



## Review: JMT Orchestrator V2.1 by Rick Paul - 27th February 2005 -



Like many longtime users of Cakewalk's SONAR, I eagerly await each new release, not only to see what new features are coming in SONAR itself, but also to see what extra "goodies" will be included in the box. These goodies have ranged from physical modeling softsynths to software drum machines, from high-end audio plug-ins to "lite" versions of MIDI plug-ins that do creative, and useful, things with your MIDI data. One perennial inclusion has been NTONYX Style Enhancer Micro Lite from [Jasmine Music Technology](#) (JMT, formerly NTONYX), a MIDI processing plug-in that uses performance modeling technology to make MIDI parts sound more like live instruments. With SONAR 4, JMT increases its presence in the SONAR "goody bag" ("goody box"?) with JMT Orchestrator Lite, a "lite", but nevertheless powerful, version of the product we will be talking about here.

JMT Orchestrator is an auto-arrangement generator -- i.e. enter chord names and some other information, tell it what musical style you want, and it creates instrumental tracks in that style. While I've never been a fan of auto-accompaniment keyboards, I have from time to time made use of standalone auto-arranger programs like PG Music's Band-in-a-Box and SoundTrek's JAMMER Pro. Such tools can be of great help when trying to figure out what musical style works best for a song. They can also be of great value when a rough song demo is needed extremely quickly and a piano/vocal recording just doesn't cut the mustard for getting the feel across. While the quality of MIDI parts generated by these tools varies, not only between programs, but even between styles of any given program, there tends to be enough that is workable to suffice for rough demo purposes. I've even had some automatically generated tracks make their way to final recordings.

One thing that has always frustrated, me, though, was the inefficiency of using one program to generate MIDI tracks, then having to render a MIDI file, import that MIDI file into SONAR, assign softsynths, and so on, just so I could hear the tracks with a vocal and see how things fit together. Some of these programs have answered this need by adding limited audio capabilities to their programs, but that isn't what I want. I want to use **my** recording program from the get go, so I can have all my favorite tools at my disposal, and so I don't have to keep switching back between one interface and another. Enter JMT Orchestrator.

## Background

JMT Orchestrator is an MFX plug-in, for use in SONAR and other MFX host environments (e.g. Cubase SX). You tell it what musical style, scale, and chords to use, and where to place fills, and it creates multi-timbral MIDI parts. Those parts play through whatever software or hardware synth is connected to the output of the MIDI track where the Orchestrator plug-in



resides. You do not have to tell it things like tempo and time signature, though, as Orchestrator follows whatever is set in the host environment. Also, because Orchestrator plugs seamlessly into the host environment, the full capabilities of that host, SONAR for example, are available to use alongside and with the Orchestrator-arranged tracks.

Orchestrator uses technology called Music Object Morphing (MOM), developed for JMT's Onyx Arranger line of products to allow transforming one music object into another. Such an object might be, for example, a fragment of a song, and it might be transformed into another song based on a template that specifies the chord changes, meter, and other information about the new song. Orchestrator uses the same styles, called "OOStyles" (for Onyx Orchestrator Styles) to generate accompaniment. These styles tend to be based on MIDI arrangements of popular hit songs, and preserve velocity, pitch, modulation, and expression changes from those arrangements. JMT's performance modeling technology then comes into play for adding additional musical nuances, for a level of realism that can go beyond what is found in other MIDI-based auto-arranger facilities. All of this is then applied to your song, based on the chord changes and other information you enter into Orchestrator. So, for example, you might enter the chord changes for your song into Orchestrator, then pull up OOStyles based on recordings by Sting, Britney Spears, Deep Purple, Joe Satriani, Boney M, Count Basie, Metallica, or a wide variety of others. Your song might end up sounding like a classic jazz number one minute, then modern electronica the next, or whatever you choose. You can even combine multiple styles in a single arrangement, and I'm thinking a Britney Spears/Metallica combination, set against your 5/4 time chord changes, might just be the ticket -- to what I'm not sure!

JMT Orchestrator Lite (the version that comes with SONAR 4) has a fixed set of 200 musical styles that cannot be expanded, but it is otherwise fully functional. Thus, any comments made in this review that do not pertain to specific styles should be fully applicable to the lite version.

The full version of JMT Orchestrator reviewed here includes 100 styles, plus access to approximately 400 additional free styles via download. Approximately 500 additional styles are available for an extra charge, and users of Onyx Arranger can also create additional styles by using that product. All JMT-supplied style sets are royalty-free for use in your musical projects. Current pricing works out to \$49 for JMT Orchestrator 2.1, including the first approximately 500 styles. Ten additional style sets, with 50 styles in each set, are available for \$29 per set, or you can buy all ten for \$169. There is also a bundle of JMT Orchestrator 2.1 plus all ten additional style sets for \$174, saving a little more money if you want to purchase all these bits and pieces together.

Orchestrator and any additional styles are delivered via download from the Internet. The only documentation consists of an on-line help file, which is installed when you run the executable to install the base product, plus an Excel spreadsheet, which lists the styles available in each OOStyle set. Software authorization is via a registry key supplied separately.

The documentation sometimes verges on the terse or technical, but makes it reasonably easy to get started for basic operations. Where it tends to be more limited is in the area of understanding more advanced operations, such as tweaking the parameters that modify a style's behavior, and in providing application-oriented tips, such as how to deal with alternate bass notes in chords or how to end a song.

The version of the product tested was JMT Orchestrator 2.1, build 120. The test environment for this review was SONAR Producer Edition 4.0.1, then version 4.0.2 late in the review period. My initial testing with Orchestrator Lite was conducted in original release of SONAR 4.0. Orchestrator has negligible impact on system resource consumption, but, just for reference, the test system was an Athlon XP 1600+ computer with 1 GB of RAM running Windows XP Home.

## Hooking Up

Orchestrator plugs into SONAR as a MIDI effect on a single MIDI track. As such, it can only have one MIDI port as an output, which means you will need to direct it to a multi-timbral synth or softsynth to hear the multiple instruments in the arrangement of your song. Also, because you'll be using multiple MIDI channels on the single

track, it is important you do not set a MIDI channel on the MIDI track in SONAR -- you want all channels output by Orchestrator passed through to your multi-timbral module.

I can already hear some of you howling in protest, "what? I can't use multiple softsynths with Orchestrator so I can use DFH2 on drums, Trilogy on bass, Elektrik Piano for electric pianos, and so on?" Unfortunately, that is true as SONAR does not provide a way for a single MIDI track to route its output to multiple softsynths, for example based on MIDI channel. However, it isn't as bad as it sounds. You will start working on your arrangement in Orchestrator using some appropriate multi-timbral module, preferably one that supports program changes and conforms to the General MIDI standard (we'll get to why later), such as Cakewalk's TTS-1 (which is included in SONAR 4). I might add that, if that softsynth supports multiple outputs, you could use the multiple outputs to route different audio outputs of the softsynth to multiple audio tracks for separate processing. (Of course, if you are using a hardware MIDI rack, you can also configure multiple MIDI modules to use the same MIDI port but different MIDI channels, thus subverting limitations, but I'm guessing most of you reading this will be using Orchestrator with softsynths.) Once you've got your arrangement set, though, you can use SONAR's Apply MIDI Effects command to render Orchestrator's arrangement to a MIDI track, then use SONAR's Split Channel to Tracks.cal" CAL program to separate out the individual channels to separate tracks. Once you've got that, you can route those individual tracks however you want. In fact, one quick way to make an order of magnitude improvement in the sound of a JMT Orchestrator arrangement is to do this and then use the highest quality software instruments you have for each of the sounds used in your arrangement.

