

## StudioRIP Technical Bulletin No 14a

### Configuring the EtherSetter interface boxes

2/7/2008

The new EtherSetter driver is now entirely plug'n'play, it should work in almost any network configuration without a setup procedure. The new driver is uploaded to both StudioRIP install kits (downloadable from <http://www.studiorip.com/download.html>).

In 99% of the cases you will not need the information below. However, in special situations (multiple EtherSetters per network, EtherSetter and Print Manager in different LAN segments etc.), you may need the information below.

#### 1. Multiple EtherSetters per network

If you use one EtherSetter in the network, you can skip this chapter.

In case of multiple EtherSetter boxes per network, each Print Manager will choose its own EtherSetter box according to the *Interface board #* setting in the *Special* tab of the *Settings* dialog of the *Print Manager* application. The numbering of the boxes is done in the increasing order of their unique IDs (board #1 in the system having the smallest ID, board #2 having the next ID etc.).

**WARNING!** If a new box is introduced into the system, it will not necessarily have a higher index (as board index is determined by the unique ID of the boxes rather than by the order of appearance in the network). So when new board(s) are introduced in the system, boot up the Print Managers one by one; if the Print Manager doesn't connect to the right box, change the interface board # and try again, until it connects to the right box.

**WARNING!** It is very important to have all boxes running when the Print Managers boot up. If box #1 is switched off during the boot-up procedure, box #2 will become box #1.

#### 2. Default IP assignment

By default (as well as after a reset operation initiated by pushing the reset button on the box) the EtherSetter boxes are configured to automatic IP configuration through DHCP. Normally they will get an IP just as any other computer in the LAN would, avoiding possible IP conflicts, and no further intervention will be needed (either from the user or from the Print Manager).

If the DHCP request fails, the automatically assigned IP will be 192.168.0.124. If this IP is outside of the subnet of the Print Manager PC, the Print Manager will choose an IP that is in the right subnet (e.g. if Print Manager has an IP of 192.168.3.23, then the chosen IP will be 192.168.3.124). If there are more EtherSetter boxes in the system, the last number of the IP will be increased (e.g. the second board will have an IP of 192.168.3.125 in the previous example).

#### 3. Static IP assignment

Static IP assignment may be needed when:

- the network administrator wants to control the IP of the box,
- the EtherSetter box and the Print Manager are in different LAN segments, and auto-setup broadcast packages are not propagated between them.

To configure the IP settings of an EtherSetter box, its HTTP service has to be accessed. For this, the IP address of the box needs to be known:

- if there is a DHCP server in the system, find out the assigned IP from the DHCP log or lease table;
- if there is no DHCP server in the system, the automatically assigned IP will be 192.168.0.124;
- if the IP of the box is outside of the subnet, modify temporarily the IP address of the PC to match the subnet of the box.

Typically you will have to access the <http://192.168.0.124> page. Modify the settings, save them and then restart the box.

**WARNING!** Fill in all the fields correctly, not just the IP. The Linux system of the boards will detect faulty settings (e.g. the gateway being in a different subnet than the IP), and will not work correctly.

**WARNING!** To keep the assigned IP, change the EtherSetter.ini file too, see 4. *EtherSetter configuration file*.

#### 4. EtherSetter configuration file

There is a configuration file in the StudioRIP program folder (typically C:\Program files\StudioRIP\EtherSetter.ini). Note that, depending on the version, the file name may be EtherApis.ini. Normally you don't need to access this file. However, for static IP configuration it needs to be changed.

The file contains records like:

```
[Board #1]
IP = auto
Port = 4023
```

Leaving the IP setting on 'auto' will allow the Print Manager to negotiate an IP address with the box (keeping the DHCP-assigned IP or, on DHCP failure, assigning one).

When static IP assignment is wanted, the static IP needs to be entered into the configuration file instead of *auto*. This will instruct the Print Manager not to send broadcast messages at all, but rather to try to connect to the given IP directly.

The board number in brackets refers to the *Interface board #* field of the Print manager (see 1. *Multiple EtherSetters per network*). In case of one board per network, you will have to change only the first record.

#### 5. Establishing connection, step by step

In case of problems, you may want to understand how the Print manager establishes connection with the EtherSetter box. Here is the step by step procedure:

- The Print manager reads the record specified by its *Interface board #* setting from configuration file (see 4. *EtherSetter configuration file*). If a static IP is specified, it will try to connect directly. If *auto* is specified, will follow the procedure below.
- It will broadcast an identification request. All the EtherSetter boards in the network will reply with their current settings.
- It will choose the right box based on the *Interface board #* setting (see 1. *Multiple EtherSetters per network*), and will start to negotiate a suitable IP for it.
- If the IP of the box is in the right subnet, and isn't in conflict with other EtherSetter IPs in the subnet, it will connect to it.
- If the IP is not suitable, it will initiate another DHCP request (assuming that the cable was plugged in later).
- If the IP is still not suitable, Print Manager will assign an IP address, calculated from the IP of the PC, the last number being 124 (or, in case of multiple EtherSetters per network, 125 or more).

#### 6. Speed issues

The network traffic between the Print Manager and EtherSetter box is in the range of 10-50 Mbps, i.e. quite close to the limit of the traditional 100 Mbps networks. Therefore any problems in the LAN that decrease the performance of the router/switch may cause insufficient data flow between the Print Manager and EtherSetter, leading to reduced imaging speed or (on certain machine types) the failure of the imaging process.

In case of speed problems, check the following:

- The date of the EtherApis.dll is 30 June 2008 or later (there is a dll from 12th December 2007 which had speed problems);
- Try a direct connection between the PC and EtherSetter (i.e. a cable between the PC and EtherSetter, avoiding the switch/router). If the symptoms disappear, check whether the router is faulty or there is an internal or external flood that blocks the router/switch.

