

## GETTING STARTED

## OPTOCORE CONTROL

OPTOCORE CONTROL provides all tools required to configure, operate, and control the network.

This chapter will summarise the order of steps that enable a quick configuration of the network.

### Software Installation

To install OPTOCORE CONTROL you will need a standard PC computer running Microsoft® Windows 95/98/2000/NT/XP/Vista® operating system. The computer should be equipped with a USB interface for configuration and remote control of the Optocore network plus a Serial Port interface (or an appropriate USB to RS232 adapter) for firmware upgrades. COM Ports 1 to 4 can be used with a transfer rate of 57,600 Baud. Monitor resolutions of 800 x 600 or 1024 x 768 with 16 Bit colour depth are recommended. The installation requires approximately 2.5MB of hard-disk space.

**Please note that the serial interfaces on computers are not normally capable of “Hot Plugging”. Switch off the computer to avoid damage before establishing the serial connection between the Optocore device and the computer.**

The set-up software *OCSETUPXXX.EXE* is available on CD or can be downloaded from [www.optocore.com](http://www.optocore.com). The set-up executable program is self-extracting and launches the OPTOCORE CONTROL SETUP WIZARD. It will create the necessary directories, a desktop icon for OPTOCORE CONTROL and install the firmware upgrade utilities.

After installation you will find a number of different applications in your Start | All Programs menu;

- OPTOCORE CONTROL for configuration and remote controlling devices and networks,
- OPTOCORE UPGRADE (classic or standard) for firmware upgrades.

To uninstall OPTOCORE CONTROL you should use the standard *ADD OR REMOVE PROGRAMS* tool provided in the Windows Control Panel.

### Lets Get Started

The general procedure to set up the network is:

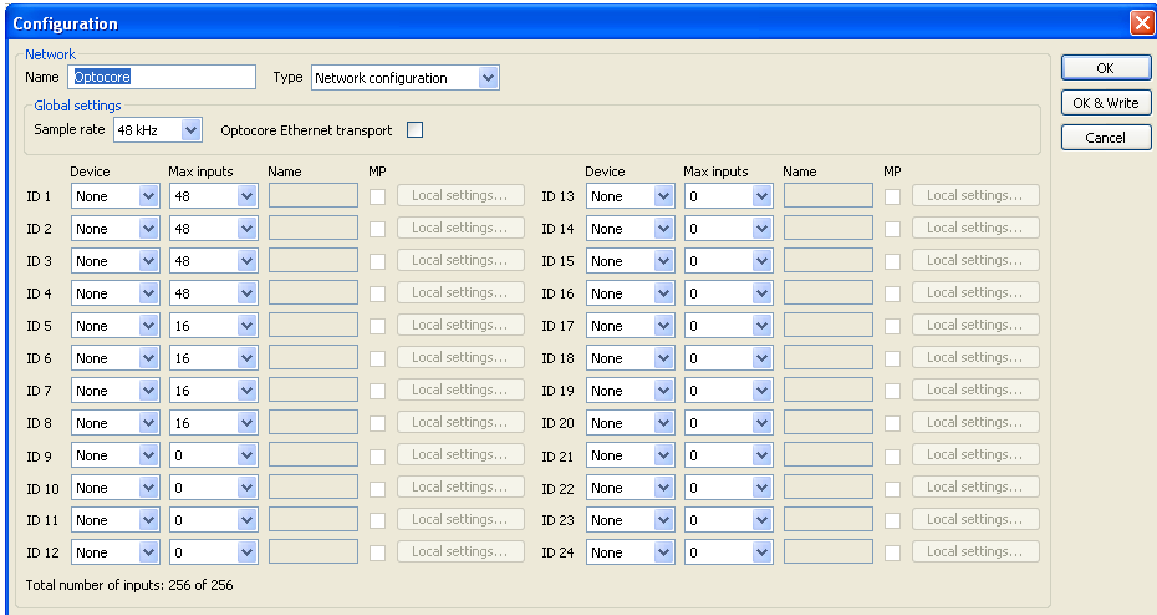
- **Every single network device is first connected to the PC in order to configure and upload the basic configuration. Every device must have a unique identifier (ID) and all devices must operate with the same sample rate and firmware revision. It is advisable to configure the ‘principle ports’ for each device at this point as well although this can be carried out later.**
- **Once the above is complete, the network can be built by connecting the OPTOCORE network devices using the duplex fibre cables provided.**
- **After hardware setup is complete and the network is established, the routing and channel parameters can be adjusted to suit your application.**