I suggested using Orchestrator with TTS-1 or another General MIDI module, but you don't actually have to use a GM module. You can use any multi-timbral softsynth (or hardware synth, or multiple hardware synths configured on different channels of a single MIDI port) you like. However, the OOSTyles are pre-configured with General MIDI-compliant program changes to pick suitable instruments for each track in each style. Thus, you'll be on your way with much less fuss if you use a GM-compatible module and just let Orchestrator worry about picking the sounds until you've at least settled on which styles you want to use for your arrangement. However, if you'd rather do it your way, you can pick your own sounds in track-by-track fashion, and Orchestrator will use any instrument definitions SONAR provides to make it easy on you. I just figure, if I'm using an auto-arranger, rather than making up my own arrangements, I'm likely going for speed, and anything that makes things faster helps. I can always worry about specific sounds once I've split the tracks out for use with separate softsynths.

## Keeping on Track

Before moving on, I'll make short mention of Orchestrator's Track Pane. The Track Pane is at the lower left of the Orchestrator interface, and, if used, is intended to provide certain overall settings for Orchestrator. I say "if used" because some of the settings in Track Pane only have effect if the "From Track Pane" button is pressed, rather than the default "From Styles" button. These buttons determine whether certain parameters in the Track Pane are sent to the MIDI output of the track being fed by JMT Orchestrator, or whether they are ignored and any such parameters are taken from the style in use at the time instead. The only parameters taken from the Track Pane when the "From Styles" button is pressed are the MIDI channels to be used and the Key+ (key offset) settings.



From left to right the controls in the Track Pane are the Mute button, the Solo button, Bank and Patch selection controls, MIDI volume (i.e. CC#7) and pan (i.e. CC#10) controls, Vel+ (i.e. MIDI velocity offset), and Key+ (i.e. key offset, or transposition). If you've used the similar controls in SONAR's MIDI track header areas, the meanings of these controls will be obvious.

I did run into a few hiccups in this area, though. In particular, MIDI bank changes, patch changes, velocity settings, and pan settings did not make it through to the TTS-1 softsynth when I was playing with Orchestrator live to audition parts. However, they did get included in MIDI tracks rendered via SONAR's Apply MIDI Effects facility, and did get through to TTS-1 when played from the resulting MIDI track. It is not clear to me why this is as the events were not early enough in the rendered track to have been cut off by any startup problems, and I was rolling SONAR's transport far before the point where they were observed in the rendered sequence, too. (It is not clear to me, though, whether they would be transmitted at the same point when playing live as they occur in the rendered sequence. Another possibility might be that they would be transmitted immediately upon making the changes in the Orchestrator interface, but that did not seem to be happening, either.) This is primarily an issue for auditioning sounds when you don't want instrument sounds changing in cases where you use multiple styles within a song.

Another issue I had is that sometimes bank and program changes I made via Orchestrator's pop-up menus didn't stick, but reverted to their previous state. This felt like a pure bug, and seemed to happen primarily when the Track Pane was scrolled all the way to the left (which is its default state). Speaking of scrolling, I also find it inconvenient that the Track Pane is bigger than the size it is given on-screen, which does require scrolling to access some of its fields. Finally, I would strongly prefer if the Track Pane's Mute and Solo buttons could function even when the "From Styles" button is selected. This will likely make more sense after getting into some of the details of the Style Pane's Morpher Mode below, but there are times when I want dynamic arrangement changes allowed by using the "S" button in the Style Pane to take a part in and out over the course of the song. However, I might still like to solo or mute that part to either hear what it is doing exclusively or take it out of the arrangement altogether to hear what happens in that case. I don't want to have to edit every instance of a style to do that just because I may also want to have program changes coming from the styles.

The net, though, is that the Track Pane provides some overall MIDI setup controls that will often be useful for making Orchestrator conform to your MIDI modules' needs. Such needs might include octave transpositions and velocity offsets to match the sound programming on the module. Track Pane also allows patches, MIDI volume, and MIDI panning, to remain consistent across multiple style uses on a given part. Unfortunately the key quirk in this area seems to negate an important part of these uses during the auditioning process, though rendered tracks do conform.

## Roughing It Out

Okay, so now you've got Orchestrator plugged into a MIDI track, connected to TTS-1, or whatever your favorite General MIDI, or other, module is. You may or may not have set up some track-level patches and mixing parameters. Getting started with Orchestrator is pretty straightforward, once you get used to its basic layout.



Up near the top of the Orchestrator interface is the Song Manger pane. This is where you'll enter your chord changes, fill positions, and scale and style selections. It is also the area of the screen you'll use for copying, pasting, and moving elements of your song structure around, for example to repeat the same chord changes and fill positions you used in your first verse for verse two. There are four parallel tracks for entering information:

The Key/Scale track is essentially equivalent to the key signature for your song, but with a twist. Whereas a key signature tells you only the number of sharps or flats there are by default in the current section of the song, the entry here specifies the scale that is to be used. Orchestrator options for scale include major, minor, blues major, blues minor, and gypsy. For a simple song, you may only use one scale at the beginning of the song, and it may be effective for the entire song. However, for more complex songs, you can switch scales at any measure boundary.

Orchestrator uses this in composing melodic instrumental parts, such as bass, as well as for determining what chords you are shown in certain pop-up menus during chord selection.

The Chord track is where you enter your chord changes. The chord step spacing can be as close as every eighth note or as far apart as every measure. The default is every quarter note. To enter a chord, you can either double click at the first point in the chord track where you want to enter a chord and begin typing in chord names, using arrow keys to move backward and forward in the arrangement, or right click at a point where you want to enter a chord and choose a chord from the popup menus. If you go the popup menu route, there are four main menus to select subsets of the chords that are available for use. One is Associated Chords, and is basically the main chords associated with notes from the scale that is active at that point. It isn't quite only chords using notes from that scale, though, as, for example, in the key of C major, which has no sharps or flats in its scale, the C7 chord, which has a B flat in it, is available. A second set of options is Inversions of Chords, which includes inversions of a subset of the Associated Chords. For example, in the key of C, a C chord with a G bass would be among the inversions found. Next up is the Limited Set of Chords category, which provides seventeen different chords for each note in the chromatic scale. Finally is the All Chords category, which provides ninety different chords for each note of the chromatic scale. Need a D7sus2-5 chord, or some similarly complex chord? If so, you'll be grateful for the All Chords category. If not, it might just be quicker using one of the shorter menus. It's good to know this kind of stuff is available if you need it, though.

One minor complaint, though, is that, if you want to use an inversion, but the chord name for your inversion isn't a note in your current scale (e.g. B flat chord with a C root in the key of C), you won't find it in Inversions menu (i.e. since there are no non-scale note chords in that menu). Nor will you be able to just enter the chord manually using the keyboard method. Instead, you'll need to figure out some other name for the chord and look for it in the All Chords menu (or possibly the Limited Set of Chords menu if it ends up being equivalent to some simpler chord). As someone who tends to use lots of alternate bass chords, and who also tends to throw in chords that aren't in the current scale from time to time, too, and who isn't a wiz at figuring out strange chord names (let's see, what chord does have a C root then the notes B flat, D, and F in it?), I find this frustrating.

The Fill track is used to tell Orchestrator where you want "fills". What is a fill? Like a drum fill, it is an expressive change to the pattern that is used to break up a song, typically between sections of a song (e.g. between verse and chorus), or possibly periodically between sections (e.g. every 8 bars). Because a fill leads from one segment to another, the fill marker is placed at the borderline of a section change, and affects the measure(s) before the marker. In practice, Orchestrator substitutes particular measures that are designated as fills in the setup of a style (more on this below) for the measures that would otherwise occur just prior to the fill marker.

The last of the Song Manager tracks is the Style Track, which is used to insert Style Markers. As you might guess from the name, Style Markers are used to tell Orchestrator where you want to change musical styles. For example, you might want to switch from a verse-oriented style to a similar chorus-oriented style. Or perhaps you might even want to switch between dissimilar styles if that is where your creativity takes you (how about that Britney pop in the verse then slam them with some Metallica-feeling stuff in the chorus).

