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DSP Powered Music Production Environment

Installation Guide

About this Guide

In this guide you will find important information with regard to the installation of your SCOPE hardware and software, and its integration into the PC environment.

Please read this guide carefully!

Along with the installation instructions you will also find some tips that should help get you startedwith some of the more popular Windows applications. These tips are intended to get you started only and do not replace the detailed information you will find in the next sections of this manual.

Welcome

Thank you for choosing the SCOPE system. With SCOPE, you've acquired not only a very high-quality, state-of-the-art I/O card, but also the most advanced DSP environment currently available. New SCOPE applications (effects, synths, etc.) are continually being created by hundreds of developers around the world ensuring the unfolding of a new audio world based on your new system. Our goal, with Pulsar and SCOPE, is to begin a new chapter in the development of audio technology - and we're quite pleased to have you already with us today!

Important Advice
Transients may occur on the SCOPE card outputs during startup of the computer or the SCOPE software. Equipment connected to the SCOPE outputs should be switched on only after starting the SCOPE program, or its volume controls should be turned down until the software has been started in order to avoid damage to this equipment. Likewise, the volume should be turned down, or the equipment switched off, before shutting down the computer.

The Scope card is hereby certified to conform to the requirements set forth in the guidelines for electromagnetic acceptability (89/336/EWG).

CreamWare Datentechnik GmbH, May 1999
Dr. Hans-Ulrich Hund

Before We Begin ...

System Requirements

Absolute Minimum System:

Processor:	Pentium 233MHz with MMX
RAM:	128MB main memory
Graphics card:	PCI or AGP, 4MB Resolution: 1024 x 768, 16-bit
Operating System:	Windows95 / Windows 98
Free Disk Space:	min. 100MB

Recommended Minimum System:

Processor:	Pentium II 300MHz or higher
RAM:	more than 128MB (256MB)
Graphics card:	AGP, 8MB or more, opt. 2nd graphics card Resolution of at least 1024 x 768, 16-bit
Operating System:	Windows95 / Windows 98
Free Disk Space:	min. 100MB

Important Notes

1. Some graphics display adapters can interfere with the data flow over your PC's PCI bus.

If you have a Matrox card and experience a problem with the PCI bus you can most likely resolve it by including the following entry in your **system.ini** file:

[mga.drv)
PCIChipset=1

2. If you are overclocking your PC note that the PCI bus speed will increase beyond the 33MHz PCI specification. Although SCOPE may work at bus speeds up to 37.5 MHz, this is in no way guaranteed.

Further information can be found in the **Support** PDF document on the CD-ROM.

The Hardware

SCOPE Board:

The SCOPE board contains 5 S/TDM bus connections for cascading SCOPE, Pulsar or Pulsar SRB boards. You will also find a header to connect the Sync Plate just in front of the first S/TDM connection point. Please note the location of pin #1 (lower left) on this header. *This pin must be connected to the red colored line* of the Sync Plate ribbon cable (see below).

24 I/O Daughterboard:

The 24 I/O daughterboard is already affixed to the SCOPE board and provides ADAT ODI and MIDI I/O. The orientation of the ADAT inputs and outputs is shown in figure #1. The MIDI I/O cable whip attaches to a connector on a slot cover plate which is in turn connected to the 24 I/O board via a ribbon cable (figure #2). Note that the connector on the 24 I/O board is notched for the correct orientation of the ribbon cable.

Sync Plate:

The Sync Plate provides word clock snchronization through two BNC connectors and ADAT sync through two ADAT 9-pin connectors. Near the back of the card at the top is a header for connecting the sync ribbon cable. *When connecting this cable, ensure the red-colored line connects to pin #1 as marked on the printed circuit board.*

With the Sync Plate it is easy to integrate SCOPE into an existing studio using either word clock or ADAT sync. As can be seen in figure #3, the Sync Plate provides both inputs and outputs for sync signals allowing SCOPE to switch between master and slave modes at any time.

