

Avolites Ltd

ART2000 Power Cube

User Manual



Related to software versions
Main: 24 Sept 2009
PDE: 23 Sept 2009

This manual and the products it describes are intellectual property of Avolites Ltd. England

Useful Avolites phone numbers:-

Avolites England

Sales and service* (+44) (0) 20 8965 8522

Service out of hours*(+44) (0) 831 17 8888

Fax (+44) (0) 20 8965 0290

Email name@avolites.com

Website <http://www.avolites.com>

Distribution of Avolites products in USA:-
Avolites America

Sales and service* (+1) 423 938 2057

Fax (+1) 423 938 2059

*Before contacting Avolites for service enquiry please ensure that you have the product serial number and the Software version (shown at switch on).

The latest version of this manual (MS Word 2000 & PDF) and ART2000 Power Cube Software can be downloaded from the Internet.

The small print :

No Liability for Consequential Damages

Avolites has a policy of continuous product and documentation improvement. As such the detail within this manual may not match the operation of the ART2000-PC.

In no event shall Avolites be liable for any direct, indirect, special, incidental, or consequential damages or loss whatsoever (including, without limitation, damages for loss of profits, business interruption, or other pecuniary loss) arising out of the use or inability to use the ART2000-PC even if Avolites Ltd. has been advised of the possibility of such damages. Because some jurisdictions do not allow the exclusion or limitation of liability for consequential or incidental damages, the above limitation may not apply to you.

Reprint and revision history:

Created from specification doc By J.B.Toby, Avolites Ltd

General text originally by by Tim Mitchell, Sabre Technology Ltd Tel: 01482 831031

24/09/09 adjusted general text J.B.Toby, Avolites Ltd

C O N T E N T S

THE ART2000 POWER CUBE DIMMING SYSTEM	5
1.1 What it does	5
1.2 Important safety information	5
1.3 Quick start instructions	5
2. FEATURES OF THE ART2000 POWER CUBE	6
2.1 Flight case lids	7
2.2 Front	7
2.3 Back	7
2.4 Earth bonding pillar	8
3. INSTALLING THE ART2000 POWER CUBE	8
3.1 Positioning the ART2000 rack	8
3.2 Power supply	9
3.3 Connections to lights	9
3.4 Control connection	11
3.5 Testing channels using the local control faders	11
3.6 Support from your reseller or Avolites direct	11
4. THE USER INTERFACE	12
5. MAIN FUNCTION LIST	12
6. DMX START ADDRESS IN "START" MODE	14
7. DMX START ADDRESS IN "PATCH" MODE	14
8. ARTNET START ADDRESS IN "START" MODE	15
9. ARTNET START ADDRESS IN "PATCH" MODE	16
10. DMX ADDRESS MODE	16
11. CURVE MENU	18
12. LIMIT MENU	19
13. PRE-HEAT MENU	20
14. MEMORY STORE	21
15. FADERS MODE	22
16. MEMORY REPLAY	23
17. CHANNEL TEST	23
18. LEVELS	23
19. IP SETTINGS, IP, IP MASK AND GATEWAY	24
20. USER SETTINGS	24
20.1 Date & Time	24
20.2 Panel Lock	25
20.3 PHASE SETUP	26
21. SYSTEM	28
21.1 Event Log	29

21.2	Software Versions	29
21.3	Serial , MAC, & RDM ID's	30
21.4	System Status	30
21.5	Flicker Finder	30
22.	WIPE ALL	31
23.	PANEL UNLOCK	31
24.	UNLOCK DMX	32
25.	SOFTWARE UPGRADE	32
25.1	Future features	32
25.2	System software limitations	32
25.3	Known User Interface issues	33
25.4	PDE-DSP software limitations	33

The ART2000 Power Cube dimming system

Thank you for selecting the Power Cube.

This manual is designed to help you get the most out of your Avolites ART2000 Power Cube. Even if you hate reading manuals, read this section because the next couple of pages contain some **important safety information** which you should be aware of.

At the end of the manual there is a quick summary of how the DMX control system works, a Glossary explaining some of the technical terms used in the manual, and an Index which can be used to find what you need in the manual.

1.1 What it does

The ART2000 Power Cube provides a complete solution to Dimming, Moving Light Power and data distribution. You no longer need to have separate mains distribution making set-up times faster and reducing the number of individual components needed to put a show together.

The ART2000 Power Cube controls up to 18 individual dimmer channels with each a 10A capacity, and can supply up to a further 12 channels of fixed power, 6 shared channels of 10A and 6 dedicated channels of 10A capacity

There are also two separate 16A utility outlets in the form of two CEE 16A sockets

The design incorporates full monitoring and status feedback via the backlit LCD display. For simple events you can operate without a console by setting up a dimmer state on the test faders, or you can record 12 internal memories for replaying a simple show.

Other features include DMX and ArtNet input with full DMX patch, dimmer curve and output limit selection per channel, power OK indicators.

1.2 Important safety information

This system uses 3-phase power and can be a serious hazard to health. This manual is however not a safety manual.

The system should be installed and operated only by a competent person. When installing you should check local regulations regarding the separation of lighting fixtures on different phases. If you are in any doubt as to the safe installation of the system you should employ the services of a qualified electrical contractor.

Do not operate the system with known electrical faults or when partially dismantled because this makes live parts accessible.

