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發明專利說明書

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一、發明名稱：

(中) 用於集束型設備之安全通用組態軟體

(英) Secure universal configuration software for cluster tools

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四、聲明事項：

◎本案申請前已向下列國家（地區）申請專利□主張國際優先權：

【格式請依：受理國家（地區）；申請日；申請案號數　順序註記】

1.美國　　；2005/02/25；60/656,862 ☑有主張優先權

2.美國　　；2005/03/31；11/097,839 ☑有主張優先權

五、中文發明摘要

發明之名稱：用於集束型設備之安全通用組態軟體

本發明揭示一種組構電漿集束型設備之方法。該方法包括從選項規範產生金鑰檔，該金鑰檔封裝有特別加諸於電漿集束型設備的組態限制。該方法又包括使用金鑰檔產生至少一全系統組態檔和至少一組件層級組態檔。該方法另外包括從選項定義檔的資料庫、該至少一全系統組態檔、和該至少一組件層級組態檔產生執行期間可執行物件。而且，該方法包括利用執行期間可執行物件組構電漿集束型設備。

六、英文發明摘要

發明之名稱：

Secure universal configuration software for cluster tools

A method for configuring a plasma cluster tool is disclosed. The method includes generating a key file from option specifications, the key file encapsulating configuration restrictions specifically imposed on the plasma cluster tool. The method also includes generating at least one system-wide configuration file and at least one component-level configuration file using the key file. The method additionally includes generating run-time executable objects from a database of option definition files, the at least one system-wide configuration file and the at least one component-level configuration file. Furthermore, the method includes employing the run-time executable objects to configure the plasma cluster tool.

七、指定代表圖：

（一）本案指定代表圖為：第（4）圖

（二）本代表圖之元件符號簡單說明：

308：金鑰檔

402：模組選項定義檔

402a：處理模組選項定義檔

402b：移轉模組選項定義檔

402c：集束型設備控制軟體選項定義檔

404：設備特定選項規範

404a：客戶訂單資料庫

404b：工廠特定輸入

406：設備特定保護資訊

420：安全應用程式

八、本案若有化學式時，請揭示最能顯示發明特徵的化學式：無

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九、發明說明

【發明所屬之技術領域】

本發明係關於組構電漿集束型設備之方法。

【先前技術】

使用電漿處理設備處理晶圓和其他微型裝置（如、平板、奈米機器）已有一段時間。表示電漿處理設備的不同類型之集束型設備也被廣泛使用。在一集束型設備中，多處理室被集束在一或多個移轉模組四周。各個處理室可被組構用於一或多個特定處理。藉由從處理室移動半導體基底到集束型設備的處理室，製造商可在極短的時間使基底經過多個處理及多個處理製造法。在製造環境中使用集束型設備的優點之一是提高生產量。

爲了幫助說明，圖1圖示集束型設備100，表示典型集束型設備的高層級簡化邏輯表示。集束型設備100包括前端102及後端104。前端102可被視作在當壓壓力中之集束型設備100的部位，經由此，基底可被插入並且從集束型設備移開。後端104包括處理基底的實際處理模組。

尤其是，圖1的前端102包括複數埠110、112及114，表示用以輸入基底到集束型設備100和從集束型設備100卸下基底之埠。然後，基底進入維持後端104和前端102之間的壓力微差之氣閘 120及122。然後，從氣閘 120及122，移轉基底到共用移轉模組（TM）130，其當作基底在處理模組（PM）140、142、144及146之間移來移去時的共

用移轉點。各個處理模組被組構成使用特定製造法執行一或多個特定處理。例如，處理模組可被組構用於聚矽蝕刻，另一處理模組可被組構用於氮化物澱積，及同一集束型設備的另一處理模組可被組構用於金屬蝕刻。集束型設備100可包括其他模組（諸如當壓壓力模組或 APM），及圖1未圖示的其他子系統。由於集束型設備的這些和其他主要子系統係精於本技藝之人士眾所皆知，故本文不再詳列或說明主要子系統。

集束型設備可能在主要子系統數量上（如、處理模組的數量及/或類型）與另一集束型設備不同。而且，即使例如兩集束型設備具有類型完全相同的數量一樣之處理模組，但是這兩集束型設備仍可能不同，因爲組成這兩集束型設備的子系統和子組件可能不同。例如，兩金屬蝕刻處理模組可具有不同的質量流控制器或真空泵。

爲了精密製造，諸如 Lam Research Corporation of Fremont, CA 等集束型設備100的製造商典型上在所製造的集束型設備中使用來自一些第三賣主的子系統和子組件。事實上，在半導體處理設備領域中此種實施是標準的，因爲如此可使公司在委派它們相關領域或專業技術之外的工作給其他公司之同時傾注全力。

因此，使用來自不同賣主的不同組件和子系統製造集束型設備。有關哪種組件或哪種子系統可合併在一指定集束型設備內的決定是一複雜的決定處理，考慮的因素有經濟、價格策略、技術能力、不斷變化的技術、客戶需求、

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競爭定位、及/或其他因素。另外，每月或每季一次以一或多個新組件改良集束型設備是常見的。此因素加上不同客戶的需求產生製造商所裝運的集束型設備可能在某方面不同於同一製造商先前所裝運的所有其他集束型設備。然而，對所有集束型設備有一共同需求：需要組構集束型設備用於與適當組態軟體及/或組態檔一起使用。因爲如同所有現代硬體一般，大部分的子系統和組件被電子控制，所以需要組構個別組件/子系統與需要將組件/子系統組構在一組裝的集束型設備中以在一起運作。

傳統上，各個集束型設備被設置有其自己的組態軟體，其是專爲組成組裝的集束型設備之特定子系統和組件所量身定作編碼的。然而，量身定作編碼耗時且昂貴。有關量身定作編碼的延遲和成本影響使用者的不僅在最初購買階段期間而且在每一次利用新的子系統及/或組件更新集束型設備時的每一更新週期。時間一久，爲不同集束型設備版本維持不同組態軟體程式的需求不論對集束型設備的製造商和使用者都是一大麻煩。就某些製造商而言，逐項地支援數百種不同版本的集束型設備組態軟體已變成是一問題。

本發明人在本文確認若能夠建立一通用組態工具，則集束型設備的製造商及/或使用者都能夠以較少的時間延遲和成本組構和支援集束型設備。而且本發明人在本文也確認一適當設計的組態工具也可被用於防止使用未授權的組件/子系統在一指定集束型設備中，可依據允許的組態

彈性等級支援不同價格的構造，可用於支援集束型設備開發的努力，及/或可用於模擬目的。此申請案提出此種改良的集束型設備組態工具。

【發明內容】

根據本發明的觀點，設置有通用組態工具（UCT），其使集束型設備的製造商和使用者能夠利用相同軟體組構不同的集束型設備。通用組態工具有利地免去製造商和使用者在安裝及/或更新集束型設備時必須求助於不同的、量身定作編碼的組態軟體的麻煩。

在另一實施例中，改良的 UCT 支援不同的彈性層級以適用不同的客戶，使製造商能夠有效地設定提供給客戶的組態彈性層級，即使在一個組件一個組件的基礎上。此彈性有利地被提供，卻不需要犧牲使用單一軟體程式通用地組構不同的集束型設備之能力。

在另一實施例中，改良的 UCT 提供集束型設備製造商依方法以防止未授權組件被用在集束型設備中。未授權組件的使用可能導致次標準組件的使用，使處理結果退化及/或破壞集束型設備。而且，改良的 UCT 又包括一機構，用以防止未授權使用 UCT 本身在除了給予許可的 UCT 之集束型設備的集束型設備上。此防止使用者給予 UCT 的單一拷貝許可並且在不同的集束型設備上執行 UCT。

在另一實施例中，改良的 UCT 包括開發輔助機構，被設計成幫助開發新組件及/或能力。在另一實施例中，

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UCT 提供使用者無限制的能力以模擬使用不同組件的不同集束型設備以讓使用者能夠在購買之前對不同的集束型設備組態一探究竟。

在下面詳細的各種實施例說明和所連同的附圖中將更詳細說明本發明的這些和其他特徵。

【實施方式】

現在將參考圖示在附圖中的一些實施例詳細說明本發明。在下面說明中，爲了全面瞭解本發明陳述許多特定細節。然而，應於本技藝之人士應明白沒有這些特定細節的某一些或全部也可實施本發明。在其他實例中，爲了不混淆本發明，不特別詳細說明眾所皆知的處理步驟及/或結構。

下文中說明各種實施例，包括方法和技術。應注意的是，本發明又可涵蓋製造的物品，包括儲存用以完成本發明的實施例之電腦可讀指令的電腦可讀媒體。電腦可讀媒體可包括例如用以儲存電腦可讀程式碼之半導體、磁性、光磁、光學、或其他型式的電腦可讀媒體。另外，本發明又可涵蓋用以實施本發明的實施例之裝置。此種裝置包括電路，專屬的或是可程式化的，用以完成與本發明之實施例有關的工作。此種裝置的例子包括當被適當程式化時的萬用型電腦及/或專屬計算裝置，且可包括適用於與本發明之實施例有關的各種工作之電腦/計算裝置和專屬/可程式化電路的組合。

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為了討論容易，"組件"一詞意指集束型設備中的單一或多部分組裝。如此，組件可簡單如氣體線路或可複雜如整個處理模組。多部分零件（諸如處理模組）可從其他多部分組件（諸如真空系統、氣體系統、電力供應系統等）加以形成，後者可從其他多部分或原子組件加以形成。

如所述，集束型設備在構成組件數量上可不同於另一集束型設備。如此，具有四個處理模組的集束型設備之組態必須不同於具有三個處理模組的集束型設備之組態。依據諸如類型、能力、賣主、韌體等許多不同觀點，組件本身可能一集束型設備不同於另一集束型設備。例如，因為賣主（如、泵賣主 A 對泵賣主 B）、類型（如、低真空泵對渦輪泵）、能力（如、泵唧能力之不同的每秒立方英尺）、韌體（如、執行的賣主韌體版 2.0對 1.7）的不同，所以一真空泵可能不同於另一真空泵。因此，具有既定真空泵的集束型設備之組態必須不同於具有另一真空泵的另一集束型設備之組態。上述例子僅為圖解說明之用並非無所不包的。精於本技藝之人士將容易明白，相同的考量類似地應用到集束型設備的其他組件。