With regard to sync we have assumed you are familiar with fundamental digital studio technology concepts. Please understand that, for the purposes of this installation guide, we cannot discuss the implementation of sync in depth. See the documentation for the devices you will be connecting to SCOPE, as well as the SCOPE manual on the CD-ROM for more information.

Installing Multiple S/TDM-Compatible Cards

Creamware developed the S/TDM bus so that additional compatible cards (for example, another SCOPE, Pulsar and/or the SRB) can be cascaded, thereby greatly extending the processing power of a Pulsar/SCOPE system. All that's requiredis the correct cable (supplied with the cards) to connect to the bus connection points provided on each CreamWare card of the Pulsar/SCOPE generation.

Fig. 4

2 x SCOPE, 1 x Pulsar

CreamWare has also designed the system such that the boards can share interrupts (IRQs) - thus greatly simplifying expansion. Only the appropriate Windows driver is required to enable a card once it is physically installed in the system. No further configuration is necessary (see page 14 for more information on driver installation).

Please, refer to the notes on "cascading".

Hardware Installation

1. Disconnect the power from your computer and remove the chassis cover or access panel.

2. Locate a free PCI card slot (usually lighter colored than the older ISA card slots, and smaller). It is generally a good idea to avoid using slot #1 if you can. See 'Notes' below.

3. Remove the rear panel coverplate for the selected card slot.

4. Discharge any buildup of static electricity from yourself by briefly touching a grounded metal object (such as a radiator or water pipe, etc.). **NOTE:** the ground contact of an electrical cord or electrical outlet should **NOT** be used for this purpose, as this introduces a shock hazard.

5. Remove the SCOPE card carefully from its packaging. **Do NOT,**
under ANY circumstances, touch the gold contacts (PCI/S/TDM bus) on the card!

6. Position the SCOPE card **carefully** in the selected PCI slot and then press straight downward on it from above until it is seated securely in the slot.

7. Use the retaining screw you removed in step 3 to secure the SCOPE card's metal mounting bracket to the computer chassis.

8. Locate two available spaces in the rear panlel of the chassis for the sync plate and the MIDI cablewhip connector. These spaces need not be associated with PCI or ISA slots. Use retaining screws to secure these metal brackets into the spaces, and make the connections to the SCOPE board as described earlier.

9. Replace the computer's housing or access panel and re-connect the power cable.

10. Connect the optical cables to the appropriate inputs and outputs on SCOPE and your other devices, connect the MIDI cablewhip to the MIDI jack, and connect your MIDI devices to the respective cable whip MIDI I/Os.

For information on making connections to the Sync Plate, see figures #2 and #3 on the previous pages, and consult the "Using SCOPE in the Studio" documentation for the devices you are connecting.

Software

Installing the Driver (Windows 98/95*)

1. Power up your computer and launch Windows 98.

2. Windows will report that it has found new hardware. This will be identified as a 'PCI Multimedia Device'.

3. Start the Windows **Add New Hardware Wizard** by clicking on **Next>**.

4. Now, when Winows asks, 'What do you want Windows to do?' select the option, 'Display a list of all the drivers in a specific location...' and click on **Next>**.

5. In the list of device types that appears, select **Sound, video and game controllers**. Click **Next>**.

6. Insert the SCOPE CD-ROM into your CD-ROM drive and click the **Have Disk...** button.

7. In the 'Install from disk' dialog click **Browse...** and select the CD-ROM drive from the drive selector drop-down list.

8. In the list of *.inf files that appears select **scope.inf** and click **OK**.

9. Back in the in the 'Install from disk' dialog click **OK**.

10. In the 'Select Device' dialog select 'ScopeBoard' and click **OK**.

11. The wizard now reports 'Windows searches for the device: Scope' Click **<Next>**.

12. Now the wizard copies the required files and updates the driver database.

13. When the message, 'Windows has finished installing the software' appears, click **Finish**.

14. When you are asked, 'Do you want to restart your computer now?', click **Yes**.

15.* When Windows has restarted, go to the Device Manager (**Start->Settings->Control Panel->System->Devices**) and locate 'ScopeBoard' under 'Audio, video and game controllers'. The driver is properly installed if there is no yellow warning symbol or red cross next to it in the device list.

