

## **HTC CC2 at Meson Detector Building – Overview and Remote Key Tree Instructions**

**Special Edition for MCR OPS  
July 19, 2007**

### **MCR OPS NOTES**

There are two main parts of the International Linear Collider Test Area (ILCTA) at Meson Detector Building: The Horizontal Test Cave (HTC) and the Capture Cavity 2 (CC2) cave. There will be 2 klystrons: A 1.3 GHz klystron and a 3.9 GHz klystron. The 1.3 GHz klystron is connected by waveguides to both the HTC cavity and the CC2 cavity, whereas the 3.9 GHz klystron is only connected to the HTC cavity.

The 3.9 GHz klystron is also used at A0. This klystron will be removed and re-installed at various times in the HTC-CC2 area.

There are no accelerated beams in either of the caves. These caves are used for conditioning and testing RF cavities. However, when the cavities are being conditioned, they may emit x-rays. There are 2 interlocked detectors for each cave: one on the gate of each cave, and one on the roof of each cave. There is also a scarecrow inside of each cave, near the cavity. The scarecrow is not interlocked; it is only used for qualitative purposes. An additional non-interlocked chipmunk is also on the roof of each cave; these chipmunks are used for monitoring penetrations or other points of interest to AD Radiation Safety.

Both caves are ODH areas requiring an ODH monitor for access. No air packs are required.

The MCR Remote Key Tree for the HTC – CC2 facility is located at the Meson Detector Building in a small room near the roll-up door on the east side. Currently the only function of this key tree is to hold keys for the HTC – CC2 facility. This key tree does not make up any permits for the HTC – CC2 system or enable any devices. There are 5 keys for the facility at this time. They are described in the following section. When the key(s) are properly placed in the key tree, the key status signal can be viewed on the safety system page.

The only responsibilities for MCR OPS are to verify the identity, training, and authorization of the person attempting to check out key(s) from the remote key tree. There is an MCR remote camera for viewing the person at the key tree to verify their identity. HTC – CC2 facility Operators may also request to transfer possession of the keys to another qualified HTC – CC2 facility Operator via a telephone call to the MCR.

If a person is not authorized to have these key(s), the key logger will provide an alert. The key logger will check the person's Radworker and ODH training status (if

applicable), and match their ID to a list of ID's of persons authorized to check out the key(s). All other persons are required to have RSO authorization.

At the conclusion of HTC – CC2 operations for the day, or anytime the HTC – CC2 facility is unattended by a qualified HTC – CC2 Operator, the authorized HTC – CC2 operator is required to return the keys to this remote key tree. The HTC – CC2 Operator is required to call the MCR to have the key tree door “buzzed” open so that he can return the keys. It is not MCR OPS' responsibility to ensure that these key(s) are returned to the key tree at the end of the day, nor when the HTC – CC2 caves are unattended by a qualified HTC – CC2 Operator. That responsibility lies with the HTC – CC2 Operators and administrative oversight of AD RAD SAFETY. If the HTC – CC2 Operator needs to leave the area and they want to transfer responsibility of the HTC – CC2 keys to another HTC – CC2 Operator, the MCR must be called to transfer possession of the keys. This ensures that only qualified personnel are issued the keys and are authorized to operate the HTC – CC2 facility, and the key logger has the correct data about who has possession of the keys. The transfer of keys to another HTC – CC2 Operator can be done with a phone call to the MCR. It is not necessary to shut down the power and remove the keys from their chassis to complete the transfer of keys to another HTC – CC2 Operator.

**In summary, MCR OPS' only responsibility is to verify the identity and authorization of persons requesting keys from the Meson Detector Building remote key tree and to transfer possession of the keys to other authorized HTC – CC2 Operators when requested via telephone.**

**Note: At this time, the button that opens the HTC – CC2 remote key tree simultaneously opens the 325 MHz Test Area remote key tree. This condition will be rectified in the future during a long shutdown so that each remote key tree will have its own switch to “buzz” them open.**

If there are any questions, contact AD Radiation Safety: Gary Lauten or Mike Gerardi.

The following is an excerpt from the information given to the HTC – CC2 Operators. These instructions do NOT apply to MCR OPS personnel:

### **HTC – CC2 (ILC – MDB)**

**There are 5 keys that are stored in the MCR remote key tree at Meson Detector Building. The keylogger database ID number and description are as follows:**

**# 21401 -- CC2 Cave Enter**

**#21419 -- CC2/HTC Reset (Search and Secure reset)**

**#21421 -- HTC Cave Enter**

**#21431 -- Mode/RF Permit**

**#21441 -- Charging PS**

**All Keys must be returned daily to the remote key tree box at conclusion of operations, or whenever the HTC – CC2 facility is unattended by a Qualified HTC – CC2 facility Operator. If another qualified HTC – CC2 Operator takes over operations of the facility, the MCR must be called to transfer possession of the keys to that person:**

**# 21401 -- CC2 Cave Enter** – Used for opening the gate to the CC2 cave. Note: When the gate is opened, a new search and secure is required using the #21419 CC2/HTC Reset key.