Before turning on the ART2000 Power Cube, ensure that mains is correct and that the three mains LEDs are lit

1.3 Quick start instructions

Below are the step by step quick instructions to safely power up and down a complete system

1.3.1 Power Up

- The dimmer should be placed suitable place indoors or outdoors where it is protected from direct exposure to rain. (see also "Installing the Power Cube"). Note that the case has markings to indicate what the front side is.
- Remove the Front and Back lid
- Ensure the main breaker is off, and ensure that the channel and utility breakers are switched off.
- Connect the Power Cube to a 3 phase CEE 63A 5 pin socket delivering 3 phases, Neutral and Earth (TN-S) system.
- Observe that the three mains LEDs on the front are lit.
- Turn on the dimmer by switching on the mains isolator, and observe the LCD light up and showing the main screen

Note: If you cannot read the display you may need to adjust the display contrast control at the bottom right hand corner of the display.

- Connect the loads to the dimmer (Socapex, Harting and Cee outlets)



Warning..

Make sure that moving lights are NOT connected to the A1-2, B1-2 and C1 outlets

- Connect the DMX or Artnet control cables to the dimmer
- Turn on the desired breakers when the load is connected

1.3.2 Power Down

Moving lights;

Note: Be aware that some moving lights prefer to be turned off by sending them a specific "lamp off" command. This is normally done from the console.

- "Lamp off" Moving lights
- Turn of the distribution breakers

Dimmer channels;

- Bring down any levels from the console OR...
- remove the DMX feed and press [OK] when the "Locked DMX data message" appears in the LCD screen this will fade down the channels, the trip the channel breakers
- Trip the Mains Isolator on the dimmer

Warning: It is preferable not to use the RCB as an ON/OFF switch, as arcing may reduce the RCB's protecting ability.

2. Features of the ART2000 Power Cube

This chapter gives a quick rundown on what each part of the ART2000 Power Cube does. If you are new to the system, read this!

2.1 Flight case lids

The front and back flight case lid are identical.

To open the case, press down into the lock as indicated and pull the top of the lid towards you, then lift it out of the case.

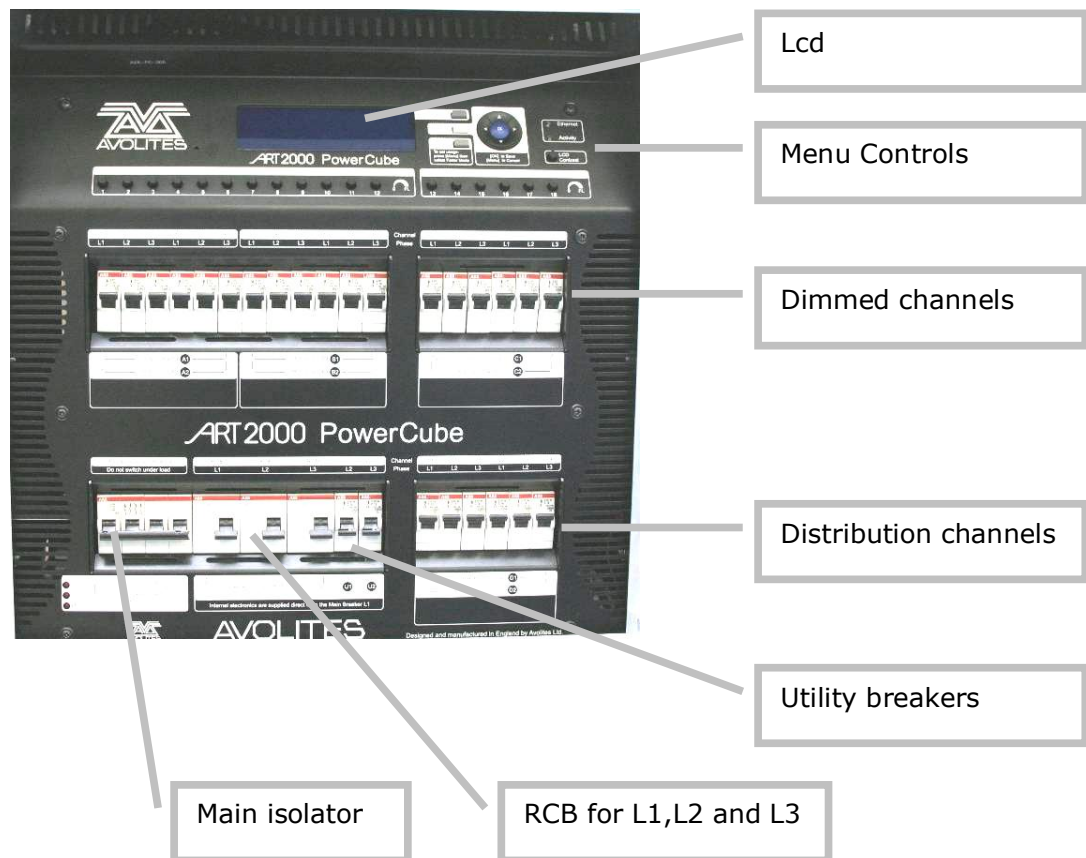
Note: Do not fit the lid while the dimmer is in use. Current regulations (BS7909) state that the beakers need to be accessible for emergency use. The controls including the faders can be software locked.

To close the lid hook metal plates on the base of the lid behind the aluminium case strip as shown and then move the top of the lid towards the dimmer. And press until the latch secures.

Note: The lids do not fit upside down on the dimmer

2.2 Front

From the top the front panel you will find the large backlit LCD with the menu controls and local faders. Below that are the dimmed channel breakers and below that are the distribution breakers.

