

# X-Series

Expansion Cards



## X-Digi-Mix Card

User's Guide  
v1.0 - October 2003





# X-Digi-Mix Card

## User's Guide

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## Installing the X-Digi-Mix Card



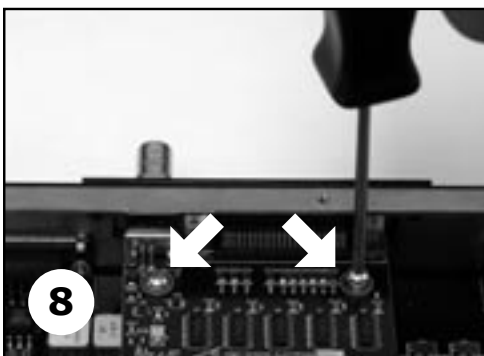
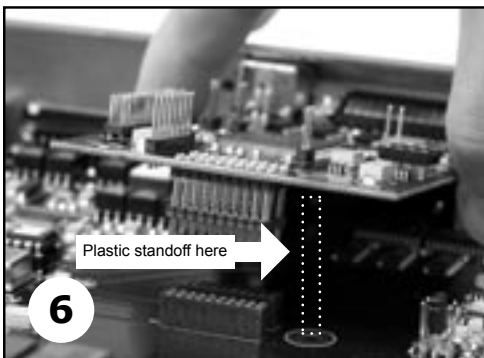
Your X-Digi-Mix card should include the following:

- 1 X-Digi-Mix circuit board
- 1 X-Digi-Mix Coverplate
- 2 aluminium standoffs,
- 1 plastic standoff
- 1 user's guide



The procedure for installing the X-Digi-Mix card into an Apogee Rosetta 800 is shown below:

- 1) Remove the top cover of the interface
- 2) Remove the Option Card coverplate and install the X-Digi-Mix coverplate using the screws from the original coverplate.
- 3) Remove the two interface circuit board screws as indicated to the left, and set them aside for later use.
- 4) Install the two aluminium standoffs in the holes vacated by the screws.
- 5) Install one end of the plastic standoff in the hole adjacent to the connector pins of the X-Digi-Mix card: install the other end in the hole adjacent to the mating connector.
- 6) Insert the BNC/Peripheral connector end of the X-Digi-Mix card through the appropriate cutouts in the coverplate, and carefully place the X-Digi-Mix connector pins in the mating interface connector.
- 7) After verifying the alignment of the X-Digi-Mix connector pins and the interface mating connector, firmly press down on the X-Digi-Mix card, over the connector, until the pins are completely seated in the mating connector.
- 8) Re-install the circuit board screws in the locations indicated below.



## Connecting & Configuring the X-Digi-Mix-equipped Apogee Interface

With a few simple rules it’s possible to determine the connections needed for virtually any combination of Apogee and Digidesign interfaces.

- 1) The unit connected to the Digidesign PCI card installed in the computer’s first PCI slot (usually a Mix Core or d24 card) is the clock master of the entire system. We recommend that an Apogee unit be installed as the Master, allowing the entire system to benefit from Apogee’s Low Jitter Clock.
- 2) Units connected to other PCI cards (or the “B” side of a Y cable connected to the first PCI card) must be clocked externally.
  - a. Apogee interfaces should clock to a word clock from the Master unit (if the Master is an Apogee unit) or to a clock in the Digidesign Peripheral Cable (if the Master is a Digidesign unit).
  - b. Digidesign interfaces can only clock to a Superclock (256 times the sample rate) signal.
- 3) When an Apogee interface is Master and a Digidesign interface is Slave, connect Superclock Out from the X-Digi-Mix Card to Superclock In on the Digidesign interface.
- 4) When a Digidesign interface is Master and an Apogee interface is Slave, no clock connections are needed; set SAMPLE RATE on the slave Apogee interface to “EXT” and SYNC to “OPTION”.

To illustrate the necessary connections between an X-Digi-Mix-equipped Apogee interfaces, other Digidesign compatible interfaces and Digidesign PCI cards, the Rosetta 800 is shown below in a variety of possible setups.

