

ASSIGNS MENU

A.SSIGN

The A.ssign subsystem is used in programming to define which digital and analog channels the switches and pots on the programming console are going to control during Test or subsequent programming passes. In addition, the displayed BANK of analog channels and GROUP of digital channels may be changed.

Using the Patch bay, analog channels may be "soft patched" from logical channels (those that are programmed in real time, as events, or lighting cues) to physical output channels determined by the actual hardware, which may be either digital-to-analog converters or DMX or other multiplexed data.

Beginning with release 92.04, analog channels may be PROPORTIONALLY assigned to other channels. This creates a very powerful relational system for sub-masters, grouping, and other applications where analog channels need to track a common reference.

Digital patching is under development. The current versions of Synthesis allow entry and editing of digital patches, although the actual output DOES NOT use the digital patch bay at this time.

A TEST mode allows live control for testing or exercising the programmer console assignments with the controlled devices without actually recording show data or rolling show time code. An unlimited number of assignment presets may be Saved to or Loaded from the disk, so that particular setups may be recalled without having to key in the control, group, and channel numbers.

Finally, a reference list of all digital and analog channel Names may be maintained, to aid in making assignments and tracing events. An index page is provided to reference particular SCU, STU, RTU, or DTU I/O frames, in addition to the "sub-channel" or individual function names.

The available functions are:

A.nalog

Displays the current association between faders on the programming console and the analog channels which will be under control. Sixteen columns of three rows of analog assignments are displayed.

The term POT refers to potentiometer; this can be a linear or slider "pot" as implemented as standard functions on a Triad programming console. A "pot" may also be a rotary fader or joystick control on the console, or any 0-5 volt reference connected externally to the programmer console.

The top row displays or edits the physical pot number on the programming console (normally 1-8, plus a selectable MASTER fader). As a shortcut, appending an "R" to the pot number will cause pot assignments to the right of the current column to be numbered sequentially from the current pot number. Expanded consoles may use the full range of pot values, from 1 through 16. Further, it is legal to repeat a pot number in multiple columns, to allow multiple channels to follow the input from a single pot.

The middle row selects an analog channel number (or offset, based on the current bank defined) for programming real-time analog channels. If the current bank is 0, then logical channels 0-127 may be programmed as real-time analog data. As more complex shows and animation MACROS dictate, the 128 channels may be offset (or bank selected) anywhere within the analog channel map (up to 512-2048 channels, based on the hardware platform and software configuration). Using or appending an "R" to the channel number will assign consecutive channels starting at the current value.

The bottom row displays/edits the translation or taper to be used for this pot. The default interpretation is LINEAR/NORMAL, such that if the pot is fully CCW or down,

the value is 0; if fully CW or up, 255 (in decimal 8 bit mode). Using the PgUp/PgDn keys, other interpretations are available:

- LOG A pseudo log interpretation designed to emulate a studio console fader curve for VCA/audio mixing applications.

- LGT A customized curve that can be tailored for dimmers that do not follow standard curves, or special lamps that are not well behaved. Currently the system assumes that dimmers are designed proper output proportional to the output level.

- USR A customized curve that may be used to correct for non-linear movements (animation), or any other analog signals. Note that this curve is translated during the PROGRAMMING/INPUT process, and that the stored data will be correct for each individual channel. Thus, the USR curve may be tailored multiple times for specific functions.

- VEL In VELOCITY mode, the pot is assumed to be centered for no-change, and the MAGNITUDE (plus or minus "0" position) determines a RATE of change from the current value.

- REL A channel assigned to RELATIVE mode will allow you to use the fader to add or subtract (offset) a current program. A value of 128 (center) will result in no change to the existing data, so an offset of +/- 127 is possible. Note that only existing cues are modified. Thus, if cue compression is on (Setup, Qcomp), you will only see changes when the data in the original program changes. To make the best use of this feature, it is recommended that you turn cue compression off, program the channel, then do the relative passes, and finally, run data compression to reclaim cue space. Relative mode is always linear; however, the inverse ("-")/normal polarity does work. NOTE: This was a bit of a bear to implement, so any field/test results and comments will be appreciated. PLEASE BE SURE TO BACKUP CRITICAL DATA BEFORE EXPERIMENTING WITH THIS OPTION. It is very possible that rehearse or other modes may not be working as expected.

