I feel like the characters in that old sci-fi film *This Island Earth* must have felt when they received a complicated piece of machinery from another planet and didn't quite know what to do with it. The Zyklus MIDI Performance System is certainly out of this world in that respect, because there has been nothing like it known to man until now. To review equipment which has no parallel is impossible, to fully evaluate a machine like this is only slightly less daunting. Hopefully, I will be able to present the facts and let your imagination do the rest. Close the hatches and stand by for lift off . . .

WHAT IS IT?

You may have gathered from Zyklus' advertising and promotional literature that the MIDI Performance System is a kind of sequencer. It is – but not what we have come to expect a MIDI sequencer to be.

In days of old, before MIDI, there were still such things as sequencers, but where we now look upon a sequencer primarily as a *performance* recorder, it used to be used just for stringing notes together. Nowadays we play the keyboard and the sequencer remembers what we play. Then, a 'sequence' was just a sequence of notes. Some synthesizers had their own internal sequencers which could remember just eight or so notes and play them back over and over. More advanced machines could store 100 notes or so – but without variation in note length and without polyphony. It may sound pretty primitive, but when that's all you have, then you use it to make music. Take a listen to some of those old Tangerine Dream records to find out what the result was like. It may sound old hat now, but at the time it was considered innovative.

Another sequencer freak (note early '70s vernacular!) is the high earning Jean-Michel Jarre. If he made 50p every time *Oxygene* was played as background music on TV, he would be a millionaire. Actually, he does and he is! Jarre's repeating sequences are often of the old, pre-MIDI, type. By setting them going and playing against them he manages to build up a wash of sound that many people find very attractive.

What this is leading me to is the nature of the Zyklus MIDI Performance System. If you think of it as old-time sequencing brought up to date, then you are very close to appreciating the machine and its possibilities. When I say 'old-time', by the way, I do not intend any negative sense. We had a valuable musical tool in the '70s which got a bit rusty when MIDI came along. Zyklus have polished up this old workpiece and extended its capabilities a thousandfold with new technology and concepts. This is the *essence* of the MIDI Performance System. Now I can move on to matters operational.

RANDOM VARIATION

A few years ago I had the chance to act as

Zyklus

MIDI

Performance

System

What the hell's a MIDI Performance System? DAVID MELLOR does his best to explain.

sound engineer on a two-week course for composers, directed by John Cage. (He's the guy who wrote a piece called 'Four minutes and thirty-three seconds' – which consists of four minutes and thirty-three seconds of total *silence*.) On the course were eight professional and semi-professional composers and a dozen or so musicians who thought they would benefit from the experience. I had the impression that the composers thought they would get a platform for their pieces in front of an appreciative audience. Little did they know!

Cage is famous for his use of random procedures. In fact, if anything *intentional* crept into one of his works then he would probably throw it out. At the end of the first day of the course, when each composer had finished a two-minute piece, instead of performing them one after another – in the conventional way, you know – they had to perform them *simultaneously*, then in various combinations. You should have seen the

looks on their faces! They were all pretty naffed off about this because they didn't get to show off their new pieces properly.

I could stand back, however, and appreciate what was going on. Cage wanted the composers to hear the chance events thrown up by the random combinations of sounds and hopefully gain new ideas from the experience. I certainly learned a lot, and I always leave space in my compositions for random variation.

The MIDI Performance System is an ideal source of random variation. It enables control of 99 sequences from a MIDI keyboard and from its front panel. It is not simply a gadget for recording notes and playing them back. It is a machine for *experimenting* with musical ideas, putting them together in different order and different combination and seeing what comes out – improvising at the keyboard, but instead of single notes coming from each key press, each key press triggers a sequence. Didn't I say that you would have to use your imagination? Try this . . .

You hit middle C on your keyboard and a drum pattern starts. Press two buttons on the Zyklus, hit low C and a bass line pulsates. Two more buttons, hit high C and a flowing pattern of notes emerges. Play other notes and this pattern changes key, harmonises with itself, and plays louder or softer as you touch the keyboard. Other buttons on the Zyklus bring in other patterns, separately or in combination. Get the idea?

PLAYBACK

There are three principal modes of operation: recording, playback and performance. In the normal course of events, recording would be the obvious choice for starters. With the MIDI Performance System, it's better to imagine that you have several short sequences already recorded, which may be notes, runs, chords – in fact, musical elements which could be put together to form a whole piece. Twelve totally independent sequences can be performed separately or together in any combination. They may be triggered by buttons on the machine itself, by a footswitch, or via a MIDI keyboard. The keyboard method allows instant transposition of sequences and a rich texture can be built up very easily in this way.

