between DN3698 unit and Docking Station. See wireless link manual for details.

Battery Power

The DN3698 is powered in operation by 4 rechargeable Ni-Cad "D" cells. Should they need replacing, they can be accessed via the quick release battery covers on either side of the unit. Use a coin to release the covers. Klark Teknik endorse the use of no cells other than those supplied with the DN3698 unit or by Klark Teknik, and accept no responsibility for loss, damage or personal injury due to use of incorrect battery cells.

External Power Supply

The DN3698 can also be powered in operation from the supplied power supply unit. This will work from between 90 and 250 volts ac and at 50 to 60Hz and requires an IEC type mains lead / line cord. The primary function of the power supply unit is to drive the internal battery charger in the DN3698. Charging takes place automatically when the PSU is connected to the unit and takes approximately 2 hours. Klark Teknik endorse the use of no power supply unit other than that supplied with the DN3698 unit or by Klark Teknik, and accept no responsibility for loss, damage or personal injury due to use of any other power supply unit.

Battery Charge

Battery life is up to 6 hours on one charge. Full battery recharge takes approximately 2 hours. The DN3698 is equipped with an intelligent battery management system, designed to avoid the problems of "memory effect" often encountered with recharge-able Ni-Cad cells. The unit will warn if low battery charge via the "Battery Low" indicator light. If the "Recharge Now" indicator also lights, together with its on-screen warning, you must power the unit from the mains supply ***now*** in order to continue working. When recharging, the "Recharge Now" indicator alone is lit.

Battery Backed RAM

This allows the rotary-swap flag (<Functions>page 2) and the solo mode (<Functions>page 1) to be stored while the remote is switched off.

Important Note: The battery backed RAM will automatically initialise when the new software is installed for the very first time and the remote is powered up. This causes a window to appear displaying the message: "Initialising RAM!". This will not affect any connected DN3600s or DN3601s in any way. It will, however, clear any mix names or solo gain settings stored in the DN3698 (see later in this document). If this message does not appear on power up, switch the remote off, and then back on while holding down the <Functions> key. This will force a RAM initialisation.

INSTRUMENT FAMILIARISATION

1. Display

The DN3698 incorporates a backlit, 480x64 dot matrix LCD screen to display information to the user. The display contrast can be adjusted via a preset, reached through a small access hole in the rear panel.

The display normally shows 30 faders, representing the faders of whichever Mix is being addressed - see "Mix Key pad" below. Any fader that is selected for adjustment is highlighted, and its frequency and level are shown in text form at the top of the display.

2. Thumb Wheels

The thumb wheels are used for selecting and adjusting faders. As a default, the left thumb wheel is for frequency and is used to cycle through the 30 faders. The right thumb wheel is used to adjust the level of the selected fader up and down. Each fader has a range of +/-12dB in ½dB steps. Faders move up in ½dB steps, down in 1dB steps.

The thumb wheel functions can be swapped over - for left handed users, for example - so that left is fader level; right is fader selection. See "Functions" below.

3. Frequency Keys

Faders can also be selected by pressing the appropriate frequency keys. A range of adjacent faders can be selected by pressing two keys at the same time, at either end of the desired range. If a range of faders is selected, the level readout shows an average level for the range.

4. Mix Key pad

Although the DN3600 and DN3601 units under control are dual channel devices, the DN3698 treats the system as independent, single channel equalisers, each referred to as a "Mix". Six connected units, therefore, would be treated as 12 separate Mixes. Unit 1, channel A would be Mix 1; Unit 1, channel B would be Mix 2; Unit 2, channel A would be Mix 3; Unit 3, channel A would be Mix 5 etc. The DN3698 can connect to 49 DN360x units, giving control of 98 separate Mixes.

Mix Names

The remote supports mix names for every mix. This aids navgation between mixes, as a list of all mixes and their names is available from any mix selection. The name that appears at the top of the screen when a mix is the name for this mix. The name that appears in memory view mode is the memory name. The mix names are stored locally in the remote and two complete sets of names are available, one for each RS-232 channel. This totals 196 names in all!

To select a Mix for adjustment, just dial in its number on the Mix key pad. The DN3698 takes a few moments to pull in the settings from the equaliser, and the Mix number will be shown by the red numeric display. The LCD display now shows all the settings of the selected Mix. Now you can adjust the faders or whatever. To select another Mix for adjustment, just dial in the number.

