CHAPTER 6

APPLICATIONS

OVERVIEW

This chapter is designed to give you an idea of the multitude of applications for the XT. These applications are not broken down into great detail. Therefore, where applicable you will need to refer to other sections of this manual for instructions on how to setup the XT for a particular job.

COMBINED MULTITRACK/MASTERING DECK

The XT can serve as a combination 6-track multitrack recorder and 2-track mastering deck. Record your audio onto tracks 1–6, then run them through a mixer, using the sub or group outs to send them back to tracks 7 and 8. Tracks 7 and 8 will contain the stereo master recording; their outputs should then be connected back to the mixer's 2-track playback inputs.
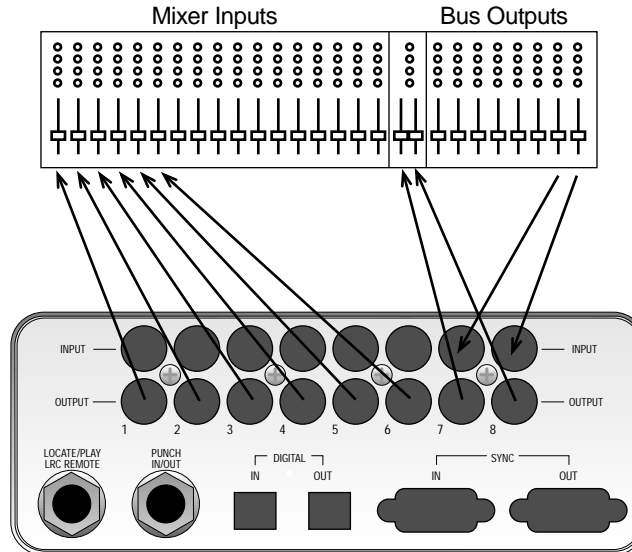
In addition, an external synchronizer connected to the XT's [SYNC OUT] can output SMPTE or MTC to simultaneously synchronize a MIDI sequencer to tape. This way, you can mix down not only the first 6 tracks from the XT but your "virtual" tracks on the sequencer as well, all onto tracks 7 and 8.

If you are using a multiple machine system (with one or more XTs and/or ADATs), you can dedicate any two tracks in the system for a stereo mix. Because all machines are perfectly synchronized to one another, you can punch-in and -out of the mix itself. This opens up all sorts of possibilities, like changing the EQ, effects and other mix settings for different sections of the mix.

LIVE/LONG-TERM RECORDING

The XT is excellent for live recording because of its compact size and easy operation. Eight tracks allow for recording audience sounds, ambience, and individual soloists as well as a stereo mix of the PA. Of course, multiple machines may be interconnected and synchronized to allow for more tracks.

When using more than one XT, you can increase the recording time by manually placing the second machine into record just before the first machine is at the end of its tape. Naturally, the audio signals would need to be split and connected to both sets of inputs.

If you are using an Alesis BRC with a multiple ADAT system, you can take advantage of a feature called *continuous recording*. By splitting the system into two (or into two sets of machines), you can offset the second set by a specific amount of time. *Example:* A 35 minute offset would provide 5 minutes of overlap. The second set of machines would automatically kick into record just before the first set's tape ran out. Refer to chapter 5 for more details on connecting multiple ADATs; refer to the BRC Reference Manual for more information about continuous recording.

Besides the typical 120 minute type of S-VHS tapes (which provide 40 minutes of digital audio recording time), 160 minute tapes are also available (which provide over 53 minutes recording time). And the new 3-hour (180 minute) tapes provide over an hour of digital recording time. The XT must be setup for the length of tape being used. This is done within the Main Function Menu.

To set the tape length:

¿   Hold the [SET LOCATE] button and press the [FORMAT] button;
This display will briefly read "St-60".

¡   Repeat step **1** to advance through the available tape length choices.
The display will briefly read:"St-120", "St-60", "St-160" and "St-180".

Below is a list of the four S-VHS tapes which can be used with ADAT, with their European equivalents and approximate recording times:

Type	Euro	Rec. Time
ST-60	n/a	22 min.
ST-120	SE-180	40 min.
ST-160	SE-240	54 min.
ST-180	SE-260	62 min.

