

TASCAM

TM-D4000

As a follow-up to the TM-D8000, Tascam have released its little brother into the studio. PAUL MAC gets a bit familiar.

DIGITAL CONSOLE



The TM-D4000 is a 32-channel digital console with a fairly small footprint, just right for desktop or small project room, or 'workstation' use. The main facilities include eight busses, six auxiliary sends, support for various surround formats, and an integral effects processor. The unit comes with 16 channels of analogue I/O (plus the monitor and auxiliaries), two stereo digital I/Os, and all the necessary control interfacing. The rest of the I/O comes in the form of interface cards that slot into the back of the unit.

Aside from the faders and a few buttons on the assignable channels, most of the mixer is screen driven through a large graphic display that sits proud of the top panel. It's necessary to first become familiar with the panel layout before you start using the console in earnest, as there are a lot of buttons to get to grips with, but as long as you take note of the button groupings you can't

get into too much trouble. For full dynamic automation control, you need to connect up to a PC and use the supplied software and card.

System Specifics

The 16 assignable fader channels work with the now familiar 'fader layer' method. That is, three buttons select Channels 1 to 16, 17 to 32, and auxiliary and bus masters. Whatever is selected, gets transferred to the fader positions, and the screen changes as necessary. Every fader has associated Cut, Solo, Sel, and Rec buttons. If you want to edit a particular channel, just select the appropriate fader layer and Sel button. Generally, this gives any 'mode' (Module, Dynamics, and so on) control over the selected channel.

Below the display screen are a row of four rotary encoders, each with two buttons. These do much of the

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► work on parameters in the display, although in some cases it's necessary, or desirable, to work with cursor keys and the shuttle wheel. If you're working with an auxiliary, for example, you'd see a dial for level, plus two buttons — one for on/off, and one for post/pre control. By design, these

and so on), while the Library section sets up operations on any 'saveable' settings. Other major sections of the console controls amount to Layer Status (fader layer select), Automation Control, Machine Control and location, and Module Control Keys, which are permanent toggle

After conversion the signal hits the phase invert button and the Pad (attenuation) control — useful for controlling the feed to the channel stages that have gain.

The EQ is a four-band parametric, with the option of a shelving response on the high and low sections. All bands have a frequency range of 32Hz to 19kHz with a resolution of 112 steps, plus a Q control that ranges from a broadband 0.27 to the fairly narrow 8.65. Heavy attenuation in a selected band causes that band to switch modes; after -15dB the high and low bands become very steep low- and high-pass filters, and the mid bands become notches. The Pod buttons are used for band bypass and rapid-response flattening.

Next in the signal chain is the dynamics section. Here you choose either a gate or a compressor for that 'slot' in the channel strip. The compressor controls are the standard threshold, compression ratio, attack, release, and output, with the addition of an automatic make-up gain selection. The gate is well stocked with

controls: Threshold, Range, Hysteresis, Attack, Hold, and Decay.

For a little extra flexibility, you can opt to link two adjacent channels' dynamics sections, using the left, or odd-numbered, channel as the master. By using this link, rather than the overall channel linking facility, you are not tied to having all aspects of the channel linked. You can also choose a common trigger for two linked dynamics modules, from left, right, or both together (first trigger wins). Thus, if you had a spare channel, you could use it as a sidechain input and create a fairly ambitious dynamics process.

The six auxiliaries on the TM-D4000 can be paired or not, thus you can have any combination of stereo and mono busses up to the limit of six auxiliary channels. As an aside, where there is any panned bus (channels, auxiliaries, and so on) forming a stereo link the TM-D4000 turns the pan control into two controls: Balance, and Width. However, you have to get at Width through the module display as the 'wide' display only shows balance. You can copy the channel pan settings to their respective auxiliary pair, so all panning in the main mix is maintained in whatever auxiliary mix you have set up.

The solo, cut, fader, and routing facilities are last in the channel strip. You can group both Cut switches and faders, with up to eight groups each. This is made particularly easy with a single group screen that takes care of both. You just select the group type and number, then hit the select button on whatever channel should be the master, followed by the rest of the group. There has to be a master as there is

The Tascam TM-D4000 — screen-driven digital console.



tally with the Pod controls and buttons. The same is true of many functions inside the console.

To the left of the display are three banks of buttons: Library, Configuration, and Mixing. All of these (and more besides) control screen navigation and function. You use the mixing section to control much of the channel operations as these buttons modify the way sections of the channel are displayed, and hence the function of the Pod controls. After the Module key is pressed, for instance, the screen displays information and controls for the entire channel, including fader position, routing, auxiliary positions, EQ (including response graphic), and metering. You have to swap pages with a second press of the Module switch to replace the dynamics controls with all auxiliary and panning controls, and back again. The rest of the mixing section buttons either break this module display into more manageable sections, each showing more detail than is possible on the module display, or you get a display of a single control across the entire range of channels. For example, the Dynamics button shows all relevant controls, plus a bigger and more detailed transform graph, with metering on three sides. The Auxiliary 1 button, on the other hand, shows the Aux 1 level, plus on/off and post/pre status for every input channel and the master output channel. Also, an on-screen 'Aux Fader Control' button offers the option to assign all (in this case) Aux 1 levels to the motorised faders — a more 'mix' orientated interface.