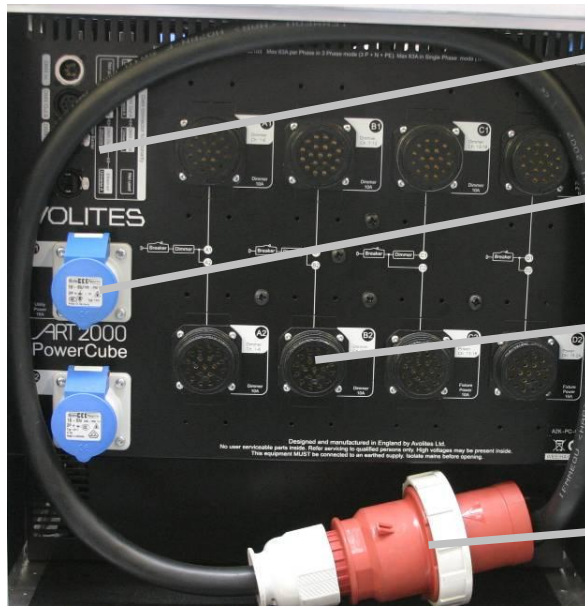


2.3 Back

The back panel on the top left hand side are the DMX and Artnet in and outlets, below that are the two utility breakers and to the right are the 8 Socapex or Harting outlets that connect the loads

Below the outlet panel is an area where the mains connector is stored. The main inlet cable is routed along the perimeter of the flight case as show below. The edge strip of the flight case provides an edge that retains the

cable inside the dimmer



DMX and ARTnet

Utility outlets

Load outlets

Stored Mains inlet cable

2.4 Earth bonding pillar

The Earth Bonding stud which you may need to use depending on your installation can be found near the main inlet cable



Earth bonding stud

3. Installing the ART2000 Power Cube

This chapter contains details of how to install the ART2000 Power Cube, either for temporary or permanent operation.

3.1 Positioning the ART2000 rack

Choose a location for the rack which is as near to the power feed as possible and allows access to the front and back of the rack. Consider how the cables will run in from the power feed and out to the lights, and try to avoid crossing walkways.

If you are unsure about the safety you should contact a competent body to advise you.

The ART2000 Power Cube is designed to operate in a maximum ambient temperature of 40°C and can run continuously when fully loaded at 10A per dimmer channel. The rack is fan-cooled, you must ensure there is adequate ventilation available - if the system is running in a closed room, consider providing external ventilation to the room (see Specifications on page **Error! Bookmark not defined.** for cooling information). The system may shut dimmer channels down if it cannot release the heat generated.

If you are using the system on an outdoor stage, ensure that the rack is situated somewhere dry and clear of the ground. If you shelter the rack with tarpaulins make sure that you do not obstruct the air vents. Black tarpaulin is generally unsuitable.

3.2 Power supply

The Power Cube can be run from Three phase and Single Phase supplies, please read the following section carefully

3.2.1 Three Phase power supply

In most cases you need to provide a three phase and neutral power supply to the ART2000 (TN-S) which is capable of delivering the amount of power required to run all the lights which are connected to it. If the power supply is under-rated it may trip during your show if you turn too many lights on at once. This is obviously not a good thing to happen. Also, an overloaded mains supply can suffer from a distorted waveform which can make it difficult for the ART system to control your lights accurately.

Warning: Never use mains supplied with "reduced neutral" cable sizes, as dimmers inherently dump large currents in the neutral connection. These kind of mains supplies are sometimes called "industrial" and are not suitable for dimmer applications.

When ordering or specifying a mains supply state that it is for "phase angle controlled light dimming"

The frequency of the mains is automatically tracked by the system, which makes the ART system suitable for use on local generator sets.

3.2.2 Single Phase Power Supply

In some cases you may want to connect the Power Cube to a single Phase supply. In this case you need to provide a cable that connects the three phase 63A mains inlet to the single phase mains supply. The three phases on the input of the dimmer are combined to the single phase of the supply.

The single phase supply must not be larger than 63A

When running the Power Cube from Single Phase the dimmer system needs to be set to run on single Phase (see Setting supply)

3.3 Connections to lights

You connect the lighting rig to the ART2000 either through the multipin connectors (Socapex or Harting) or through direct outlets on the rear panel. There are up to 8 multipin connectors, each of which carries 6 channels (Harting-type connectors may carry 8 channels).

Do not connect or disconnect the multipin connectors whilst channels are turned on, as this may cause arcing which will damage the connectors.

The Power Cube has 3 types of outlet usages, being dedicated Dimmer, shared dimmer and fixed mains and fixed mains.

The following table shows the outlets and their function

Outlet	Dimmer function	Fixed mains function	Capacity
A1	Channel 1 - 6		10A
A2	Channel 1 - 6		
B1	Channel 7 - 12		
B2	Channel 7 - 12		
C1	Channel 13 - 18		
C2		Channel 13 - 18	16A
D1		Channel 19 - 24	
D2		Channel 19 - 24	



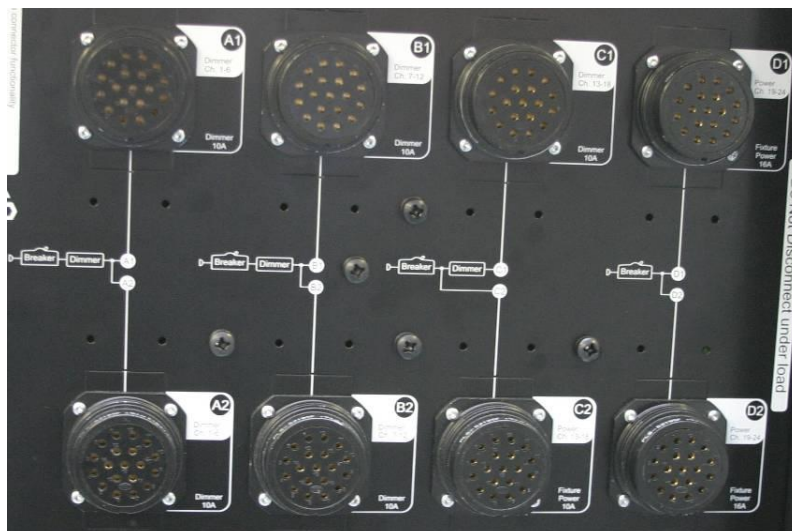
WARNING Take care not to connect the moving lights to the C1 (Top) outlet by accident. Dimmed mains can damage moving lights