There are 12 control buttons positioned below the display window. Each of these can have a sequence (any of the possible 99) assigned to it. In playback mode, the MIDI destination of each control button can be set and displayed. There are four MIDI Out sockets so the MIDI channels are identified as A1, B16, C3, D10, etc. The possibility of having 64 separate MIDI channels is enticing, although the expense of the synths and expanders is daunting – not to mention the size of the mixing console! When you wish to assign a previously
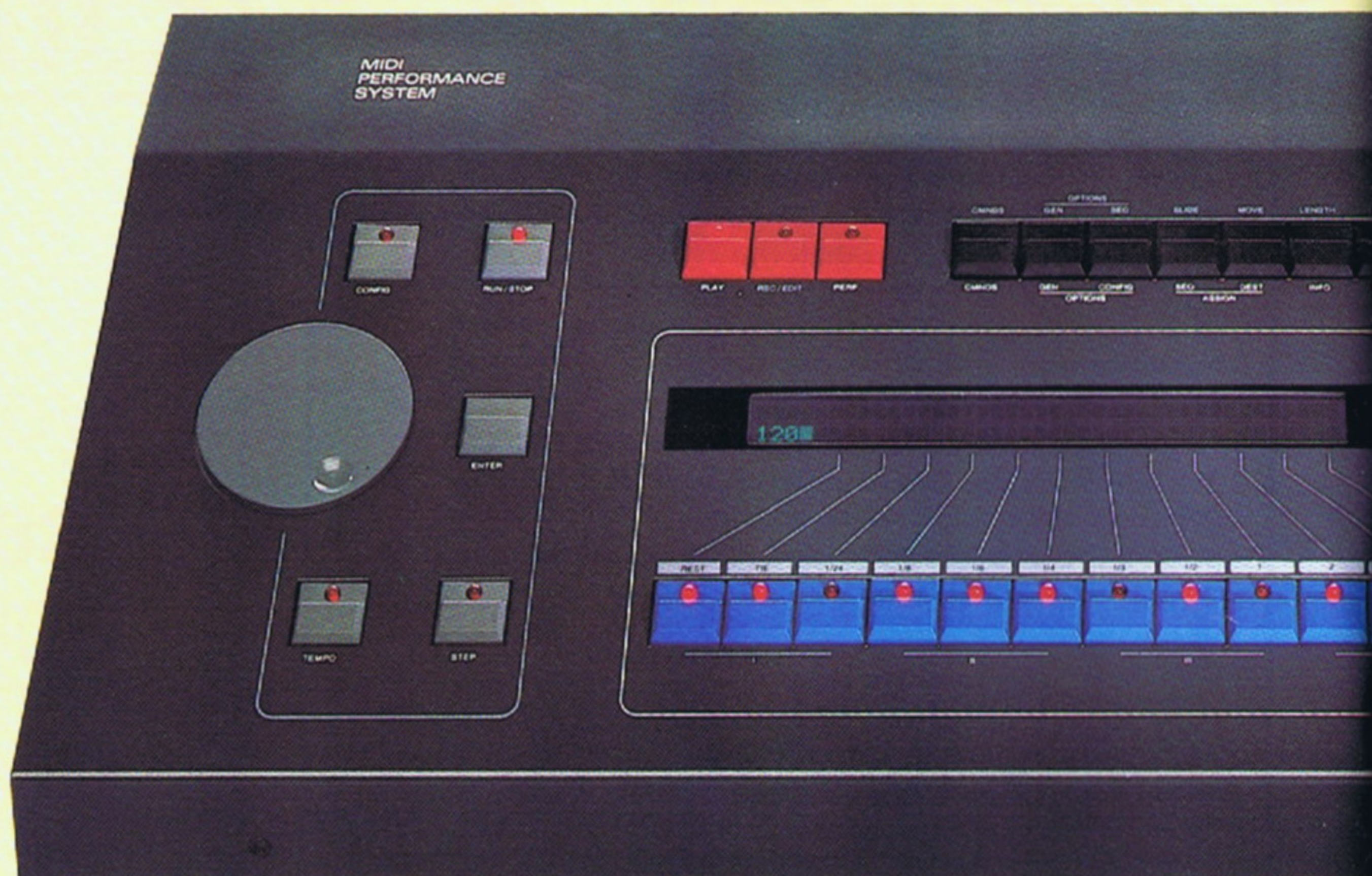
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Zyklus MIDI Performance System

recorded sequence to a control button, the display takes you through a number of options. The first is the Sequence number, where you choose which of the 99 sequences you want to call up with this particular button. As each sequence can have a name as well as a number, this should be straightforward. The length of

the sequence is also displayed.