To address all the Mixes at once and make a global change, dial in 99. Mix 99 is known as "Global".

It is possible at any time to deselect the current mix and lock the remote, useful just prior to power down, and for setting up a "scratch-pad" mix. This will allow a "virtual" mix to be created without affecting any "real" mixes, and then copied to the desired "real" mixes when required. To enable this feature, just press "0" on the Mix key pad when the main fader screen is displayed. Confirmation of this is given by a window displaying the type of connection currently used, the Mix number displaying "00" and the number of Mixes available being shown on the top line display.

5. Functions Key

Press the functions key to bring up a number of configuration type items for adjustment. Two pages of functions are available, and are selected by moving either thumb wheel up for page 1 and down for page 2.

Page 1: Solo Mode

When solo mode is on, all Mixes are muted apart from the selected Mix. When you dial in another mix, the old Mix will be muted, and the new Mix will un-muted. The un-selected mixes will continue to be muted until you switch solo mode off. Linked pairs of Mixes will un-mute together if selected.

After pressing "Functions", press any frequency key under the Solo Mode window to turn solo mode on or off. Now press "Functions" again to return to normal operation. If you have switched solo mode on, the DN3698 scans all the connected units to collect their gain settings. This takes about 500 milliseconds per Mix. A window appears on the display to inform you that this is happening. Holding the "Functions" key during solo set-up will abort the operation. The red Mix number display flashes and an Icon appears on the display to show if Solo mode is on.

Recovery from solo

If the remote is switched off in solo mode, all the gains for the units connected are lost - i.e. thay all remain muted. The next time the remote is powered up and solo mode *was* enabled the display will warn that the remote was powered down in solo mode and ask the user does he/she want to ignore this, or attempt a solo exit. Selecting the "ignore" option (press any frequency key below the window) will then start the remote as normal. Selecting the "attempt exit" option will send the original gain settings back to the units. If a 5-pin connection is being used, then a radio link may be in operation, the remote will allow multiple retries at the solo exit, until the user is satisfied that all units have restored their original gain settings. This multiple retry operation is the same as the normal solo exit operation when operating on the 5-pin connection.

Page 1: Rotary Swap

After pressing "Functions", press any frequency key under the Rotary Swap window to swap the Thumb Wheel functions over. A moving LED next to the appropriate thumb wheel shows which one is assigned to level. Press "Functions" again to return to normal operation.

The state of the Rotary Swap flag is stored in battery backed RAM while the DN3698 is switched off.

Page 1: Stereo Link

It is possible to link Mixes within a unit so that they operate together as a stereo pair. Press any frequency key under the Stereo Link window to toggle this function. Press "Functions" to return to normal operation. If linkage has been enabled, a window will briefly appear displaying the message "Mixes nn and nn are Linked!". This will happen every time either Mix of the pair is selected.

Page 2: Morphing

To allow settings from one mix to be gradually copied to another Mix (or a pair, **or** globally), a morphing option can be enabled which will introduce fader and gain changes slowly when "Compare" is pressed. Two speeds are selectable, by pressing any frequency key below the Morphing window. If enabled, when "Compare" is pressed, a window appears together with a "Progress Indicator" giving feedback of how long the "morph" will take. The closer the two curves are to each other, the quicker the "morph". The process can be stopped at any point by holding the "Functions" key.

Page 2: RS232 Comms

To allow two wireless systems to operate on the same frequency at the same time, two channels are available when using the 5 pin XLR connector. This setting does **not** affect operation via the 3-pin XLR connectors. Select either the "<F1> RED" channel or the "<F2> GRN" channel by pressing any frequency key below the window. If this channel is available, and communication is occurring via the 5-pin XLR the new channel will be used, with the same Mix selected as was on the other channel. If the channel cannot be found, a window will appear after eight seconds detailing the error, and the previous channel will be used. If a Mix on the new channel is requested that does not exist (i.e. if the channels have different numbers of Mixes available) a window will warn of this, and the "scratch-pad" Mix will be automatically selected.

The current communication channel is displayed on the main screen as an Icon - "Midi" for the 3-pin XLRs, "Grn" for the green docking station channel, and "Red" for the red docking station channel. For details of how to select the docking station channel please consult its manual.