一般而言，各個集束型設備係由兩類型之本文檔，全系統組態檔和一組組件特定組態檔所定義。在本文的圖 2 例子中，為了容易參照，全系統組態檔被命名作"sysconfig.txt"，而組件特定組態檔被命名作"configoptions.txt"。 如同名稱所暗示的一般，全系統組態檔（如、sysconfig.txt）定義整個集束型設備的上層級

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組態參數。本文的附件 A 提供示範性集束型設備的示範性 sysconfig.txt 檔之表列。

典型上，每集束型設備有一 sysconfig.txt 檔，及全系統組態檔定義處理模組的數量和類型、移轉模組的類型、集束型設備控制軟體等。一防竄改機構被設置以防止未授權竄改 sysconfig.txt 檔。雖然在一實施例中，總和檢查被計算用於 sysconfig.txt 檔以幫助偵測隨後的竄改，但是也可利用其他防竄改配置。

在一實施例中，全系統組態檔包含控制欲組構的集束型設備之主機電腦的媒體存取控制器（MAC）位址。當在不同的主機電腦上（與不同於欲組構的集束型設備之集束型設備有關）執行 UCT 時，sysconfig.txt 檔中的 MAC 存在使得能夠偵測。此特徵保護使用者免於在錯誤的集束型設備上利用錯誤的組態檔，並且保護 UCT 的製造商免於被剽竊。另外，可利用硬碟 ID 或數位憑證。而且，全系統組態檔包含組態檔的預設期限，即不再授權使用集束型設備及/或即刻的全系統組態檔之日期。MAC 位址（及/或硬碟 ID 及/或數位憑證）和部分保護配置的期限被設計用於強制依從集束型設備及/或 UCT 的許可期限。

就各個模組而言，諸如模組類型（如、聚矽蝕刻或金屬蝕刻）、通訊埠（如、IP 位址）、是否在開發模式中執行模組、是否在模擬模式中執行模組、模組是以自動化或人工啓動等高層級資訊。包含模組的更詳細組態資訊之檔案的檔案名稱也被設置。

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組件特定組態檔（如、configoptions.txt）包含組件的更詳細組態資訊，諸如處理模組（PM）、移轉模組（TM）、或集束型設備控制軟體等。本文的附件 B 提供示範性處理模組的示範性 configoptions.txt 檔之表列。

典型上，每模組有一 configoptions.txt 檔。如同全系統組態檔一般，組件特定組態檔也可被設置有自己的防竄改配置，諸如總和檢查等。處理模組的組件特定組態檔中之更詳細組態資訊可定義諸如本文的主要組件之識別（如、真空泵系統、氣體系統、RF 功率系統、檢查系統等）。例如，就真空泵系統而言，處理模組的 configoptions.txt 可識別賣主（如、Alcatel）和類型（如、低真空泵）。例如，就氣體系統而言，處理模組的 configoptions.txt 檔可識別類型（如、增強型八線路）、是否安裝分氣注入器、是否安裝數位質量流控制器等。

圖 3A 爲根據本發明的實施例之如何產生全系統組態檔（sysconfig.txt）302 和一組組件特定組態檔（configoptions.txt）304的邏輯圖。這些組態檔302及304產自四個主要輸入源：使用者輸入306、金鑰檔308、模組選項定義檔310、及隱藏選項檔312。

使用者輸入檔306表示有關集束型設備的適當組態之使用者（如、負責安裝及/或更新集束型設備的客戶服務工程師）所設置的一組輸入，包括任一和所有規範、選項等。這些是爲該集束型設備所選擇的選項，在集束型設備操作之前，這些選項需要組構。

(9)

金鑰檔308（或本例中的".tcf"檔）編碼對組態的限制。換言之，金鑰檔308有助於組態的安全實施。因爲 UCT 具有用以組構集束型設備的所有可能排列之組態資料（該組態資料儲存在 UCT 可存取的組件之資料庫），金鑰檔308定義目標設備可使用之可組態選項的範圍。

一般而言，組件或屬性可能爲保護、受保護、或隱藏。例如，未保護組件可無限制地由使用者組構。例如，若組件資料庫包括六個不同的渦輪泵，並且在金鑰檔中渦輪泵被定義成未保護組件，則設備使用者可利用 UCT 組構六個渦輪泵任一個。另一方面，受保護的組件帶有有關組態的某些限制。使用先前渦輪泵例子，若集束型設備及/或 UCT 的許可期限只允許設備使用者能夠組構具有兩特別識別的渦輪泵之集束型設備，則金鑰檔308包含限制被許可的組態爲只有兩指定的渦輪泵之資料。當然，若想要的話，也可以限制組態爲單一指定泵。

其組構的組件或選項可具有"隱藏"屬性。隱藏屬性被實施用以幫助開發，因爲其使被授權的使用者能夠組構具有對使用者基的其他使用者加以"隱藏"之組件或組態選項之集束型設備。在示範性方案中被授權的使用者（如、被授權的支援工程師或客戶）被設置有具有隱藏屬性的組態選項之識別。在一實施例中，未如此被授權的使用者被警告：此選項曾存在，因爲具有隱藏屬性的該選項不曾被表示成可用於組構的選擇。藉由提供使製造商能夠選擇性只展現特定隱藏選項給特定客戶（如、爲了開發目的）之機

構，隱藏選項有助於控制存取到集束型設備的軟體及/或硬體之"仍舊成熟"特徵。

授權的使用者可藉由提供組件識別在使用者輸入306中具體指定具有隱藏屬性的一或多個這些選項作爲組構用。隱藏選項因此有助於開發，因爲它們使被選擇的使用者能夠利用新的或未測試之組態選項來測試集束型設備，該些組態選項對使用者資料庫中的其餘使用者爲不可得的。隱藏選項312表示具有授權特別使用者要求組構之隱藏屬性的選項之表列。

圖3B爲集束型設備的使用者可用於獲得存取到一或多個具有隱藏屬性的選項或組件之使用者介面的例圖。在圖3B的例子中，圖示具有使用者目前被授權可用以組構之隱藏屬性的選項表列。若製造商希望給予使用者存取到具有隱藏屬性的另一選項，使得其他的組態選項可被用於組構集束型設備，則製造商可連結選項的識別與隱藏屬性，並且使用者可輸入具有該隱藏屬性的選項之名稱到按鈕"Add"旁邊的對話盒。若所輸入的識別符合具有該隱藏屬性的選項之一，則使用者可利用那組件組構集束型設備。

回到3A，金鑰檔308又可包含與欲組構的集束型設備有關之主機電腦的識別之資訊（如、MAC位址及或硬碟ID及/或數位憑證）。主機電腦的識別嵌入於最後的全系統組態檔，並且被用於確認組態應用到正確的集束型設備。應注意的是，主機電腦的MAC位址只表示如何確定集束型設備的識別之例子。除了上述的硬碟ID及/或數位憑

證之外，也可利用其他技術識別特別的集束型設備（如、使用從集束型設備讀取或感應的特有識別資料）。

此外，金鑰檔308又可包含上述期限。此期限資料嵌入於最後的全系統組態檔以提供有關組態檔的預定期限之資料，即不再授權使用集束型設備及/或即刻的全系統組態檔之日期。需注意的是，期限通常應用於需許可選項；還有未被期限影響的不必許可選項。而且，可以提供不同的期限給不同的需許可選項。因爲金鑰檔308封裝有重要的限制資訊，所以金鑰檔308典型上是加密二元檔以防止獲許可的人/設備使用者可能的竄改。

模組選項定義檔310封裝有可用於組態模組（諸如處理模組、移轉模組、常壓處理模組、或使用者介面等）之不同的組態選項。換言之，模組顯像定義檔310表示可用於組構各種模組的選項之資料庫，包括可用於組構各個模組中的構成組件之選項。這些定義的一子集被併入configoptions.txt，回應使用者輸入306所輸入的組態選項、由金鑰檔308置放在組態上的限制、及隱藏選項312。像金鑰檔308一般，模組選項定義檔310典型上被加密以防止獲許可的人/設備使用者竄改。

組態應用程式從上述的四個輸入源（如、使用者輸入306、金鑰檔308、模組選項定義檔310、及隱藏選項檔312）產生全系統組態檔302及一組組件層級組態檔304。在一實施例中，組態應用程式320駐在集束型設備上以能夠使用所產生的資料檔組構集束型設備。圖3C 爲就處理模組

而言，用以讓使用者能夠輸入與使用者輸入306、金鑰檔308、模組選項定義檔310、及隱藏選項檔312有關之資料的示範性使用者介面圖。

圖4爲根據本發明的實施例之如何產生圖3的金鑰檔308圖。如上述，金鑰檔310實施組態選項的限制與保護免於被未授權的執行/剽竊組態軟體。金鑰檔308產自三個分開的資料源：一組模組選項定義檔402、設備特定選項規範404、及設備特定保護資訊406。

模組選項定義檔402表示所有模組（如、處理模組、移轉模組、集束型設備控制軟體等）的組態定義檔。因此，圖示有處理模組選項定義檔402a、移轉模組選項定義檔402b、及集束型設備控制軟體選項定義檔402c。特別關注金鑰檔308的產生處是模組選項定義檔402內受保護的選項，因爲未受保護的選項未被定義限制。就特別集束型設備而言，受保護的選項具有金鑰檔308所定義的保護範圍。存在有可用於組構所有集束型設備的一組模組選項定義檔402。該組模組選項定義檔402隨著添加新的組態選項和去除舊的組態選項而不斷更新。

設備特定選項規範404可來自客戶訂單資料庫404a 或來自工廠特定輸入404b。設備特定選項規範404具體指定組態選項或可用於特別設備的組件之選項。作爲一例子，客戶可購買選項以裝設到三個不同模型的渦輪泵。客戶所購買的集束型設備之設備特定選項規範包括所有三個渦輪泵的組態選項。

(13)