Always double check the connections made

The Outlets are marked clearly on the front of the dimmer and on the back of the dimmer as A1, A2, B1, B2, C1, C2, D1, D2

Please note that Outlets C1 and C2 are sharing breakers 13-18 therefore the combined capacity is 10A

A schematic diagram of the breaker, dimmer and outlet is available near each outlet on the back of the dimmer



3.4 Control connection

A DMX input with two isolated buffered outlets are provided.

This allows you to buffer the DMX from the console to the moving lights or other fixtures. When the dimmer is powered off it will not generate any DMX from the two outlets.

The Ethernet connector can be used to feed the dimmer ARTnet information instead of DMX. In this mode the DMX outlets will be controlled by the ARTnet and transmit the same universe as the dimmer is set to

If you need to change the DMX start address of the system this is described in section **Error! Reference source not found..**

The Power Cube does not need a DMX termination as it does not loop the DMX and thus always terminated the line

3.5 Testing channels using the local control faders

When you are setting up the rig, it is useful to be able to fade up a channel from the dimmer. The Power Cube has 18 faders to allow you to do this. However, the faders can be disabled to prevent people playing with them. The display shows `Faders: Test On` or `Faders: Test off` to tell you what the current setting is.

3.5.1 Using the local faders

- ➔ *Press [FADERS On or Off] key to enable the faders*
 - ➔ *Turn the fader on the channel you want to change*
 - ➔ *The fader and the DMX input are combined, whichever is highest has control*
 - ➔ *Press [FADERS On or Off] when you have finished.*
-

The local faders combine with the DMX input using highest-takes-precedence (HTP) rules, in other words if the DMX input is turning the channel on full, you will not be able to take control using the local fader.

You can also program 12 memories into the ART2000 Power Cube, which is useful in case of emergency, or for very simple setups where you do not need a control console. This is described on page **Error! Bookmark not defined..**

3.6 Support from your reseller or Avolites direct

If you require support for this product please do not hesitate to call your local supplier or Avolites Direct.

When contacting any support staff always have the serial number to hand as we use this to track your support case. The serial number can be found just above the large AVOLITES logo on the front panel and should start with A2K-PC- and then four digits

If the unit stops performing as it should we would kindly ask you to call support in and out of office hours to state the problem.

This will help us identify the problem as we will have the opportunity to ask you to do some test with the unit in situation.

This direct interaction is of great value to the product development

Non urgent problems or remarks can be relayed to Avolites later on.
Telephone number of your local supplier

Avolites Sales and service* (+44) (0) 20 8965 8522

Avolites Service out of hours* (+44) (0) 831 17 8888

4. The User Interface

The ART2000 Power Cube uses a cursor key matrix and three dedicated switches to navigate the functions

Cursor key matrix controls the Up/Down and Left/Right direction. To enter a function or accept a selection press the centre key marked [OK].

A bulb with animated light rays is used as a "heart beat" indicator (not shown in this document screen examples)

Typical screen after power-up:

DMX 001	Artnet 000.001
Status: running	Faders: Test on

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18	

The status line indicates the mode the system is in,

System Status modes:

- Running OK (normal operation mode)
- Warning (see System log for details)
- Reset (after power up and manual reset)

5. Main Function List

The ART2000 uses menus contained in a list, pressing the menu key will open the list and the cursor UP / DOWN can be used to select the desired function

-
- Press the [Menu] Key to start the Menu system
 - Use [Down] to step through the menu items from the top of the list
 - Use [UP] to step through the menu items from the bottom of the list
 - Press [OK] to select a function.

Single level function

- Change a single setting (using [UP] and [DOWN])
- Press [OK] to select or save the setting and terminate the function.

Multi level function

- Select a Channel or function (using [UP] and [DOWN])
- Press enter to select the channel and move to the channel Attribute or Function detail

- ➔ Use [UP] and [DOWN] to change the attribute or Function detail
- ➔ Press [OK] to save the channel attribute or select the function detail
- ➔ If there are more then one function detail (like the IP address) then the [LEFT] and [RIGHT] key can be used to navigate the details
- ➔ Press Enter to save each channel attribute or function detail.

Note: Pressing [MENU] when in a function will restart that function

Note: Single settings and attributes that have more then 10 entries can be auto-incremented by holding the [UP] or [DOWN] Key for more then 2 seconds

Note: A short description of the function is given on the LCD below the menu selection

Note: After a power-up or reset, pressing the Menu key will start the menu at the "DMX" function.

