Sadie LRX

Location recording can fall into a number of categories and involve a variety of formats and media. However, it's the total package and the satisfaction that surrounds the experience that wins the hearts of the hard core location recordist. ROB JAMES feels an acronym coming as he lays down the LAW.

HOW MUCH RISK are you prepared to tolerate? The 'Nanny State' is ever more pervasive and people are becoming more risk averse. Despite this, we all take risks with recording media every day. With analogue recordings, tape and film, the dangers are easy to see and quantify and it is relatively straightforward to design workflows to minimise risk. In any event, unless you actually lose the tape or roll of film, most problems only affect a small part of the recording, a hair in the gate for one shot, a graunched section of tape, etc.

Hard disks and CD-R/DVD-R suffer from the big disadvantage that damage to the medium generally results in catastrophic failure. Recovery, even when possible, is expensive and time-consuming. However, if properly assessed and reduced to an acceptable level, the benefits can outweigh the risks. Recording audio on a film set or in a concert hall is a very different matter to recording an Everest expedition. Confidence also plays a part. For example, the laptop has become an important part of the recordist's armoury and experience had shown that reliability is adequate for location use. These same recordists have long expressed a desire for what, for want of a better term, we will call a location audio workstation. (I feel the acronym coming on already — LAW). The LAW should be simple to operate, at least when recording, and complement other location recording machines.

The elves at Sadie's R&D centre have been listening attentively to all this and LRX is the result. A rugged box with versatile I-O, DSP, hardware control and software optimised for location recording.

In overview, LRX can be considered as a conventional Sadie workstation. The special software version, MTR, or multitrack recorder software, is intended for users unaccustomed to Sadie, or with computers and workstations in general. Also ideal for hire work, this is designed to be a very simple, one-window interface, location recording package. Although the MTR software enables the user to record audio with a minimum of foreknowledge and button presses, the LRX also comes with the familiar Sadie 5.x workstation software you would find on a PCM-4, PCM-8 or H-64 multitrack. The LRX control surface can access all the Sadie mixer strips, input and output, EDLs and project files in MTR and the full Sadie 5.x are identical.

Key to success is the flexibility conferred by the three 'Slither' I-O slots. I had some nice fantasies about how this name arose but the real explanation is rather more prosaic — one of the designers used 'slither' to describe the action of inserting an interface card and the name stuck. Slither cards, originally developed for the H64, are available in many flavours. Perhaps the most significant in LRX context are 16-channel AES I-O, 16-channel analogue line in, 16-channel analogue line out and 16-channel mic/line in with proper fader control of the analogue, pre A-D gain. A 56/64 channel MADI Slither will also be available. Depending on type, physical input and output channels can be routed singly or in pairs to any logical Sadie I-O.

LRX is no lightweight. The unit's decidedly hefty steel case also provides a platform for the heaviest laptop to sit on.

Top and tail

Each of the eight channel strips has a touch-sensitive motorised fader with three level/status indicator LEDS, a two character alphanumeric display, Record Enable and Pre-fade listen illuminated buttons.

Three LEDs indicate when the LRX is locked to external Timecode, Ext Clock or Video. A Bank Select key and Mode key determines which logical channels are controlled and which of four functions the fader affects. ALT can be programmed to a variety of parameters in software; Pan puts the faders on the centre, orange marked position, up becomes right-pan and down becomes left. Input and Output gains complete the set.

Input gain is only active when a mic/line card is installed and affects the pre-A-D analogue gain. Play, Stop and Record are three, chunky, internally illuminated keys. Above these, the Jog/shuttle wheel has round, internally illuminated, concentric control buttons with the same default mapping as the BB2-J. The big bar is Preview and clockwise from this come Select, XFade, EDL/SRC and scrub. Anticlockwise, Razor, In, Out and Zoom. At the top, six more keys give direct access to Set, Previous and Next locators, Cut and Paste edit keys and a Mode key that will be used to switch the operation of the other keys to context-sensitive alternative functions. On the far right, the assignable master fader has a talkback key at the top. A 3.5mm jack socket on the side of the LRX is the powered mic input. The vertical front panel has a headphone socket and volume control.

At the rear we find a 25-pin D-sub male for GPIO, three Slither Slots, 4-pin XLR for 12V power, LR monitor phonos, XLR AES ref in, BNC video ref in, XLR LTC I-O and a 4-pin USB-2 socket.