After this the Repeat mode is set, which is either Repeat, Single-Shot or Hold-At-End. Obviously, Repeat means over and over; Single-Shot causes the sequence to be played once; Hold-At-End is the same but with the last note or chord sustaining until switched off.

Velocity Ratio specifies the way the original velocities of the recorded sequence will be played back. For instance, if you trigger a sequence from a MIDI keyboard, you might want the sequence to be replayed at its original note velocities regardless of the velocity of the key you subsequently press to trigger the sequence. On the other hand, you might want a certain amount of say in how loud a sequence will be played. There is a range of five ratios available.

Assign Destination, which I briefly described above, is used to decide which MIDI Out will be used for the particular control key and which MIDI channel. There is a wide range of possibilities here:
• MIDI PROG; a MIDI Program Change command can be sent the first time a particular sequence is activated.
• MIDI MODE; a MIDI Mode message (1, 2, 3 or 4) can be sent to the assigned destination when a sequence is first activated.
• LOCAL; this allows a Local On or Local Off message to be sent to the assigned destination when a sequence is first activated.
• EFFECTS PROGRAM; this allows programs to be changed before a sequence is played.
• TOTAL RESTART; when no sequence is running, this facility can transmit all program change messages and all effects program changes, which have already been set. All sequences are restarted and a MIDI Start command sent.
• TUNE KEY; this will sustain each note played on the MIDI keyboard until another is pressed.

After going through the above procedure . . . Actually, I'm making it

sound more complicated than it is. If you want to get something up and running quickly, then you don't have to go through all that every time. These facilities are there if you want them, perhaps not for everyday use but they are there, and they are invisible until you conjure them up.

More important for getting the best out of the MIDI Performance System are the Trigger Profile buttons. I wish Zyklus had thought of a better name than that because it makes the available musical options sound technically obscure.

The Trigger Profile buttons – there are 12 of them – determine how the MIDI Performance System responds to the MIDI keyboard during actual performance. The simplest option is to have the keyboard switched off and to trigger sequences directly from the Zyklus' control buttons. Enabling the keyboard brings in extra options: the control buttons now place sequences in a state of readiness to be activated by key presses. Each sequence can be transposed according to which key you press. Middle C plays the sequence at its original pitch. Any key above transposes up, any lower key transposes down.

An interesting feature is when new sequences are 'readied' by pressing their control button, the old sequences which are already running have their pitch *locked* so that the performer has a running backing over which he can improvise new sequences, at different pitches.

The Build button makes it possible to allow sequences to build up at different pitches, even though the notes on the keyboard are not sustained. Cycle allows sequences which are ready to play to be triggered one by one from the keyboard.

I could go on to describe all 12 of these Trigger Profile buttons, but since there is no other sequencer to compare with this machine, it becomes difficult to describe what any of the effects can sound like. There are many possible combinations here. I'm sure no-one, not even the designer, has tried them all yet. Let's move on to more understandable matters.

from 1 to 16. Also, types of data – pitch bend, aftertouch, etc – can be accepted or filtered out.

Sequence options include:
- TIME SIGNATURE; between 1/2 and 32/8.
- KEYNOTE; sets the base note for transpositions. For example, if the keynote is set to middle C, then the sequence will play back at its original pitch when middle C is pressed.
- QUANTISE; quarter-note to 1/96th note resolution.
- NAME; up to six characters.

Editing options include:
- SLIDE; this permits the insertion or removal of blank space in a sequence to make it longer or shorter.
- MOVE; this shifts the start points of notes without altering the overall timing of a sequence.
- LENGTH; adjusts the duration of individual notes.
- VALUE; alters the numerical value of events. This would be velocity for note-on events.

Record/edit commands include:
- PUNCH; punch-in and punch-out points can be set so that the drop-in operation is performed automatically. This can also be done manually if required.
- DELETE; it is convenient to delete whole sections by moving the start and end pointers for this function.
Note: Both the punch and delete points can be set at *any* point in the sequence, not just on the bar line, as with some sequencers.

PERFORMANCE

So far, I have explained the recording of sequences and how they can be played back in various ways and combinations. What we need now is a sort of super sequencer which can 'sequence' the playback of sequences. Thankfully, Zyklus have thought of that one already. A *performance* is just that – a sequence of sequences.