INFO

* If you have cascaded more than one Pulsar, Pulsar SRB, or SCOPE boards in your system then Windows will again detect new hardware (as in step 2) when it restarts (step 15). Proceed for the additional card(s) exactly as described above for SCOPE, but use the appropriate corresponding driver(s) (in step 8) as indicated below .

SCOPE.INF = SCOPE Board
PULSAR.INF = Pulsar Board
PULSSRB.INF = Pulsar SRB

* see Notes on following pages

Installing the SCOPE Software

The installation of the SCOPE program software is made quite easy by a custom Setup utility included on the CD. Just follow these simple steps to install SCOPE:

1. Insert the SCOPE software CD-ROM disc into your CD-ROM drive.

2. Close any programs that may be running.

3. In Windows Explorer, switch to the CD-ROM drive and doubleclick on **setup.exe** in the root directory.

You can also start the setup program by typing <CD-ROM drive letter>:**setup.exe** in the **Start** menu's **Run** utility (i.e. D:\setup.exe).

4. If, for some reason, Windows did not detect your SCOPE board, and therefore did not install the driver, you have the option now of running the hardware wizard to install the driver. Or, if you are upgrading to a newer version of the software, you should use this option to upgrade the SCOPE driver. If you choose to do so, follow the driver installation procedure described earlier.

5. In the 'Welcome' window, click on **Next>**.

6. The CreamWare License Agreement appears in the next window. Please read this and confirm that you agree by clicking on **Next>**.

7. (Note: at the time of writing of this guide the key is planned to be entered now. If this is not the case, proceed to step 8.)

If this is a first-time installation of SCOPE you will be asked to enter the **software key**. You'll find this number on the cover of this Installation Guide booklet. Enter the key carefully, then click on **Next** to continue.

8. Now you are asked to specify the directory into which you want to install the software. If you don't like the default directory, click on the **Browse** button to make your own target directory selection. Click on **Next**.

When installing a SCOPE update, you should always install the new version over the same directory in which the existing version is located. Each project which you have created with the older version includes a file path specification for each device included in the project. If your new SCOPE version is installed into a different directory than the previous version, and if the previous version is still present on your system, then loading of your projects under the new program version may nevertheless result in the loading of devices from the previous version.

9. In the 'Ready to Install!' Window click on **Next**.

10. All the required files will now be installed.

*Notes:

1. Installation under Windows 95 is essentially the same as it is under Windows 98, but some of the dialogs may vary slightly depending on which version of Windows 95 you are running.

2. If SCOPE was not found as new device on launching Windows (which is possible, depending on your computer and confirguration) then you must start the hardware wizard from the 'System' control panel applet. Then proceed as from step #3 from chapter 'Software'.

Note that the driver MUST be installed before it will be possible to launch the SCOPE software.

3. If, after installing the SCOPE driver, it does not appear in the control panel's **System** device list under **Audio, video and game controllers** then you should quit Windows, power down your computer, fire it back up and install the drivers again. We have noticed that Windows sometimes requires a few attempts before drivers are successfully installed (not just ours).

4. When you start the SCOPE software the first time, you may be asked to supply a software key in a 'Registration' dialog. This key is found on the cover of this guide. Enter the key, and click on **Save Key.**

SCOPE in the Windows Environment

The Windows Default Project (Winstartscope.pro)

Before going any further we should make one thing 'perfectly clear': SCOPE is not a 'sound card' in the conventional sense. When you install SCOPE, your computer is not only redesigned to provide new possibilities in the realm of digital audio, it is also made much more powerful.