在一實施例中，SAP的客戶訂單軟體被用於採用客戶的指示，該指示具體指明客戶有意爲集束型設備的組件購買的選項。有關客戶想要的選項之資訊可獲自客戶訂單軟體，並且被使用當作用以具體指定欲被設置有集束型設備的組件之選項的輸入。此外，集束型設備的選項規範可來自集束型設備的製造商。在此例中，例如可經由與集束型設備的可能購買者討論以獲得規範。作爲另一例子，可由尋求更新客戶的集束型設備以解決特定問題之領域工程師輸入規範。

設備特定保護資訊406提供用以實施保護免於被未授權地執行/剽竊最後的組態軟體之資訊。如同所見一般，設備特定保護資訊406包括控制欲組構的集束型設備之主機電腦的MAC位址（及或硬碟ID及/或數位憑證）。例如，可事先從客戶獲得此MAC位址（及/或硬碟ID及/或數位憑證）。一旦此MAC位址（及/或硬碟ID及/或數位憑證）包括在金鑰檔308中，則金鑰檔308無法被用於組構具有不同MAC位址（及/或硬碟ID及/或數位憑證）的主機電腦。同樣地，缺乏符合的MAC位址（及/或硬碟ID及/或數位憑證）之金鑰檔（一組構專用的必要檔案）將不可被用於組構既定的集束型設備。

設備特定保護資訊406另外包括具體指定最後的組態軟體是否在可利用所有選項但是只是爲了模擬用之模擬模式中之選項。也設置去除或啓動對所有受保護選項的保護之旗標。此"保護"旗標提供一方法以全球性明確說明保護

是否受到重視（如、在產品組態軟體例子中）或保護是否受到忽視（如、當由集束型設備製造商產生最後的組態檔做爲內部使用而不再需要保護時）。在設備特定保護資訊406中也可設置最後的組態軟體的期限和主機 IP 位址。在執行期間，以目前日期和習得的主機 IP 位址檢核這些領域以確保遵循許可期限。主機 IP 位址及/或 MAC 位址（及或硬碟 ID 及/或數位憑證）也有助於確保在想要的集束型設備而非任意其他集束型設備上執行組構。

在一實施例中，安全應用程式420被用於處理一組模組選項定義檔402、設備特定選項規範404、及設備特定保護資訊406，以便產生金鑰檔308。在一實施例中，雖然安全應用程式的網路觀點不總是被需要，但是，安全應用程式420是以網路爲基礎的以提供全球存取能力。

圖5爲集束型設備的典型組態流程之流程圖。在步驟502中，自客戶取得設備訂單。然後在步驟504中，所購買的組態選項被用於產生金鑰檔。根據本發明的實施例，金鑰檔的產生已在之前連同圖4討論過。

一旦產生金鑰檔，金鑰檔可被安裝在集束型設備（步驟506）並且連同隱藏選項（507）被用於組構集束型設備（步驟508）。使用金鑰檔、模組選項定義檔、隱藏選項、及使用者輸入組態選項在集束型設備上執行組態應用程式的結果是建立全系統組態檔和一組組件特定組態檔。一般而言，由兩類型之本文檔、全系統組態檔、和一組組件特定組態檔定義各個集束型設備。根據本發明的實施例，

這些全系統組態檔和一組組件特定組態檔已在之前連同圖3討論過。

若客戶希望在所購買的組態選項範圍內改變一或多個組態選項，則客戶可利用相同的金鑰檔重新組構被修正的集束型設備。以箭頭510表示此更新路徑。然而，若客戶希望利用選項修正集束型設備，或使用不同於已購買的選項之隱藏選項，則路徑512使新金鑰檔能夠被產生以讓客戶能夠重新組構被修正的集束型設備。在典型的例子中，當未強制實施保護時，在啓動期間發生產生新金鑰檔使客戶能夠重新組構。

如同從前述可明白一般，本發明使單一一組應用程式和一組模組選項定義檔能夠被用於組構範圍很大的各個都具有特定組態選項之集束型設備。因此，可去除量身定作碼和維持大量組態軟體之需要。以上述方法使用金鑰檔提供集束型設備彈性與高度的控制和保護。，因爲集束型設備客戶自由重新執行組態應用程式以在以購買的組態選項範圍內利用不同的組態選項，所以提供彈性。另外藉由使用模擬模式提供彈性，其中旗標否定置放在組態上的所有限制以讓客戶及/或使用者能夠利用"虛擬"集束型設備模擬組構及/或操作。使用可藉由全球旗標或旗標加以設定的開發模式獲得類似的彈性。

因爲只有既定集束型設備客戶可利用到加密二元金鑰檔所具體指定的選項用於組構，所以提供高度控制。因爲最後的組態檔只能夠在具有預期的 MAC 位址及/或硬碟

ID 及/或數位憑證及/或主機 IP 位址之集束型設備上執行，所以提供保護。

隱藏選項和具有該選項的受保護/未受保護旗標之使用也支援開發和模擬的需要。也提供金鑰檔中的其他資訊，諸如期限及/或支援許可的實施之其他資料。在一實施例中，經由使用隱藏選項可使專屬演算法、組件、和其他資源保持機密，卻不必犧牲能夠組構所有集束型設備的原理，也不必利用和維持多版本的組態可執行應用程式。例如，若欲對某特定客戶保持資源的機密，則利用隱藏旗標標記與那資源有關的選項，並且若知道準確名稱，則該客戶只能夠啓動那資源。在一實施例中，可使用密碼程序防衛隱藏資源或欲保持機密者之啓動/組態，該密碼只由集束型設備的製造商給予授權的客戶。

應注意的是，雖然彈性內建到用以產生全系統組態檔（sysconfig.txt）和一組組件特定組態檔（configoptions.txt）之演算法內，但是並非所有客戶需要此可利用得到的高度彈性。在一實施例中，從客戶規範資料（具體指明最後集束型設備想要的選項）自動化產生金鑰檔（.tcf）。在一實施例中，甚至從諸如如 SAP（SAP.com）等公司所提供者等販售或客戶訂單資料庫自動析取客戶規範資料。在一實施例中，該客戶規範可由客戶直接具體指定當作檔案以被用於產生金鑰檔。

一旦獲得金鑰檔（.tcf），則安裝金鑰檔於集束型設備硬體上，用以限制產生全系統組態檔（sysconfig.txt）

和一組組件特定組態檔（configoptions.txt）的組態應用程式。如上述，全系統組態檔（sysconfig.txt）和一組組件特定組態檔（configoptions.txt）具體指定在目標集束型機器上可組構的選項。在一實施例中，若隱藏選項也連同金鑰檔一起提供到組態應用程式，則這些授權的選項可包括如前述的隱藏選項。

然後，憑藉選項定義檔（在實施中的 cfg.檔）的資料庫處理全系統組態檔（sysconfig.txt）和一組組件特定組態檔（configoptions.txt）以產生執行期間可執行物件的例項化。選項定義檔的資料庫表示所有集束型設備類型和組件可利用得到的所有選項之儲存庫。藉由憑藉選項定義檔的資料庫處理全系統組態檔（sysconfig.txt）和一組組件特定組態檔（configoptions.txt），只有已授權的選項產生用以組構集束型設備組件硬體之執行期間可執行物件。

在此方式中，集束型設備的製造商可利用相同的一組應用程式（如、用於產生金鑰檔、全系統組態檔、及一組組件特定組態檔、執行期間可執行物件的例項化之應用程式）以組構具有任何組件選項規範的任何集束型設備。另外，製造商必須保持唯一的能夠被用作爲各個集束型設備獨立產生的通用、所有（sysconfig.txt）和一組組件特定組態檔之選項定義檔（.cfg 檔）的單一資料庫。

圖6圖示在一實施例中用以產生用以組構集束型設備之執行期間可執行物件的簡化流程圖。在步驟602中，組

件選項規範（例如可從客戶的集束型設備購買訂單獲得）被用於產生金鑰檔（604）。然後將產生的金鑰檔安裝於目標集束型設備（606）。接著，目標集束型設備上的組態應用程式使用金鑰檔和隨意使用所提供的隱藏選項（610）產生（608）全系統組態檔和一組組件特定組態檔。

然後，憑藉選項定義檔的資料庫處理全系統組態檔和一組組件特定組態檔（612）以產生組構集束型設備的執行期間可執行物件之例項化。

在一實施例中，使用適當的物件導向方法和利用諸如Smalltalk（www.smalltalk.org）等適當的程式環境完成執行期間可執行物件的產生。圖7圖示根據本發明的實施例之使用物件導向方法產生組構集束型設備的執行期間可執行物件之流程圖。在步驟702中，一或多個內部資料結構被產生以在內部表示來自全系統組態檔和一組組件特定組態檔之選定/授權的選項（704）。在步驟706中，一或多個內部資料結構被產生以在內部表示用於來自選項定義檔的資料庫之所有可能資源/組件/物件的選項資訊（708）。在步驟710中，將憑藉表示選定/授權的選項之一組資料結構處理表示所有可能資源/組件/物件的選項資訊之一組資料結構。步驟710表示去除有關不是來自最後的一組資料結構之選定/授權的資源/組件/物件之選項資訊。在步驟712中，從剩下的選項定義例項化執行期間可執行物件。

附件C（包括頁C1、C2及C3）圖解根據本發明的實施例之全系統組態檔的表列，表示有關目標集束型設備的

高層級組態細節。區1002表示元資料區，具有諸如控制集束型設備的主機電腦之 Ethernet 位址、組態檔的期限、保護旗標、模擬旗標、期限警告等資料。已在先前討論過這些元資料。區 1002 又指出集束型設備平台是"#Domino3Port"。稍後將討論此平台識別。

也圖示複數影像區。與這些區相關連的可執行影像係關於主機電腦的影像（HostImage）、四個處理模組的影像（PM1Image、PM2Image、PM3Image、PM4Image），及移轉模組的影像（TMCImage）。

這些影像的每一個都包括各種資料欄位，諸如 IP 位址、與影像相關連的硬體是否存在、若適合的話可找出集束型設備控制軟體的檔案名稱、通訊埠、影像的標籤、影像的定義檔（.cfg）、影像檔案名稱、自動啓動旗標（在開機時自動化重新組構）、若有的話用以執行影像的描述語言程式、模擬旗標、開發旗標、顯示設計（包括定位、顏色、圖示等）等。