To record a performance is the work of a couple of button presses. Whatever you do next as part of your performance is logged. All MIDI key presses, all control button presses, all trigger profile buttons. In other words, whatever you do to get a nice noise out of the system is recorded. Punch-in can be performed and so can editing. As the manual says, "When performances are edited, it is sometimes necessary to keep a clear head." (!)

Obviously, MIDI note-on messages are shown clear enough on the edit display, but there are other types of data. Zyklus have invented symbols to display what is what. For instance, a figure '8' with an up arrow means that a control button has been switched *on*. A down arrow means it is *off*. A '+' with a 't' below indicates a tempo increase . . . There's a lot to handle here, but handled it can be.

The more I write, the more I get the feeling that I am only scratching the surface. I haven't yet mentioned the use of the MIDI Performance System as a MIDI control station. Any control button, as an alternative to having a sequence assigned

CONFIGURATIONS

I don't know how many possible combinations of sequences and assignments there must be – probably zillions, if not squillions, when other options are taken into account.

When you have set up the MIDI Performance System to something that you like and want to keep, it is possible to call this a 'configuration', name it and store it. There are 24 memories set aside for these. As in the case of the assignment options, there are 'hidden' options here too. For instance, you may want to set a configuration so that any sequence currently running will be stopped when the configuration is changed. Perhaps you would like certain sequences to be exempt from transposition – drum patterns, for instance. I'll give the other seven options a miss so that you'll have fun finding out about them when you buy the machine. That's my excuse for finding them hard to explain without knocking on your door with a MIDI Performance System under my arm to demonstrate!

RECORDING

Now that I have outlined – and it is only an outline – the playback mode, I can backtrack to the record mode.

Recording is pretty much the same as on a conventional MIDI sequencer, except that the operation is tailored to suit the playback-oriented nature of this machine. On a conventional sequencer, playback consists of hitting one button and that's it.

Recording options to be set include:
- NOTE LENGTH; this is expressed as a percentage of the currently selected step size, in step-time recording.
- METRONOME; allows the internal metronome to be switched on or off. The externally available metronome is permanently on.
- CLOCK; internal, MIDI, or external (24, 48 or 96 pulses per quarter note) are the options.
- INPUT OPTIONS; allows the incoming MIDI channel to be selected to OMNI or

CONSTRUCTION

The Zyklus MIDI Performance System is intended for professional use and is therefore built to a high standard using a folded steel case. Heavy-duty DIN sockets are fitted, of a type found to be extremely reliable in the past. All rear panel connectors are connected via a wire loom, rather than PCB-mounted connectors.

The front panel switches have a precise, positive action. Many have LED indicators to show their status. The display is an illuminated liquid crystal type with a maximum of 80 characters.

FRONT PANEL LAYOUT

The three red mode buttons select sequence record and playback or performance record and playback. The 12 control buttons are used for selecting and triggering sequences in real time. They also select step size during step-time recording.

The 12 trigger profile buttons allow the selection of "several hundred" sequence triggering modes.

The alpha-dial controls (five buttons and rotary control) are used for scrolling through sequences during editing, changing tempo or configuration in real time, and for selection of function key options.

to it, can act as a MIDI Thru with keyboard zoning and octave transpositions. Using this, a live performance can be integrated with a performance of recorded sequences – all from the same keyboard and having access to up to 64 synthesizers.

VIEWPOINT

It remains to be seen who the users of a system like this will be. [Editor's note: apparently Vangelis has one and improvised with it during a concert held last year in Athens, Greece.] It's definitely a professional tool, the £1995 price tag tells us that. In a professional working situation, my guess is that it will be a two-person job to operate. One person being the musician or composer, the other being the 'Zyklus expert'. The MIDI Performance System is full of musical possibilities and is inevitably complex. I doubt whether one musician could operate it to the full and still have brain power left for the business of making music.

Another point is whether the MIDI Performance System could do double duty as a conventional MIDI sequencer. To be perfectly honest, I just don't have enough experience with the machine to make a valid judgement. Put it this way, don't expect to buy one and be using it as a conventional MIDI sequencer in a few minutes – you won't. It doesn't work in the same way and a whole new set of reflexes would need to be developed to contemplate this.

The potential purchaser of this system is not going to be the person with a problem looking for a solution, rather the adventurous type who sees this as a potential for musical exploration. Do *you* measure up? *SOS*

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