In order to provide you with as reliable, stable and functional an environment as possible we have undertaken some rather unusual measures. But don't worry. Although we do things a little differently, you will grasp these concepts quickly as they are very intuitive. And soon you'll see what great flexibilitiy this approach adds to your system.

Immediately after Windows is started, SCOPE's physical inputs and outputs are available for your unrestricted use. They are enabled automatically by the **Winstartscope.pro** project, which is loaded in the background when Windows is launched.

Everything you need for seemless Windows multimedia and audio/MIDI application software support is made available in this project. Drivers, in particular, are implemented as SCOPE **modules** (which you can view in the 'Project Window'). You can customize your Windows multimedia configuration by reconfiguring the **Winstartscope.pro** project. See the manual for details.

In general, any module labeled '**SCOPE** *xxx...*' represents one or a group of SCOPE physical inputs or outputs.

Facing next page: This is the default **Winstartscope.pro** interconnection diagram. Note that as this is a background application, you will not actually see the modules.

SCOPE Physical Input Destinations

Sources Routed to SCOPE Physical Outputs

SCOPE's two **physical** MIDI inputs and outputs (**SCOPE MIDI Source A** and **B**, and **SCOPE MIDI Dest. A** and **B**) are connected to **Sequencer Midi Dest 1** and **2** and **Sequnecer Midi Source 1** and **2** respectively. In your MIDI sequencer application the SCOPE MIDI I/Os will be identified as **SCOPE MIDI In/Out 1** and **2**.

The first 4 physical ADAT input and output channels (**SCOPE ADAT A Source**, 1-4 and **SCOPE ADAT A Dest.**, 1-4) are connected by default to the Windows **Wave dest** and **source 1** and **2** respectively. So, without having to run SCOPE, your Windows audio applications will have two stereo WAVE devices available (possibly connecting to our A8 or A16 A/D-D/A converters). In addition, the Windows **Direct Sound source** output is connected to channels 5 and 6 of the **SCOPE ADAT A Dest.** module.

Programs such as Cubase VST which use the ASIO driver specification to address the audio hardware more directly are supported by SCOPE via the **ASIO source** and **dest** modules (drivers). The advantage of using ASIO drivers over the normal WAVE drivers lies in the increased timing accuracy ASIO provides.

The 8 stereo (1L, 1R, 2L, 2R...) **ASIO dest** channels are connected to the **SCOPE ADAT B** and **C Source** modules, and the respective **ASIO source** channels are connected to the **SCOPE ADAT B** and **C dest** modules. Therefore 16 **ASIO** channels are available to any ASIO-compatible* program through **SCOPE ADAT B** and **C Source** and **dest** modules.

When Windows starts, **Winstartscope.pro** enables almost all of SCOPE's inputs and outputs. These are immediately available to your MIDI sequencing or audio programs - all you have to do is make the physical connections to your equipment and select the appropriate 'devices' in your application software.

In subsequent sections we will use three well-known software applications as examples to further illustrate the unique SCOPE multimedia implementation.

** At the time of writing only Steinberg's Cubase VST ASIO drivers are supported.*

INFO

Note: When you start the SCOPE software itself **Winstartscope.prov** routings are disabled and the SCOPE default project is loaded.

Click on the SCOPE icon in the 'System Tray' area (lower right corner of your screen) to call the Sample Rate Settings dialog. Here you can make adjustements to settings such as the sample rate and the sync mode. For more information check the later sections in this manual.

Creating a Customized Windows Default Project

The Windows default project makes SCOPE's inputs and outputs available to other programs without having to run the SCOPE software itself. All you need to do to create your own version is to set up the connections in a new project, and then click on the **Save as Windows Standard** button in the **SCOPE Settings** dialog (called from SCOPE's **Window** menu). The current project will then overwrite **Winstartscope.pro**.