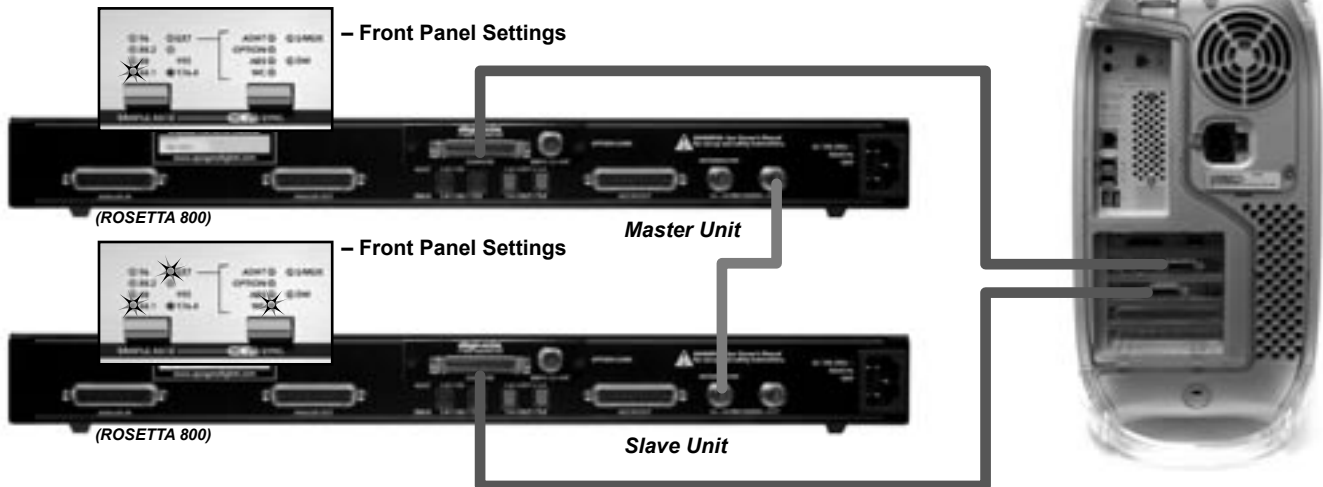
### Connecting One Rosetta 800



- When connecting only 1 interface to a Pro Tools system, ensure that it is connected to the Digidesign Mix Core or d24 card. In this configuration the Rosetta 800 is the clock master for the entire system.
- When the Rosetta 800 is connected to the Mix Core or d24 card, the Rosetta 800’s SAMPLE RATE and SYNC parameters are determined by settings in the Pro Tools software. Please see the section of this manual entitled “Working With Pro Tools” for more details.

## Connecting & Configuring the X-Digi-Mix-equipped Apogee Interface - *continued*

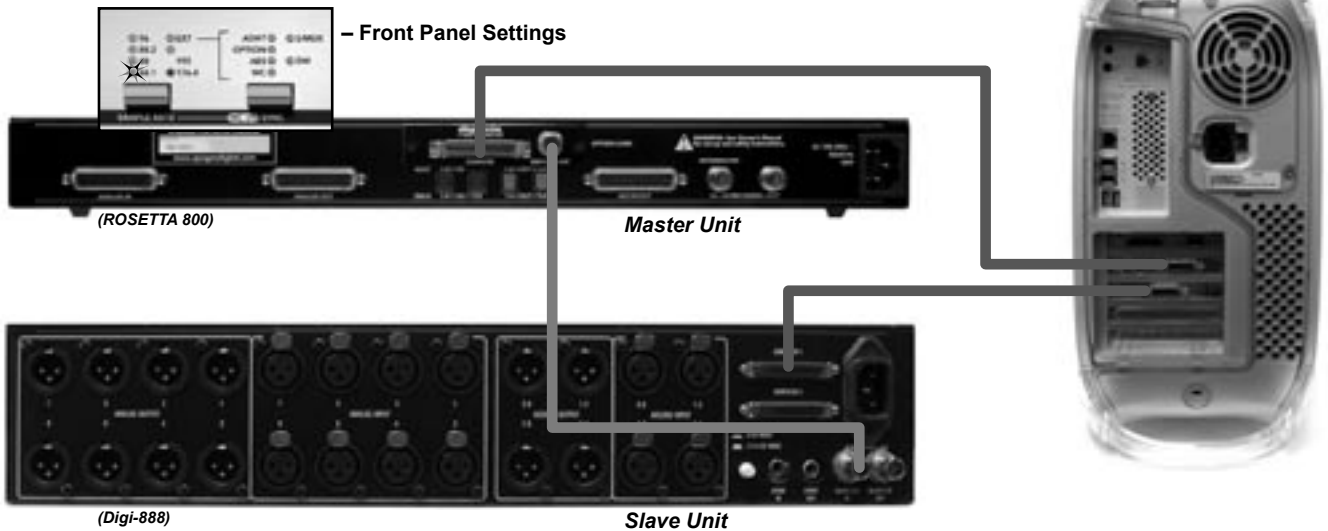
### Connecting Multiple Rosetta 800s/AD-8000s/Trak2s