Functions

- DMX
- ARTNET
- LINE ADDRESS MODE
- CURVE
- LIMIT
- PRE-HEAT
- MEMORY STORE
- FADER MODE
- LEVELS
- IP SETTINGS
 - ADDRESS
 - MASK
 - GATEWAY
- USER SETTINGS
 - PANEL LOCK
 - PHASE SETUP
 - DATE & TIME
- SYSTEM
 - EVENT LOG
 - SOFTWARE VERSIONS
 - SERIAL, MAC, RDM ID'S
 - SYSTEM STATUS
 - FLICKER FINDER
- WIPE ALL

6. DMX Start address in "Start" mode

Changing the Start Address

- Press the [Menu] Key
- Press [DOWN] to select the "DMX" function and press [OK]
- Press [UP] or [Down] to select the DMX address and press [OK] to select and save the address.

```
DMX 001          Artnet 000.001
Status: running  Faders: Test on
----- DMX -----
                Start Address 001
```

Note: Holding the [Up] or [Down] for more than 2 seconds will trigger the value to auto-increment or auto-decrement

Tip: pressing [Left] or [Right] will clear the address to 000

7. DMX Start address in "Patch" mode

Changing a DMX patch

- Press the [Menu] Key
- Press [DOWN] to select the "DMX" function and press [OK].
- Press [UP] or [Down] to select the desired channel and press [Right] to move to the control to the DMX address field.
- Press [UP] or [Down] to select the desired DMX address.
- press [OK] to save the address, and to return to channel selection.

```
DMX Patch        Artnet 000.001
Status: running  Faders: Test on
----- DMX -----
      Channel    Patch
      All        000
      01         002
      02         003
```

- When done press the [Menu] key to exit this function.

Note: To load a "1:1 patch", at the "channel select" menu level, scroll to "All" and press the [Right] The control will move to the DMX address selection, then set the desired DMX Start Address for the module to start from (dimmer channel 1) and select.

Note: DMX address 000 parks a channel, it can then not be controlled by the DMX inlet or ArtNet data stream.

Note: for US style patching (all channels parked) use channel select "All" and then set the Patch to 000 and press [OK], after this patch the desired

channels as normal.

Note: At the "DMX" menu level, Holding the [Up] or [Down] for more than 2 seconds will trigger the value to auto-increment or auto-decrement

8. ARTNET Start address in "Start" mode

Changing the Start Address

- Press the [Menu] Key
- Press [DOWN] to select the "ARTNET " function and press [OK]
- Press [UP] or [Down] to select the ARTNET universe and press [OK] to save this.

OR

- Press [RIGHT] to select the Start Address field.
- Press [UP] or [Down] to select the Start Address and press [OK] to save this.

```
DMX 001           Artnet 000.001
Status: running   Faders: Test on
----- ARTNET -----

Universe. Start Address 001.001
```

Note: Holding the [Up] or [Down] for more than 2 seconds will trigger the value to auto-increment or auto-decrement

Tip: pressing [Left] or [Right] will clear the address to 000

9. ARTNET Start address in "Patch" mode

Changing a ARTNET patch

- Press the [Menu] Key
 - Press [DOWN] to select the "ARTNET" function and press [OK].
 - Press [UP] or [Down] to select the desired channel and press [Right] to move to the control to the Universe field.
 - Press [UP] or [Down] to select the desired Universe.
 - press [OK] to save the Universe and proceed to the start address
- OR
- Press [RIGHT] to select the Start Address field.
 - Press [UP] or [Down] to select the Start Address and press [OK] to save this.

DMX Patch	Artnet 000.001
Status: running	Faders: Test on
DMX	
Channel	Universe Patch
All	000 000
01	000 002
02	000 003

- When done press the [Menu] key to exit this function.

Note: Only one Universe can be selected in the patch.

Note: To load a "1:1 patch", at the "channel select" menu level, scroll to "All" and press the [Right] The control will move to the DMX address selection, then set the desired DMX Start Address for the module to start from (dimmer channel 1) and select.

Note: DMX address 000 parks a channel, it can then not be controlled by the DMX inlet or ArtNet data stream.

Note: for US style patching (all channels parked) use channel select "All" and then set the Patch to 000 and press [OK], after this patch the desired channels as normal.

Note: At the "DMX" menu level, Holding the [Up] or [Down] for more than 2 seconds will trigger the value to auto-increment or auto-decrement

10. DMX Address Mode

Changing the DMX address mode

- Press the [Menu] Key
- Press [UP] to select the "DMX Address Mode" function and press [OK]
- Press [UP] or [Down] to select the desired DMX inlet and then press [Right] to select the "address mode" field

DMX 001	Artnet 000.001
Status: running	Faders: Test on

```

----- LINE ADDRESS MODE -----
Line      Mode
DMX       Start
ArtNet    Start

```

→ Press [UP] or [Down] to select the desired patch mode and Press the Joystick to select

```

DMX Patch      Artnet 000.001
Status: running Faders: Test on
----- LINE ADDRESS MODE -----
Line      Mode
DMX       Patch
ArtNet    Start

```

→ When done press the [Menu] key to exit this function.

Note: The Patch data is retained when the DMX address mode is changed, and can later be recalled by changing the patch mode back.

Note: Use the [wipe all] function to clear both the patch and the start address and default the dimmer to start address 001

11. Curve Menu

Changing a selected curve

- Press the [Menu] Key
- Press [UP] to select the "Curve" function and press [OK]
- Press [UP] or [Down] to select the desired channel and then press [Right] to select the "Curve" field
- Press [UP] or [Down] to select the desired Curve.
- press [OK] to save the selected Curve, and to return to channel selection.

DMX 001	Artnet 000.001
Status: running	Faders: Test on
----- CURVE -----	
Channel	Curve
All	linear
☒ 04	relay
05	inv relay

Curve options

- Linear
- Relay (Channel is on when DMX level above 50%)
- invert relay (Channel is off when DMX level above 50%)
- Square
- Desk Defined

→ Press the [Menu] Key to exit the function

Note: To change all channels in one go, at "channel select" level, scroll to "All" and select, then set the desired Curve for all channels and select.

Note: Use "Desk defined" if a curve is set up in the console. This prevents the two curves affecting each other.