INFO

If you save a complex setup involving several devices as a background project, be aware that Windows will take noticeably longer to load. In this case be careful to avoid launching the SCOPE software before the **Winstartscope.pro** devices have finished loading. You'll know the default project has fully loaded when the SCOPE icon appears in the task bar.

Some Tips On Using SCOPE With Other Windows Applications

You have now successfully installed the SCOPE hardware and software. To get you started using SCOPE with your favorite software we will provide notes and examples using three popular programs - Cubase VST, Cakewalk, and Logic Audio. These examples describe the basic settings for these programs and offer some other hints as well. Note that the tips we provide for Cakewalk users apply also to most other audio/MIDI applications.

Steinberg's Cubase VST

Using SCOPE with Steinberg's Cubase VST is easy but you must follow a few rules. There are two important items to observe to achieve maximum compatibility:

!

Ensure that the sampling frequencies are set identically in the two programs, and include the ASIO drivers in your project so VST can use them. (Also, make sure you are using at least version 3.55R3 of Cubase VST).

When Windows starts with the default **Winstartscope.pro** project, the **sample rate** is set to **44.1 kHz** (word clock master) and 8 stereo **ASIO** channels are supported through **ADAT** devices 2 and 3 (see previous page).

Before running VST, but after installing SCOPE, you should run Steinberg's 'Setup MME' program (Start->Programs->Steinberg Cubase VST...) to ensure that the MIDI inputs and outputs are enabled.

After starting VST check Audio-System-Setup to confirm that the SCOPE audio driver modules are available and properly integrated.

The following dialog appears:

Under **ASIO Device**, select **ASIO Scope**. The **Sample Rate** and **Audio Clock Source** items cannot be changed since VST adapts to SCOPE's settings for optimal adjustment. You can change the sample rate settings at any time either by clicking on the SCOPE icon in the task-bar (if the SCOPE software is not running) or by selecting **Sample Rate Settings** from the **Window** menu in SCOPE. Cubase will inform you when you change the sample rate.

So you can always hear the audio and MIDI playback during the simultaneous use of SCOPE and VST, enable **Play in Background** in the **Preferences** dialog.

SCOPE MIDI source/dest A and **B** und **Sequencer MIDI dest/source 1/2** are already integrated in the default project.

The following are two typical examples of possible MIDI connections:

1. MIDI data are routed through to the **Miniscope** device with MIDI Thru in the sequencer = ON.

2. MIDI data are routed simultaneously to the device and the sequencer with MIDI Thru in the sequencer = OFF.

Which method you choose to use depends on your personal preferences and your sequencer's MIDI thru characteristics.

Consult the SCOPE and Cubase manuals to familiarize yourself with the various operational procedures of both programs before calling either CreamWare or Steinberg technical support. You will find that in a very short time you will begin to appreciate the vast possibilities available in this environment!

Have fun sequencing with SCOPE and VST!

Cakewalk

INFO The following example uses 16 audio tracks. Set Cakewalk and SCOPE for another number of tracks (2-32) in a similar manner.

SCOPE uses the Windows MME interface to deliver and receive audio to and from other programs. From the point of view of SCOPE, this interface appears as **WAVE source** and **dest** modules. Other programs will have **SCOPE Play** and **SCOPE Rec** 'devices' available to them.

To use the MME interface follow these steps:

1. Make available the WAVE source and dest modules in SCOPE.

SCOPE will see as many audio tracks as you have made available through the number of **WAVE dest** modules you have included in the project. Each **WAVE dest** module allows for two tracks to be routed to a program. Therefore, if you want 16 channels of audio in Cakewalk, you must include 8 **WAVE dest** modules.

Similarly you must include as many **WAVE source** modules as you require to recevie audio playback from a given number of tracks.

Sooner or later, when adding modules, you'll probably encounter this dialog:

SCOPE is letting you know that there are not enough reserved Windows
drivers and asks you if you want to introduce another driver to Windows.
Click on **Yes**, and SCOPE will tell you that Windows must be restarted for the new driver to be activated. Before you do so, load the required number of modules and save your project. Then restart Windows.

