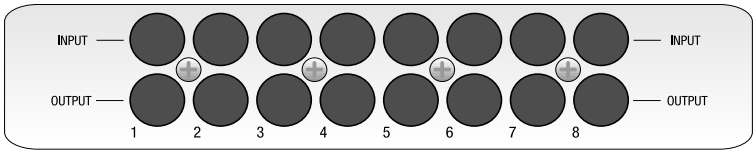
CHAPTER 3

CONNECTIONS

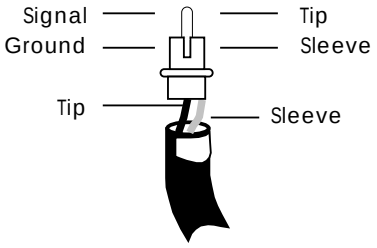
ANALOG AUDIO – UNBALANCED INPUTS

INPUT JACK CHARACTERISTICS

The XT includes eight unbalanced, phono jack inputs. These are compatible with low-impedance, unbalanced, -10 dBV outputs typical of equipment such as mixers, synthesizers, samplers, direct boxes, etc.



The unbalanced input jack wiring convention is as follows:



TYPICAL INPUT JACK HOOKUPS

The input jacks are typically hooked up in one of three ways:

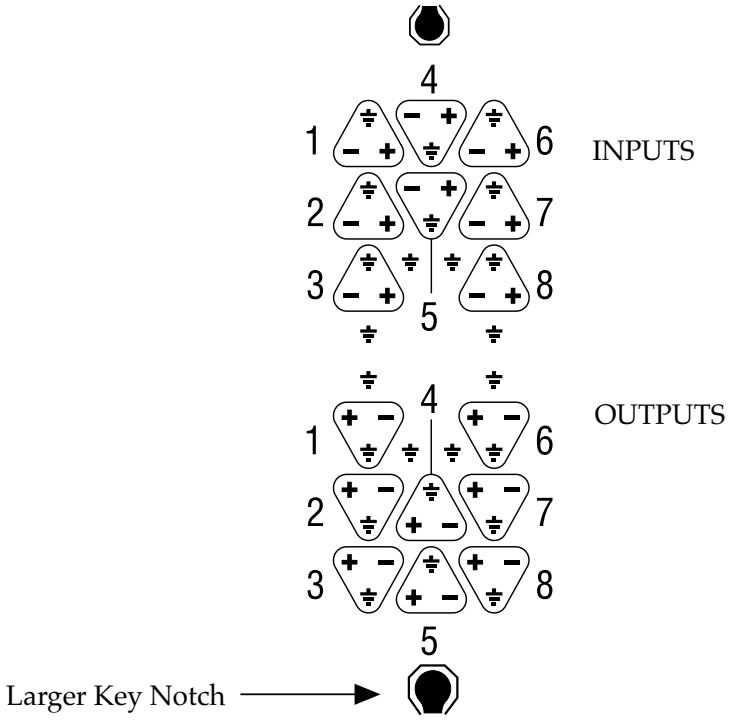
- **To the console's direct tape outs (these patch a single channel directly to tape, bypassing most mixer circuitry).** This is preferred when the signals going to tape require none of the mixer's features (effects, grouping, routing, etc.).
- **To eight mixer bus outputs.** You can use the mixer for grouping, premixing, effects, etc. This puts more circuitry between the input signals and XT, although since most routing can be done at the mixer, you'll seldom need to do any repatching.
- **To a combination of direct outputs and bus outputs.** Some situations require a combination of the two approaches. *Example:* Consider a live gig you want to record with two vocal mics, four mics on drums, two direct feeds from guitar and bass amps, and one direct feed from keyboards. The vocals, bass, guitar, and keyboards could be taken direct and go to five XT tracks. The four drum mics can be mixed to stereo within your mixer sent to the submix outs, then go to two XT tracks. The remaining XT track could be used to record audience sounds or capture one of the instruments in stereo, if applicable.

ANALOG AUDIO – UNBALANCED OUTPUTS

The -10 dBV outputs use RCA jacks, and carry signals at a nominal -10 dBV level. These should be connected to your mixer's channel line inputs or tape returns. The unbalanced outputs wiring scheme is similar to that of the unbalanced inputs (see previous section).

ANALOG AUDIO – BALANCED INPUTS AND OUTPUTS

The +4 dBu balanced line inputs and outputs use an ELCO® multipin connector. The balanced in/out connector wiring scheme is as follows:



Note: The larger of the two outer key notches is at the bottom.

J *Both the unbalanced and balanced inputs and outputs may be used simultaneously.*

Pin out letters are referenced to the alphabetical designation on a standard 56-pin ELCO connector.

Channel	GND	NEG	POS	Channel	GND	NEG	POS
In 1	NN	JJ	HH	Out 1	Z	c	d
In 2	CC	y	x	Out 2	P	U	V
In 3	t	n	m	Out 3	D	J	K
In 4	FF	MM	LL	Out 4	T	M	N
In 5	w	BB	AA	Out 5	H	B	C
In 6	KK	EE	DD	Out 6	W	a	b
In 7	z	v	u	Out 7	L	R	S
In 8	p	l	k	Out 8	A	E	F

Additional grounds: r, s, h, j, e, f, X, and Y.