爲了討論，選擇與移轉模組相關連的影像作爲更進一步的討論。附件 D（包括兩頁 D1及 D2）圖示用於示範性集束型設備的移轉室之組件層級組態檔（configoptions.txt）。區1102圖示用於移轉室的元資料，包括 IP 位址（符合附件 C 的元資料區1002所示）、期限（符合附件 C 的元資料區1002所示）、模組標籤"TransferChamber"（符合與附件 C 的影像 TMCImage 相關連之標籤）、及平台"Domino3Port"（符合附件 C 的元

資料區1002所示）。

在附件 D 中，左行圖示選定/授權選項，而右行圖示所有可利用的選項（其中某些未授權/選定給特定目標集束型設備）。例如，埠 PDO1的可利用選項是如右行上所示的 #BrooksV4、#BrooksV3、#BrooksV2、#ErgoPD0、#ErgoPD0V1、#Ergo200。左行圖示可利用/選定選項是 #BrooksV4。其他選定選項不言自明。

需注意的是，附件 C 中與移轉模組相關連的影像指出移轉室的選項定義檔案名稱是"TMCImage.cfg"。爲示範性集束型設備產生此選項定義檔 TMCImage.cfg 當作附件 E（包括三頁，E1、E2及 E3）。選項定義檔包含可能用於移轉模組的所有選項之組態資訊。爲了維修及更新容易，組態資訊細節可另外封裝有在其他模組化選項定義檔。例如，因爲示範性集束型設備的平台是#Domino3Ports（見附件 C 的元資料區1002和附件 D 的元資料區1102），附件 E 的頁 E3 指出在具有名稱"TMCImageTMResD3Port.cfg"的定義檔可獲得其他組態細節。

附件 F 圖示根據本發明之示範性集束型設備的上述檔案 TMCImageTMResD3Port.cfg 之表列。爲了比較，也包括定義檔 TMCImageTMResD2Port.cfg（附件 G），若已選定平台爲#Domino（附件 E 的頁 E3），則可利用及/或諮詢此。再者，爲了比較，也包括處理模組的選項定義檔（pm.cfg）（附件 H）當作例子，該選項定義檔可被利用及/

或諮詢以確認目標集束型設備的處理模組之組態細節（依據如 PM1、PM2、PM3或 PM4的處理模組之全系統組態檔 sysconfig.txt 及組件層級組態檔 configoptions.txt 所指出的被選定/授權之選項）。

如上述，選項定義檔的資料庫包括所有可能組件的組態資訊。爲了參照容易，本文將利用"資源"一詞表示在集束型設備中能夠被組構之任何軟體或硬體及/或處理相關特徵。例如，單一硬體組件可具有能夠被組構的不同參數。各個這些可組構參數表示一資源。

產生通用組態架構的挑戰之一係相關於需要儲存所有可能資源的組態資料以滿足任何被選定/授權的選項，並且在同時讓使用選定選項檔（如、全系統組態檔和一組組件層級組態檔）過濾資料庫的處理有效率（過濾處理室產生選定/授權選項的執行期間可執行物件之處理的一部分）。由於軟體/硬體資源隨時在改變所以使得此挑戰更加困難，並且對軟體/硬體組件的更新之結果是新定義被合併到資料庫而舊定義自此資料庫刪除。

根據本發明的實施例，以階層格式組織資料庫中的資源定義以大致上鏡射具有所有可能被授權/選定的選項之智慧型集束型設備的組織。當作一例子，既定匹配系統的所有感應器之適合的資源定義被視作那匹配系統（在所有權意義上）所有。在階層中的相同層級中，匹配系統的所有致動器之適合的資源定義被視作那匹配系統所有。在下一較高上層階中，所有匹配系統被視作 RF（射頻）系統

所有。在階層中的相同層級中，所有 RF 電極被視作 RF 系統所有。在下一較高上層階中，所有 RF 系統被視作處理模組所有。在階層中的相同層級中，所有檢查系統被視作處理模組所有。在下一較高上層層級中，所有處理模組被視作集束型設備所有。在階層中的相同層級中，移轉模組也被視作集束型設備所有。

需注意的是，某些資源可適當與較高層級資源結合或由其擁有，但是也可不與較高層級資源結合或由其擁有。例如，RF 系統由電感耦合處理模組所有，但是也可不由微波處理模組擁有或與其結合。當在階層的較高層級資源和較低層級資源之間的資料庫中產生鏈結時，有關資源的詳情應被列入考量。

圖 8圖示根據本發明的實施例之遵循上述組織的選項定義檔之資料庫的階層組織之邏輯圖。

在一實施例中，藉由參考包含所有者的文件中之"ownee"的組態定義之檔案名稱加以完成所有權鏈結。稍早在附件中已見過此鏈結的例子，其中用於移轉室的選項定義檔案名稱，TMCImage.cfg，是在附件 C 的全系統組態檔 sysconfig.txt 之本文中。當有關"ownee"的細節必須更新時，可利用包含更新組態資訊之完全相同的命名檔案取代與"ownee"資源相關連的檔案。當新選項提供給集束型設備作選擇時，有關心選項的組態細節可儲存在資料庫的檔案中，並且新選項檔案的名稱可被設置在所有人的本文當作可能選擇的另一選項。當選項被淘汰和去除時，可

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從資料庫去除與選項相關連的檔案並且可從其所有人的本文刪除到此的任何鏈結。

在此方式中，可經由改變資源定義有效地維持資料庫。而且，憑藉選項定義檔的資料庫，階層組織使其能夠有效地處理選定/授權選項（如全系統組態檔 sysconfig.tx 和組件層級組態檔 configoptions.txt 中所指出的一般）。在一實施例中，該處理遵循樹狀橫跨演算法，利用該演算法從階層中的較高層級下探到較低層級，直到解決所有組態定義爲止。

例如，若集束型設備只具有一金屬蝕刻處理模組並沒有其他模組時，則那金屬蝕刻處理模組的組態定義從那金屬蝕刻處理模組的全系統組態檔 sysconfig.tx 和組件層級組態檔 configoptions.txt 開始下探，直到解決所有組態定義（即解決下探路徑中的所有檔案名稱參考）爲止。一旦它們被解決，則藉由從移轉模組的全系統組態檔 sysconfig.tx 和組件層級組態檔 configoptions.txt 開始下探，演算法繼續解決移轉模組的組態定義。

需注意的是，此樹狀橫跨演算法將避免下探非存在的聚矽蝕刻處理模組的細節。而且，當已解決所有檔案參考時，樹狀橫跨演算法將停止。儘管下探既定路徑，與與未選定或未授權的選項有關之該樹的分支相關連之組態細節被繞過。在此方式中，藉由憑藉全系統組態檔 sysconfig.tx 和組件層級組態檔 configoptions.txt 所指出的選定/授權選項處理選項定義檔的階層資料庫可快速地

獲得組態細節。然後，這些組態細節被用於產生用以組構目標集束型設備的執行期間可執行物件。

儘管已經由幾個實施例說明本發明，但是仍可有落在本發明的範圍內之改變、變更、及同等物。也應注意的是，有許多實施本發明的方法和裝置之其他方式。因此附錄於後的申請專利範圍應解釋作包括落在本發明的真正精神和範圍內之所有此種改變、變更、及等效物。

【圖式簡單說明】

本發明經由例子圖解說明，但並不侷限於此，在附圖的圖式中，相同參考號碼意指類似元件，其中：

圖1爲表示典型集束型設備的高層級、簡化邏輯表示之集束型設備圖。

圖2爲本發明的實施例之全系統組態檔和組件特定組態檔圖。

圖3A 爲本發明的實施例之如何產生全系統組態檔和組件特定組態檔的邏輯圖。

圖3B 爲本發明的實施例之集束型設備的使用者可用於增加存取到一或多個選項或具有該隱藏選項的組件之使用者介面例子圖。

圖3C 爲就處理模組而言，用以讓使用者能夠輸入與使用者輸入、金鑰檔、模組選項定義檔、及隱藏選項檔有關的資料之使用者介面圖。

圖4爲本發明的實施例之如何產生金鑰檔圖。

圖5爲本發明的實施例之集束型設備的典型組態流之流程圖。

圖6爲本發明的實施例之用以產生用以組構集束型設備的執行期間可執行物件之流程圖。

圖7爲本發明的實施例之用以產生執行期間可執行物件以使用物件導向方法組構集束型設備之流程圖。

圖8爲根據實施例之遵循上述組織的選項定義檔之資料庫的階層組織之邏輯圖。

附件 A 提供本發明的實施例之集束型設備的示範性 sysconfig.txt 檔之表列圖。

附件 B 提供本發明的實施例之用於示範性處理模組的示範性 configoption.txt 檔之表列圖。

附件 C 提供本發明的實施例之關於表示目標集束型設備的高層級組態細節之全系統組態檔（sysconfig.txt）的表列圖。

附件 D 提供本發明的實施例之用於示範性集束型設備的移轉室之組件層級組態檔（configoption.txt）。

附件 E 提供本發明的實施例之爲示範性集束型設備所產生的選項定義檔 TMCImage.cgf。

附件 F 提供本發明的實施例之用於示範性集束型設備的上述檔案 TMCImageTMResD3Port.cfg 之表列圖。

附件 G 提供本發明的實施例之定義檔 TMCImageTMResD2Port.cgf。

附件 H 提供本發明的實施例之用於處理模組的選項

定義檔（pm.cfg）。

【主要元件符號說明】

100：集束型設備

102：前端

104：後端

110：埠

112：埠

114：埠

120：氣閘

122：氣閘

130：移轉模組

140：處理模組

142：處理模組

144：處理模組

146：處理模組

302：全系統組態檔

304：組件特定組態檔

306：使用者輸入檔

308：金鑰檔

310：模組選項定義檔

312：隱藏選項檔

320：組態應用程式

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402：模組選項定義檔

402a：處理模組選項定義檔

402b：移轉模組選項定義檔

402c：集束型設備控制軟體選項定義檔

404：設備特定選項規範

404a：客戶訂單資料庫

404b：工廠特定輸入

406：設備特定保護資訊

420：安全應用程式

年 月 日修正本
102年3月25日修正替換頁
95106646(無劃線)