The AES interface is single wire up to 96kHz and dual-wire for 192kHz, the maximum sampling rate. The analogue cards are all 96kHz capable. Sadie routinely supplies 2m breakout looms from D-sub to XLR. Alternatives include phonos, jacks or D-sub to D-sub.

Transport keys are internally illuminated and are suitably industrial in feel. Not that you should ever hit buttons like a gorilla but when the pressure is on, it happens. Even the most banana-fingered recordist will have no problem here. A temperature-controlled fan keeps the LRX cool. Not the quietest I've ever heard, even when the speed is reduced by software. Signal processing, mixing, busing and Sadie effects, is undertaken by the onboard DSP. The PC is used for control, display, processing Direct-X and VST plug-ins and to read and write audio data from the hard drive(s). Data transfers between the LRX and the host computer are over USB-2. In most circumstances, Sadie recommends an external FireWire or USB-2 drive for audio storage when used with a laptop. A 7200rpm drive will generally be adequate for recording up to 48 tracks of 48kHz 24-bit audio. At 96kHz 24-bit high track counts will require splitting across a couple of drives, something the Sadie software handles with ease.

According to Sadie's Jim Gross, the original LRX concept was for a 16-track portable recorder with three Slither slots populated by 16 channels of analogue input, 16 channels of analogue output and 16 channels of AES I-O. With the optional DSP expansion (circa UK£500 + VAT) 48-track recording becomes possible, so you might well have all three slots populated by analogue input Slithers or AES I-O Slithers. Obviously, it is possible to mix and match to suit the application. Base price for an LRX is £4500. Slithers start at £800.

MTR has been kept deliberately clean and simple. Apart from the main record page there is a clip store with a pop-up yellow window to view metadata. Below the clip store metadata can be entered. Take numbers are automatically incremented on record. This metadata is written as the file is recorded but can still be modified after the event if necessary. At the bottom of the screen the navigator pane allows you to move rapidly to anywhere in the project.

Currently, there is no record buffer, but this is high on the wish list for the next version. At present it takes around half a second for recording to begin after pressing the button.

Waveforms are generated on the fly, as with all other Sadies. Primary and secondary record destinations can be specified so you can have an immediate safety copy. Files are continuously updated during recording so a catastrophic failure, e.g. pulling the mains plug, will lose at most ten seconds of audio.

An 'optimised record mode' improves performance with high track counts and standard drives. Essentially, this means that any track armed for recording does not play back the existing EDL, reducing the load on the disk.

Many location-recording applications require a stereo mix at the same time as a multitrack recording. In fact the multitrack is often just a 'get-out-of-jail-free' card if the mix engineer makes a mistake. The LRX can produce a controlled stereo mixdown concurrently with the multitrack. The mix is based on the contribution of the LRX faders when in Output mode. Similarly, Pan affects mono channels' contribution to the stereo mix. Recordings can be made in many different file formats and also, using MacDrive, directly to a HFS+ formatted FireWire drive. If editing is done in Sadie on location, the project can be exported: AES 31, AAF, Pro Tools Session (5) and OMF import and export are all supported. As with all other Sadies, the full V5.x software can record and playback a video stream within the playlist using Windows Media Player as the underlying engine. Typically, FireWire is used for input with an external convertor box. The video stream can be manually edited or conformed to a change EDL. When used with a desktop PC, Sadie usually supplies a special Matrox Parhelia graphics card to improve accuracy and stability.

Sadie considers the LRX to be unique. Whether for classical music, radio OBs or trolley recording for film the LRX has all the controls you need, including touch-sensitive motor faders, on a single panel with no need for a mouse. Add in the possibilities of 48 phantom-powered mic channels and MADI interface option and I'm inclined to agree. When compared with a Sadie studio system with hardware control surfaces and Timecode, etc. the LRX also makes a lot of sense. With line-in and AES slithers, the DSP upgrade and CAT RS422 card an LRX costs around £7500. LRX can, of course, accept any of the usual Sadie options such as CEDAR processing.

So, the LRX is easy to use, convenient and reasonably secure. As Jim Gross says, 'If you want to further reduce the hazards of location recording, run off a UPS and have two drives, primary and secondary. For the totally paranoid, put it in record and leave it alone and take along a second recorder.' ■

PROS	Well aimed; construction inspires confidence; versatile.
CONS	Fan is somewhat vocal; unit can seem a bit bulky when used without a laptop.

Contact

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