Page 2: Solo Safe

Enabling the solo safe function will prevent inadvertent operation of the solo function. When enabled, it is always possible to exit solo mode, but impossible to re-enter solo mode. Select this function by pressing any frequency key under the window.

The state of the solo safe flag is stored in battery backed RAM while the remote is switched off.

6. Curve/Fader

Press "Curve/Fader" to select or deselect the curve display. The curve display is not an estimation. It is an accurate calculation of the frequency response of the selected Mix, derived from the fader positions, lo and hi-pass filter positions, notch filter positions and overall gain of the Mix, and is updated in real time.

7. Gain

Press "Gain" to select the overall gain of the Mix for adjustment. Then adjust it with either thumb wheel. The gain is adjustable between +6 and -18dB. Below -18dB, the Mix is muted. An Icon appears on the display if the Mix is muted. Press again, or any other key, to deselect gain.

8. Flat

Press "Flat" to flatten - i.e. set to 0dB - the selected fader(s). The whole Mix can be flattened by selecting all the faders (press the first and the last frequency key together) and pressing "Flat". Note that if only a single fader is selected, pressing "Flat" will reset the fader immediately. If more than one fader is selected, a warning and count-down occurs, allowing the key to be released.

9. More EQ in/out

Each Mix is equipped with extra EQ filters in addition to the 30 graphic faders. This includes a lo-pass filter, a hi-pass filter and two notch filters.

Press "More EQ" to activate or deactivate the extra EQ filters on the selected Mix. An Icon appears on the display when the More EQ is in circuit.

10. Hi-Pass

Press "Hi-pass" to select the hi-pass filter for adjustment. The frequency can be adjusted with either thumb wheel as usual. Frequency of the hi-pass filter is displayed in a window on the LCD screen. Press again, or any other key, to deselect hi-pass.

11. Notch-1

Press "Notch-1" to select the first notch filter for adjustment. The frequency and level can be adjusted with the thumb wheels as usual. In addition, the frequency keys beneath the display can be used to quickly position the notch at third octave frequencies, fine tuning the frequency with the thumb wheel. Frequency and level of the notch filter are displayed in a window on the LCD screen. Press again, or any other (non-frequency) key to deselect Notch-1.

12. Compare

Press "Compare" to flip the Mix from the current settings back to a preset reference point. Press "Compare" again to return to the current settings. The preset reference point is usually the last memory that was recalled for the selected Mix. You can set a new reference point, however, by re-selecting the current Mix. Pressing the "Flat" key will also update the "Compare" memory, allowing this action to be undone.

Copy

The compare function can be used to copy the settings from one mix to another. To copy a Mix under **all** circumstances, proceed as follows.

1) Select the 'from' mix by typing in the Mix number.
2) Select the 'to' Mix by typing in the Mix number.
3) Press and hold the 'Compare' key.

Dependant on the setting of the morphing option (functions page 2) the Mix will then either copy immediately or morphing will commence.

An additional (optional) stage in the process allows Mixes to be selected, then **adjusted without affecting the original or the destination**, and then copied to the destination. This allows, for example, gain or 'more eq.' changes that are not required in the copy to be adjusted/removed prior to the transmission of the copied settings.

The procedure is as follows.

1) Select the 'from' Mix by typing in the Mix number.
2) Select the 'scratch-pad' Mix by typing '0' for the Mix.

   This will de-select all the units and confirm the communication link with a window as before.

3) Adjust the Mix as required - no transmission of settings is occurring at this stage.
4) Save these new settings (locally) by pressing the "save" key. The '>Compare<' icon will briefly appear to confirm this.
5) Select the 'to' Mix by typing in the Mix number.
6) Press and hold the 'Compare' key.

Dependant on the setting of the morphing option (functions page 2) the Mix will then either copy immediately or morphing will commence.

13. Auto Gain

Press "Auto Gain" to switch on or off the Auto Gain function for the selected Mix. With Auto Gain on, the Gain control of the Mix is adjusted automatically as you adjust the faders, in order to maintain unity gain through the equaliser. An Icon on the display appears if an adjustment is made automatically.

14. Bypass

Press "Bypass" to bypass or un-bypass the selected Mix. An Icon appears on the display if the Mix is bypassed.

