CAM Manual

Version Four

Revision Four

Opifex Documentation Bureau,

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Opifex Industries

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1.0 Introduction

The Crystal Analysis Machine is a bespoke machine developed for use in the Opifex Pennsylvania facility.

The C.A.M. is designed to test crystals from the anomalous location known as “The Upside-Down”, as an incentive, Opifex Corporate will pay the facility for each successful test based on the data gathered.

These funds are used to upgrade the facility.

The C.A.M. is a large machine which requires delicate calibration prior to each use, this manual aims to outline how to complete calibration, and other operational procedures to be applied to the C.A.M.

Recent revisions of this document have attempted to make this document more accessible to those with colour-blindness.

1.1 Terminology

Certain key-words are used when referring to C.A.M. Operations:

CAM – Crystal Analysis Machine.

Cycle – The complete analysis of a crystal.

Sample – A Crystal obtained from the “Upside-Down”.

2.0 Crystals

Four (4) Crystal types exist in the “Upside-Down”. Three (3) of these four (4) types are classed as “Operable”, or safe for use within the CAM The remaining crystal is “Inoperable”, or unsafe for use within the CAM and will cause a certain failure of the cycle.

2.1 Obtaining Samples

Samples may be obtained from the “Upside-Down”. They are located in larger crystalline growths throughout the explored regions and can be mined with a standard-issue mining laser. Crystals are generally stored in specialised Non-Euclidean boxes which are made available to the Extraction Specialists.

2.2 Operable Samples

Of the three (3) operable crystals, they each possess unique characteristics when tested within the CAM. These are “Power”, and “Instability”.

Power

The Crystal’s power is directly related to the amount of money paid to the facility by Opifex Corporate.

Instability

The Crystal’s instability is directly related to the chance of the Crystal causing the CAM to malfunction, causing an “Anomaly”.

Crystal	Power	Instability
Red	1 – 25%	25 – 50%
Yellow	31 – 44%	31 – 44%
Blue	25 – 50%	1 – 25%

While all crystal types will pay the facility, it is generally advised that Blue crystals are tested, due to their stability and relatively high power.

2.3 Inoperable Samples

The fourth crystal type discovered in the “Upside-Down” is the green crystal. Comprehensive analysis of the crystal has discovered this is **URANIUM**.

Opifex Corporate policy **FORBIDS** the testing of Uranium Samples in the CAM. All tests of this type have resulted in extensive damage to the machinery and personnel, and guarantees the failure of a cycle.

2.4 Combining Samples

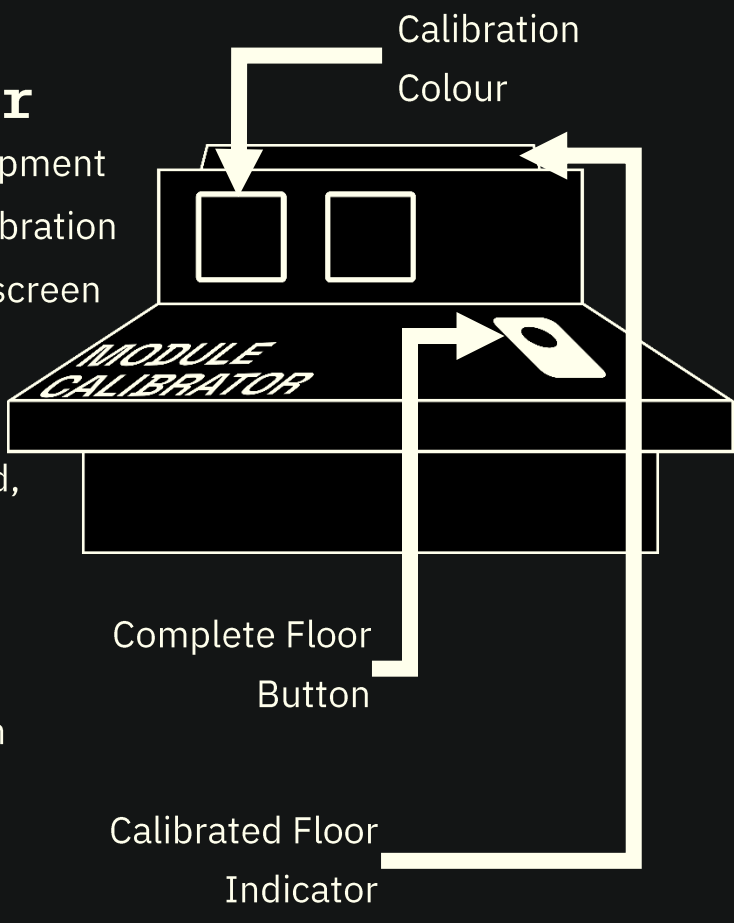
While it is possible to place multiple samples on the pedestal, it should be noted that the Power and Instability of each crystal is combined, and multiple crystals will significantly increase the chance of Anomalies and failures, which could result in no payment or damage to the machine.