Using either the "+" or "-" key will toggle between the normal (or positive sense) of the pot versus the output, or the inverse polarity, shown in INVERSE on the screen. This is most useful for VCA (voltage controlled attenuators), wherein the most VOLTAGE represents the most ATTENUATION. Thus, using the INVERSE/LOG function allows the pots to behave entirely as expected for controlling audio levels. For animation or most lighting functions, the physical wiring or phasing should be corrected such that a "0" output is the off or home state.

01	02	03	...	<-pot
001	002	003	...	<-chn
LIN	LOG	LIN	...	<-tpr

In this example, pot 1 is assigned to analog channel (offset) 1, pot 2 to channel 2, and pot 3 to channel 3. Channel 2 will be translated according to a LOG function (i.e. for audio control), while channels 1 and 3 will be interpreted as linear control.

Note that it is perfectly "legal" to assign the same pot number (in multiple columns) to more than one programming channel when multiple channels should perform in unison. When this is likely for long periods, or always for the same channels, it is much more efficient (and recommended) to use the PATCH BAY to re-assign the current output channels to the specific LOGICAL or programmed channel(s) so that the data need only be stored ONCE for all of the affected outputs. Patch bay changes may be made "on-the-fly" using the EVENTS editor system in the Synthesis system. When using multiple pot assignments, it is legal to apply different tapers, or inverse control, as in panning or other functions.

B.ank Steps to the next bank of analog channels, now in increments of eight (8) channels per step. The current initial analog channel is displayed as the first number on each line, with eight channels displayed per line. There are up to 512 analog channels available for display. The default display is in decimal, with analog levels of 000 to 255 possible.

The operation of B.ank has been extended to allow the display to be scrolled one line at a time (eight channels). Pressing Shift-B will roll back to the previous eight channels. Pressing Ctrl-B will Home the display to start at analog channel #1.

D.igital Shows the current list of digital switch-to-channel assignments. Twenty-four columns of three rows are displayed; the top row represents the physical switch number to reference. It is possible to assign the same switch to more than one channel to program multiple outputs from a single programmer button.

To reset the switches to sequential order, press "1R" (reset) in the top row of the first column.

The second row identifies the "character" number (1-16) of up to 32 individual digital output functions. Physical output cards may actually only consist of 16 or 24 channels. As a shortcut, an "R" following an input character number will cause all character fields to the right of the cursor to replicate the entered number.