Also in the Song Manager are a time ruler for helping keep track of where you are in the song (and, handily, the measure numbers correspond to SONAR measure numbers), buttons for choosing which markers will be selected during copy operations, buttons for inserting markers of the various types at the current cursor location within Song Manager, and a few additional buttons. Those additional buttons include one for toggling whether chord names are displayed with sharps or flats, one for toggling the naming convention used for certain types of chords (e.g. Cmaj7 versus C7+), and one for transposing chords, scales, or both. There are also number boxes just to the left of each track to show how many markers are in use in that particular track. These may be handy if, for example, you're trying to figure out why the style is changing somewhere later in the song and are scrolled to the song's beginning. There is also a control to set resolution for chord change granularity in steps from an eighth note up to a measure.

To start a song, you will likely set a scale and style at the measure where playback is to begin, enter your chord changes, place fills where you want them to go, then hit Play in SONAR and listen to the results. There are various techniques for entering specific markers. These include right clicking directly at the location in the track where you want to insert the marker then picking any specifics from a pop-up menu, placing the cursor in the time line at the

appropriate place and pushing a button to that inserts the appropriate type of marker and prompts you for any needed information, and, in the case of chords, directly double clicking at the location where you want to place the first chord, typing in a chord name, then using the right arrow key to move to the next chord step location, typing the next chord name in, and so on. Note that the cursor-in-the-time-line-plus-button technique only works on measure boundaries. This is good enough for scales, styles, and fills, which can only be placed on measure boundaries, but may not be sufficient for chords since you may want to place them at locations other than measure boundaries. If a song has repetitive sections, you can mark a portion of the time line, then use copy and the selection buttons at the side of the tracks to determine what is copied (e.g. just chords, just fills, chords and fills, etc.). You can then place the cursor at the appropriate measure in the timeline and paste the results. This is a big timesaver for entering songs that take on commercial song forms.

There are a few minor oddities to the user interface. For example, fills are placed with a single left click, but all other markers require a right click to place them, (You then get pop-up menu choices to pick what specific chord, scale, or style you want to pick. A right click on the fill track does pop up a menu that includes "insert marker", but it is much quicker to place fill markers through a single left click at the appropriate point.) Probably my biggest complaint, though is that the window is not resizable, and is pretty small horizontally when you consider the number of measures in most any song that goes beyond nursery rhyme length. Though you can zoom in and out, this is of limited benefit if you are entering chords once a measure or even more frequently. Thus, there is a lot of scrolling to do in the process of entering chords and fill markers for a song. It also makes it impossible to see the chord structure of a song at a glance. When you consider how (sometimes unnecessarily) large the user interfaces for some modern plug-ins are, it seems odd that this one takes up such limited screen space. In fact, Orchestrator could easily benefit from taking up the entire screen at the point where chord changes and other Song Manager information is being entered.

## Finessing Things

What we've discussed to this point is pretty straightforward. Basically, you lay out your song, including chord changes, scale changes, style changes, and where you'd like fills to occur, then hit Play, and Orchestrator creates parts based on what you told it to do. Orchestrator even follows any meter or tempo changes you've entered at the SONAR (or other DAW) level. Aside from a bit of extra scrolling needed to deal with its small user interface window, Orchestrator handles this side of things as well or better than any applications I've tried in this area. I particularly appreciate how easy Orchestrator makes it to deal with tempo and time signature changes over the course of the song.

If you've ever used other auto-arranger facilities, though, you know that simply entering chords and style changes is rarely enough to get a truly convincing set of tracks for your song. However close the feel of the styles you are using is to what you have in your head, there are almost always points in the song where you want something a little different. That may mean pushing a beat here, holding back a bit there, holding a chord, putting in a stop where all but, say, the drums lay out after the first note in the measure, or even simply dealing with intros and endings. In the case of intros and endings you may need to start or stop other than on measure boundaries, build things up or wind them down, or otherwise do something other than keep a groove going. Depending on the song, and how strong your preconceptions are, I might call this going beyond the 90%, or 75%, mark. The 90% figure might be for a song that is mostly steady groove, but just needs to get into it and out of it a bit differently. The 75% figure would represent something that perhaps is a bit more dramatic structurally, which may come in and out a bit more, or where you have specific tastes on feel that aren't quite fully met by the basic styles. In my experience, ballads tend to result in auto-arrangers' hitting the 75% mark more often, while it is easier to get closer with groove-oriented material. How well an auto-arranger deals with this will make a big difference in whether that auto-arranger can be used to create more polished arrangements, or whether it is relegated to use for temp tracks and rough demos. How does Orchestrator fare when it comes to finessing things to more closely approach the 100% mark?

To be quite frank, this area holds both good and bad news. I'm going to start with the bad news because that mostly goes to some obvious, desirable things that JMT Orchestrator doesn't do. The good news portions will require a bit more explanation. First, though, a bit of background may be necessary.

If you've used a relatively recent version of Band-in-a-Box, which is perhaps the most popular of the software-based auto-arrangers, you know it lets you put chords in as frequently as every quarter note, though its entry methods are optimized for changing chords on measure or half measure boundaries. If you want, for example, to push the chord so it lands on an eighth note or a sixteenth note, you have to go into a detailed dialog box, choose a push and by how much. Orchestrator doesn't have pushes and pulls, but it lets you enter chords down to eighth note boundaries, so that covers similar territory.

In that same Band-in-a-Box dialog box, you can also specify that the chord in question will be a shot (single note and then rest), hold (hold the chord until the next chord comes in), or rest, as well as just a normal chord, subject to whatever stylistic manipulations a normal chord would get. If you choose one of the special options, you can also choose whether that option applies to all instruments, or whether specific parts are excluded from the special treatment. In the latter case, an example might be having a shot for all instruments except drums and bass at the start of a section that will feature vocal harmonies while still keeping the basic rhythmic foundation going behind those.

I mention this background on Band-in-a-Box because I find that method to be a fairly intuitive, fairly musical method of thinking about variations in an arrangement, but Orchestrator doesn't do this. There are ways to do some things that overlap functionally, but I don't find them to be as intuitive, and not all that functionality exists. For example, there isn't an explicit way to do a shot or hold. Mind you, I'm not suggesting Orchestrator should duplicate a Band-in-a-Box-like interface -- there are a number of things I prefer in the way Orchestrator does things. However, this is one particular area where I do wish Orchestrator had a more intuitive, more musical way of approaching what I consider to be fairly common tasks in the development of arrangements.

Another piece of bad news is that Orchestrator really doesn't do song endings. To be fair, though Band-in-a-Box does, its generated endings often leave a lot to be desired. However, the above-mentioned facilities for holds, shots, and rests can also be used to try and create your own endings in that application, so, between the two options, there is usually a reasonable shot at coming up with something workable. With Orchestrator it is likely to come down to MIDI level editing (and/or tracking) after you've rendered the Orchestrator-generated parts to MIDI tracks. If you hate MIDI editing as much as I do, especially when trying to create parts, as opposed to just tweak them (e.g. to fix a wrong note or make a slight timing adjustment), you may find this to be a limitation. On the other hand, if most of your songs fade out anyway, or you're a MIDI editing wiz, you may find this a minor point. I find it to be one of my bigger frustrations with Orchestrator. With that bad news out of the way, let's get into the good news Orchestrator brings in this area.

As you may remember from above, you can change styles at any measure boundary in Orchestrator. While changing preset styles can be useful, for example to switch the feel of a song between the song's verse and chorus, abrupt shifts of style may be too extreme, and not all styles provide multiple variations. Besides, what we're talking about at this level is not so much a shift in style as it is a song-specific shift in feel, for example to better match the vocal phrasing of the song.

Changing styles need not be as dramatic as changing genres, though. In fact, it doesn't even have to be as dramatic as shifting to different arrangement styles within the same genre, or even two song section-oriented styles meant to go together. In particular, you can change the style to the same style you were using before the change. Why would you want to do this? Wouldn't this be similar to just keeping the same style going for the additional measures beyond the breakpoint in styles? Well, it could be, depending on where you break and what you do after that. It isn't necessarily the same, though, even in the default case of using none of Orchestrator's advanced features. Those advanced features also provide capabilities specifically oriented toward tweaking a style in ways that can play around with the feel and dynamics of the arrangement while still staying within the same basic overall style.