P32-33

十、申請專利範圍

1.一種用以組構電漿集束型設備之方法，包含：

從選項規範產生金鑰檔；

使用該金鑰檔產生至少一全系統組態檔和至少一組件層級組態檔，該金鑰檔封裝有特別加諸於該電漿集束型設備的組態限制；

依照物件導向的程式設計方法，從選項定義檔的資料庫，該至少一全系統組態檔、和該至少一組件層級組態檔產生執行期間可執行檔；且

利用該執行期間可執行檔組構該電漿集束型設備。

2.根據申請專利範圍第1項之方法，其中該選項定義檔的資料庫包括可針對該電漿集束型設備而被組構之所有可能資源的組態資訊。

3.根據申請專利範圍第1項之方法，其中該金鑰檔封裝有限制該電漿集束型設備的可組態性等級之資料。

4.根據申請專利範圍第1項之方法，其中該金鑰檔包括與該集束型設備有關的第一媒體存取控制器（MAC）位址；若該至少一全系統組態檔和該至少一組件層級組態檔安裝在未具有符合該第一 MAC 位址的 MAC 位址之電漿集束型設備上，則禁止該產生該執行期間可執行檔。

5.根據申請專利範圍第1項之方法，其中在該選項定義檔的資料庫中可被組構之資源的至少一子集與受保護旗標有關。

6.根據申請專利範圍第1項之方法，其中該金鑰檔被

加密。

7.根據申請專利範圍第 1 項之方法，另外包含：

提供一隱藏選項檔，該隱藏選項檔包括一組隱藏組態選項，該組隱藏組態選項對未特別被告知該組態選項的使用者通常爲隱藏的；且

利用該隱藏選項檔產生至少一全系統組態檔和該至少一組件層級組態檔。

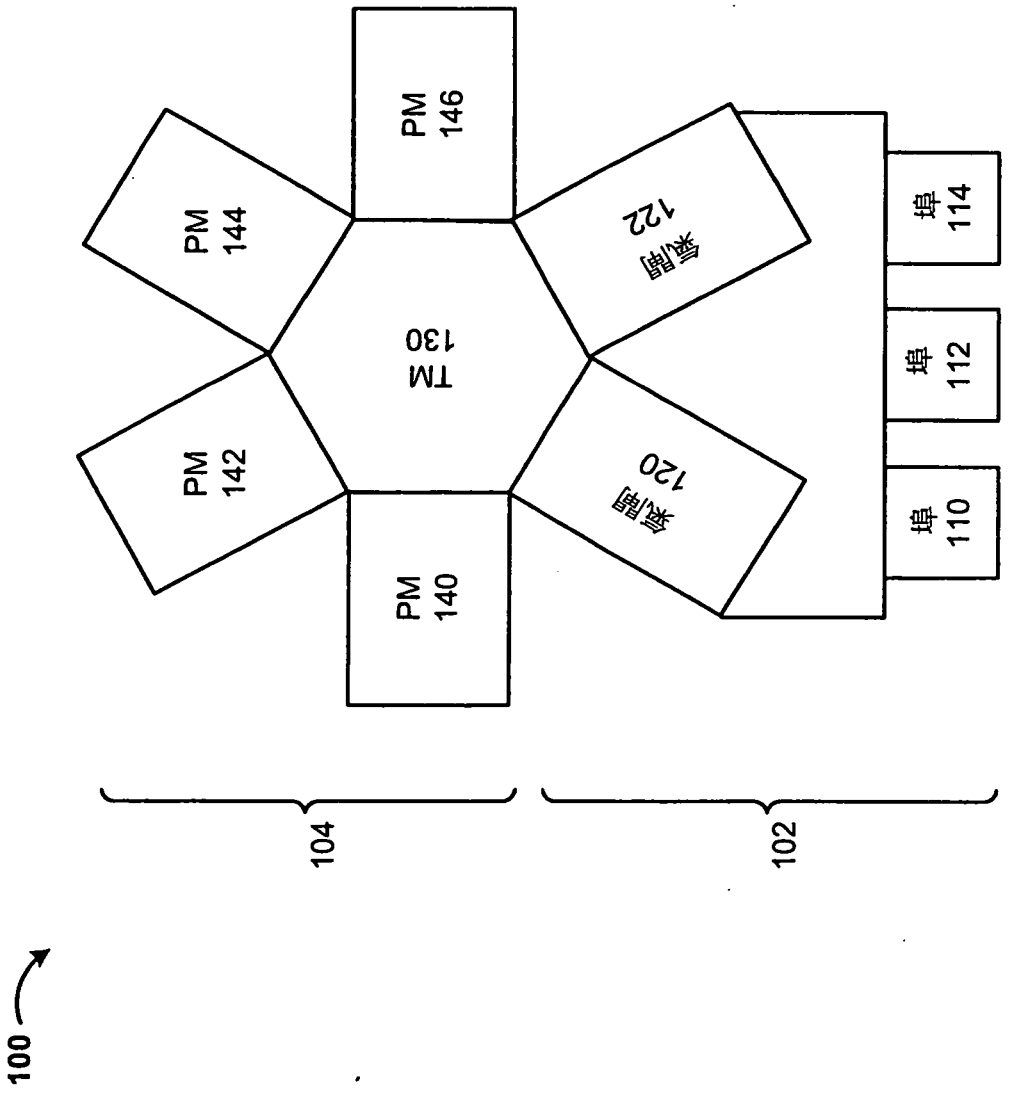

100
104
102
PM 140
PM 142
PM 144
PM 146
TM 130
氣閘 120
氣閘 122
埠 110
埠 112
埠 114

圖 1

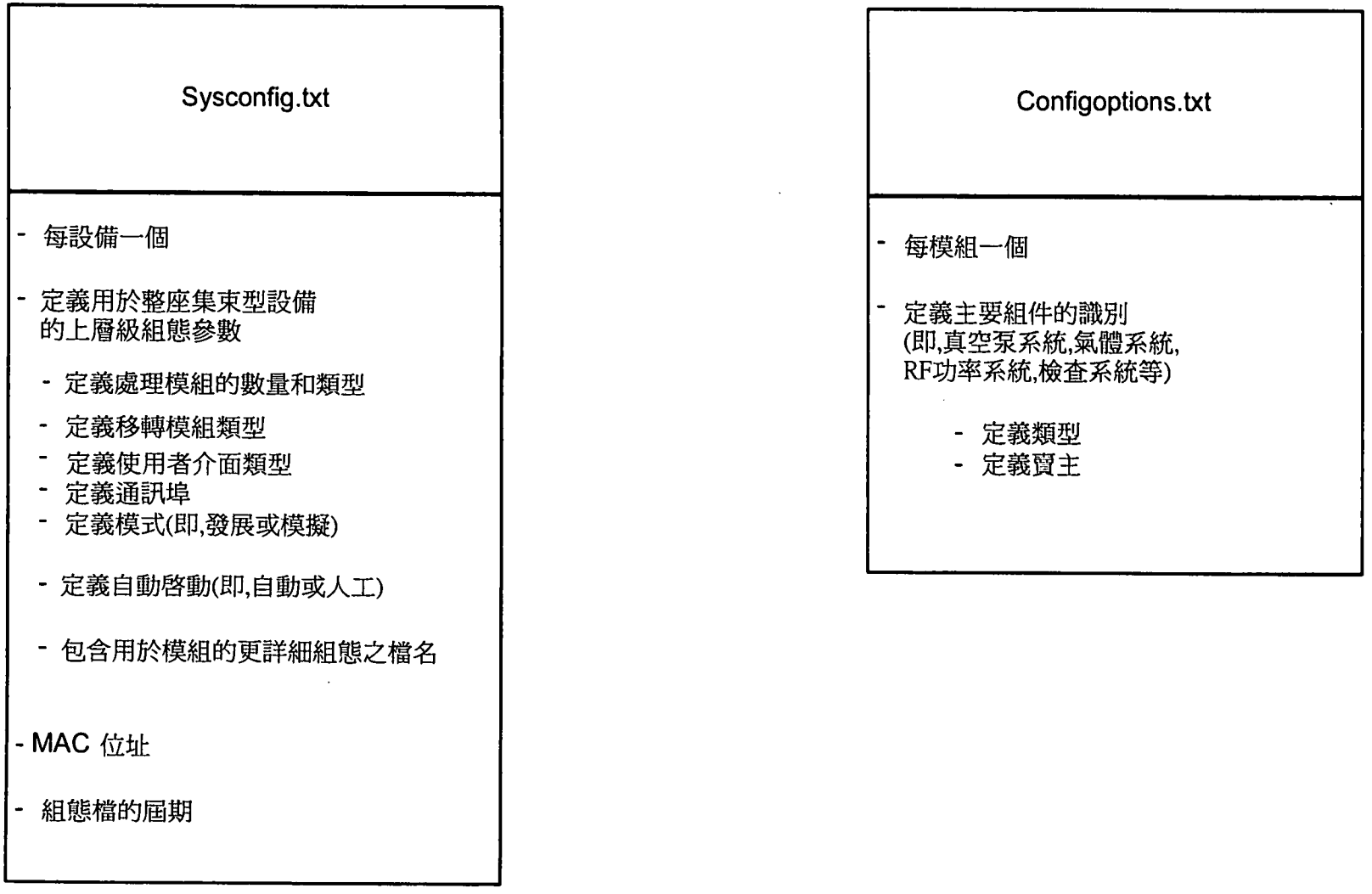

Sysconfig.txt
- 每設備一個
- 定義用於整座集束型設備的上層級組態參數
- 定義處理模組的數量和類型
- 定義移轉模組類型
- 定義使用者介面類型
- 定義通訊埠
- 定義模式(即,發展或模擬)
- 定義自動啓動(即,自動或人工)
- 包含用於模組的更詳細組態之檔名
- MAC 位址
- 組態檔的屆期
Configoptions.txt
- 每模組一個
- 定義主要組件的識別(即,真空泵系統,氣體系統,RF功率系統,檢查系統等)
- 定義類型
- 定義賣主