2. Load the SCOPE MME Drivers

Now Windows supplies other programs with MME drivers. You can check
the number of drivers in the **SCOPE's driver setup** (Control Panel -> System -> Device manager -> Sound, video and game controllers -> Scope-Board Properties -> Settings):

As an alternative to the above method you can load the drivers directly in the 'ScopeBoard Properties' dialog. Close all applications and enter the desired number of input and output devices remembering that each one is a stereo driver. Then restart Windows.

To use these drivers you must restart SCOPE and load the previously created project - with it the drivers are loaded, too.

3. MIDI Settings

In Cakewalk, open the **MIDI Ports** dialog (Tools -> MIDI Devices).

Enable the SCOPE MIDI Ports. The default is two MIDI Ins and two MIDI
Outs. You can specify the number of SCOPE MIDI ports in the SCOPE driver setup dialog (in the Windows Device Manager).

Note that the number of MIDI ports here is related not to SCOPE's physical MIDI I/O, but to the number of **Sequencer MIDI source** and **dest** modules loaded.

For connecting and using MIDI modules, see chapter "VST".

For detailed information on using SCOPE and Cakewalk consult the program manuals.

Emagic Logic Audio

INFO

The following example uses 16 audio tracks. Set Logic and SCOPE to use another number of tracks (2-32) in a similar manner.

Follow procedures 1 and 2 in the preceeding CakeWalk section.

3. Tell Logic to use the MME drivers

In your Logic directory you will find the program MMSetup.exe. Start it, and the following dialog will appear:

Click on **Scope Play 1** and under **Number of Drivers** the number of Scope playback drivers you have used so far is displayed - probably 2. Enter the number of drivers you want to use to play audio tracks from Logic into Scope - in our example 8. This results in 8*2 = 16 channels.

Now follow the same procedure for **Scope Rec 1**.

If you click on a different driver (2 - 8, as shown in the Recording list), the
fields **Number of Drivers** and **Channels per Driver** should display the value **Auto**.

Note th at the number of drivers you specify here must correspond **exactly** to the number of Wave Source/Dest modules previously loaded in the SCOPE project. If the numbers don't match correctly, you will obtain the following error message upon starting Logic:

PC AV Error:5
Failed to recover device from playback/recording

INFO

As an alternative to loading multiple stereo Wave modules, you can load the Multi-Interleaved Module, set it for the desired number of channels (e.g., 16) and connect it as appropriate. To use this module, you should enter the following settings for both playback and record in the Logic dialog described on the previous page:

Number of Drivers = 1
Channels per Driver = 16

For using and connecting MIDI modules, see VST section.

Now you're ready to mix 16 Logic channels in a SCOPE project, and bus 16 Big Mixer signals to Logic. For details see next sections of this manual and consult the Logic documentation.

Using multiple boards with S/TDM bus connector

Important notes on using multiple boards with S/TDM bus connector (Pulsar/ Pulsar SRB/SCOPE)

Order of hardware detection

If you add another Pulsar/Pulsar SRB or Scope board to your SCOPE system, different mainboards may detect the boards in different orders. Possibly this order is not what you prefer and you would like to change it - e.g. to maintain compatibility to previous projects. There are different ways to test and to change this order.

SCOPE + Pulsar

You already have an installed SCOPE board and you are adding a Pulsar board. After launching the application you find that the Pulsar hardware I/Os are loaded into your Default Project instead of the SCOPE I/Os which you want to use primarily.

This indicates that the mainboard's hardware detection detected the Pulsar board as first board so that your SCOPE board has been pushed up to the second position.

In this case you will also find that in the Device Manager (Start -> Settings -> Control Panels -> System -> Device Manager -> Sound, video and game controllers) the settings for the different driver options can be opened from the Pulsar board and not from the SCOPE board anymore.