3.0 Calibration

The CAM requires calibration prior to each use. Calibration is completed in the CAM Basement. Each floor has the Fluid Valves, Breaker Switches, and the Generator Synchroscope. These are accessible by the gantry which wraps around the outside of each floor. Inside the floor is the Module Calibrator, which provides important information on how to calibrate its floor.

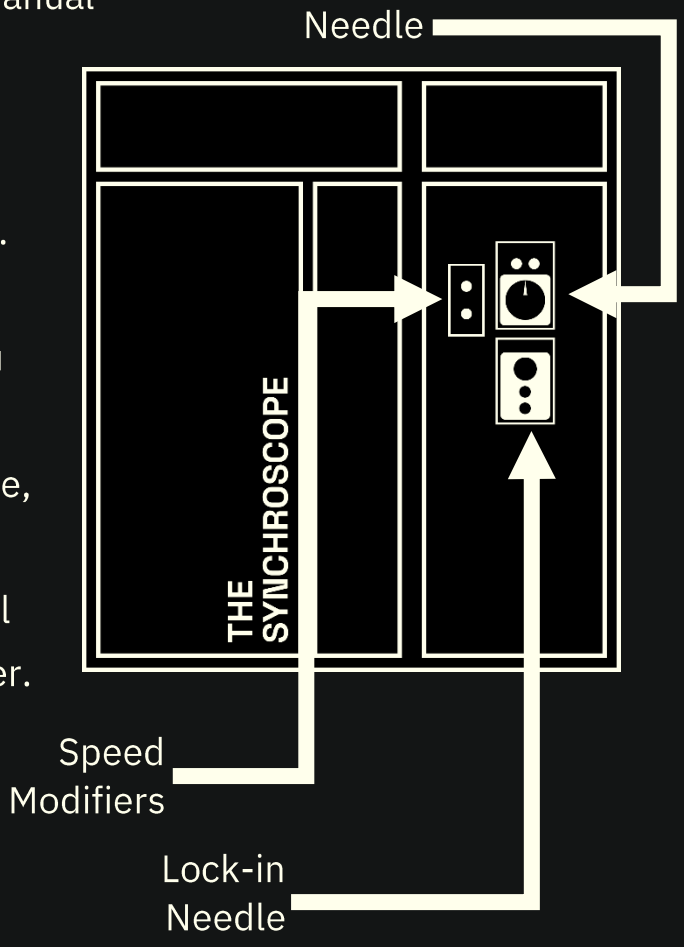
3.1 Module Calibrator

The Module Calibrator is a piece of equipment which is found in the centre of each calibration floor in the CAM Basement. On the left screen will be a colour, this dictates how the floor is calibrated. When all three (3) modules on the gantry are calibrated, you must return to the Module Calibrator and press the “Complete Floor Button”, which will activate the “Calibrated Floor Indicator” and turn on a laser in the centre of the room.



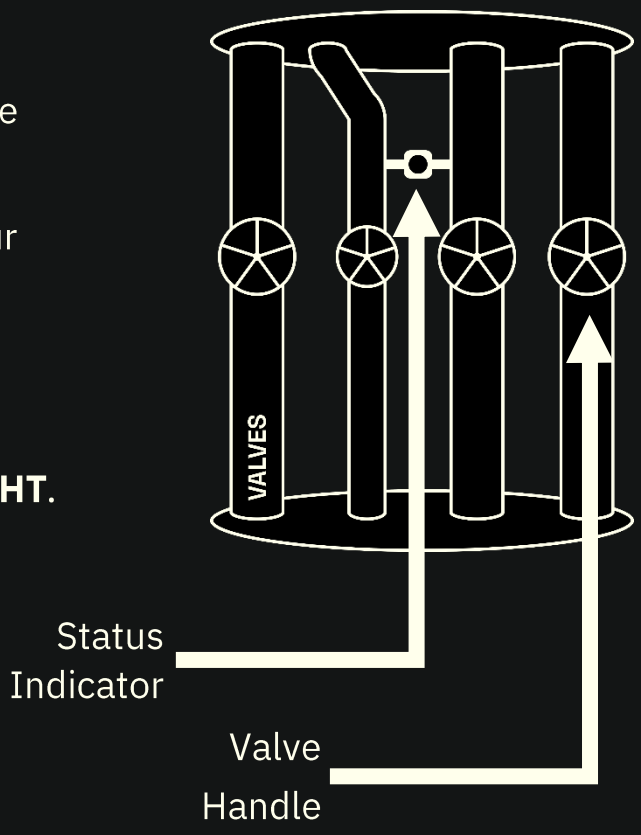
3.2 Synchroscope

The Synchroscope is the simplest piece of calibration equipment within the CAM. The Synchroscope's needle will move clockwise or counter-clockwise, and you must use the Speed Modifier buttons to slow the needle greatly. Once this is done, you must lock-in the needle when it is pointing upwards. The Synchroscope will allow for a small margin of error, however.