One thing that is important to understand about Orchestrator's arrangement generation is that it is not random. Rather, each style consists of a set of patterns that are morphed with your chord progressions to produce the MIDI sequence you will actually hear playing. Even the fills are not random, but, rather, are specific sets of patterns that are simply designated as being fills. Which patterns get morphed with which parts of your chord progression depends upon where you start the style, how long your chord progression is, the arrangement of measure-long patterns in the style, and how long the overall progression of patterns in the style is. Where you place fills also comes into play. So does what patterns are specified in the style as being used for fills and what patterns in the style

are specified as being used as "replacement measures". (Replacement measures are patterns used to replace fill measures where those occur in the style's pattern but no fill is specified as occurring in your song.)

Thus, for example, if a style has eight sequential, measure-long patterns numbered 1, 2, 3, ..., 8, where measure 8 is specified as the fill measure, and measure 4 is designated as the replacement measure for positions where no fill is used, an eight measure chord sequence with a fill specified at the end of the last measure would go through the sequence of patterns in numerical order (i.e. 1, 2, 3, 4, 5, 6, 7, 8). If, on the other hand, no fill is specified, pattern 8 would be replaced by pattern 4, so you'd end up with 1, 2, 3, 4, 5, 6, 7, 4 as the pattern sequence. These cases are both assuming you start the style at the first measure of your chord sequence, and do not change styles within those eight measures. However, if you were to change styles every two measures, using no fills at all, and keeping the same exact style with no customizations, the resulting pattern sequence would be 1, 2, 1, 2, 1, 2, 1, 2. That is, patterns 1 and 2 would be repeated four times. If you added a fill in measure 8 of your chord sequence with this same arrangement, you'd get 1, 2, 1, 2, 1, 2, 1, 8. I might add that there are simpler ways to achieve this same result using the customization options available in Orchestrator. The point here is that even simply restarting the same style can change the results you achieve if you are starting at a point in your chord sequence that has not let the original style run its entire course.

The actual OOSTyle you use at any point in an Orchestrator arrangement will come up in a certain configuration of patterns, as well as instruments used, and a few other things. However, with each use, or instance, of a style within your arrangement, you can modify various settings without affecting other instances of the style within the song. To get started tweaking things, you will need to use the Previous and Next buttons at the top left of Orchestrator's Style Pane, which is located in the lower right portion of Orchestrator's user interface, to access the style instance you want to modify.



Note that simply setting the cursor to the point in the Song Manager pane where that instance of the style begins is not enough. That is unfortunate, too, because this means having to pay attention to measure numbers, as reflected in the little informational box at the absolute top left of the Style Pane, to mentally match things up with the right location in the Song Manager pane. (Not to mention that you also need to match those up with the SONAR transport. Neither the cursor in the Song Manager, nor the current pattern shown in the Style Pane, is updated based on SONAR transport movements, so, if you're not paying attention to the SONAR Now Time, you may be listening to something other than what you're looking at in Orchestrator.) I can't tell you how long it took me to figure out this seemingly small, but important, piece of information, despite having read the documentation in this area several times. It is something that left me scratching my head for a considerable period in trying to figure out where to start using the more advanced features of Orchestrator. I wasn't hearing the changes I thought I was making for the simple reason that I was making those changes in another style or the wrong instance of a style, rather than the one that was active in the region where I thought I was. It might also have helped if the documentation had a tutorial on the steps to go through for using these more advanced features. There is a lot of fairly technical, reference-type information, which tends to boggle the mind just reading it, making things seem more confusing than they really are once you figure out how they work in practice. JMT does provide a few example files on their web site, but no associated documentation to tell you how they created the, fairly amazing in some cases, results in those files.

There are two modes for customizing instances of OOSTyles. These are Morpher mode, which is the default when Orchestrator is launched, and Pattern mode, which is reached by pressing the Pattern button near the top of the Style Pane. These modes are not mutually exclusive, so can be used together to achieve some fairly powerful results for customizing Orchestrator's results. Let's talk about Pattern mode first since it relates directly to what we've already discussed about customizing Orchestrator's results without use of these advanced modes.

## Getting Down and Dirty with Patterns

Pattern mode allows you to indirectly manipulate which of the patterns contained in a given Orchestrator style are played when. I say "indirectly", because it isn't as simple as dragging a particular numbered pattern to a particular location, like you might do with sample or MIDI loops. Rather you set the range of patterns from the OOSTyle's predefined sequence to be used in this particular instance of the style. You then tell Orchestrator which pattern or range of patterns will be used for fills, and tell which pattern or range of patterns will be used to replaced fill

measures when they arrive other than in a fill position. Orchestrator then applies these decisions based on the where you started using this instance of the pattern and how many measures there are until the next style change in your arrangement. If you want to achieve a particular numerical sequence of patterns, you could use a combination of starting the pattern at certain points in the song and controlling the settings in pattern mode to achieve that. Some possibilities, such as ones that maintain the basic order of patterns from the original style but change the range of patterns used, change the fill measure, or change the fill replacement measure, will be simple. Others, such as ones which involve a non-sequential ordering of the numerical patterns (e.g. 2, 7, 1, 5, 3, etc.) may be more complex, and may involve using more frequent style marker placements.

How do you get started? Probably the first thing you'll want to do is listen closely to the style playing through its full range. You'll do this by putting the style marker at some point in your arrangement and making sure no other style marker is set until after the style has finished playing all its measures. You'll also need to make sure and place an appropriate fill marker so you actually hear that fill, rather than its replacement measure, when it comes up in the pattern. How do you know how long to stretch things out and where to place fill markers? The Pattern mode view of the Style Pane will tell you.



Looking at the Pattern mode view, you will see two rows of style pattern tiles and three sets of dual sliders. The top-most set of pattern tiles will show the initial set of numerically ordered patterns in the sequence, and will typically be 4, 8, or 16 patterns long, though I'm not aware of any specific limitations in this area. (Orchestrator does not allow you to create OOSTyles. Anyone wanting to author them would need to use Onyx Arranger.) In the screen shot at left, the original style is composed of 8 measure-long patterns, numbered 1 through 8. The bottom row of pattern tiles shows the pattern order that will result from the combination of range slider adjustments you make in Pattern

mode and how many measures there are in your song from this style marker until the next style marker. A maximum of 20 pattern positions can be displayed. You can instantly see the results changes in slider positions make in the resulting pattern arrangement, but you will need to stop and restart SONAR's transport to actually hear the changes.

The topmost pair of sliders is for setting pattern range. The leftmost of these sliders sets the first pattern that will be played in this instance of the style, and the rightmost slider sets the last pattern in the range of patterns to be played. Well, that's not quite correct. They actually set the range of patterns that will **potentially** be played, not the patterns that will actually be played. What patterns actually get played will depend on both how many measures this instance of the style get used within your song, and what is happening in the area of fills and replacement measures. For example, if you only use the style for two measures, but the range slider shows four measures, you'll only hear the first two measures of the pattern. In the screen shot above, all eight measures in the OOSTyle are used.

The middle pair of sliders sets the range of patterns to be used for fills. Most typically, both sliders will be on the same measure, indicating that a fill lasts only a single measure. However, you can have a longer fill, in which case you'd set the range of patterns to be multiple measures, and the start of the fill would then be that many measures ahead of your fill marker in the Song Manager pane. In the screen shot above, pattern number 8 is used as a fill measure.