12. Limit Menu

Changing a selected limit level

- ➔ Press the [Menu] Key
- ➔ Press [UP] to select the "Limit" function and press [OK]
- ➔ Press [UP] or [Down] to select the desired channel and then press [Right] to select the "Limit" field
- ➔ Press [UP] or [Down] to select the desired Limit.
- ➔ Press [OK] to save the selected Limit, and to return to channel selection.

DMX 001	Artnet 000.001
Status: running	Faders: Test on
LIMIT	
Channel	Limit
All	80%
04	100%
05	100%

Limit options

- 10-90% in steps of 1% (A limit of 0% gives no output)

- ➔ Press the [Menu] Key to exit the function

Note: To change all channels in one go, at "channel select" level, scroll to "All" and select, then set the desired Limit Level for all channels and select.

Note: At the "Limit" menu level, Holding the [Up] or [Down] for more than 3 seconds will trigger the value to auto-increment or auto-decrement

13. Pre-heat Menu

Changing a selected pre-heat

- ➔ Press the [Menu] Key
- ➔ Press [UP] to select the "Pre-Heat" function and press [OK]
- ➔ Press [UP] or [Down] to select the desired channel and then press [Right] to select the "Pre-Heat" field
- ➔ Press [UP] or [Down] to select the desired Pre-Heat level.
- ➔ Press [OK] to save the selected Pre-Heat, and to return to channel selection.

DMX 001	Artnet 000.001
Status: running	Faders: Test on
----- PRE-HEAT -----	
Channel	Pre-heat
All	10%
04	0%
05	0%

Pre-Heat options

- 0-100%

- ➔ Press the [Menu] Key to exit the function

Note: To change all channels in one go, at "channel select" level, scroll to "All" and select, then set the desired Pre-heat Level for all channels and select.

Note: At the "Limit" menu level, Holding the [Up] or [Down] for more than 3 seconds will trigger the value to auto-increment or auto-decrement

14. Memory Store

Storing a memory

- Build a look either using the locals faders or under DMX control
- Press the [Menu] Key
- Press [UP] to select the "Store Memory" function and press [OK]
- Press [UP] or [Down] to select the desired Fader to store the memory under and then press [Right] to select the "Store command" field

```
DMX 001      Artnet 000.001
Status: running  Faders: Test on
----- MEMORY STORE -----
Memory  Store
  12     local
  01     local
  02     local
```

memory options

- Memory 1-12
- Press [UP] or [Down] to select the desired Fader store command (Local or Global) and press [OK] to store and return to the memory location select level

```
DMX 001      Artnet 000.001
Status: running  Faders: Test on
----- MEMORY STORE -----
Memory  Store
  12     local
  01     GLOBAL
  02     local
```

Store command options

- Local to this dimmer
- Global to all (command send to Other ART2000 dimmers)
- Press the [Menu] Key to exit the function

Note: Both "Local" and "Global" store command will store a memory on this dimmer, "Global Store" also stores a memory on connected downstream ART dimmers.

The Art dimmers need to be networked using DMX cables for global store to work

15. Faders Mode

Changing the fader mode

- Press the [Menu] Key
- Press [UP] to select the "Fader Mode" function and press [OK]
- Press [UP] or [Down] to select the desired Fader Mode and then press [OK] to select the mode.

```
DMX 001          Artnet 000.001
Status: running  Faders: Test on
----- FADERS MODE -----
                [TEST]
                Test faders control
                Individual channels
```

Fader Mode options

- TEST (each fader controls one channel)
- REPLAY (a single faders can control 18 channels)
- MASTER (Be aware that the console will be disconnected!!)

- Touch the Menu key to exit the function

Note: "Replay mode" allows for one fader to control the all the module channels

Note: "Test Mode" each faders controls the corresponding channel, this is the default mode after a reset and power-up

Note: "Master Mode" The dimmer can trigger memories on downstream connected Avolites ART dimmers. Be aware console will be disconnected

Note: Changing to Replay and Master will force the faders to be switched off to prevent accidental high inrush currents. Turn the fader to zero before enabling the faders

Note: If the dimmer receives DMX from an ART2000i, memory 12 may be triggered if the ART2000i frame is set to the "Panic" mode.

16. Memory Replay

Replaying a memory

- check that the LCD screen shows 'Faders: Replay Off' if not see Fader Mode function
- Press the [Fader] key to toggle the replay mode on and off

```
DMX 001      Artnet 000.001
Status: running  Faders: Replay On
-----
```

17. Channel Test

Replaying a memory

- check that the LCD screen shows 'Faders: Test Off' if not see Fader Mode function
- Press the [Fader] key to toggle the replay mode on and off

```
DMX 001      Artnet 000.001
Status: running  Faders: Test On
-----
```

18. Levels

The Power Cube can be controlled from multiple sources at the same time. this can make it hard to establish what source is in control. The LEVELS screen allows you to easily look at each control source individually.

The Power Cube merges the control data on a HTP basis

Display the levels of individual control sources to the dimmer

- Press the [Menu] Key
- Press [UP] to select the "LEVELS" function and press [OK]
- Press [UP] or [Down] to select the desired Fader Mode and then press [OK] to select the mode.

```
DMX 001      Artnet 000.001
Status: running  Faders: Test on
-----DMX LEVELS-----
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18
```

Source options

- DMX (DMX XLR source)
- ARTNET (ARTNET data source)

- **FADERS** (Local control faders)
- **OUTPUT** (actual output including the curve data)

19. IP Settings, IP, IP mask and Gateway

Shows the current IP address of the dimmer module when an Ethernet card is detected. The IP address and Mask can be changed in this menu

Only the IP address is given as an example, IP mask and Gateway follow the same operation.