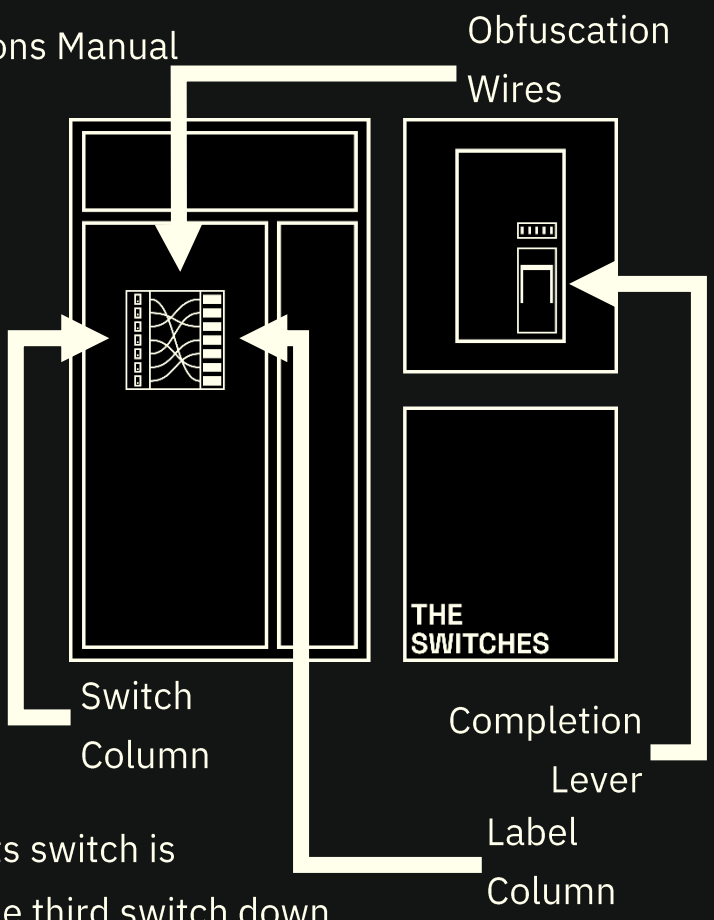
3.3 Valves

Unlike the Synchroscope, CAM Valves are more difficult to calibrate. The position of the valves directly relates to the colour of the Module Calibrator. The table that is provided below has the correct valve positions for each Calibrator colour.
Valves are numbered from **LEFT TO RIGHT**.



CALIBRATION COLOUR	VALVE COLOUR 1	2	3	4
○	RIGHT	LEFT	LEFT	RIGHT
◇	RIGHT	LEFT	LEFT	LEFT
✕	RIGHT	LEFT	RIGHT	LEFT
□	LEFT	RIGHT	LEFT	RIGHT
△	RIGHT	RIGHT	LEFT	RIGHT

3.4 Switches



The switches are the most complex calibration system in the CAM Basement. When calibrating the Switches, the table contains the position of the switch's label. Each switch on this module is connected to its label by an "Obfuscation Wire". When the table says "A1", the wire from "A1" must be followed, until its switch is discovered. "A1" is connected to the third switch down on the switch column. Once all the switches are set, you must pull the lever. If the switches are set incorrectly, the lever will spark. If correctly set, it will move to the down-position, and charge. The table that is provided below has the correct switch positions for each Calibrator colour.

SWITCH STATE	CALIBRATON COLOUR				
	○	◇	✕	□	△
A1	ON	OFF	ON	ON	ON
A2	ON	OFF	OFF	OFF	OFF
B1	OFF	ON	ON	OFF	OFF
B2	ON	OFF	OFF	ON	ON
C1	OFF	ON	ON	ON	OFF
C2	ON	ON	ON	ON	OFF
C3	ON	OFF	OFF	ON	OFF

4.0 CAM Operations

The CAM has five (5) distinct states:

- Cold and Dark,
- Start-Up,
- Calibration,
- Cycle,
- Post-Cycle.

Each of these States has independent operations and procedures.

4.1 Cold and Dark

When the CAM is completely offline, Blast door open, Main Rotors off, etc. it is said to be in a “Cold and Dark state”. During this, the CAM is more safe than usual, as lasers and other hazards are not present.

Samples are usually deposited on the Pedestal while the CAM is in this state, and tours may safely be given too.

4.2 Start-Up

Once the Blast Door is closed, the CAM is said to be in a “Start-Up state”. This is the sequence of events prior to CAM Calibration. Which involves, securing the CAM chamber, and spinning up the Main Rotors.