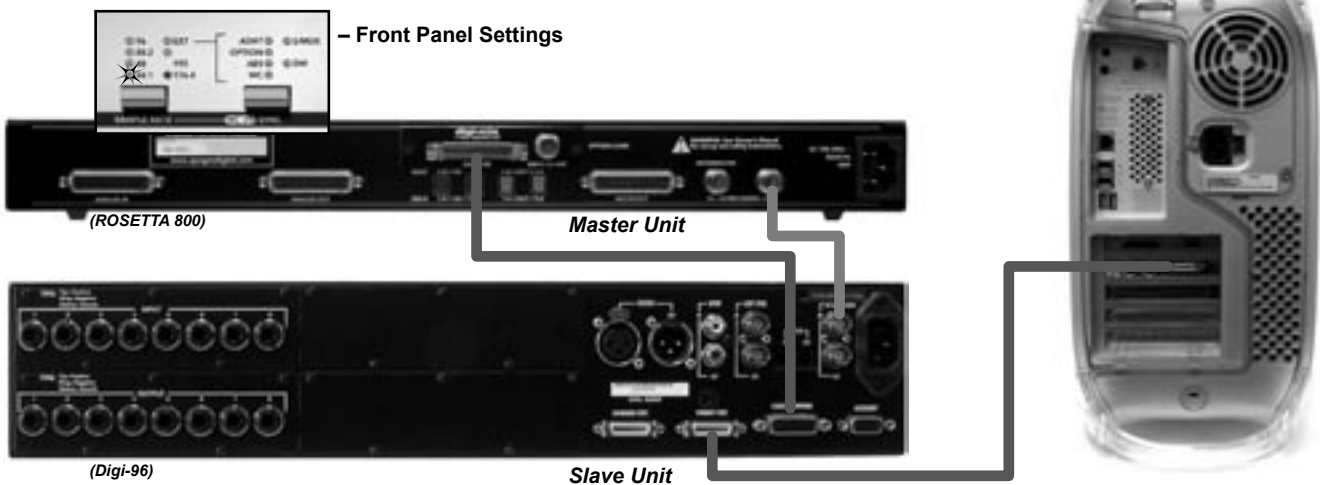
- When multiple Rosetta 800s are connected to a Pro Tools system, the Master unit's SAMPLE RATE and SYNC parameters are determined by settings in the Pro Tools software.
- To clock Slave Apogee interfaces, connect a BNC cable from the Master WC OUT to the Slave WC IN, and set the Slave interface SAMPLE RATE to "EXT" and the CLOCK SOURCE to "WC". When distributing Word Clock to several units, we highly recommend the use of a Master Digital Clock such as Apogee's Big Ben. In lieu of a Big Ben, it's acceptable to connect a BNC "T" connector to SLAVE 1 WC IN, connect one side to the MASTER WC OUT and the other side to the SLAVE 2 WC IN, and so forth.