The steps described above are only required once at the initial configuration stage. Once configured, the hardware will continue to operate with that configuration until manually changed by the user. This means that a system could be configured ahead of time and handed over to a customer who has no experience with Optocore safe in the knowledge that the system will operate as planned once connected together.

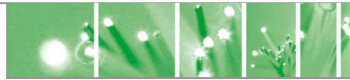
After configuration is complete, there is no need for a PC to be connected to the network although you can leave a PC online as this will give you real time access to fault log information and monitoring of the network as well as the ability to change the system routing and levels as required.

There are different methods of setting up the configuration. One is explained here:

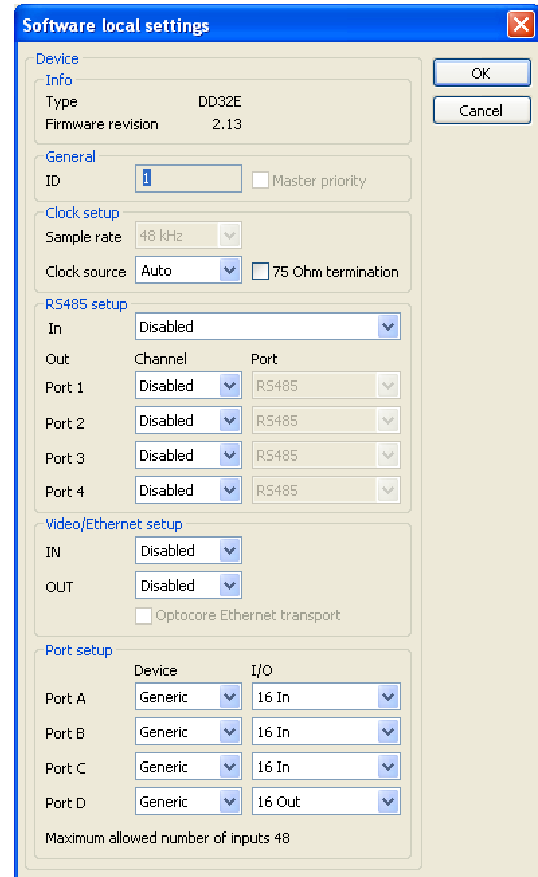
1. After starting OPTOCORE CONTROL, the network design should be prepared using the *SET / CONFIGURATION* dialog. This should be carried out before connecting the PC to any device.

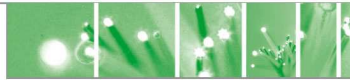


- The *SAMPLE RATE* and *OPTOCORE ETHERNET TRANSPORT* options in this dialogue are global settings for all devices in the network.
- The Optocore device ID assignments are configured by selecting a *DEVICE* type associated with each ID number.
- The *MP* (Master Priority) in the *SET / CONFIGURATION* dialog indicates which devices can be clock masters for the network. In a network consisting of devices both with and without word clock inputs, a device without a word clock input cannot function as word clock master. In this case, all devices **with** a word clock input will automatically receive a checked *MP* box which cannot be changed in the *CONFIGURATION* dialog. The device with a checked *MP* option and the lowest ID will act as word clock master for the network.
- If an external word clock source is required as part of your system design the Optocore device connected to the external word clock source should normally be configured as ID 1.
- The maximum number of inputs allocated to the network per device can be tuned by the user as long as the total number of channels across all devices does not exceed 256. Exceptions are the LX4AP and LX4B, which cannot have less than 48 or 16 inputs respectively.