Note: European tapes are actually slightly longer than their US equivalents. Therefore, you may get a few more minutes if using European tape.

Refer to page 52 for more information about tape length.

LOCKING TO VIDEO: CODE ONLY MASTER

A common application in the audio post-production environment is locking to video using the timecode on the video tape as a locate reference and the video signal itself as a clock source. This requires a synchronizer interface, such as the Alesis AI-2 or BRC. The connections consist of running a balanced 1/4" TRS cable between the AI-2's [SMPTE IN] connector and the VTR's SMPTE OUT (if timecode is recorded onto either the left or right audio track of the tape, connect the cable to the proper channel's output connector) and a BNC connector from the house sync being provided to the VTR (such as a black-burst generator), or the VTR's video out to the AI-2 [VIDEO IN]. The AI-2's [SYNC OUT] to the XT's [SYNC IN] connector.

When the XT detects an on-line AI-2, it will ID itself as a slave (ID 1) and the Clock will automatically switch to External (the EXT icon will light in the CLOCK icon group). Refer to your AI-2 Reference Manual for more information.

COMPUTER CONTROL

MIDI SYSTEMS: VIRTUAL TRACKING

Lately, many sequencing software manufacturers have been integrating digital audio hard disk recording and playback into their sequencers. However, the XT can offer much of the same flexibility without the added expense of a new program (or upgrade) or the hardware that accompanies a hard disk recording system. This requires a timecode interface, such as Steinberg's ACI or JLCooper's DataSync 2, which will convert the XT's timecode (which is recorded when a tape is formatted) into MIDI Timecode (MTC) which a sequencer can synchronize to.

Connect the [SYNC OUT] from the XT (or from the last slave in a multiple ADAT system) to the [SYNC IN] of the timecode interface you are using. Connect the timecode interface's [MIDI OUT] to the [MIDI IN] of you sequencer. Set your sequencer to synchronize to the MTC being received from the timecode interface. As you control the XT's tape motion with the transport controls, the sequencer will automatically follow along, letting you mix digital recordings with virtual MIDI tracks on a MIDI sequencer.

MIDI MACHINE CONTROL: VIRTUAL REMOTE CONTROL

Many of the computer-based sequencing software programs today have implemented MIDI Machine Control (MMC) into their sequencers. MMC is a specification implemented by the MIDI Manufacturers Association (MMA) and the Japan MIDI Standards Committee (JMSC) which details a set of messages that provide a universal way of having sequencers and tape machines speak to one another (not to mention tape machines talking to each other). These messages include: basic transport functions (like Play, Stop and Record), Locate functions (go to a specific tape location), Track functions (record-enable, input monitor, track delay), and many other types of messages. However, not all sequencers send out all these messages; some even send only basic transport commands. The total amount of control you have over your XT depends entirely on how much of the MMC specification has been implemented in the software you use.

First, make sure your sequencer is receiving MTC from the XT (see previous section). In addition, connect the [MIDI OUT] from your computer's MIDI interface to the [MIDI IN] of the timecode interface; then connect the [SYNC OUT] of the timecode interface to the [SYNC IN] of the XT (of the master in a multiple ADAT system). Refer to the manuals for the timecode interface and your computer-based sequencer for instructions on how to set them up for MMC applications.

If your sequencer generates MMC commands, you should be able to put your sequencer into play and have the XT follow along. However, don't be surprised if the XT does not immediately go into play. When a PLAY command is sent from the sequencer, the XT is issued a locate command, telling it where the sequencer is positioned (in timecode). The XT may first have to fast forward or rewind to get to the same location as the sequencer. Once this is done, the XT should resume playback which is when timecode is sent to the timecode interface, which converts it into MTC, which causes the sequencer to go into play. In essence, the sequencer is always locking to the XT's timecode, while the transport commands you issue from the sequencer act as remote functions.

LIBRARIES AND ARCHIVES

The XT is superb for archiving purposes, such as speeches and broadcasts, stereo mixes or libraries of stereo samples. The XT can record over eight hours of mono material by recording approx. 60 minutes on each track (using ST-180 tape). Over four hours of stereo mixes or samples can be recorded by mixing down to four sets of stereo pairs (1/2, 3/4, 5/6, and 7/8).