15. Q

Press "Q" to change the Q characteristic of the selected Mix. The options available are 360Q and 27Q. An Icon on the display shows which Q characteristics is selected.

360Q has identical filter shapes to Klark Teknik's industry standard DN360 Graphic Equaliser. Filters combine smoothly with the minimum of phase distortion.

27Q provides the narrower, sharper filter shapes identical to those of the older DN27 Graphic Equaliser - still preferred by many.

The effect of the Q settings can be seen in the Curve display.

16. Lo-pass

Press "Lo-pass" to select the lo-pass filter for adjustment. The frequency can be adjusted with either thumb wheel as usual. Frequency of the lo-pass filter is displayed in a window on the LCD screen. Press again, or any key, to deselect lo-pass.

17. Notch-2

Press "Notch-2" to select the second notch filter for adjustment. The frequency and level can be adjusted with the thumb wheels as usual. In addition, the frequency keys beneath the display can be used to quickly position the notch at third octave frequencies, fine tuning the frequency with the thumb wheel. Frequency and level of the notch filter is diplayed in a window on the LCD screen. Press again, or any other (non-frequency) key to deselect Notch-2.

18. Memory key pad

Each Mix has 66 user memory locations. EQ set-ups can be saved to or recalled from any of these.

Type in a memory number. The memory contents - fader positions, memory name and More EQ settings - are displayed on screen, but not recalled. Now you can use a thumb wheel to scroll up and down through the memories of the selected Mix, or dial in another memory number if you need to. You can return to normal operation at any time by pressing any other key.

Press "0" on either key pad to recall the displayed memory. It is only at this point that the audio will change.

Note: If the Mix currently selected is linked then pressing "0" will recall that memory on **both** Mixes. Pressing "Compare" when viewing memories on linked mixes will display the alternate Mixes contents - details of which Mix and which memory are currently shown are given at the top of the display.

When <Save> is pressed in recall mode, the currently viewed memory is copied into the compare memory. If recall mode is subsequently exited without recalling a memory, the memory held in the compare memory can be copied into the current mix.

This allows a memory to be recalled via a morph, allows a memory to be edited prior to recall, and a memory to be copied from another mix.

The memory recall via a morph is performed as follows...

1) Enter recall mode by typing in a memory number.
2) Choose the memory to be edited.
3) Press <Save> - the "->COMPARE<-" icon will briefly appear.
4) Exit recall mode without performing a recall by pressing a frequency key.
5) Press compare to copy edited memory to mix.

The memory editing operation is performed as follows...

1) Enter recall mode by typing in a memory number.
2) Choose the memory to be edited.
3) Press <Save> - the "->COMPARE<-" icon will briefly appear.
4) Exit recall mode without performing a recall by pressing a frequency key.
5) Enable null mix by pressing <0>. Mix/Connection report will confirm this.
6) Copy memory into null mix by pressing compare - memory should appear.
7) Edit memory as required.
8) Press <Save> - the "->COMPARE<-" icon will briefly appear.
9) Select mix to copy edited memory into.
10) Press compare to copy edited memory into mix.

To recall a memeory from another mix:

1) Select mix to copy the memory from.
2) Enter recall mode by typing in a memory number.
3) Choose the memory to be copied.
4) Press <Save> - the "->COMPARE<-" icon will briefly appear.
5) Exit recall mode without performing a recall by pressing a frequency key.
6) Enable null mix by pressing <0>. Mix/Connection report will confirm this.
7) Copy memory into null mix by pressing compare - memory should appear.
8) Select mix to copy memory into.
9) Press compare to copy memory into mix.

Morphing at any stage is possible if the algorithm has been enabled (<Functions> page 2).

19. Save

Press "Save" if you wish to store the current EQ settings in a memory. If you do not want to use the last recalled memory location, use a thumb wheel to scroll through the memory numbers. Now, if you want to change the memory name, type in a new name using the frequency keys (letters and symbols - as shown on the LCD display) and a number key pad. The <= key is a "backspace". If you backspace past the start of an altered name, the old name will re-appear. You can abort the operation at any time by pressing "Functions".
Press "Save" again to store the EQ settings.