The bottom pair of sliders sets the range of patterns to be used for replacement measures for fills. This concept may seem confusing at first, so let's refer to the screen shot above for an example. As we've already noted, pattern number 8 is designated as the fill measure in this instance of the style. If there happens to be a fill marker at the end of the eighth bar of the pattern's use within the song, then pattern 8 will play just as it would have in the initial pattern setting. However, what if there isn't a fill marker at the end of the eighth bar of the pattern's actual use? That is suggesting we don't want a fill there, so we need to replace that measure with, you guessed it, the replacement measure. In the above screen shot, the replacement measure is pattern number 1. One point worth mentioning here is that, if you have a one bar fill, but a Replacement pattern slider range of more than one pattern, you will still only end up having the first measure of the replacement pattern range used for fill replacements. Orchestrator does not alternate replacement patterns within the range indicated by the Replacement slider. Similarly, if you have a two bar selection showing on the Fill slider, but only a one bar setting on the Replacement slider, you will get that

replacement pattern twice in sequence as the replacement pattern. If those results aren't what you intend, you may want to make sure that the Fill and Replacement sliders both have the same number of patterns in their range.

Now, if you look at the Result row of pattern tiles in the above screen shot, you will notice the sequence of patterns is 1, 2, 3, 8, 5, 6, 7, 1. Can you guess what was going on in the Song Manager pane, given the settings we described above? If you guessed that there is a fill marker at the end of the fourth bar, but no fill markers anywhere in the remainder of the eight bars that occur between the style marker for that instance of the pattern and the next style marker, you are correct. In particular, pattern 8 is played as the fourth bar in the arrangement because there is a fill marker at the end of the fourth bar. However, there is no fill marker at the end of the eighth bar, so the replacement pattern, pattern 1, is used instead. Pattern number 4 never gets used because it was replaced by the fill measure and the use of this style never extends far enough to give it a second chance.

This may sound a bit mathematical and calculating, but, in practice, there is a relatively easy way to deal with it, and it relies mainly on your ears. Taking a step backwards, before getting to the use of Pattern mode, I would typically find a style that seems like it may be right for the song (after having put in the chord changes, and most likely also placing fill markers where I expect they will be needed). Then I would start playback with the first bar in the song, with a style marker placed at that point, and see how things sound. Where in the repetition of the pattern, or even in the first instance, do things start sounding like they could be better? If it is in the first bar, the first thing I would do is change the pattern's range so it starts at a pattern other than number 1, then listen again. Which is the optimal pattern to serve as the starting one for this section of the song? While doing this, though, you do need to watch out for fill markers (in the Song Manager pane, with results shown in the Result row) and replacement pattern uses (in the Result row). You may need to move those around so you are actually hearing the range of patterns you expect to hear based on the Pattern range sliders. Once you've got things starting out right, how far can you get? If that point is in a fill position where there is no fill marker, then you may want to play around with the Replacement sliders to see if using another replacement pattern fixes the issue. Or you may want to see if placing a fill marker does the trick. If not, though, it is time to place a new style marker in the Song Manager pane, hit the Next button in the Style Pane to get to that new style instance, and start the process again. I might also add that, after awhile of hearing these patterns, you may get used to what they sound like, and can then make intelligent guesses about where to start each instance, thus cutting down on the amount of trial and error. Of course, if you still don't find anything that works from the first bar of the style instance, then perhaps you need to pick another style.

## Any Morphers in the Crowd?

Orchestrator also provides a Morpher mode for customizing instances of a pattern. While the Pattern mode governs the order of patterns within the arrangement, the Morpher mode tunes the process of morphing the patterns onto your chord progression. Some possibilities, like turning individual parts on and off, are obvious. Others feel a bit like rocket science, and get into territories where it may be best not to worry too hard about understanding what is likely to happen, but just to try possibilities out and use your ears. I expect those in the latter category will get more intuitive with time and exposure, but I confess I have yet to get past that point with some of the morphing possibilities. There is actually a significant amount of control here, independent of where you or I may stand in our learning curves toward intelligently harnessing these capabilities. Let's take a closer look, moving from left to right in the columns of the Style Pane's Morpher mode interface.



All the way on the left, each part has an "S" button, which I assume stands for Solo, since it behaves like one. (The documentation simply refers to it as the "S" control.) Essentially, it toggles individual parts on and off for that instance of the style -- when it is green, they are on, when it is gray, they are off. Note that this, and other controls in the Style Pane, should not be confused with similar controls in the Track Pane. The controls in the Track Pane, if active, are Orchestrator instance-wide, and a mute at the track level will override a solo at the style instance level. By contrast, the controls in the Style Pane are specific to a single instance of the style. An example of using the "S" button would be in a case where you wanted to start a song out without drums and bass, but use the same guitar patterns from the rest of the style. You might create an instance of the style at the start of the song, turning the "S"

button off for drums and bass in that instance, then create a second instance of the style after the introduction, turning the "S" button on for the bass and drums tracks in that instance.

What if you want a drum fill in the last measure of the intro, but don't want the bass to come in yet? You might create one more instance of the style for that measure and turn off just the bass. One tricky thing is that these style shifts mean the patterns you will hear will not be what you'd have had if you just kept the first style going. If you want them to be the same patterns, you'd also need to go into Pattern mode and make the appropriate changes on the Pattern range sliders for each instance. One other little hiccup is you probably don't want the drums coming in at the start of the measure, at least not in full force, in this case. Just using a fill measure probably won't help here because the fill measure is meant to come from having a groove going. This is a case where you may need to edit the MIDI data after rendering the Orchestrator-generated parts to MIDI tracks. However, when you are specifically working on a drums track, there are also individual note-level "M" (mute) buttons, and you may be able to play around with muting specific instruments for that measure to achieve a similar effect without after-the-fact MIDI editing.

Just to the right of the "S" button is a field that simply displays the type of each individual part. These are determined by the OOSTyle itself and are for information only. Types of parts include Bass, Chords, Pedal, Tune, and Ef. The meaning of these names is not necessarily obvious. For example, a Bass part can be any low-pitched melodic part, and is not necessarily the main bass for the song. Chords are parallel notes with durations lasting less than a whole note, whereas Pedal parts are similarly parallel notes, but with durations longer than a whole note. Tune parts are melodic parts in a middle-to-high pitch range. Ef parts are sound effects, such as guitar fret noises, applause, wind, etc.

Next up is the Vel+ control, which is basically a MIDI velocity offset. Want to take a part down for a song section, but not mute it? Simply use this control with a negative value, experimenting with values until you get your desired result. Note that this will, perhaps obviously, depend on whether the sound source you are using for the part responds to note on velocity in a predictable way.

The Pan control is for MIDI panning (i.e. Continuous Controller 10). Perhaps you want that distorted guitar front and center for the intro, then off to one side during the verse? No problem. Of course, you could always deal with this kind of tweak later at the individual MIDI or audio track level once you've rendered parts to MIDI, too, and that may be more useful if you want to have a gradual shift from one panning position to the other. Remember, these style instance-level tweaks only apply at style instance boundaries, and those are confined to measure boundaries at their finest granularity.

An "F" (for Filter) control determines whether certain expressive MIDI controller values in the OOSTyle will be passed through to the output of your MIDI track or filtered out at the style instance level. Leaving the filter off (gray) lets all expressive information come through. Toggling it on (blue) filters out all continuous controller and pitch wheel events. For the most expressive playing, you will probably want to leave this button off, but the on setting could be helpful if your particular sound module doesn't respond well to the type of expressive information in a track. Better yet, though, pass the information through and tweak it later at the MIDI level to make it more appropriate for your particular controller.

Next up is the Morphing Mode control, which is one that I might (affectionately) dub the "rocket science" control. Allow me to quote from the documentation:

*This drop-down list serves for selecting a preset, which will determine the type of transformation - from transformation to only first step of the current chord, to the first and third steps, to all steps of the chord, to steps of the chord and steps of the current Scale (or even internal SubScale) and etc. (See the tab with all existing presets below).*

This control determines what happens when there are chord step transitions in the original OOSTyle patterns when applying them to your song's chord progressions, including the case of hitting a chord change in your song. Options for the Morphing Mode control include names like "1st Chord Step Only", "1 & 3 Chord Steps Only", "Chord/Pedal 1 & 3 Steps", and "Free Tune Nearest Steps" -- there are eighteen modes in all. To explain what each of these do,

there is a three column table (four, if you count the name of the mode) in the documentation to explain what happens in certain scenarios. These columns outline what you do in the new chords and key/scale when you encounter notes in the original pattern that are in the chord, in the scale, or outside the chord and scale, respectively, of the pattern. For example, if the Morphing Mode is set to "1st Chord Step Only", you would keep the first nearest chord step in all three cases. However, if the Morphing Mode is set to "Bass/Tune 1st Step Only", you would keep the first chord step if the chord of the original pattern, but shift to the nearest scale step in the other two scenarios.