To restore the logical order 1. SCOPE -> 2. Pulsar you can

- swap the physical slot positions of both boards on the mainboard,

or

- add two sections to the file **CSET.INI** in the directory **../Pulsar/App/Bin**. Open the file with a text editor (Editor or Wordpad) and add the following two sections:

[board0]
boardid=1

[board1]
boardid=0

Save the file, and restart Windows.

Now the 'correct' order of the boards should be restored. **[board0]** refers to that board which *should* be detected as first board - in our example your old first SCOPE board that has the **boardid=1** *(from the mainboard's point of view).* The second board *to be detected* **[board1]** is your new Pulsar board, which has the **boardid=0** *(from the mainboard's point of view).*

If you want to add a third board (Pulsar SRB, Pulsar or SCOPE), please note the position of the existing boards before installing the new board. If needed you can add another entry to the **CSET.INI** like

[board2]
boardid=2

to adapt the order to your requirements.

SCOPE + Pulsar SRB

You already have an installed SCOPE board and are adding a Pulsar SRB board. After launching the application you find that in the project Window the hardware I/Os are labelled with '2', e.g. SCOPE ADAT **source 2** or SCOPE Midi **source A 2 instead of** SCOPE ADAT **source 1** or SCOPE Midi **source A 1** etc.

This indicates that the mainboard's hardware detection detected the Pulsar SRB as first board so that your SCOPE board has been moved up to the second position.

In this case you will also find that in the Device Manager (Start -> Settings -> Control Panels -> System -> Device Manager -> Sound, video and game controllers) the settings for the different driver options can be opened from the Pulsar SRB and not from the SCOPE board anymore.

To restore the logical order 1. SCOPE -> 2. Pulsar SRB you can

- swap the physical slot positions of both boards on the mainboard,

or

- add two sections to the file **CSET.INI** in the directory **../Pulsar/App/Bin**. Open the file with a text editor (Editor or Wordpad) and add the following two sections:

[board0]
boardid=1

[board1]
boardid=0

Save the file, and restart Windows.

Now the 'correct' order of the boards should be restored. **[board0]** refers to that board which *should* be detected as first board - in our example your old first SCOPE board that has the **boardid=1** *(from the mainboard's point of view).* The second board *to be detected* **[board1]** is your new Pulsar SRB board, which has the **boardid=0** *(from the mainboard's point of view).*

If you want to add a third board (Pulsar SRB, Pulsar or SCOPE), please note the position of the existing boards before installing the new board. If needed you can add another entry to the CSET.INI like

[board2]
boardid=2

to adapt the order to your requirements.

These notes also apply to cascading SCOPE boards!

General

- If a **pulsar board is the first board detected**, the 'default project' **Winstart.pro** (in the ../Pulsar/App/Bin or ../Scope/App/Bin directory) will be loaded (see Installation Guide!)

- If a **SCOPE board with 24 I/O board is the first board detected**, the 'default project' **Winstartscope.pro** (in the ../Pulsar/App/Bin or ../Scope/App/Bin directory) will be loaded (see Installation Guide!)

Hardware I/Os of the board that has been detected as board #2 are always labelled with the number 2 at the end of the module name, e.g.

- if you add a Pulsar ADAT dest module to a SCOPE project with SCOPE I/Os (SCOPE board as board #1), the Pulsar ADAT dest module will be labelled with 'ADAT dest 2' (in a Pulsar project it will be labelled as Pulsar ADAT dest 2)

- if you add a SCOPE ADAT dest module to a SCOPE project with Pulsar I/Os (Pulsar as board #1), the SCOPE ADAT A dest module will be labelled with 'SCOPE ADAT dest 2' (in a Pulsar project it will be labelled the same)

Your CreamWare support!