Finally, numbers in the third (bottom) row represent the move or channel number offset in the current character subgroup. A list of function names is displayed on the CRT to aid in locating the desired channel. Appending an "R" to the channel number will force channels to the right of the cursor to be set to ascending sequential order starting from the current number.

```
01 02 03 03 03 ... <- physical switch number
01 01 01 01 02 ... <- digital group (1-16)
01 02 03 04 01 ... <- channel within group (1-32)
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In this example, switch 1 is assigned to character 1, move 1; switch 2 is assigned to character 1, move 2; and switch 3 is assigned to character 1, moves 3 and 4, and to the first move of character 2.

There is currently no "patch bay" for digital channels, although this will be implemented in future releases.

G.roup Switches to the next digital group (of 256) channels displayed in the real-time digital status display. The current group number is shown in the upper left corner of the digital window and the character numbers will update to the currently displayed group. Currently there are four digital groups, showing digital outputs 1-256, 257-512, 513-768, and 769-1024. In Synthesis, analog channels do not steal from digital channels, and vice versa, so there is no trade off, interpretation, or compromise when adding or displaying analog OR digital data.

M.acro Enters the macro editor. Same as D.isk, M.acro, E.dit.

N.ames Allows entry/editing of an index page for each of the analog and digital pages, as well as names for each of the moves within each subgroup.

Each analog or digital function may be given a fifteen character identification for reference when making assignments, performing diagnostics functions, or entering events. Thirty-two "pages" are available; sixteen screens or pages of up to 32 digital function names, and sixteen pages of 32 analog channels.

This will expand to 32 pages of 32 names for digital names, and sixteen pages of analog names.

The PgUp and PgDn keys (9 and 3) may be used to flip pages, while the Up and Down arrow keys (8 and 2) are used to move to a field within the current page. Names are "free format" (refer to the Input/Entry Operation guide for more information on entering or changing text). The default filename of NAMES.NMS may be loaded or saved to disk using the L.oad or S.ave options. Any legal DOS file name may be used, but we recommend using the .NMS extension to prevent conflict with other files. Note that NO check is performed on the file data, so only L.oad or S.ave names data to the correct file.

- E.dit Allows entry/editing of the character function names.
- I.ndex Entry/editing for the character group "page" names.
- L.oad Loads the file NAMES.DAT from the current disk.
- P.rint Allows printing of A.ll or individual P.ages of the names.
- S.ave Saves the character and function names list in NAMES.DAT.
- ESC Returns to the assign menu.

O.ffst Edit analog bank offsets.

P.atcH Displays the current mapping of the logical analog or digital channels (from) to the physical (hardware) analog or digital outputs. The current patch (as soft-patched or re-programmed) and the defaults may be viewed for both analog and digital channels. Further, patches may be installed and made as a "preset" or default whenever the system is started or reset.

A submenu appears with the following patch bay functions:

- A.nalog Selects the analog set of functions for display and entry of the patch bay.
- D.igital Selects the digital set of functions for display and entry of patch bay functions.
- F.rom Not shown on the display. Reverses the sense of the display. Normally, the OUTPUT channel is followed by the INPUT channel. Pressing "F" reverses this display, such that logical channels are shown first, followed by the patched output.
- I.nstall Allows one or more physical (output) channels to follow a logical (programmed) analog channel. Patches may also be installed or changed "on the fly" in the E.vents subsystem.
 - Currently for analog functions only.
- M.ake (preset) Saves the current patchbay configuration as the default patch assignment to be used on subsequent R.eset or restart operations. The default patch assignments are saved in the DEFAULT.DFL file.
- U.nity Restores a 1:1 relationship between all logical (programmed) channels and physical output channels. Thus, output channel 1 comes from programmed channel 1, 2 from 2, etc.

PgUp/PgDn Displays the current page of patches; the output channel followed by the source channel. Four pages are available, 1-128, 129-256, 257-384, and 385-512.

S.ave	Saves to DEFAULT.DFL.
V.iew	Selects display of the CURRENT patch bay assignments (performed manually or through an EVENT), or the PRESET cross-patch assignments that will be the default whenever the system is restarted or reset.
P.rint	Allows print-out (hard copy) of the patch assignments to be made.
ESC	Returns to the A.ssign menu.

Note that now up to 512 analog channels are available within the Synthesis system. In many cases, entry of only 128 (animation channels) within two banks (of 64 channels) may be directly entered. Until the entire system is expanded to 512 (..2048) channel direct access, BANK offsets will be required to reach a logical channel above 128 (or 256) for animation data.

PROPORTIONAL PATCHING

It is now possible to patch an analog channel PROPORTIONALLY to another channel. This option is specified while installing an analog patch; either a D.irect (replacement patch) or P.roportional patch may be specified. A direct patch is indicated in RED, while a proportional patch is displayed in flashing dark yellow (brown on most displays). A proportional patch is the PRODUCT of the current channels value, multiplied by the proportional channel specified as the (sub)master channel.

- At this time, there is no way to install a proportional patch from within the events system.

L.oad	Prompts for the name of a disk file to recall a previously S.aved assignment environment, including all analog and digital assigns, the current analog taper (L.in, L.og, etc.) and the displayed bank and group of channels. A list of the current assignments is displayed.
S.ave	Prompts for the file name to save to disk all of the current analog and digital channel settings for digital (switch) and analog (pot) and taper assignments. This can save redundant keyboard entry when working with several groupings that will be used repeatedly during the programming process.
T.est	Allows testing and verification of the current programmer console assignments directly to the real-time status displays and to the connected equipment. Time code is not used and no cues are actually stored. Note that the write enable switches must be UP on the programming consoles for a switch or pot to be active. Press ESC.ape to return to the A.ssign menu. The status of all analog and digital channels prior to entering T.est mode will be restored.
V.iew	Not displayed on screen. Displays a listing of the assignments for each switch (for digital channels) and pot (for analog channels) as currently defined to the Synthesis system. This display is automatically presented after any analog or digital assignment operation.
ESC.ape	Returns to Main Menu.

IMPORTANT

When patches are entered, they are directed to a temporary, "current" patch bay assignment array. To make a patch permanent, two steps are necessary. The first is to M.ake the patch the current patch, which transfers the current patch assignments to the default or preset assignment array. This will remain in effect until the system is re-booted, unless the current defaults are saved (DEFAULT.DFL) using the save option.

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