

Synapse

Cortex

Synapse control and monitoring software

Installation manual

Edition A

Committed.

[®] AXON



Synapse

TECHNICAL MANUAL

CORTEX



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**WARNING: TO REDUCE THE RISK OF FIRE OR
ELECTRICAL SHOCK, DO NOT EXPOSE THIS
APPLIANCE TO RAIN OR MOISTURE**

- ALWAYS disconnect your entire system from the AC mains before cleaning any component. The product frame (SFR18 or SFR04) must be terminated with three-conductor AC mains power cord that includes an earth ground connection. To prevent shock hazard, all three connections must always be used.
- NEVER use flammable or combustible chemicals for cleaning components.
- NEVER operate this product if any cover is removed.
- NEVER wet the inside of this product with any liquid.
- NEVER pour or spill liquids directly onto this unit.
- NEVER block airflow through ventilation slots.
- NEVER bypass any fuse.
- NEVER replace any fuse with a value or type other than those specified.
- NEVER attempt to repair this product. If a problem occurs, contact your local Axon distributor.
- NEVER expose this product to extremely high or low temperatures.
- NEVER operate this product in an explosive atmosphere.

Warranty: Axon warrants their products according to the warranty policy as described in the general terms. That means that Axon Digital Design BV can only warrant the products as long as the serial numbers are not removed.

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This product complies with the requirements of the product family standards for audio, video, audio-visual entertainment lighting control apparatus for professional use as mentioned below.



EN60950 Safety
EN55103-1: 1996 Emission
EN55103-2: 1996 Immunity

Axon Digital Design
Cortex



Tested To Comply
With FCC Standards

FOR HOME OR OFFICE USE

This device complies with part 15 of the FCC Rules
Operation is subject to the following two conditions:
(1) This device may cause harmful interference, and
(2) This device must accept any interference received, including
interference that may cause undesired operation.

Table of Contents

Table of Contents	4
Preface	5
Audience	5
Revision history	5
Writing styles	5
Chapter 4: Cortex Installation	6
Cortex installation	6
Introduction to Cortex	6
Download the latest version	6
Minimum system requirement	6
Installation of Cortex	7
Logging on	8
Network adaptor	8
Windows Firewall	8
Loading new or modified Cortex GUI files	9
Graphical User Interface updates	9

Audience	This manual is written for the engineers, technicians, operators and other broadcasting employees that are responsible for the proper installation of Cortex								
Revision history	<table border="1"><thead><tr><th>Edition</th><th>Date</th><th>Revision</th></tr></thead><tbody><tr><td>A</td><td>06-06-2012</td><td>First version</td></tr></tbody></table>			Edition	Date	Revision	A	06-06-2012	First version
Edition	Date	Revision							
A	06-06-2012	First version							
Writing styles	To make this document easier to understand, this manual contains the following text styles:								
Style	Description								
Bold	Chapter titles, paragraph titles, table headers.								
<i>Italic</i>	Special words that need emphasis								
CAPS	Indicates a keystroke on the keyboard, such as ENTER, CTRL, SHIFT or ALT.								
Display	Indicates text which can be seen on the synapse control display								
>	Indicates the direction of navigation through a menu structure.								
	Note Indicates important information that helps to avoid problems.								
	Indicates service areas which may only be performed by trained service personnel.								

Chapter 4: Cortex Installation

Cortex installation

Introduction to Cortex

To set up a Synapse module, you need Axon Cortex installed on a PC which is connected to the frame via Ethernet. Cortex is a windows based application to configure, manager and control your equipment. Cortex employs Ethernet communication to each device in your chosen workflow, providing the ability to both configure and monitor devices at local and remote sites.

The application allows up to 64 user-groups to be defined. For each group the level of access can be restricted, not only to program functionality but also to control access of individual settings on specific devices. Limitless users can be added and assigned to one of these groups, each with their own unique password.

Cortex works with all Synapse products without upgrade or the purchase of additional software. Advanced features, such as integrated router control, user-configurable GUIs and third-party SNMP monitoring, are available as costed options, and are protected by the use of a USB dongle for the purchased options.

Download the latest version

Cortex is available free-of-charge to customers from AXON's website (www.axon.tv). Make sure that you have the latest version when setting up a new Synapse module.

Minimum system requirement

The following list, lists the prerequisite software and minimum hardware and software requirements for running Cortex. To determine if the computer meets the system requirements, from the **Start** menu, right-click **My Computer**, and then click **Properties**. The **General** tab displays the CPU type and speed, and the amount of installed memory (RAM).