圖2

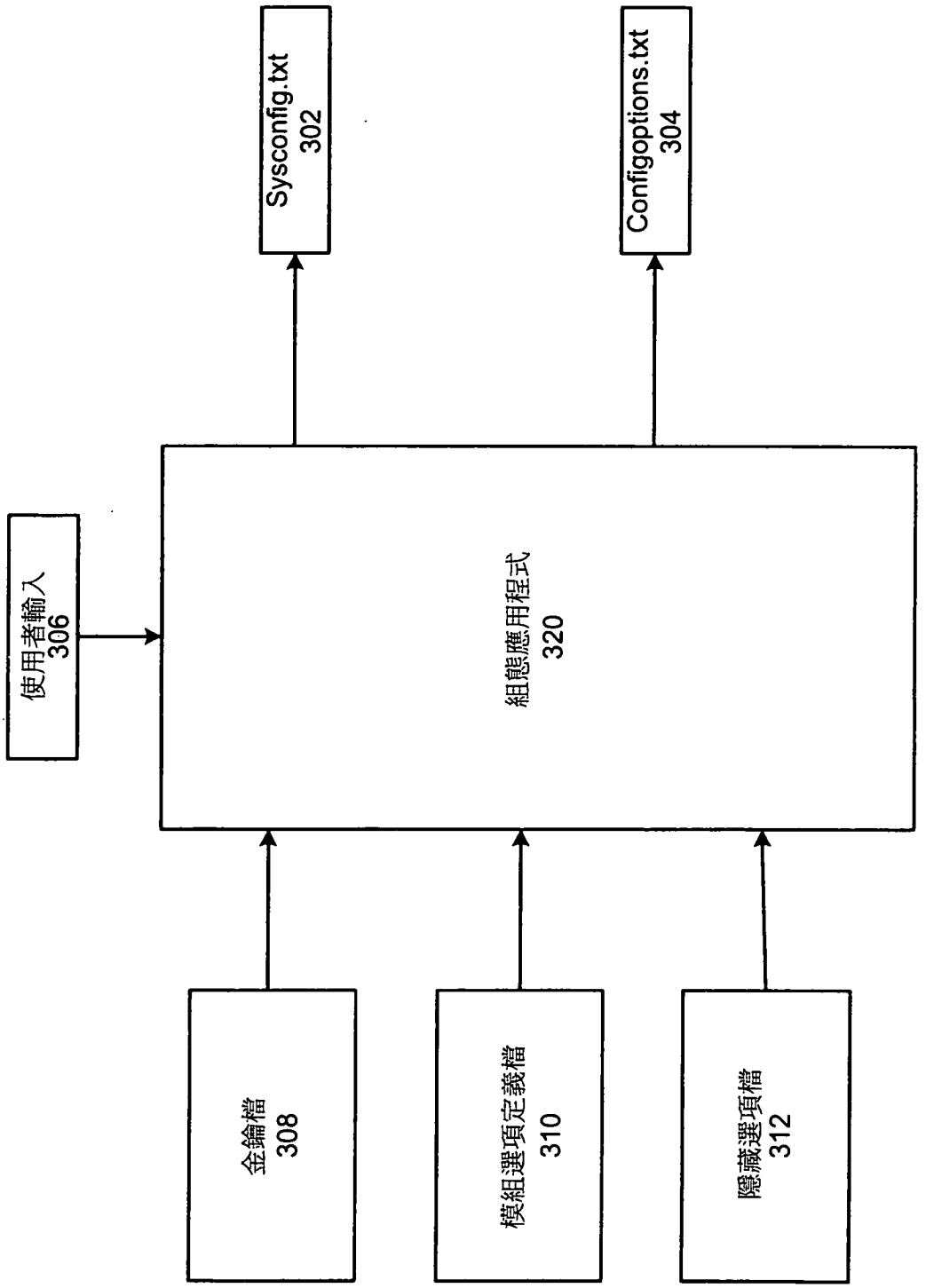

Sysconfig.txt
302
Configoptions.txt
304
使用者輸入
306
組態應用程式
320
金鑰檔
308
模組選項定義檔
310
隱藏選項檔
312

圖3A

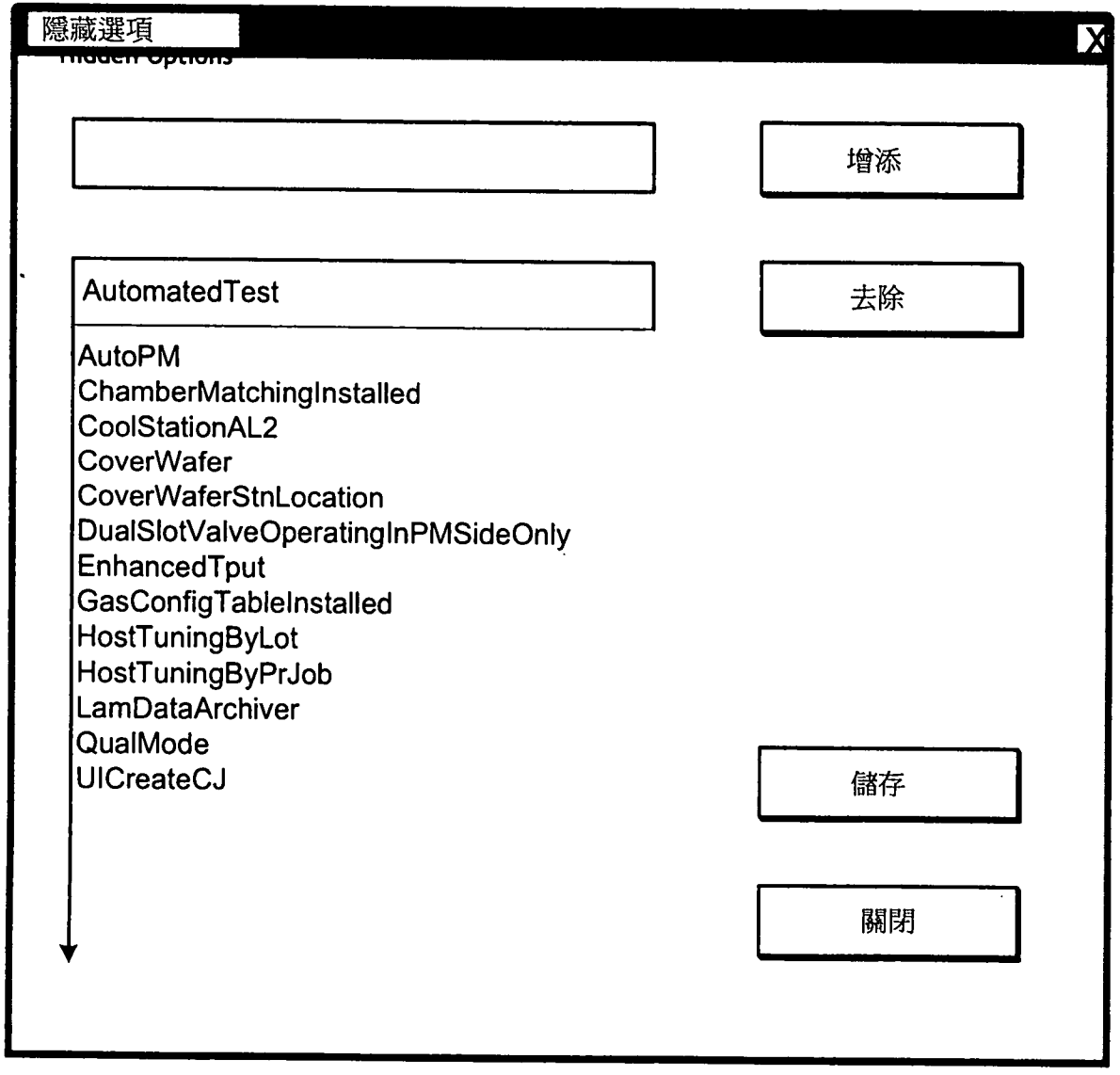

隱藏選項
增添
AutomatedTest
去除
AutoPM
ChamberMatchingInstalled
CoolStationAL2
CoverWafer
CoverWaferStnLocation
DualSlotValveOperatingInPMSideOnly
EnhancedTput
GasConfigTableInstalled
HostTuningByLot
HostTuningByPrJob
LamDataArchiver
QualMode
UICreateCJ
儲存
關閉