The Library and Control sections work in much the same way. The Control buttons select various 'other' set-up screens (digital I/O, Ext. Control,

switches for input channel EQ and dynamics in/out, and bus routing.

Channel Trip

As you know, with assignable surfaces and a digital brain inside, it is easy to cram far more facilities into a digital console than a similarly sized analogue one, and that is exactly what

The automation software has a sophisticated graphic interface, showing everything from channel settings, to EQ response, and so on.

Tascam have done with the TM-D4000. Every channel has the benefit of a four-band EQ, and compressor/gate dynamics, as well as all the usual channel facilities.

Each analogue input strip starts with Pad and Line buttons for input type selection and Trim controls for gain before the conversion stage.

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► no 'clutch control' system. For example, with the fader groupings you can move members of a group without moving the whole group, although if you try to hold the member faders still while you move the master, the motors give a whirr of objection. You also have to take careful note of which is the master, otherwise you can easily upset the group mix by pushing a member fader accidentally.

There is a dedicated screen for all channel routing to busses and direct outputs, though you can also route a selected channel with the routing keys down the left-hand side of the display. The direct outputs apply to the first 16 channels (that is, the on-board analogue inputs

The talkback system sends to either the studio outputs, auxiliary 1/2, or slate (stereo out, all eight output busses, and aux 1/2).

The meter bridge covers most requirements, with 16 switchable bargraphs, plus six more for the two stereo digital inputs and the main stereo output. The switchable meters can either be channels 1 to 16, 17 to 32, or the bus and auxiliary masters. In the case of channel metering, there is a switch for choosing between the input or post dynamics taps.

For Effect

While it is not an all-singing out-board processor, the internal processing module of the TM-D4000

default, 60 user), the effects processor (51 factory, 77 user), EQ (20 factory, 80 user), and dynamics (20 factory, 80 user). Each specific library has its own screen with a visual indicator of the existing and selected settings as well as a name. The snapshot library screen shows fader positions, the EQ library screen shows response curves, and the dynamics library screen shows transform graphics, and all settings can be recalled, copied, named, and dumped or loaded via MIDI.

In addition to snapshot recall, you can also do dynamic automation of many parameters in the console. Of course, the unit itself does not have the memory to take care of it, but

Tascam provide PC (Windows 95/98) software and a Moxa CI-132 RS-422 card to take care of it. The PC has to be a 200MHz or better Pentium-based unit with at least 32MB of RAM. The automation software has a sophisticated graphic interface, showing everything from channel settings, to EQ response, and so on. You can write automation in Write, Update, Read, and Manual modes (selectable on the console), and run it from either the internal console timecode generator as master, or another source, fed to the host PC.

Conclusion

The Tascam TM-D4000 has just about everything you could possibly want from an eight-bus console and more. The unit is bursting at the seams with processing, control, libraries, facilities, and functions. What it does is nothing new, but the fact that so much has been crammed into such a small box for an amazing price, must appeal to many recordists

Access console facilities by navigating dedicated screens.



and the I/O slot 1). There is a bus delay setting for each output bus (0 to 16,382 samples), though there is no measurement per channel for the inherent delay, or automatic 'make-up' delay. A single delay can be set globally for all busses.

Surround And Monitoring

Provision for surround on the console is pretty good, given that there's no joystick control. You have to set the surround type (number of channels, up to 5.1) and output configuration (what busses carry what channels) in the surround options screen, and thereafter the panning screen shows two channels at a time, each with a surround plan and point source. The Pod controls either control the X and Y axis, or they move the point source along a diagonal straight line (start point set with the X and Y controls).

The monitoring arrangements on the TM-D4000 are fairly simple too. The studio monitor output copies the selection for the control room, which has a choice of all the auxiliary busses, the two stereo digital inputs, the analogue two-track input, and the main stereo output bus.

is a bonus. Its input is either Auxiliaries 1 and 2, or 5 and 6, though you can select mono or stereo input, fed from your choice of the selected pair. The output goes to the ST IN 2 input, which then runs off elsewhere in the console.

The effects screen has just two meters (input and output), plus the controls for the selected effect — grouped into fours for use with the POD controls. Effects within the module are divided into ten main algorithms, each of which have sub-sets. For example, the Reverb effect type has four environment types, and the Delay effect has stereo, ping-pong, and multi-tap types. The main effects types are: Reverb, Gated Reverb, Delay, Chorus, Flanger, Phaser, Pitch Shifter, Exciter, Dynamics, and De-esser. Most of the effects are 'simpler' versions of what you'd expect to find in an out-board processor; for example, the reverb effect has only Room Type, Reverb Time, Pre-Delay, and Diffusion parameters. However, it does benefit from 50 factory presets already installed in console's library section.

Library And Automation

In fact, the library section carries factory and user presets for console snapshots (one factory

and mixers.

Of course, the channels aren't as 'big' as a big digital console, but then neither is the price; the effects aren't as detailed as a piece of dedicated out-board, but they sound very good, and do a job; and there are 'only' 32 input channels and eight busses, but for many applications, that is all you need. If you want the automation, you do have to add a fairly powerful PC, but that isn't a big deal — it could pay for itself in an hour or so.

All in all, the TM-D4000 is a big console, in a small box, for not much money. If you don't mind screen-driven mixing it will serve you well. □

INFORMATION

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