4.3 Calibration

When the Main Rotors have reached full speed, calibration of the CAM is now available, this is the “Calibration state”. During this state, CAM Operations Personnel (CAM Ops) will be present in both the Control Room to monitor the CAM, and in the CAM Basement, to calibrate the three (3) floors.

This state usually takes three (3) to ten (10) minutes, depending on the proficiency of the CAM Ops in the CAM Basement.

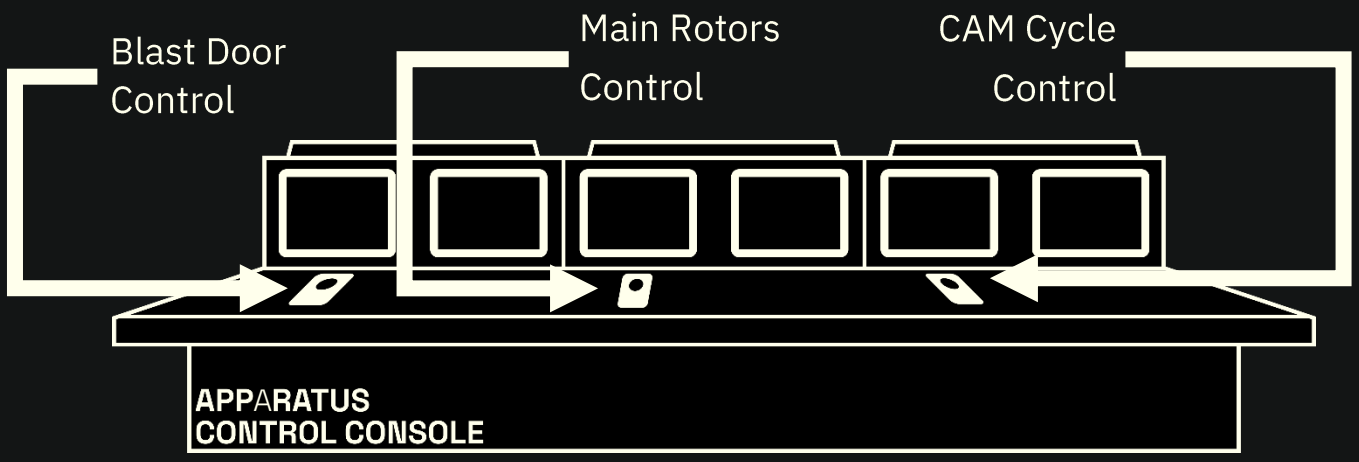
4.4 Cycle

Once the CAM has been fully calibrated, and all personnel are within the Control Room, the CAM may be activated, in a “CAM Cycle state”

This one-hundred (100) second cycle involves the full CAM Superstructure and Laser Ring to activate and analyse the Sample. During this process, anomalies may occur every thirty-three (33) seconds.

4.5 Post-Cycle

Once the CAM Cycle is complete, this “Post-Cycle state” usually involves opening the Blast Door, and securing the CAM.



5.0 Anomalies

During a CAM Cycle, the Stability, and Quantity of Samples directly affects the chance and quantity of anomalies which can occur.

Anomalies are generally split into two (2) different types, minor and major. Some examples include:

MINOR ANOMALIES:

- Teleportation,
- Change in Gravity,
- Change in Colour.

MAJOR ANOMALIES:

- Explosion,
- Button Activation,
- Death.

6.0 CAM Hazards

Many hazards exist in the CAM. Some hazards only exist during certain states, others permanently exist. A list is provided below of the most important hazards to be aware of.

Situational awareness is **VITAL** while present in the CAM Complex.

6.1 Hazard List

HAZARD	LOCATION	STATE
Fall	CAM Basement	ALWAYS
Electrocution	CAM Basement	Calibration
Blinding	CAM Basement, CAM Chamber	Calibration, Cycle
Heat Burns	CAM Basement, CAM Chamber	Calibration, Cycle
Cold Burns	CAM Basement	Calibration
Chemical Burns	CAM Basement	Calibration
Crush	Blast Door	ALWAYS

6.2 Required Attire

While present in the CAM Complex, you are required by company and federal policy to carry and wear the following:

- ISO-Standard (ISO 3873:1977) Hard-Hat with Chin Strap,
- ISO-Standard (ISO 4869-6:2019) Hearing Defenders,
- EN-Standard (EN 60903) Electrical Insulating Gloves,
- EN-Standard (EN 407:2004) Thermal Insulating Gloves,
- ISO-Standard (ISO 20345:2011) Reinforced Toe Boots.

You are NOT permitted to wear the following:

- Soft shoes,
- Long, and / or loose clothing,
- Long hair not securely tied up,
- Loose ties,
- Lanyards without a break-away clasp.