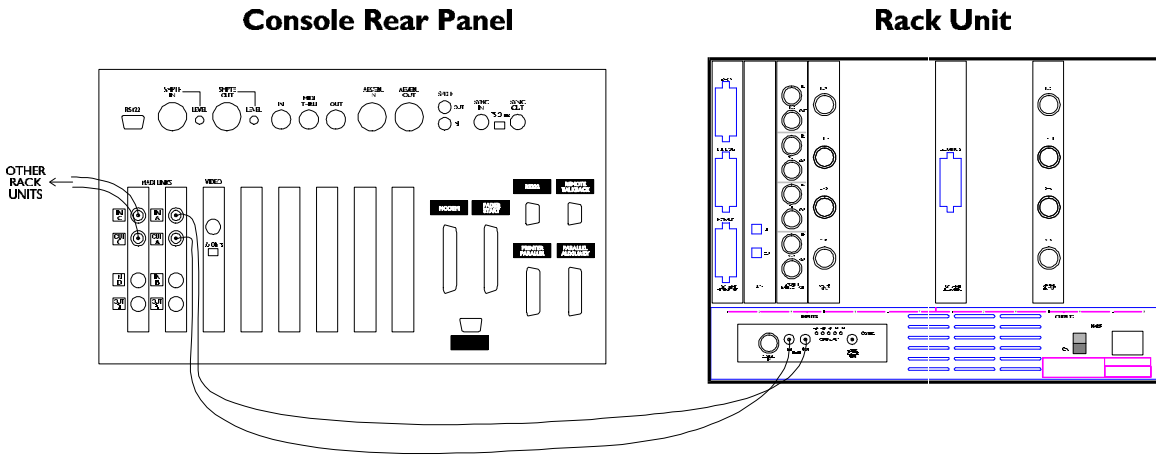


Chapter 6: Hardware Connections and Digital Synchronisation

6.1 Inputs and Outputs

All the DPC-II's audio inputs and outputs are carried via digital MADI links, either to "Rack" units, or directly to MADI-equipped devices. The Rack modules contain input and output cards, which allow the same Rack unit to connect to different types of analogue and digital audio devices.



6.1.1 Direct MADI Links

There are four pairs of MADI input/output connectors on the console rear panel, and any of these can be connected directly to any other MADI device, such as the Sony PCM digital multitrack recorders. The DPC-II can support up to 56 channels of audio on each MADI input/output pair, subject to the limitations of the device at the other end of the cable.

When the console is installed and connected to other MADI devices, names for these connections are configured by the installer, and will appear in the routing panels when you select input routing, or direct, group or aux outputs.

6.2 Rack Units and Modules

A "Rack Unit" is connected via a pair of MADI cables to one of the four MADI channels on the rear of the console. Each pair of MADI cables can carry up to 56 channels of audio input and output between the Rack Unit and the console.

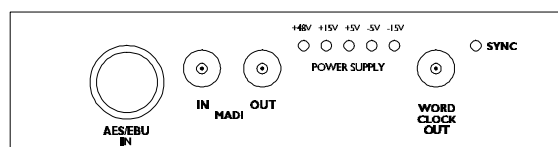
You can connect a total of four Rack Units to the console, giving a total capacity of 224 input and output sockets. However, the console is only able to assign up to 160 audio channels, so not all the sockets in a 4-Rack system can be used at once.

6.2.1 Rack Units

The Rack Unit is a 19-inch chassis with a control panel at the bottom. Above this panel are 14 card slots, each of which can accept a Rack Module.

Control Panel

The Rack Unit control panel connectors are as follows:



The **MADI IN** and **OUT** connections carry audio to/from the console.

The **AES/EBU IN** socket can be used as a digital sync input, or "Word Clock", for the whole DPC-II system - see Digital Synchronisation later in this chapter. **Note that this socket cannot be used as an audio input to the console.**

The **Word Clock Out** socket can be used to synchronise other digital devices in the studio to the DPC-II - see Digital Synchronisation later in this chapter.

The **LED indicators** on the panel show the condition of the Rack Unit's power supply, and whether the unit is synchronized with the console. **If the SYNC light is not lit, the console and Rack Unit are not operating correctly.**

Input / Output Slots

Above the panel, the Rack Unit has seven Input and seven Output slots. Each of these slots can be filled with a different Rack Module, providing an I/O system which can be configured exactly to the requirements of your studio.

6.2.2 Rack Modules

There are different Rack Modules for interfacing to different digital and analogue devices. In general, each Rack Module carries eight channels of audio.