**#21419 -- CC2/HTC Reset (Search and Secure reset)**

– Used for resetting the reset boxes during search and secures. The same key operates the reset boxes for both caves.

**#21421 -- HTC Cave Enter** – Used for opening the gate to the HTC cave. Note: When the gate is opened, a new search and secure is required using the #21419 CC2/HTC Reset key.

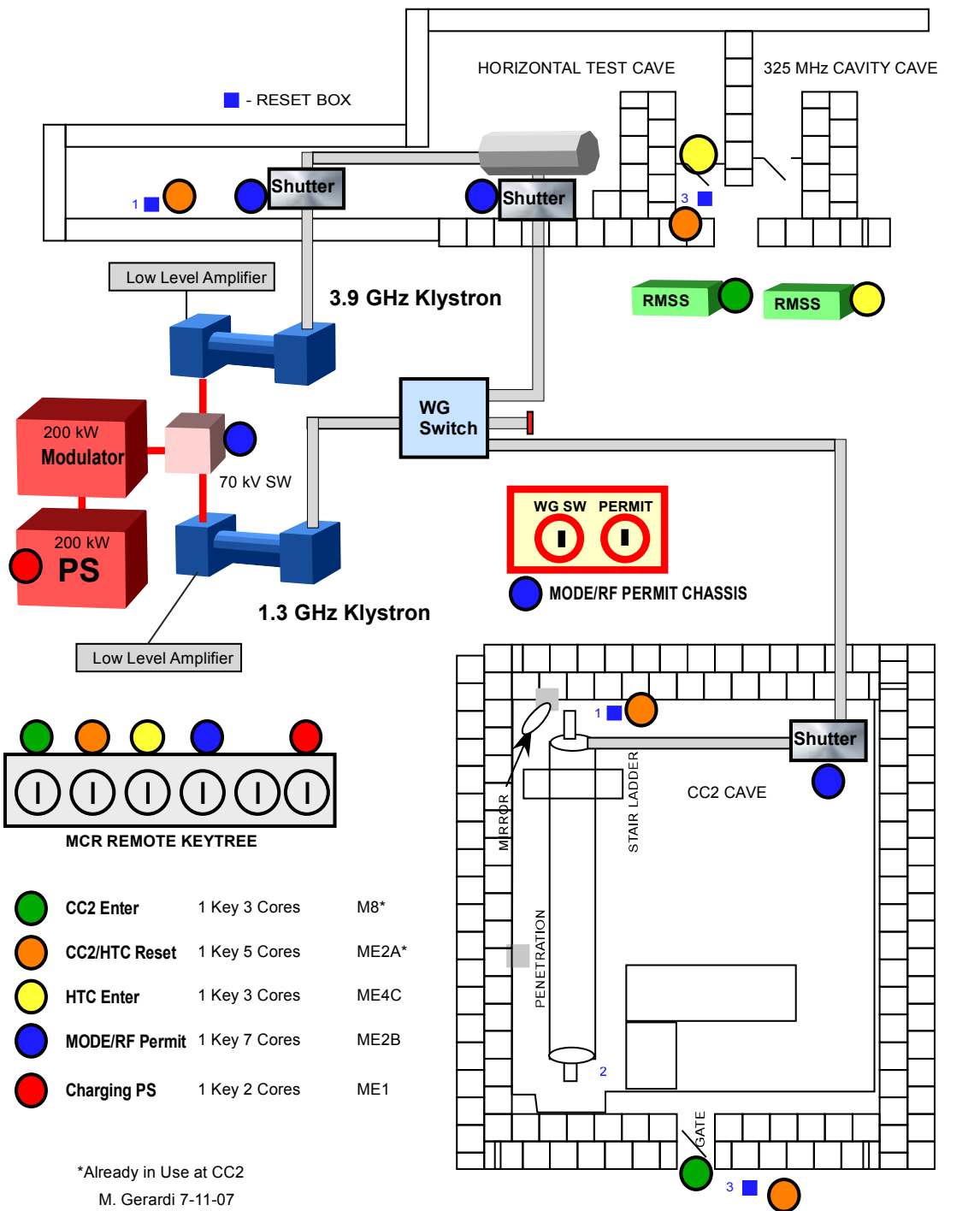
**#21431 -- Mode/RF Permit** – Used for configuring RF operating modes.

**#21441 -- Charging PS** – Used for enabling the charging power supply.

The **# 21401 -- CC2 Cave Enter** key and **#21421 -- HTC Cave Enter** keys should be returned to the remote key tree daily upon completion of operations.

The **#21419 -- CC2/HTC Reset (Search and Secure reset)** key may remain under the control of the person checking these keys out during the day, however if the HTC – CC2 Operator leaves for the day and operations cease, this key should be returned to the MCR Remote key tree for safekeeping. These keys may also be returned to the remote key tree when no longer needed.

# Horizontal Test Cave and CC2 Cave Keys



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