## Connecting & Configuring the X-Digi-Mix-equipped Apogee Interface - *continued*

### Connecting Rosetta 800 & Digidesign Interfaces



- When connecting a Rosetta 800 and a Digidesign interface, Apogee recommends that the Rosetta 800 be connected to the Mix Core or d24 card, thereby configuring it as the clock master of the system; the Digidesign interfaces should be connected to the remaining cards.
- Connect the X-Digi-Mix Card Superclock Out to the Digidesign interface’s Superclock In, and chain Superclock to remaining Digidesign interfaces as instructed in the Digidesign documentation.
- To connect a Rosetta 800 to an HD system via the Legacy port, set the Rosetta 800 to internal clock, connect Rosetta 800 WC out to the HD interface WC in, and set the HD interface clock source to WC in.





## Configuring Digidesign Pro Tools

Before your X-Digi-Mix-equipped Apogee interface will send and receive signals from Digidesign Pro Tools software, certain hardware settings must be made in the software.

- 1) Before modifying hardware settings in Pro Tools, we recommend that the “DigiSetup” Preference file be deleted to the Trash, the Trash emptied, and the computer re-booted.
- 2) A X-Digi-Mix-equipped Apogee interfaces uses the same Peripheral protocol as a Digidesign 888/24, thus please consult the instructions found in your Digidesign documentation to configure Pro Tools software for use with an 888/24.

## Working With Pro Tools

For most aspects of operation such as routing, a X-Digi-Mix-equipped Apogee interfaces operates identically to a Digidesign 888/24. Indeed, Apogee interfaces are recognized and labeled as 888/24s in Pro Tools software.

Pro Tools software offers a limited number of hardware commands which are supported as fully as possible by Apogee hardware. A detailed explanation of Pro Tools commands and the parameters controlled on Apogee hardware is presented below.

Pro Tools Command	Apogee Hardware Parameter
Session Sample Rate	Determines SAMPLE RATE of Master Apogee interface
Sync Mode Internal	Master interface clocked internally (i.e. SAMPLE RATE set to Session Sample Rate, EXT LED is off)
Sync Mode digital	Master Interface clocked externally (i.e SAMPLE RATE = EXT, SYNC to be selected manually)
Digital Format	Ignored – digital input format must be selected manually
Input Source (Ch 1-2,3-4,5-6,7-8)	Sets input pairs to either Analog or Digital input

## Working with High Resolution Digital Audio in Digidesign Mix Systems

Though Digidesign Mix Systems support sample rates up to 48 kHz, it’s possible to record and play back digital audio at sample rates up to 96kHz on a Mix system with a X-Digi-Mix-equipped Apogee interface. This is accomplished by transmitting data to and from Digidesign hardware in a “double-wide” format, i.e one channel of 96kHz data is transmitted over 2 lines at 48 kHz. Thus, the Rosetta 800 offers 4 channels of recording and playback at 96kHz. Due to the unique nature of the data format used, there are a few restrictions:

- 1) No DSP operations, including mixing, may be performed on the tracks.
- 2) Stereo tracks should be used, to avoid shifts in timing between the pair of tracks.
- 3) Cut and paste operations are allowed.
- 4) Though theoretical objections may arise with regard to the application of fades, many professionals have added fades to these type of files with no adverse effects.

## Working with ProTools - *continued*

To record at a higher resolution sample rate:

- 1) Create a Pro Tools session whose sample rate is half the desired rate (i.e., create a 44.1kHz session to record 88.2kHz audio.
- 2) Once the Apogee interface has recognized the sample rate of the session, manually set it to the desired high resolution sample rate. When using more than one Apogee interface, the Slave interfaces must be clocked from the Master Word Clock Output.
- 3) For every track of high resolution audio desired, create a *stereo* track in the session. Routing of audio is as depicted below:

ROSETTA 800 Analog In	Session Tracks (and I/O routing)	ROSETTA 800 Analog Out
Input 1	Tracks 1-2	Output 1
Input 2	Tracks 3-4	Output 2
Input 3	Tracks 5-6	Output 3
Input 4	Tracks 7-8	Output 4

- 4) Keep in mind that it’s possible to run one interface at a lower sample rate (for example to play back tracks), and a second interface at a higher sample rate (for example to record an analog mix of the tracks being played back).



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