Technical Specifications

SCOPE DSP Board Technical Data

Description

15 SHARC DSPs @ 60 MHz
PCI Busmaster with special support for delay lines
32 MByte SDRAM onboard for memory intensive signal processing
32 Bit Audio-Bus architecture

5 independent S/TDM extension busses for a total of 720 channels
Onboard connections for plug-in extension daughterboards

Sample frequencies from 24 kHz - 400 kHz

Digital Inputs and Outputs

S/TDM	SCOPE Bus connections	144 channels 32 Bit @ 44.1 kHz
SYNC	Sync Plate connectors	Wordclock In/Out 2 x ADAT 9-pin protocol
Direct I/O	Daughterboard connectors	Multifunction I/O-interface

General Data

PCI add-in card	Rev. 2.1 compliant 33 MHz (busmaster slot)
Vendor-ID	14B5 hex, **creamw@re**
Power consumption	15W
Operating temperature	0 - 55°C (Minimum, Maximum)
Dimensions	33.8 x 10.8 x 1.6 cm (not incl. metal bracket)

24 I/O Daughterboard Technical Data

Description

3 ADAT ODI Interfaces
2 MIDI Interfaces including cablewhip assembly
Mounts as a daughterboard to **SCOPE**

Sampling Frequency

Master	32, 44.1, 48 and 96 kHz
Varispeed	44,1 kHz +/- 200 cents 48 kHz +100/-300 cents (ADAT* compatible)
Slave	30 - 100 kHz (Wordclock)

Digital Inputs and Outputs

ADAT	Optical EIAJ connectors	8 Channels, 24-Bit, 3 In, 3 Out
MIDI	5-pin DIN	2 In, 2 Out, 2 Thru

General Data

Power consumption	0.4 W
Operating temerature	0 - 55°C (Minimum, Maximum)
Dimensions	10.9 x 10.5 x 1.1 cm

Sync Plate Technical Data

Description

Wordclock and ADAT* Timecode Synchronization (selectable)
Master and Slave
Mounts on PC chassis back panel (no slot used)

Sampling frequency	24 kHz - 400 kHz via BNC

Synchronization

Word clock	75 Ohm, BNC, input and output

Timecode

ADAT* 9-Pin connector	Input and output

General

Power consumption	0.1 W
Operating temperature	0 - 55°C (Minimum, Maximum)
Dimensions	12.3 x 9.8 x 1.5 cm

Package Contents

SCOPE-Board	with attached 24 I/O board Sync Plate MIDI adapter bracket MIDI cablewhip assembly Installation CD-ROM Quickstart Guide Akai Sample CD-ROM
CD Contents	Installation program Driver Software Manual (Adobe Acrobat)

**ADAT is a trademark of the Alesis corporation.*

Warranty and Disclaimer

CREAMWARE GmbH ("CREAMWARE") warrants this product to be free of defects in materials and workmanship for a period of one (1) year for parts and for a period of ninety (90) days for labor from the date of original retail purchase. This warranty is enforceable only by the original retail purchaser. To be protected by this warranty, the purchaser must complete and return the enclosed warranty card within fourteen (14) days of purchase.

During the warranty period CREAMWARE shall, at its sole and absolute option, either repair or replace free of charge any product that proves to be defective on inspection by CREAMWARE or an authorized service representative. In all cases disputes concerning the warranty shall be resolved as prescribed by law.

To obtain warranty service, the purchaser must first call or write CREAMWARE at the address and telephone number printed below to obtain a Return Authorization Number and instructions concerning where to return the unit for service. All inquiries must be accompanied by a description of the problem. All authorized returns must be sent to CREAMWARE or an authorized CREAMWARE repair facility postage prepaid, insured, and properly packaged. Proof of purchase must be provided in the form of a bill of sale, canceled cheque, or some other positive proof that the unit is within the warranty period.

CREAMWARE reserves the right to update any unit returned for repair. CREAMWARE reserves the right to change or improve the design of the product at any time without prior notice. This warranty does not cover claims for damage due to abuse, neglect, alteration or attempted repair by unauthorized personnel, and is limited to failures arising during normal use that are due to defects in material or workmanship in the product.

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