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ANALOG AUDIO – INPUT MODE

The XT lets you choose one of three Input Modes for both the Unbalanced and Balanced inputs:

2-Input Mode	Input 1 feeds Tracks 1, 3, 5 and 7. Input 2 feeds Tracks 2, 4 , 6 and 8.
4-Input Mode	Input 1 feeds Tracks 1 and 5. Input 2 feeds Tracks 2 and 6. Input 3 feeds tracks 3 and 7. Input 4 feeds tracks 4 and 8.
8-Input Mode	Each Input feeds its own track.

The reason for these three modes is to take equal advantage of 2, 4 and 8 bus mixing consoles. If you have two buses, connect them to inputs 1 and 2. If using four buses, connect them to inputs 1 through 4.

To select the appropriate Input Mode, hold the [ANALOG INPUT] button and press one of the RECORD ENABLE buttons ([1]–[8]). The [INPUT] LEDs, located along the bottom of the display below the VU meters, will light up to indicate the Input Mode you have selected.

While holding [ANALOG INPUT]	Result	[INPUT] LEDs lit for...
Press [1] or [2]...	...to select 2-Input Mode.	Tracks 1 and 2
Press [3] or [4]...	...to select 4-Input Mode.	Tracks 1 through 4
Press [5], [6], [7] or [8]...	...to select 8-Input Mode.	All Tracks (1 – 8)

When using a 2 bus mixer, connect its two outputs to the XT's unbalanced inputs 1 and 2 and select 2-Input Mode. Anytime you want to record on an odd number track you will route the signal(s) to bus #1 or left. Likewise, to record onto an even number track, route the signal(s) to bus #2 or right. By simply putting the desired track into record, the proper signal will get there, although not directly connected to the track's input jack.

When using a 4 bus mixer, connect its four outputs to the XT's unbalanced inputs 1 through 4 and select 4-Input Mode. Anytime you want to record on tracks 1 or 5 you will route the signal(s) to bus #1. Likewise, to record onto tracks 2 or 6, route the signal(s) to bus #2, and so on.

SYNC IN/OUT

The two DB 9 connectors marked [SYNC IN] and [SYNC OUT] are used for synchronizing two or more XTs together, or a combination of XTs and ADATs. This requires a male-to-male, 9-pin D connector cable for each additional machine in the chain. In such a system, you are basically treating all connected machines as though they were a large multitrack unit. The first XT or ADAT in the chain is called the “master”, and all other connected units are referred to as “slaves”. However, each slave can also be used independently when the master machine is stopped.

For more information about using multiple XTs and/or ADATs, refer to chapter 5.

To synchronize multiple XTs and/or ADATs:

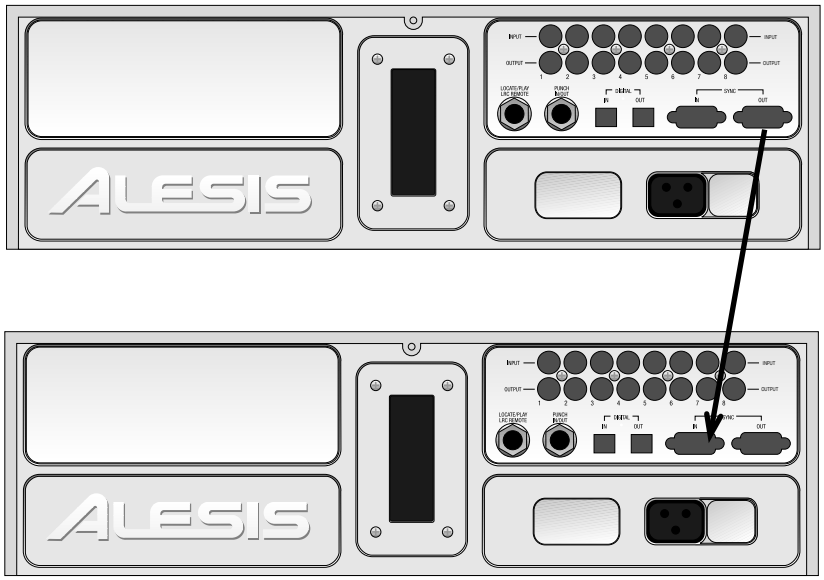
¿ Locate the [SYNC IN] and [SYNC OUT] connectors.

¡ Connect one end of a male-to-male, 9 pin connector cable to the master’s [SYNC OUT] jack.

¬ Connect the other end of the cable to the first slave’s [SYNC IN] jack.

÷ For additional slaves, connect one end of a male-to-male, 9 pin D connector cable to the first slave’s [SYNC OUT] jack, and the other end to the second slave’s [SYNC IN] jack. Its [SYNC OUT] jack then connects to the third slave’s [SYNC IN] jack, and so on.