Prerequisite software

Microsoft .NET Framework (Automatically installed if not present)

Microsoft Internet Explorer 6.0 Service Pack 1 (SP1) or later
(prerequisite for .NET Framework)

Adobe Reader V8 or later (www.adobe.com/products/reader) for manual viewer

RAM

Minimum: 192 MB

Recommended: 512 MB or higher

Hard Disk space

Minimum: 600 MB (please note the SQL database size in Cortex should be reduced if HDD space is limited below 1GB)

Recommended: 1GB or higher

Processor

Pentium III Compatible or higher

Minimum: 500 MHz

Recommended: 1 GHz or higher

Recommended Screen Resolution

At least 1024 x 768

Other

Ethernet/Wireless adapter fitted with support for IP connections

Operating System

Windows Server 2003 SP1

Windows Server 2003 Enterprise Edition SP1

Windows Server 2003 Datacenter Edition SP1

Windows Server 2003 Web Edition SP1

Windows Small Business Server 2003 Standard Edition SP1

Windows Small Business Server 2003 Premium Edition SP1

Windows XP Professional SP2

Windows XP Home Edition SP2

Windows XP Tablet Edition SP2

Windows XP Media Edition SP2

Windows 2000 Professional Edition SP4

Windows 2000 Server Edition SP4

Windows 2000 Advanced Edition SP4

Windows 2000 Datacenter Server Edition SP4

Virtual PC

Virtual Server

Windows Vista Home Basic

Windows Vista Home Premium

Windows Vista Business

Windows Vista Enterprise

Windows Vista Ultimate

Windows 7

Note: There is no support in this release for Windows XP Embedded Edition.

Installation of Cortex

When you've downloaded the latest version, extract the file onto a local drive and click on the file named 'setup.exe'.

The Cortex installer will start by installing SQL Server 2005 Express SP2, this is a pre-requisite for running Cortex as all the local data storage is stored using this server. Accept the initial licence agreement for this and then wait whilst this application installs (likely to take between 5 and 20 minutes depending on the specification of the PC). The Cortex application will then be installed by following the on screen directions which will complete the rest of this installation.

Logging on

When starting the Cortex application for the first time it will automatically log the user on as an Administrator, however if the options have changed previously it can prompt the user for the User name and password. By default the User name is Admin, which can be selected from the pulldown list and the password is "Cortex" (case sensitive). Once the application has finished its initialisation sequence the user can change the list of users and passwords for each user.

Network adaptor

When the program is invoked it will by default carry out a search on the sub-net of the first network adaptor installed in the PC. If it finds Synapse frames on this sub-net it will add and display them in the system view. If you require to use a different network adaptor by default then this can be changed in the IP tab of the Configuration dialog. Also if other sub-nets contain Synapse frames then these can either be manually added using System->Add Frame to Network or by searching additional sub-nets again configured from the IP tab of the Configuration dialog.

When the program finds a frame it will then interrogate the frame and cards it contains to pull back all the information from them. It will add status events to the log on reading the status so that the initial status level for the device will reflect its current state.

Please note that it is **not** allowed to run more than 1 instance of Cortex on a PC.

Windows Firewall

When the program is run for the first time the Windows firewall will normally warn the user of a security risk. In order for Cortex to work correctly the unblock button should be pressed. If the firewall blocks the program then the broadcast network UDP messages will be blocked and Cortex will not update to reflect changes made by other clients on the Synapse system.

If the program has been blocked then it can be changed by accessing the Windows Firewall from the Control Panel. The exception dialog will allow the user to 'Add Program' by browsing to the executable and adding this to the list of exceptions.

Note that some network switch devices can also block network UDP broadcast messages so if these broadcasts are still not seen with Cortex in a Synapse system after checking the firewall then the configuration of 'intelligent' hubs or switches should also be verified.

Graphical User Interface updates

Loading new or modified Cortex GUI files

Cortex is updated every 3 months during that time it is possible that there will be updates for Synapse modules or that there are new modules introduced. In order to cope with these events the Graphical User Interfaces (GUI), which Cortex displays for each individual card, are independent of Cortex itself. These GUI's are defined as *.clf (Cortex Layout File) , *.cmf (Cortex Macro File), *.cvf(Cortex Variable file) or *.png (images) files.

Whenever Axon releases new software for specific Synapse module, a .zip file can be downloaded from our website which, besides the .spf file to update the card's software, also contains a folder called "Cortex". This folder contains modified or new files for Cortex. For proper operation of the card it is highly recommend to copy these files to their respected folders on your computer running Cortex. This can be done by running the copyto.bat file located in the zip file. If you don't want to use this batch file you can copy and paste the files to their locations according to the table below.

For 32 bits machines:

*.clf → C:\Program Files\Axon Digital Design\Cortex\Forms\Device
*.cmf → C:\Program Files\Axon Digital Design\Cortex\GlobalMacros
*.cvf → C:\Program Files\Axon Digital Design\Cortex\Variables
*.png → C:\Program Files\Axon Digital Design\Cortex\Forms\Device\Images

For 64 bits machines:

*.clf → C:\Program Files (x86)\Axon Digital Design\Cortex\Forms\Device
*.cmf → C:\Program Files (x86)\Axon Digital Design\Cortex\GlobalMacros
*.cvf → C:\Program Files (x86)\Axon Digital Design\Cortex\Variables
*.png → C:\Program Files (x86)\Axon Digital Design\Cortex\Forms\Device\Images



Note

- The GUI is made up from *.clf files so it is highly recommended to always use the files corresponding to the software version of your Synapse product.
- Not every software delivery contains all the files. It could be that there are only *.clf files in a delivery.
- the ApplicationVariables.cf file is likely to be part of your Cortex installation. If you are unsure that you are using the variables in the file it is best to open both files with an editor and copy the new variables into the old file.