MODULAR RECORDING

Collaborations work particularly well with a system or two or more XTs (and/or ADATs). You can record your tracks onto the master machine, then do a premix onto two tracks of a slave machine, which is of course perfectly synchronized to the master. Send this tape to your partner, who adds parts on the other tracks. When the tape comes back, just pop it into one of your machines, and your partner's parts will be in sync with the original tracks you laid down.

You may wish to include documentation with your tape which indicates the Track Delays values, Tape Offset amount and/or Locate Point positions, so your partner can recreate the same parameter settings you were using. Or, if you're both using BRC remotes, save your setup to the "data" section of tape (this is called saving the Table of Contents, or TOC). This way, you partner can pick up right where you left off.

USING TRACK COPY AS A DIGITAL ROUTER

In a multiple ADAT system which combines one or more XTs and one or more original ADATs, you can use the XT's Track Copy function as a way to reroute its digital output to different tracks on the ADATs.

Let's say you have one XT which is the master, and one ADAT which is the slave. When you normally record the digital output of the XT to the ADAT, the tracks are transferred on a one-to-one basis. In other words, track 1 of the XT is recorded onto track 1 (9) of the ADAT, track 2 goes to track 2 (10), and so on. By using the Track Copy function on the XT, any track on the XT can be sent on a different channel. For example, you could have track 1 transmitted as channel 8, which means you can record it onto track 8 (16) of the ADAT.

In the following steps , we will illustrate how to accomplish the above example:

¿   On the XT, press and hold [TRACK COPY].

¡   Press RECORD ENABLE [1] to select track #1 as the source track.

¬   Release the [TRACK COPY] button.

÷   Press RECORD ENABLE [8] to record enable track #8 on the XT.

ƒ   Press [DIGITAL IN] on the ADAT and press RECORD ENABLE [8] to record enable track #8 (16) on the ADAT.

ª   Press [PLAY] on the XT.

D   Press [PLAY] and [RECORD] on the slave ADAT.

CALCULATING TAPE OFFSET USING THE LOCATES

The Alesis BRC provides a way of setting tape offsets using any of the 20 Locate memories in a song. This means you can set a Locate at one point, another Locate at another position, then have one of the slave ADATs offset by the amount of time between those two Locate positions.

The XT allows you to set a Tape Offset by entering a time reference. For example, if you were to set a Tape Offset of 5 minutes (0:05:00.00) and the rest of the ADATs were at 0:03:23.15, the XT would be at 0:08:23.15.

But let's say you don't know the time difference (i.e. the offset amount) between two sections of music. For example, let's say you wanted to bounce the vocals from the chorus 1 section of a song on an XT to a slave ADAT, then bounce them back to the XT while it was offset to the second chorus. To do this, the XT needs the exact offset time between these two positions in the song. So how many minutes, seconds and hundredths-of-a-second away is chorus 2 from chorus 1? Here's a way to find out by using the Locate Points.

¿   Play the tape(s) back from just before chorus #1.

¡   Press and hold [SET LOCATE].

¬   When you get to the downbeat of chorus #1, press [LOCATE 0].
This sets the TIME counter to 0:00:00.00 *, and automatically selects Relative Time mode (the* REL *icon will light to the left of the TIME counter).*

÷   While still holding [SET LOCATE], press [LOCATE 5] when you get to the downbeat of chorus #2 .

ƒ   Press [STOP].

ª   Press [EDIT VALUE], then press [LOCATE 5].
Edit Mode will now be selected. The TIME counter will display a time for Locate 5 (like 0:00:47.30*). Write this number down or memorize it.*

D   Press [TAPE OFFSET] (while still in Edit Mode) and enter the value that was displayed for Locate 5 (0:00:47.30).
To do this, press and hold the [EDIT VALUE] *button and press* [LOCATE 4]*,* [LOCATE 7]*,* [LOCATE 3] *then* [LOCATE 0]*; then release* [EDIT VALUE]*.*

«   Press [EDIT VALUE] to exit Edit Mode.

»   Press [TAPE OFFSET] to turn the Tape Offset function on.