圖3B

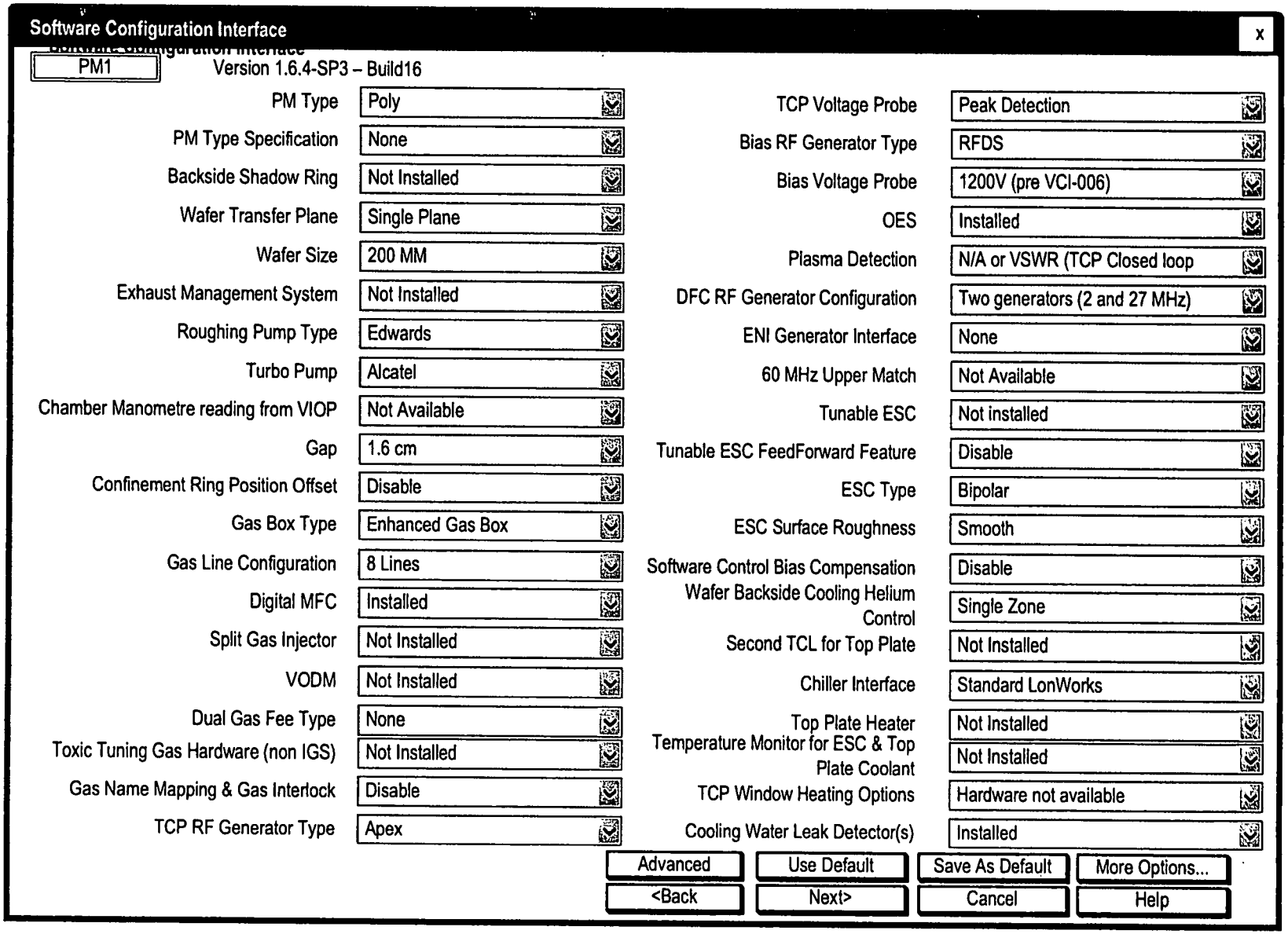

Software Configuration Interface
X
PM1
Version 1.6.4-SP3 – Build16
PM Type
Poly
PM Type Specification
None
Backside Shadow Ring
Not Installed
Wafer Transfer Plane
Single Plane
Wafer Size
200 MM
Exhaust Management System
Not Installed
Roughing Pump Type
Edwards
Turbo Pump
Alcatel
Chamber Manometre reading from VIOP
Not Available
Gap
1.6 cm
Confinement Ring Position Offset
Disable
Gas Box Type
Enhanced Gas Box
Gas Line Configuration
8 Lines
Digital MFC
Installed
Split Gas Injector
Not Installed
VODM
Not Installed
Dual Gas Fee Type
None
Toxic Tuning Gas Hardware (non IGS)
Not Installed
Gas Name Mapping & Gas Interlock
Disable
TCP RF Generator Type
Apex
TCP Voltage Probe
Peak Detection
Bias RF Generator Type
RFDS
Bias Voltage Probe
1200V (pre VCI-006)
OES
Installed
Plasma Detection
N/A or VSWR (TCP Closed loop
DFC RF Generator Configuration
Two generators (2 and 27 MHz)
ENI Generator Interface
None
60 MHz Upper Match
Not Available
Tunable ESC
Not installed
Tunable ESC FeedForward Feature
Disable
ESC Type
Bipolar
ESC Surface Roughness
Smooth
Software Control Bias Compensation
Disable
Wafer Backside Cooling Helium Control
Single Zone
Second TCL for Top Plate
Not Installed
Chiller Interface
Standard LonWorks
Top Plate Heater
Not Installed
Temperature Monitor for ESC & Top Plate Coolant
Not Installed
TCP Window Heating Options
Hardware not available
Cooling Water Leak Detector(s)
Installed
Advanced
Use Default
Save As Default
More Options...
<Back
Next>
Cancel
Help

圖 3C

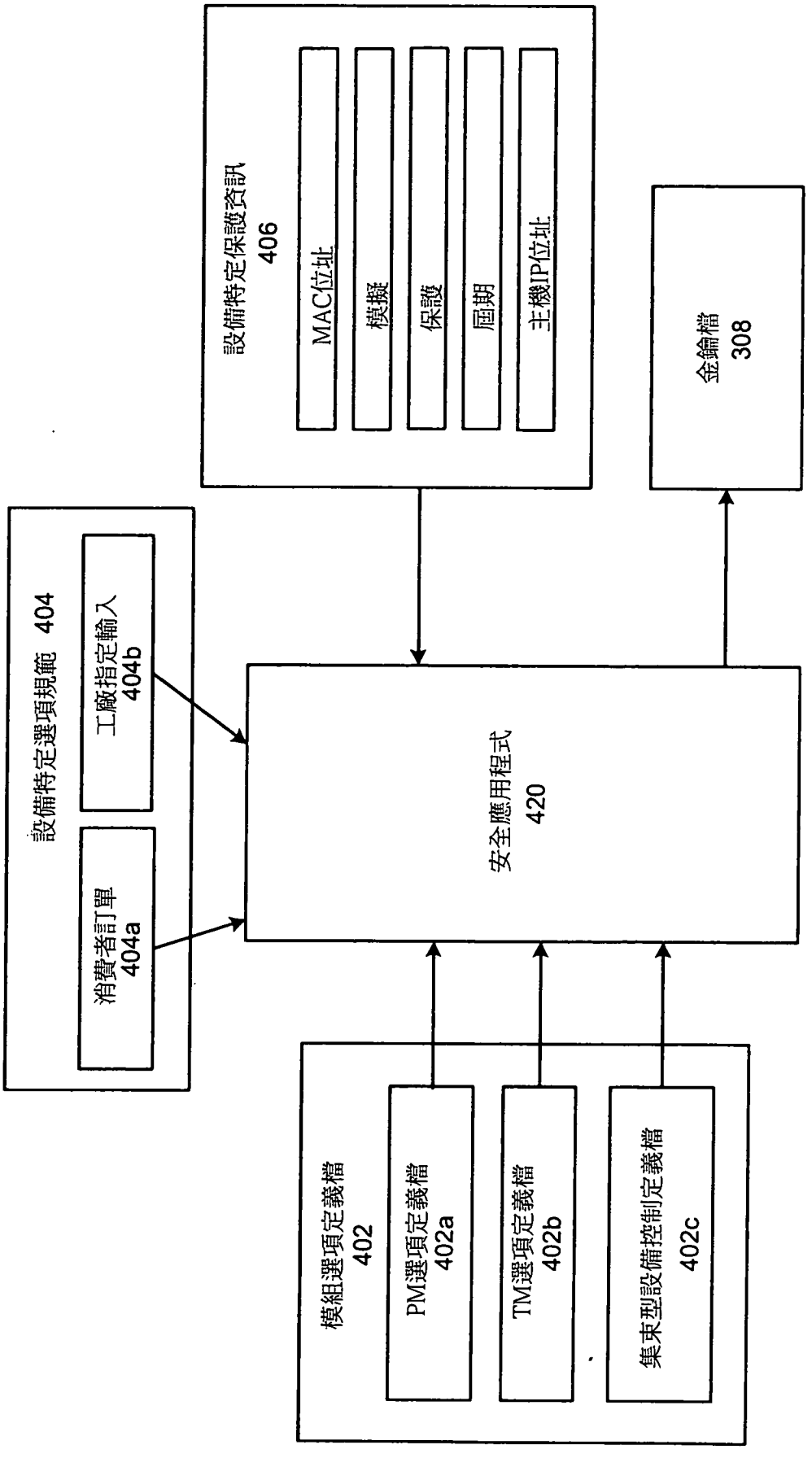

設備特定保護資訊
406
MAC位址
模擬
保護
屆期
主機IP位址
金鑰檔
308
設備特定選項規範 404
工廠指定輸入
404b
消費者訂單
404a
安全應用程式
420
模組選項定義檔
402
PM選項定義檔
402a
TM選項定義檔
402b
集束型設備控制定義檔
402c