Note

In the DN3600 and DN3601 units, memory store and recall normally works for both channels at once. The DN3698, however, implements 66 memories per Mix. Memory names, therefore, are always the same for both mixes on one unit. For the same reason, memory save produce a short EQ or level change (for about 200mS) on the other channel of the unit that contains the selected Mix. We recommend that the memory save function is not used during a critical performance.

Mix Names

The remote supports mix names for every mix. This aids navgation between mixes, as a list of all mixes and their names is available from any mix selection. The name that appears at the top of the screen when a mix is the name for this mix. The name that appears in memory view mode is the memory name. The mix names are stored locally in the remote and two complete sets of names are available, one for each RS-232 channel. This totals 196 names in all!

To add a name to the list, press the <Save> key. This will display a window with help text detailing the function of the two encoders. The left encoder selects the save page - either memory access, or mix name access, whilst the right encoder selects the location depending on the page - either memory number or mix number.

Use the right encoder to scroll through the list and type in the new name using the frequency keys for letters/symbols and the memory keypad for numbers. Pressing <Save> on this page will only save the mix name and not affect the memories. Similarly, pressing <Save> on the memories page will not affect the mix name.

To select the alternate name list, simply select the GRN channel on functions page 2. This will now access the other list of 98 names. The correct list will be automatically chosen when a radio link is in operation, but the ability to have access to the alternate list is useful, say, to allow two engineers to use the remote and have different sets of nales for the same set of mixes.

Important Note: The battery backed RAM will automatically initialise when the new software is plugged in and the remote is powered up. This is evident by a window immediately appearing and the message "Initialising RAM!". This will NOT affect any connected DN3600s or DN3601s in any way. It will, however, clear any mix names or solo gain settings stored in the remote (see later in this document). If this message does not appear on power up (it will only happen the very first time if the software has been installed by the user), switch the remote off again, and then back on while holding down the <Functions> key. This will force a RAM initialisation.

Battery Backed RAM - This is now fully operational and allows the rotary-swap flag (functions page 1), the solo safe flag (functions page 2) and the solo mode (functions page 1) to be stored while the remote is switched off. Note that the battery backed RAM has been included in ALL units from release, it has just not been fully utilised. To this end, the new software will work in all units, **no hardware change is required.**

New Font! To improve the look of the remote and aid readability, a new font has been carefully designed. This has been chosen from a selection of possible fonts based on style, readability and user friendliness.

When <Save> is pressed in recall mode, the currently viewed memory is copied into the compare memory. If recall mode is subsequently exited without recalling a memory, the memory held in the compare memory can be copied into the current mix.

This allows a memory to be recalled via a morph, allows a memory to be edited prior to recall, and allows a memory to be copied from another mix.

The memory recall via a morph is performed as follows...

1) Enter recall mode by typing in a memory number.
2) Choose the memory to be edited.
3) Press <Save> - the "->COMPARE<-" icon will briefly appear.
4) Exit recall mode without performing a recall by pressing a frequency key.
5) Press compare to copy edited memory into mix.

The memory editing operation is performed as follows...

1) Enter recall mode by typing in a memory number.
2) Choose the memory to be edited.
3) Press <Save> - the "->COMPARE<-" icon will briefly appear.

4) Exit recall mode without performing a recall by pressing a frequency key.
5) Enable null mix by pressing <0>. Mix/Connection report will confirm this.
6) Copy memory into null mix by pressing compare - memory should appear.
7) Edit memory as required.
8) Press <Save> - the "->COMPARE<-" icon will briefly appear.
9) Select mix to copy edited memory into.
10) Press compare to copy edited memory into mix.

Another feature now available is the ability to recall a memory from another mix. This is performed as follows.

1) Select the mix to copy the memory from.
2) Enter recall mode by typing in a memory number.
3) Choose the memory to be copied.
4) Press <Save> - the "->COMPARE<-" icon will briefly appear.
5) Exit recall mode without performing a recall by pressing a frequency key.
6) Enable null mix by pressing <0>. Mix/Connection report will confirm this.
7) Copy memory into null mix by pressing compare - memory should appear.
8) Select mix to copy memory into.
9) Press compare to copy memory into mix.

Morphing at any stage is possible if the algorithm has been enabled (functions page 2).