IP address

- ➔ Press the [Menu] Key
- ➔ Press [UP] to select the "IP SETTINGS" function and press [OK]
- ➔ Press [UP],[Down] to select the desired data group to change and press [OK]

```
DMX 001      Artnet 000.001
Status: running  Faders: Test On
-----IP SETTINGS-----
Address 192.168.000.001
Mask    255.255.255.000
Gateway 102.102.102.102
```

- ➔ Press [Left] or [right] to navigate the Address
- ➔ Press [UP],[Down] to change the value for each of the four fields. Press [OK] to save each Field.
- ➔ Press [Left] or [right] to navigate back to Address
- ➔ Press [UP],[Down] to navigate to Mask or Gateway then press [Left] or [right] to navigate the field
- ➔ Press [UP],[Down] to change the value for each of the four fields. Press [OK] to save each Field.

```
DMX 001      Artnet 000.001
Status: running  Faders: Test On
-----IP SETTINGS-----
Address 192.168.000.001
Mask    255.255.255.000
Gateway 102.102.102.102
```

- ➔ Press the [Menu] key to exit the function

Note: At the "Value" menu level, Holding the [Up] or [Down] for more than 2 seconds will trigger the value to auto-increment or auto-decrement

20. User Settings

The user settings function allows various setup changes to be made such as the Date & Time, "panel lock" code and Mains supply "Phase Setup"

20.1 Date & Time

System Clock and Date

- ➔ Press the [Menu] Key
- ➔ Press [UP] to select the "USER SETTINGS" function and press [OK]
- ➔ Press [UP] to select the "Time & Date" function and press [OK]

```

DMX 001          Artnet 000.001
Status: running  Faders: Test On
----- DATE & TIME -----
              Display
            11th March 2009
              09: 27 : 11
  
```

- ➔ Press the [Menu] key to exit the function

Changing System Clock and Date

When in the [Time & Date] function:

- ➔ Press [Down] to select the "Display" Field and press [OK]

```

DMX 001          Artnet 000.001
Status: running  Faders: Test On
----- DATE & TIME -----
              Display
            11th March 2009
              09: 27 : 11
  
```

- ➔ Press [Left] or [Right] to select the select the desired field
- ➔ Press [Up] or [Down] to change the value
- ➔ Press [OK] to save the new Time and Date

```

DMX 001          Artnet 000.001
Status: running  Faders: Test On
----- DATE & TIME -----
              Set
            18th June 2004
              16: 27 : 11
  
```

- ➔ Press the [Menu] key to exit the function

20.2 Panel Lock

Use a 4 digit code to disable changes to the unit settings

- ➔ Press the [Menu] Key
- ➔ Press [UP] to select the "USER SETTINGS" function and press [OK]
- ➔ Press [UP] to select the "PANEL LOCK" function and press [OK]

```

DMX 001          Artnet 000.001
Status: running  Faders: Test On
----- PANEL LOCK -----
              Enable or disable
              Panel lock and set a
              4 digit access code
  
```

- ➔ Press [Left] or [Right] to select the desired digit field and [UP] or [Down] to change the digit value.
- ➔ press [OK] to save the field Panel Lock code

```

DMX 001          Artnet 000.001
Status: running  Faders: Test On
----- PANEL LOCK -----
          0 0 0 0
        Enter a lock code
        Or enter 0 0 0 0
        To disable the lock

```

- ➔ Press the [Menu] key to exit the function

Note: Code 0000 disables the lock

Note: Wipe All clears (disables) the Lock code

Note: code 2000 overrides any set code

20.3 PHASE SETUP

Set the Phase setup (single and Three Phase)

- ➔ Press the [Menu] Key
- ➔ Press [UP] to select the "USER SETTINGS" function and press [OK]
- ➔ Press [UP] to select the "PHASE SETUP" function and press [OK]

```

DMX 001          Artnet 000.001
Status: running  Faders: Test On
----- PHASE SETUP -----
        Set the Power Cube engine
        For three phase or
        Single phase operation

```

- ➔ Press [UP] or [DOWN] to select the desired Mode and then press [OK]
- ➔

```

DMX 001          Artnet 000.001
Status: running  Faders: Test On
----- PHASE SETUP -----
        Phase setup:  Three Phase
        For three phase or
        Single phase operation

```

Phase mode options

- Three (3 phase plus Neutral system TN-S)
- Single Phase (1 phase plus Neutral system)

Note: The Phase mode is kept in flash so once set it will power up in the

selected mode.

Note: When set to Single Phase mode the dimmer will show a information message during start-up stating "Single Phase Engine"

Note: Wipe All will default the Phase mode to "Three Phase"

21. System

System setup and diagnostic information regarding the system are contained in this menu.

System information

- ➔ Press the [Menu] Key
- ➔ Press [UP] to select the "System" function and press [OK]
- ➔ Press [UP] or [Down] to select the desired information subject and then press [OK] to view the information.

```
DMX 001          Artnet 000.001
Status: running  Faders: Test On
----- MENU -----
      SYSTEM
Diagnostics and system
      tools
```

Information subjects:

- Event log (list of system events)
- Software versions
- Serial, MAC & RDM IDs
- System status (system resource monitor)
- Flicker finder (a test tool to detect flicker)

- ➔ Press the [Menu] key to exit the function

Note: The serial number, RDM ID and MAC address are factory set and cannot be changed by the user. When referring to a dimmer always use the serial number, which is also copied on the front and back of the dimmer unit

The individual Information sources are detailed below....