I don't know about you, but this sounds like too much music theory, crossed with too much mathematics, for me. Rocket science, indeed. Mind you, I'm not saying this stuff isn't useful in terms of the effects different Morphing Modes can have on the generated results. Nor am I suggesting that someone who wants to learn this couldn't do so, or that it might not even be obvious to people who are much more knowledgeable about music theory than I am. Still, there is a big part of me that says, if someone wants to use auto-arranger type software to generate tracks, the odds of their wanting to get in depth with music theory-oriented transformation algorithms probably aren't so high. Those who are primarily musicians, and using the auto-arranger for temp tracks, practice tracks, or just to experiment with styles probably would rather play a part than get into that kind of depth. Most who aren't musicians probably won't know enough music theory to understand this stuff. And I'd expect the number of people who are highly knowledgeable on music theory, but aren't musicians, would be a fairly small proportion of the overall market for this type of product. For the rest of us, it is probably just worth knowing that we can try different values for this control and see how they sound.

Next up is a control called the 1st button, with the explanation:

*This button is used for choosing the mode of "linking" the first chord step. "On" (blue color of button) means that first chord step will be applied in the place of every new Measure Line and every new chord. "Off" means that "linking" will not be applied.*

Okay, I think my brain just went on the fritz again, because that just went totally by me. I'm only partially kidding here -- the wording of the explanation is more confusing than what this actually does. The 1st button is another tool used to define, or constrain, the results of morphing what is going on in the original pattern onto your chord structure. It also interacts with the Morphing Mode control, and, for that matter, other controls we will be discussing shortly, to dictate the ultimate results you get. If this is turned off, your chord structure and the Morphing Mode in operation, along with any further constraints or shifts imposed by other controls, determine the notes that result. If this button is turned on, though, each time a new measure comes up, or a new chord change appears, the resulting notes will be forced to the root of the specified chord from your arrangement. It is kind of like telling Orchestrator, "in between measures and chord changes, you are free to do whatever you have in mind, but make sure you hit the measure boundaries and anywhere else I place a chord change."

Next up is the ChSt (Chord Step) control, which shifts, or "inverts" in musical terms, all chord steps by a specified number of steps. The number of steps can range from -8 (i.e. 8 chord steps lower) to 8 (i.e. 8 chord steps higher). What is a chord step? That depends on the chord, but it is basically one note within the chord. Let's say you had a C major chord, which consists of the notes C, E, and G, and it was being played in its root position (i.e. with C on the bottom and the E and G just above that). If you shift things up by one chord step, the C would move up an octave and E would be the chord's new bottom note. If you shift things up by two chord steps, G would serve as the bottom note of the chord. If you shift things up three chord steps, you've shifted the chord up an octave from its original position. On the other hand, if your chord were C7, which consists of C, E, G, and B flat, it would take four chord steps to shift the chord up an octave due to the extra note in the chord.

To the right of the ChSt control is the OcSt (Octave Step) control, which shifts a chord up or down in units of octaves. The range of the control is from -3 (i.e. three octaves lower) to 3 (i.e. three octaves higher).

Finally come the LGt (Low Gate) and HGt (High Gate) controls. These controls set the lower and upper, respectively, pitch limits that can be produced by the part. The minimum distance between them is an octave (i.e. 12 notes), so, if you bring the HGt control down too far, turning it down farther will also turn down the LGt control to maintain the octave of separation between the two controls. The settings are MIDI note numbers.

Keep in mind all these controls are for the specific instance of the style that you are editing. To make it easy to apply the same tweaks to multiple sections of your song, Orchestrator supports saving and loading of named presets. These are not new OOSTyle presets, but rather Style Pane presets within a single OOSTyle.

It is also worth noting that all these controls interact with one another, and some take precedence over the others. For example, if you have the LGt and HGt controls set to their extremes (i.e. 0 and 127, respectively), thus not constraining the range of the part at all, then raise the OcSt control to 3, you will hear the original part raised three octaves. However, if you then constrain the range by bringing the HGt control way down, you will eventually get to the state where, not only is the part not higher than it originally was, but it is goes even lower than the original part.

The bottom line for Morpher mode is that these controls can make anywhere from a small amount of difference in what you end up hearing to a huge amount of difference. While some parts feel somewhat hard to grok, there is always the possibility of just experimenting and using your ears to judge the results. They can certainly help avoid a common auto-arranger syndrome where things start out sounding fine, but too little variation over the course of an arrangement results in an arrangement whose dynamic shape ends up being extremely flat, and ultimately boring. While you might not get as much control in some areas as you might in other auto-arranger programs, in other areas you get much more, and the combination of Morpher mode and Pattern mode is indeed pretty powerful.

## Playing Around

Because the difference between Orchestrator and Orchestrator Lite is in the number of styles provided and the ability to bring in additional styles, I am going to start this account of my hands-on use of Orchestrator with a period before I actually got the full version of the product. I was experimenting with [Zero-G's Vocaloid MIRIAM](#) vocal synthesizer, and wanted some very quick tracks to use as a base for the synthesized lead vocal I'd be developing for a pop song. SONAR 4.0 was brand new at the time, and it had come with JMT Orchestrator Lite, which I understood to be an auto-arranger in the same sense as Band-in-a-Box, which was a product I'd used here and there for a number of years. I might previously have been inclined to just go to Band-in-a-Box to put together a quick arrangement, then dump a MIDI file, bring it into SONAR, assign a softsynth, assign the individual MIDI tracks to that softsynth, etc. However, I decided to give Orchestrator Lite a whirl, which turned out to be a good plan.

Instead of all the futzing around with rendering MIDI files and importing and assigning and such, I simply used SONAR's DXi rack to insert an instance of the spanking new Cakewalk TTS-1 GM-compatible softsynth along with its audio output and MIDI tracks, inserted Orchestrator Lite into the MIDI track, then started entering information into Orchestrator's Song Manager. Okay, maybe it wasn't that quick. It took me a few minutes to figure out how to enter chords and styles into Orchestrator, but the point is I was up and running extremely quickly, and all in SONAR. No futzing with MIDI files and the like!

In the beginning stages of this particular project, I didn't care much about the quality of the MIDI tracks, arrangement, or sounds -- they were just there as a bed to support my experimentation with Vocaloid. Thus, after I entered my chords into Song Manager, I picked a single style, which I used over the entire course of the song. I let Orchestrator assign TTS-1 sounds based on those set up in the OOSTyle I was using, and I had tracks within less than half an hour. The arrangement was dynamically flat since I hadn't done anything to make it more interesting, but that was sufficient for my needs. The sounds coming out of the shoot were more than acceptable for my purposes, though not something I'd have wanted to carry through to a more polished recording. (If you like, you can still hear a clip from that recording in the above-mentioned MIRIAM review -- just follow the above link then search for "That Kiss" once you're there.)

A bit later I wanted to use the demo I'd generated for getting some more feedback on the song, but I didn't have much time, and definitely not enough to start getting into the tweaking possibilities with Orchestrator. Thus, I split the Orchestrator-rendered MIDI track out to multiple MIDI tracks using SONAR's "Split Channel to Tracks" CAL program, added some higher caliber softsynths, with choices optimized to the individual parts, connected things up with the MIDI tracks, and I had an order of magnitude or two of improvement in the sound quality. In fact, the result was actually a pretty hot sounding rough demo, especially considering the limited time and work put into the tracks (not to mention that no human singers were involved in the recording). It may not have been something I'd want to

shop around to try and place the song, but it was certainly way more than adequate for getting feedback on the song, which was my intent at point.