The following illustration depicts two XTs synchronized together.



DIGITAL AUDIO IN/OUT

The Digital input and output carries all eight tracks on a single fiber optical cable. This allows you to bounce audio between multiple machines within the digital domain. This also lets you route digital audio between multiple XTs and ADATs, and to ADAT Compatible™ products such as the QuadraVerb 2. Since the fiber optic connector carries the digital information for all 8 tracks, it is also useful for backing up all tracks in one pass (see Chapter 6 for more on digital audio).

Digital bussing requires a fiber optical cable (included) for each XT in the system (or any other ADAT compatible product). This connection can be made while power is on or off, and the machines do not need to be turned on in any particular order. *Note:* To bounce tracks within a single XT, it is not necessary to connect the optical network.

To connect the digital optical network:

¿ Locate the [DIGITAL IN] and [DIGITAL OUT] connectors.
Remove the connectors' plugs (if present) and store for later use.

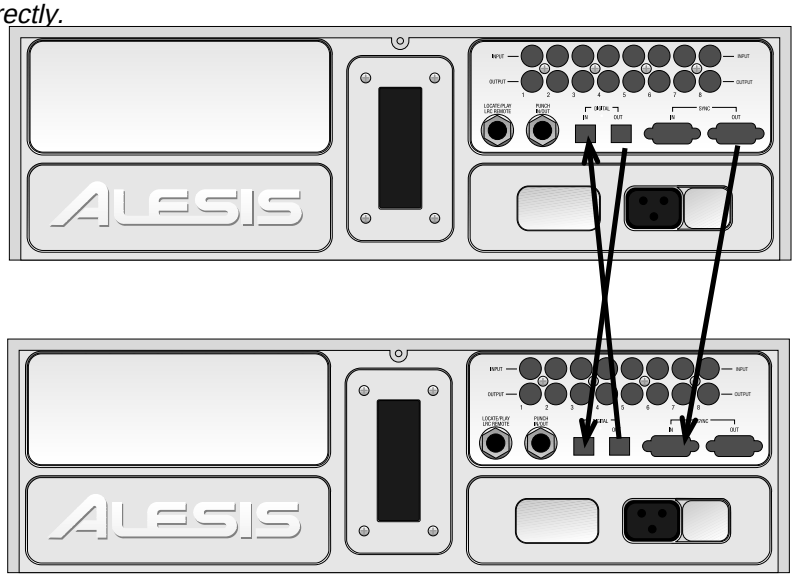
¡ Connect one end of the fiber optic cable into the [DIGITAL OUT] jack of the first machine in the system.
Remove the clear, plastic tube covering each end of the cable (if present). The cable is non-polarized, so either end can be inserted into the optical output.

¬ Connect the other end of the fiber optic cable to the [DIGITAL IN] of the second machine in the system.

÷ For each additional machine, connect one end of an additional fiber optic cable to the second machine's [DIGITAL OUT] jack, and the other end to the third machine's [DIGITAL IN] jack. Its [DIGITAL OUT] jack then connects to the fourth machine's [DIGITAL IN] jack, and so on.

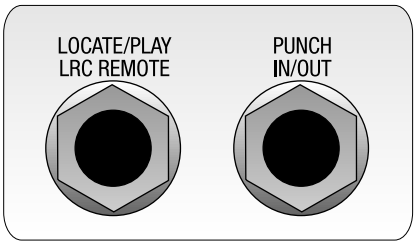
ƒ Finally, connect one end of a fiber optic cable to the last machine's [DIGITAL OUT] jack, and the other end to the first machine's [DIGITAL IN] jack.
This last step creates a loop, and thus makes the digital bus accessible to all machines that are connected to it.

J *When connecting more than two machines, always connect the optical cables in the same order as the sync cables (1 to 2, 2 to 3, etc.), so that the digital routing will work correctly.*



FOOTSWITCHES

The XT provides two footswitch connectors using 1/4" mono (T/S) jacks. One, labeled [LOCATE/PLAY/LRC REMOTE], allows locate and play commands; the other, labeled [PUNCH IN/OUT], is for punch in/out control.



The two footswitch jack functions are designed to be used with any momentary single-pole/single-throw footswitch (either normally open or normally closed). These should be plugged in prior to power-up so that the XT can configure itself for the type of footswitch being used.

J *The Punch In/Out footswitch and XT Remote both work in conjunction with the Rehearse and Auto Record features.*

THE XT REMOTE

Both the [LOCATE/PLAY/LRC REMOTE] and [PUNCH IN/OUT] footswitch connectors can be used to connect the hand-held XT remote control unit to provide remote access of transport functions. You can even connect two XT remote controls into the XT, one in each footswitch jack.

J *If using a normally open footswitch, the footswitch and remote control can be interchanged, or used simultaneously with a Y-cord, without restarting the XT (powering down and powering up). However, if using a normally closed footswitch, the XT should be restarted after switching from footswitch to remote control or vice-versa.*