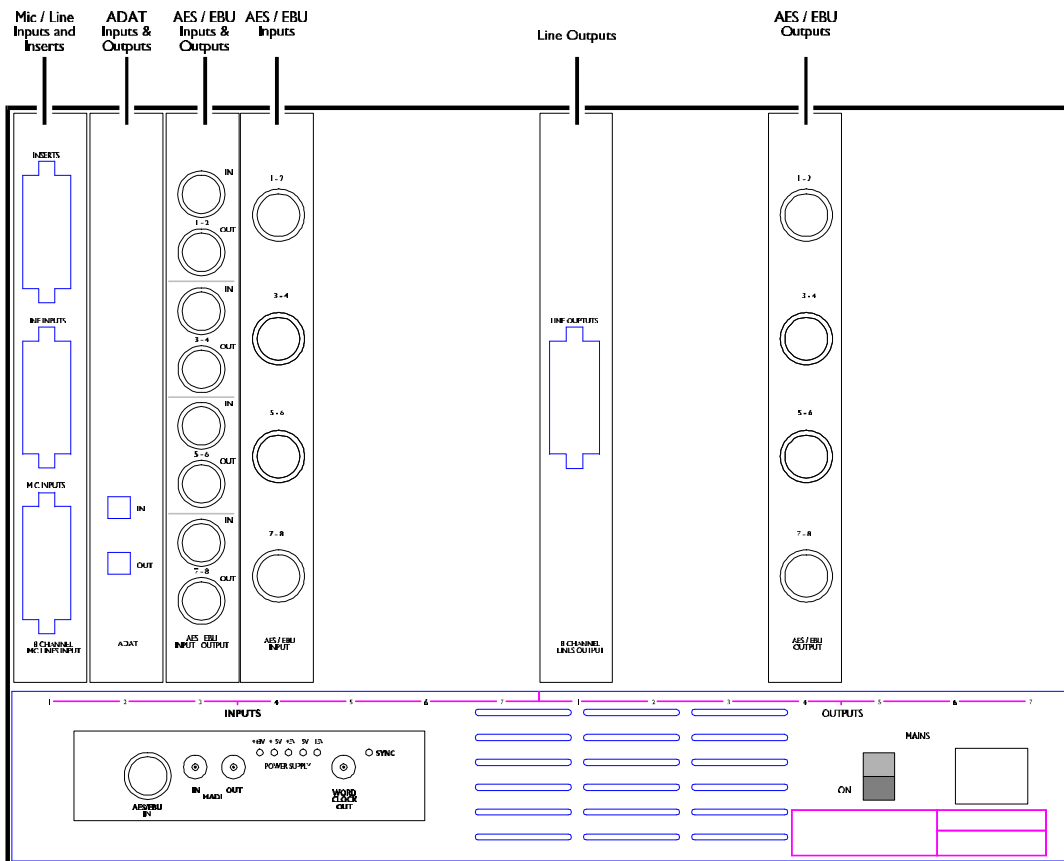
Inputs and Outputs

The modules fall into two broad groups - those which carry only inputs or outputs, and those which carry both input and output signals. Output modules must be installed in Output slots, while Input and I/O modules must be installed in Input slots.

When the console is installed, the different groups of sockets are given names in the "SOCKETS.INI file and it is these names which appear in the routing panels for the console's on-screen inputs and outputs.

Example Installation

This diagram shows a typical Rack Unit with modules installed:



This configuration provides 32 input and output channels, comprising 8 analogue channels (slot 1), 16 AES/EBU channels (slots 3 and 4), and an ADAT interface for the eight remaining channels in slot 2. Interfaces for up to 24 further channels can be installed in the same Rack Unit.

6.2.3 Analogue Input Module

Illustrated in Input Slot number 1 in the diagram above, this module provides both Mic and Line inputs for eight analogue channels, and analogue Insert Send and Return signals for those channels. These signals are provided on three EDAC connectors - for pin diagrams of the EDAC connectors, please see Appendix A.

Selection between the Mic and Line signals, and selection between the main input and the Insert Return, is set by the console's Input Module - see section 2.2.1.

6.2.4 Analogue Output Module

The Line Output module provides 8 balanced-line outputs on a single EDAC connector. The 0dB output level (+4dBm or -10dBm) is set for each output channel when the console is installed.

6.2.5 AES/EBU Input and Output Modules

These modules (input and output slots 4 in the diagram) each provide four XLR sockets for four stereo AES/EBU digital audio channels.

6.2.6 Input/Output modules

Input slot 2 in the diagram shows an ADAT interface, which provides 8 input and output channels on a single pair of optical connectors. 8-channel modules equipped with both inputs and outputs are also available for AES/EBU and TDIF digital connections.

All modules which incorporate both Inputs and Outputs *must* be fitted in an Input slot in the Rack Unit.