Cut to a few months later, with the full version of Orchestrator, meaning **lots** more styles, available. I decided I'd use Orchestrator to see if it could help me demo a few songs I'd had sitting on the shelf for awhile. In one case, I'd written the song approximately 25 years ago, and had never demoed it because I didn't really feel it was marketable. (My demos generally take me a very long time to make since I am overdubbing one part at a time, trying to build and arrangement from the ground up.) Still I'd always liked the song, and had wanted to hear it recorded. I had the idea of giving it a bluegrass treatment -- not exactly the first style you think of when considering things like auto-arranger programs and MIDI. In another case, I had an alternative country song that needed some melodic changes as I felt what I'd originally written was a bit too close to some other songs for comfort. I thought it would be useful to experiment with the melody to some kind of tracks, and that I'd also like to be able to use those tracks as a starting point for a future recording of the song. A separate requirement was that I could record a live vocal. This would allow me to present the revised melody to my co-writer once I had things together, without having to go to the trouble of creating a more polished demo. In both cases, Orchestrator seemed like it could help me get some quick results.

In the first case, I opened up SONAR, using TTS-1 and Orchestrator as before, picked a starting bluegrass style, entered the scale and chord changes, along with fills at strategic points, into Orchestrator's Song Manager, then just started experimenting with various styles. I'm not talking only bluegrass, but various forms of country, and even some styles that were even further away from bluegrass. I picked a style as a starting point, then took a brief detour to try and synthesize a temporary lead vocal with Vocaloid, using MIRIAM as my virtual singer. Bringing that back into SONAR, I now had a temporary lead vocal playing against the Orchestrator arrangement. I hadn't yet figured out how to deal with Morpher mode or Pattern mode tweaks to OOSTyles. However, there were quite a number of styles in the general bluegrass area, and I could get a dynamic that built over the course of the song by changing styles as the song went on, and that is what I did. I think I ended up using a total of four different styles, some of them more than once, over the course of the song. It really didn't take long to get an arrangement I was happy with -- maybe it wasn't going to be a bluegrass classic, but all I wanted was a vehicle to document the song and sound reasonably pleasing -- not like an auto-arranger-generated set of tracks.

With the arrangement feeling reasonable, it was time to try and optimize the sounds. Again I used the "Split Channel to Tracks" CAL program, and looked for the best sounds I had lying around for the individual sounds. For example, Spectrasonics' Trilogy would do the trick for the acoustic bass. I had a Bigga Giggas acoustic guitar patch that was converted to run in NI's KOMPAKT. I found a sound font I liked for banjo, running that under VSampler. I called Garritan Personal Orchestra into service for a solo violin or viola sound for a brief fiddle part (I like to filter that through CamelAudio's SuperCamelPhat2 to turn a classically oriented violin or viola into something a bit grittier for fiddle use). Finally, I ended up keeping TTS-1 in service for mandolin duties. I was starting to smell the mountain air! One little glitch was that I needed an ending, and Orchestrator wasn't very helpful on that front, so I had to do a bit of MIDI editing to close down the song. At this point I got the bright idea that most of the song was sounding sufficiently old-timey that I wanted to try running it through iZotope's Vinyl plug-in to make it sound like an old, scratchy 78 RPM record. I'd had a drum part on there playing through DFH2, but, with the new, old-timey sound, having the drums on there just didn't seem to fit, so I muted that track, and it was a wrap.

You can hear the result, still with the MIRIAM vocal, [here](#) (words and music by Rick Paul, © 2005 Closet Cowboy Music-ASCAP, All Rights Reserved, Used by Permission). (While I've since tracked my own live vocal, with the intention of mixing a final demo/song document version later, I haven't yet had time to comp that and do another mix.) The point in going through all this detail, especially the non-Orchestrator related parts, is that, had I had to create this level of demo completely from scratch, the way I normally might have done, I'd guess it would have taken me a minimum of a week, probably more, and the playing wouldn't likely be as tight as it is here. By contrast, I had this quick demo done in probably 1.5 to 2 days. About half a day was spent working on the synthesized vocal, probably an equal amount of time mixing, and perhaps an hour or two figuring out what final sounds I would use (especially searching for decent banjo and mandolin possibilities). The rest was spent in Orchestrator, mostly playing with styles and the progression of styles. The actual chord entry was extremely quick, especially now that I'd learned how to copy and paste chord progressions and fills. The result was more than adequate for my purposes, too -- I don't even have a temptation to revisit the arrangement, as I'm not looking to cut a master (I'd want to use live

acoustic musicians if I were doing that in a bluegrass style). It made the difference between the song's still sitting on the shelf, with no practical likelihood of my cutting anything beyond a piano/vocal demo of it someday, and having a recording that gives a pretty good idea of the feel I have in mind for this song.

The final song I worked on with Orchestrator in the course of working up this review is still a work in progress for two reasons. First, my initial focus was rewriting the melody, and second, I will ultimately want a much more polished arrangement of this song -- one suitable for pitching, or maybe even for release on an indie album. My reason for using Orchestrator was that I didn't have a huge amount of confidence in how the rewriting would come out. Thus, I didn't want to spend a large amount of time building tracks, yet I still wanted some full tracks to play with while trying to figure out the melodic rewrite. Also, it would be nice to have some tracks to use when ultimately demonstrating the rewritten melody to my co-writer. I figured the worst case would be that I'd use the tracks as temp tracks, and would replace those later, after I was sure the melody and song structure were solid. However, if things came turned out well enough it was even conceivable I might use some or all of the tracks, along with some hand-played tracks, in a final song demo or master. One particular requirement was that I'd be testing out revised melodies vocally, and might want to tweak the song structure while trying things out. Thus, Orchestrator's working inside SONAR (which is where I record my vocals) was a decided advantage.

The song in question was mid-to-up-tempo alternative country -- again, not the kind of style you think of when thinking of MIDI tracks and auto-arrangers. I started out trying various country and rock styles, ending up right back where I'd started, which was with the one style in Orchestrator with all its optional expansion sets that actually has "Alternative Country" in the name. Unlike what I'd seen in the bluegrass area, where there were numerous styles, there was only one here. Thus, if I wanted to use Orchestrator for more than a temp track, I'd necessarily have to learn some of the style instance tweaking modes. However, that could come later. For the time being, I wanted to flesh out the song structure and make sure the chord patterns and fill locations were right, all the while singing on top of the tracks and trying out slight changes to the song structure. Once I got the song structure fleshed out in the Song Manager pane, it was time to decide on a tempo, then track some vocals. Once I got the vocals comped I would play around with the Style Pane customizations, thus allowing me to use the feel of the vocal to play against - - sort of like an accompanist does when following a singer.

At this point in time, I haven't finished comping the vocal, no thanks to a computer disaster that cost me a number of days recovering from it. However, I have spent a fair amount of time playing with the customization possibilities, especially Pattern Mode, to get a feel for how far this might take me toward getting a more polished track out of the single original style. I took a temporary copy of the SONAR project, and started tweaking things using a single take from the raw vocal tracks, adjusting things by feel in Orchestrator to better suit what was going on vocally. While the differences were nowhere near as extreme as using a totally different style, they made a marked difference in the overall feel of the track. In particular, while I am still using TTS-1 at this point, so the instrumental sounds aren't very optimal (this track will have drums, bass, piano, guitar, and organ), it is already sounding a lot more real than I would have expected based on using the single style. Also, I'll be able to use Morpher mode to tweak the dynamics of the arrangement. For example, I might take the organ out of the first verse and leave the piano out of the second. I can also play around with note ranges in Morpher mode to place the accompaniment parts in different ranges vis-a-vis the vocal to suit different parts of the song. In short, I feel pretty confident that this arrangement will work extremely well for work demo purposes, and significant parts of it could even survive through to my end tracks. I will need to add some lead parts, though. (I'll probably also replace at least the piano part, and perhaps also the organ, though -- just out of principle, since I'm a keyboard player.)