Recovery from solo: previously, if the remote was switched off in solo mode, all the gains for the units connected would be lost - i.e. they would all remain muted. Now, the next time the remote is powered up and solo mode *was* enabled, after the normal start-up procedure and establishment of a connection, the display will warn that the remote was powered down in solo mode and ask the user does he/she want to ignore this, or attempt a solo exit. Selecting the "ignore" option (press any frequency key below the window) will then start the remote as normal. Selecting the "attempt exit" option will send the original gain settings back to the units. If a 5-pin connection is being used, then a radio link may be in operation, the remote will allow multiple re-trys at the solo exit, until the user is satisfied that all units have restored their original gain settings. This multiple re-try operation is the same as the normal solo exit operation when operating on the 5-pin connection.

Mix Names: Due to the inclusion of the battery backed RAM the remote now supports mix names for every mix. This aids navigation between mixes, as a list of all mixes and their names is available from any mix selection. The name appears at the top of the screen when a mix is selected in place of the memory name, which was limited in its use as it was only applicable to linked pairs of mixes. The name that appears in memory view mode is still the memory name. The mix names are stored locally in the remote and two complete sets of names are available, one for each RS-

232 channel. This totals 196 names in all!

To add a name to the list, press the <Save> key. This will display a window very similar to before, but with additional help text detailing the fact that the two encoders now have slightly different purposes. The left encoder selects the save page -either memory access, or mix name access, whilst the right encoder selects the location depending on the page - either memory number or mix number.

Use the right encoder to scroll through the list and type in the new name using the frequency keys for letters/symbols and the memory keypad for numbers. Pressing <Save> on this page will only save the mix name and not affect the memories. Similarly, pressing <Save> on the memories page will not affect the mix name.

To select the alternate name list, simply select the GRN channel on functions page 2. This will now access the other list of 98 names. The correct list will be automatically chosen when a radio link is in operation, but the ability to have access to the alternate list is useful, say, to allow two engineers to use the remote and have different sets of names for the same set of mixes.

The battery monitoring has been improved, and its operation is slightly different. The "Battery Low" LED lights as before, when there is approximately 45 minutes worth of charge left in the batteries. When there is approximately 5 minutes worth of charge left in the batteries the "Recharge Now" LED will begin to flash. The "Battery Low" LED will remain on. If the remote is plugged into a power supply (either its own or into a docking station) and the batteries require charging, the "Battery Low" LED will go out, and the "Recharge Now" LED will stop flashing and remain on until the batteries are fully charged.

The message window that appeared in previous versions has been removed, and operation of the remote may continue until the batteries actually go flat.

To speed up cutting, pasting, and morphing of mixes, either from another units memory or from another mix, morphing is automatically disabled when pasting **into** the scratchpad (or null) mix. Pasting **out** of the scratchpad mix will re-enable the morphing, if it was previously selected.

It is now possible to quickly swap channels when operating via the radio link when the unit is being used às part of a dual channel system - that is, two docking stations set to receive on different channels (RED or GREEN). Rapid channel changing is possible via the scratchpad mix. Selecting the scratchpad mix (mix zero) and pressing the functions key will now swap the RS232 comms channel. Previously, the functions key had no effect in mix zero. Pressing it now displays a message detailing a search for the other channel. If the channel is located, the window will disappear, the channel icon will swap on the status line at the top of the screen, and the alternate channels mix name will be automatically displayed.

If the channel cannot be found, there will be a period of about eight seconds searching before a warning is displayed explaining that the channel can't be located. The windows will then disappear and the current channel will remain selected.

Note that when a normal MIDI connection is being used (channel icon will read 'MIDI' on the status line as opposed to either 'RED' or 'GRN') it is still possible to swap the virtual RS232 comms channel. The reasoning behind this is that it will still allow quick access to the alternate set of mix names. The message appearing in the window explains this - saying that the alternate channels mix names are being used. The comms channel icon on the status line will still show 'MIDI'. No searching will occur for the alternate channel when a MIDI connection is being used.

The morphing option, chosen on page two of the normal functions screen is now battery backed - i.e. if slow morphing is enabled, this will be remembered on power down.

Due to space restrictions in the EPROM, the chasing LED ladders in the functions screen have had to go. They have been replaced by a permanently lit ladder to signify which rotary is used for level adjustments.