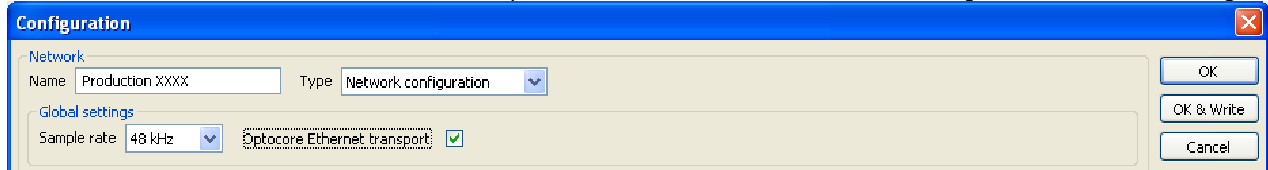


2. Selecting *LOCAL SETTINGS* opens the *SOFTWARE LOCAL SETTINGS* dialog used to define the clock source and port settings for each device.
  - The exact appearance of the Local Settings dialogue, and the parameters included will vary depending upon the device type selected.
  - The *CLOCK SOURCE* option allows the user to set word clock priority settings for each device. The dialog of all DDXXXE devices enables the selection of *AUTO* (BNC priority), *INT* (internal word clock), or *BNC* (external word clock source only).
  - The *PORTS SETUP* allows the configuration of the modular audio ports (AES/EBU or MADI for example) these settings should normally be configured ahead of time although they can be changed later over the network using *NETWORK LOCAL SETTINGS*.
  - *RS485* and *VIDEO/ETHERNET SETUP* allow the configuration of the device RS-485 and Video Input / Output ports; these can be configured ahead of time or changed later.
3. At this point, the configuration should be saved using *FILE / SAVE* or *FILE / SAVE AS*. All the settings will be stored as a .OCS file, the Optocore Control Script configuration file, with all settings and parameters.





4. The PC has to be connected **locally** to each device via either USB or RS-232 in order to upload the initial settings and configuration, especially those settings which cannot be changed via the network (ID and sample rate). *SET / CONFIGURATION* enables a quick method of transferring those settings:



- *OK & WRITE* will open the *DEVICE WRITING* dialog.
- The *DEVICE WRITING* dialog allows the transfer of the settings defined in *SOFTWARE LOCAL SETTINGS* and *CONFIGURATION* to the locally connected device. *WRITE* will activate a search for the connected device and then transfer the settings as long as the connected device type corresponds to the selected device type in the *CONFIGURATION* dialog.
- It is very important to ensure that the correct *WRITE* button with the appropriate ID is pressed. If a configuration contains several devices of the same type *WRITE* will transfer the ID and settings without any warning if duplicate IDs are assigned.



5. After every single device is configured, the network can be built by connecting the *OPTICAL LINK* interfaces of the devices.
6. The next step is to select the appearance of the matrix with *SET / MATRIX VISIBILITY*, so that the user can tailor the available inputs on each Matrix view for the devices in your design. This makes the matrix views much easier to use because you can hide many cross points and concentrate on only the inputs you are going to need for a given set of outputs.
7. When everything is ready and saved, *ACTION / SEND* will transmit the parameters to the devices in the network.
8. All device configuration is now complete and it's time to go online with *SET / ONLINE-MODE*. If *OPTIONS / ABSENT DEVICE* is set to *KEEP* or *ASK*, all devices of the configuration will stay visible in the network tree even if they are not physically present in the network. The Log window will display the status of the devices and connections as well as any fault reports in real time.
9. After ensuring that the complete system is stable and all I/O meters indicate a normal level, the network is ready to use.