Beyond those three specific projects, I've spent a good deal of time trying out different styles, playing around with the Pattern and Morpher modes to try and get a better feel for what they do, and just generally experimenting to get a feel for how I might be able to use Orchestrator. I've considered areas where I've used, or attempted to use, auto-arrangers before, as well as areas I may not have seriously considered using auto-arrangers previously.

Some of Orchestrator's styles are really nice out of the shoot. Others are almost laughable, for example when the original pattern's melodic traits come through too strongly. Of course, this is where tweaking the Morpher Mode settings could be helpful, but in the early stages of auditioning styles that would take too much time.

Sometimes, though, how believable a style is or is not is more about the sounds being used than the patterns themselves, and, to put it bluntly, TTS-1 doesn't do everything well. That's not Orchestrator's fault, of course, but this is where the limitation of only being able to address a single MIDI port, which with softsynths means a single multi-timbral instrument, can become a limitation. I did try one interesting workaround, which was using Cakewalk's Project5 1.5 as a virtual synth rack, assigning specific dedicated instruments to various MIDI channels to suit the sounds of the style I was using at the time. It was an interesting experiment, as it could definitely achieve better sounds based on optimizing what module was used for each specific sound to the needs for the sound. However, whether it was a memory issue, a SONAR or Project5 ReWire issue, or an issue of the types of data various synths liked and didn't like, the experiment didn't work, on account of several strange problems. For example, NI's B4 would make no sound at all when driven by SONAR and Orchestrator through the Project5 ReWire connection, yet it would play just fine if I hit the keys in its user interface in Project5. I replaced B4 with PlugSound's Keyboards Collection module, but that got stuck notes when the Orchestrator sequence started up. I'd been using NI's KOMPAKT for most of the other sounds, and some of those ended up leaving echoes after stopping and restarting the transport, and the instance playing a bass sound appeared to be starting a measure too early. I didn't have time to figure out why all this was happening. To be quite honest, though, that wouldn't have been a very optimal setup anyway due to the extra overhead of running Project5 with the ReWire connection, and losing the advantage of General MIDI-compatible program changes to suit the styles. The net of it was that I resigned myself to sticking with TTS-1 for sounds for auditioning, with the notion that I could always assign dedicated modules after rendering the arrangement to a MIDI track and splitting it out to separate tracks by channel. While a higher caliber GM module might yield better results, especially on sounds where TTS-1 is weak (e.g. electric guitars), the truth is I really don't need to have fantastic sounds at this stage, and can always deal with that once the arrangement is set.

As for the tweaking modes, I have to say I was very pleased with what Orchestrator has to offer, even if a few parts of Morpher Mode are difficult to grasp. My feeling is these tweak-level facilities may allow Orchestrator to go farther than many auto-arrangers can toward achieving results that are closer to the 100% mark. Also, being able to just set up styles and go on the front end brings initial results that are at least on par with, and sometimes more believable than, other auto-arrangers I've tried, most likely thanks to JMT's performance modeling technology's being incorporated into the patterns. Of course, the believability varies on a style-by-style basis, but that has been the case with any of the products I've tried. I do wish, however, that Orchestrator provided a few Band-in-a-Box-style musical tweaking capabilities at the Song Manager pane level. In particular, I would like to see the ability to specify holds, rests, and shots, as well as to isolate which instruments observe those and which instruments continue playing the underlying pattern. Being able to specify pushes and pulls could also be helpful, though Orchestrator's finer resolution on chord change entry helps somewhat.

## Closing Notes

After all my experimentation, which, by the way, I imagine will be ongoing as I've still got a ways to go before I master some aspects of Morpher mode, it was time to think about where I felt Orchestrator might fit into my overall set of work processes. While I've used auto-arrangers from time to time, they have been only occasional players in my processes, mostly at times when I need an extremely quick work demo, where a piano/vocal demo won't suffice to convey the feel I have in mind. Orchestrator can certainly fill that need, though, depending on the specific stylistic needs for the song, I can also envision there being times I might prefer to go back to older tools. In that sense, though, it is like saying sometimes a Strat is the right guitar for a part, and sometimes a Tele is.

What I was more interested in, though, was whether Orchestrator might end up being something I would use more often than I'd used standalone auto-arranger products. For example, would its integration with SONAR, which makes getting started much quicker, make me more likely to use it for cases where I wouldn't previously have gone through the trouble of using an auto-arranger? Would all the tweaking capabilities it provides, which allow it to go further toward creating final tracks, allow me to use it in applications where other auto-arrangers may have fallen short?

On the first count, I feel highly confident I will use it more than I've used standalone products, independent of my ultimate intentions for the tracks it generates. In particular, one of the reasons I am very slow in producing recordings is because I am always overdubbing a track at a time, and it is very hard to get started. Thus, I end up

doing multiple iterations, where perhaps I start with a piano part, then put in drums and bass, then do another piano part that fits better with those, then work on guitars, then perhaps replace the piano part again so it isn't stepping on the guitars (I have a tendency to fill up whatever space exists when playing the piano), and so on. Having something to play along with that I can modify as I go, without having to go out to another application then import files all over again, makes it much more convenient to use Orchestrator to help fill in those spaces that I'd otherwise fill up. My expectation is arrangements might just come together more quickly, even if I end up replacing all the Orchestrator parts with parts played manually or created from loops.

As for whether I'll end up using Orchestrator in end tracks on a regular basis, that's tough to call at this point. I was very pleased with the job it did on the quick bluegrass project, but I also wasn't very demanding on that project as I didn't have any great intentions for the results. I'm not far enough along on the alternative country project yet to say if any of those tracks are likely to be kept, though I think it's at least conceivable I might keep the bass and drum tracks and redo the organ, piano, and guitar. (No matter how good MIDI guitars are in a rhythm guitar context, they just don't seem to be able to match what a real guitar or Virtual Guitarist can do.) As for the pop project, I ended up ditching those tracks altogether and starting from scratch, but Orchestrator was a great help in getting to that point, and, especially, when working on a lyric rewrite after I presented the Orchestrator-generated results around for feedback. (It was also similarly helpful when working on the alternative country melody rewrite.)

One area I hadn't really thought much about previously was that of using Orchestrator in the songwriting process itself, be it rewriting or even working up songs from scratch. I'd never much liked having to use separate applications to help fill things in at the songwriting stage, and I don't want to build tracks from scratch, either, as they'll change too much later on. Thus, I'd just keep any arrangement ideas in my head and work out any song rewrites either in my head or at the piano, recording the results when I felt I had it down. However, I see some advantages to being able to try different things in a way that gets remembered (i.e. in the Orchestrator Song Manager pane). I also like the idea of having a temp track ready to go when I've got things down, rather than having to make sure I remember it well enough to capture it in a piano performance after setting up to record. Also, having Orchestrator work right in SONAR, and being able to tweak the Orchestrator tracks even after a vocal is recorded, means I can lay down a vocal at any point in the process, working on subtleties in the track later. That is a lot harder to do in a piano/vocal context, or when needing to switch between applications to adjust generated tracks that can't be heard in the context of the vocal.

All in all, while Orchestrator isn't perfect, I found it a useful tool. Since the lite version that comes with SONAR 4 is fully functional, aside from its limitation to the included styles, I'd highly recommend anyone who thinks they might have a need for auto-arranger software, or maybe is even already using another auto-arranger product, give Orchestrator a shot. It might take some getting used to, but my feeling is it could be a big boon to efficiency, be it versus using a standalone auto-arranger or just to help fill in the blanks while developing an arrangement through overdubbing. The ease of initial song entry gets you to results quickly, while the tweaking capabilities let you refine things incrementally if you want to do so. If you find you like Orchestrator, and are likely to use it, the only question is whether the 200 styles that come with the lite version are sufficient. If you're like me, though, you can never have too many styles, so you'll likely want the full version of Orchestrator as well as the add-on styles.

*\*Rick Paul is a songwriter living in Southern California. You can contact him at <http://www.RickPaul.info>.*