21.1 Event Log

A log file which is updated automatically reflecting important changes to the system

Event Log

- ➔ Select "Event Log" by pressing [Menu] then [UP] till " System" then [OK] and [Up] till "Event log".
- ➔ Press [OK] to show the Event log at the most recent entry

```
DMX 001          Artnet 000.001
Status: running  Faders: Test On
----- EVENT LOG -----
          18th June 2004
          12 : 26 : 20
          Power on
```

- ➔ Press [UP] or [Down] to select the other events in the list
- Event options

- Power On (when the dimmer is switched on)
- Power Off (when the dimmer is switched off)
- Dmx Plugged (DMX stream as been plugged in)
- Dmx unplugged (DMX stream has been unplugged)
- manual reset (when reset switch is pressed)
- Dspic booted (when Dspic processor has started)

- ➔ Press the [Menu] key to exit the function

Note: There are 256 entries in the log, the oldest entry is written over when the log is full.

Note: the time and date is related to the system clock setting

21.2 Software Versions

Information about the loaded software

Software Versions

- ➔ Select "Software Versions" by pressing [Menu] then [UP] till " System" then [OK] and [Up] till "Software versions".
- ➔ Press [OK] to show the loaded software versions.

```
DMX 001          Artnet 000.001
Status: running  Faders: Test On
----- SOFTWARE VERSIONS -----
CPU Boot June 24 2009 14:33:47
CPU Main June 24 2009 14:33:47 Si 001
Engine Boot June 24 2009 14:33:47
Engine Main June 24 2009 14:33:47 Si 064
```

21.3 Serial , MAC, & RDM ID's

Shows the unique serial numbers of the dimmer.

Serial , MAC, & RDM ID's

- ➔ Select "Serial, Mac & RDM ID's" by pressing [Menu] then [UP] till "System" then [OK] and [Up] till "Serial, Mac & RDM ID's".
- ➔ Press [OK] to show the loaded software versions.

```
DMX 001          Artnet 000.001
Status: running  Faders: Test On
----- Serial, Mac & RDM ID's -----
SERIAL NUMBER 014.000.000.001
MAC ADDRESS   00 12 B2 0E 00 01
RDM ID        077 086 014 000 000 001
```

- ➔ Press the [Menu] key to exit the function

Note: the above field can not be edited, they are factory set

21.4 System Status

This screen shows information on the dimmer status and allows for a Fan test

System Status

- ➔ Select "System Status" by pressing [Menu] then [UP] till "System status" then [OK] and [Up] till "System Status".
- ➔ Press [OK] to show the Status Information

```
DMX 001          Artnet 000.001
Status: running  Faders: Test On
----- SYSTEM STATUS -----
Sensors 23C    24C
FAN Speed 800 RPM
Over-Temp No
Messages 000234
Fan Test Ready Press OK to start
```

- ➔ Press the [Menu] key to exit the function

OR

- ➔ Press the [OK] key to start the fan Test and observe the Fan speed going
- ➔ To stop the fan test press [OK] again

21.5 Flicker Finder

A tool to detect instability in the data stream, this may be used to detect flicker from DMX sources and or faders

Flicker finders

- ➔ Select "Flicker Finder" by pressing [Menu] then [UP] till "System information" then [OK] and [Up] till "Flicker Finder".
- ➔ Press [OK] to show "Flicker Finder" information

```

DMX 001           Artnet 000.001
Status: running   Faders: Test On
----- Flicker Finder -----
                    Non flicker detected

```

When a change is detected of more than 1 bit the finder will stop and display a message

→ Press the [Menu] key to exit the function

22. Wipe All

Clear User settings, and load default values

→ Press the [Menu] Key

→ Press [UP] to select the "Wipe all" function and press [OK]

```

DMX 001
Status: running
Faders: faders on
-----WIPE ALL -----
Clear all User Data
Press Joystick to select
Touch Menu to exit

```

→ Press [OK] To wipe all user settings and restore factory settings

→ Press the [Menu] key to exit the function

Note: Default values are

- DMX Start Address 001, Start address Line address mode
- ARTnet Universe 000 Start address 001, Start address line address
- All Channels have a Linear Curve selected
- All Channels have the Limit is reset to 0%
- All channels the pre/heat reset to 0%
- All memories are cleared
- Panel Lock is unlocked
- Three Phase mode selected

Note: The system log cannot be cleared

23. Panel Unlock

Gaining access when the panel lock is active

→ Press the any Key

→ Press [Left] or [Right] to select the desired digit field and [UP] or [Down] to change the digit value.

→ press [OK] to Unlock the panel

```
DMX 001          Artnet 000.001
Status: running  Faders: Test On
```

```
PANEL UNLOCK
0 0 0 0
Panel is locked
Please Enter the code
```

Note: when activated (code non zero) the panel locks automatically after 1 minute of no user input

Note: code 2000 overrides any set code

24. Unlock DMX

Fade out locked DMX levels after a DMX stream has stopped

- Press the [Menu] Key
- Press [UP] to select the "Unlock DMX" function and press [OK]

```
DMX 001          Artnet 000.001
Status: running  Faders: Test On

Fade Out the locked DMX? Press OK to unlock
```

- press [OK] to unlock the locked DMX
- Press the [Menu] key to exit the function

Note: the Unlock function fades out locked channels with a 5 seconds fade time

25. Software Upgrade

Updating the various software systems

- Connect the Dimmer Using a Ethernet cable to a PC
- Run the update application on the PC
- Power up the dimmer and observe the upgrade process start

25.1 Future features

Web interface

ArtNet 2

AvoTalk

25.2 System software limitations

Entry here

25.3 Known User Interface issues

Entry here

25.4 PDE-DSP software limitations

Entry here