圖4

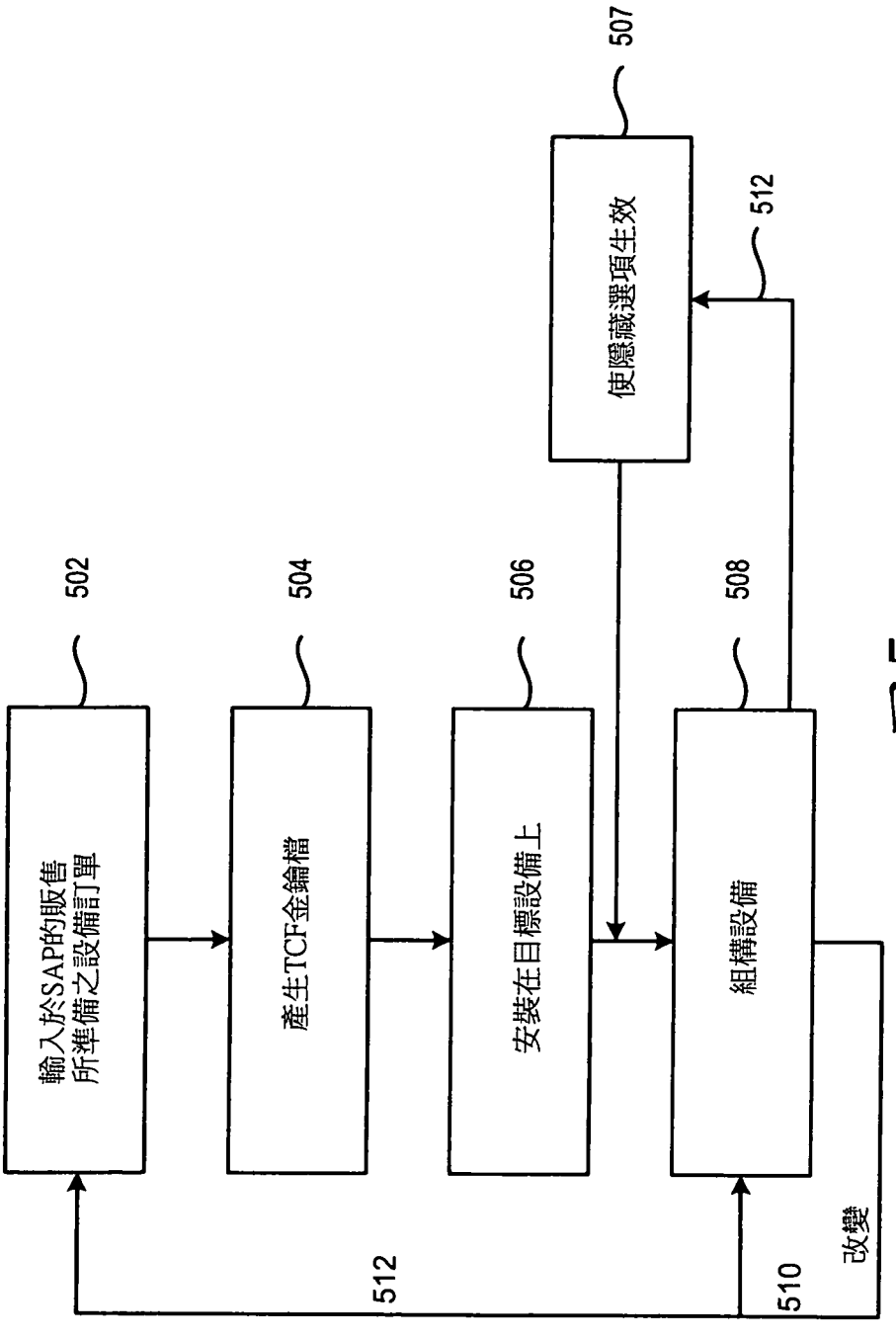

輸入於SAP的販售
所準備之設備訂單
產生TCF金鑰檔
安裝在目標設備上
組構設備
使隱藏選項生效
502
504
506
508
507
512
512
510
改變

圖5

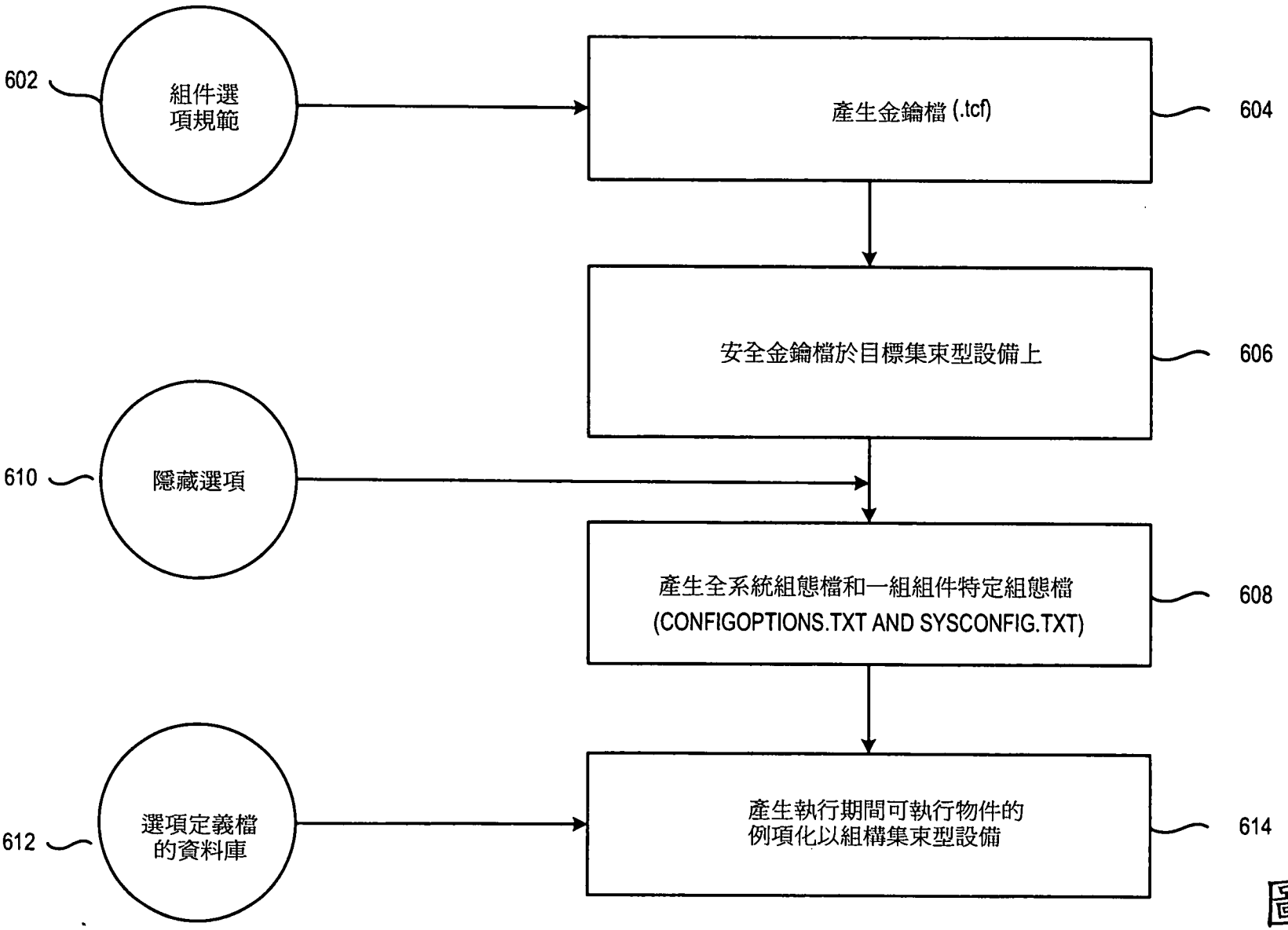

602
組件選項規範
產生金鑰檔 (.tcf)
604
安全金鑰檔於目標集束型設備上
606
610
隱藏選項
產生全系統組態檔和一組組件特定組態檔
(CONFIGOPTIONS.TXT AND SYSCONFIG.TXT)
608
612
選項定義檔的資料庫
產生執行期間可執行物件的例項化以組構集束型設備
614

圖6

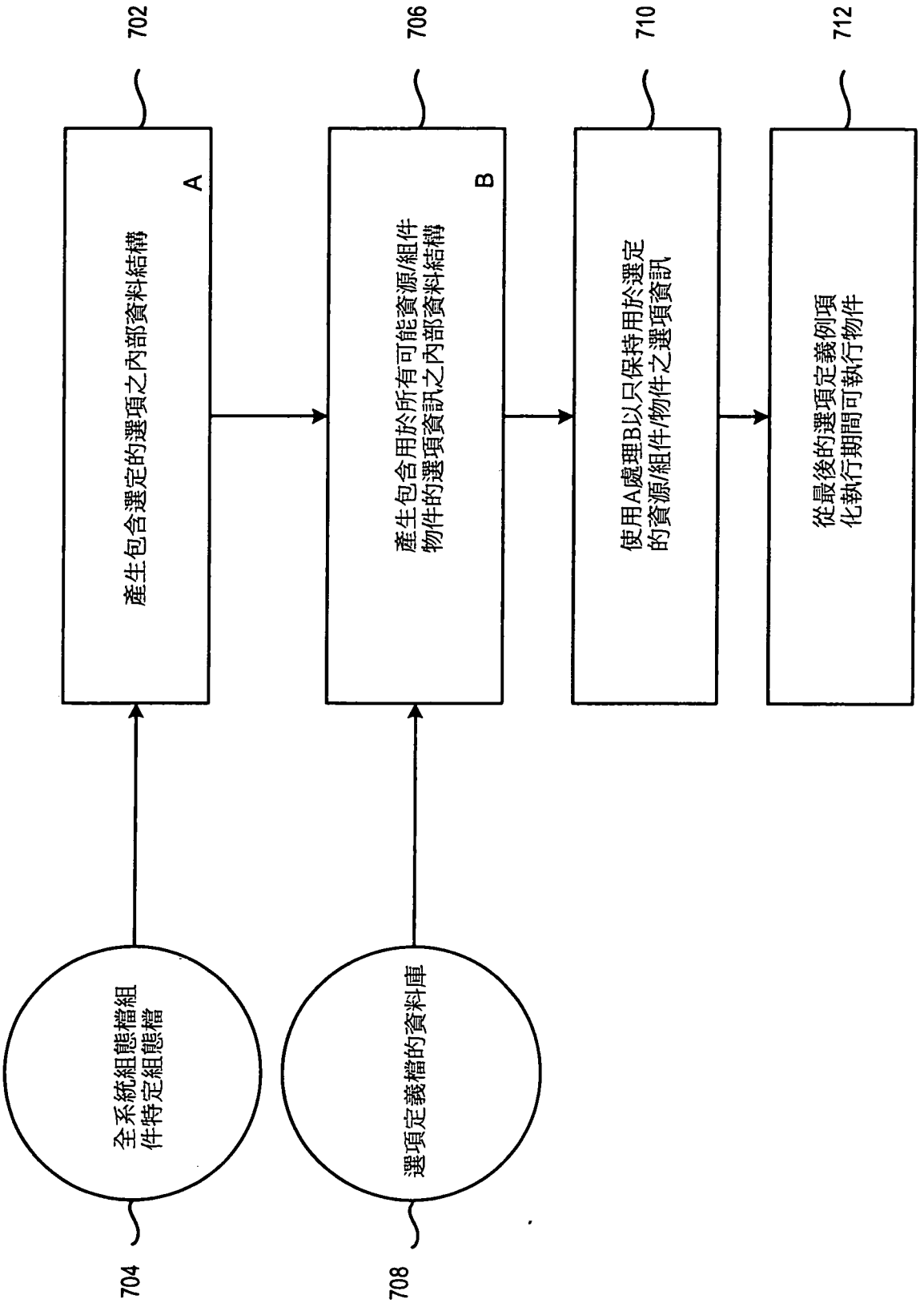

全系統組態檔組件特定組態檔
704
選項定義檔的資料庫
708
產生包含選定的選項之內部資料結構
A
702
產生包含用於所有可能資源/組件物件的選項資訊之內部資料結構
B
706
使用A處理B以只保持用於選定的資源/組件/物件之選項資訊
710
從最後的選項定義例項化執行期間可執行物件
712

圖 7

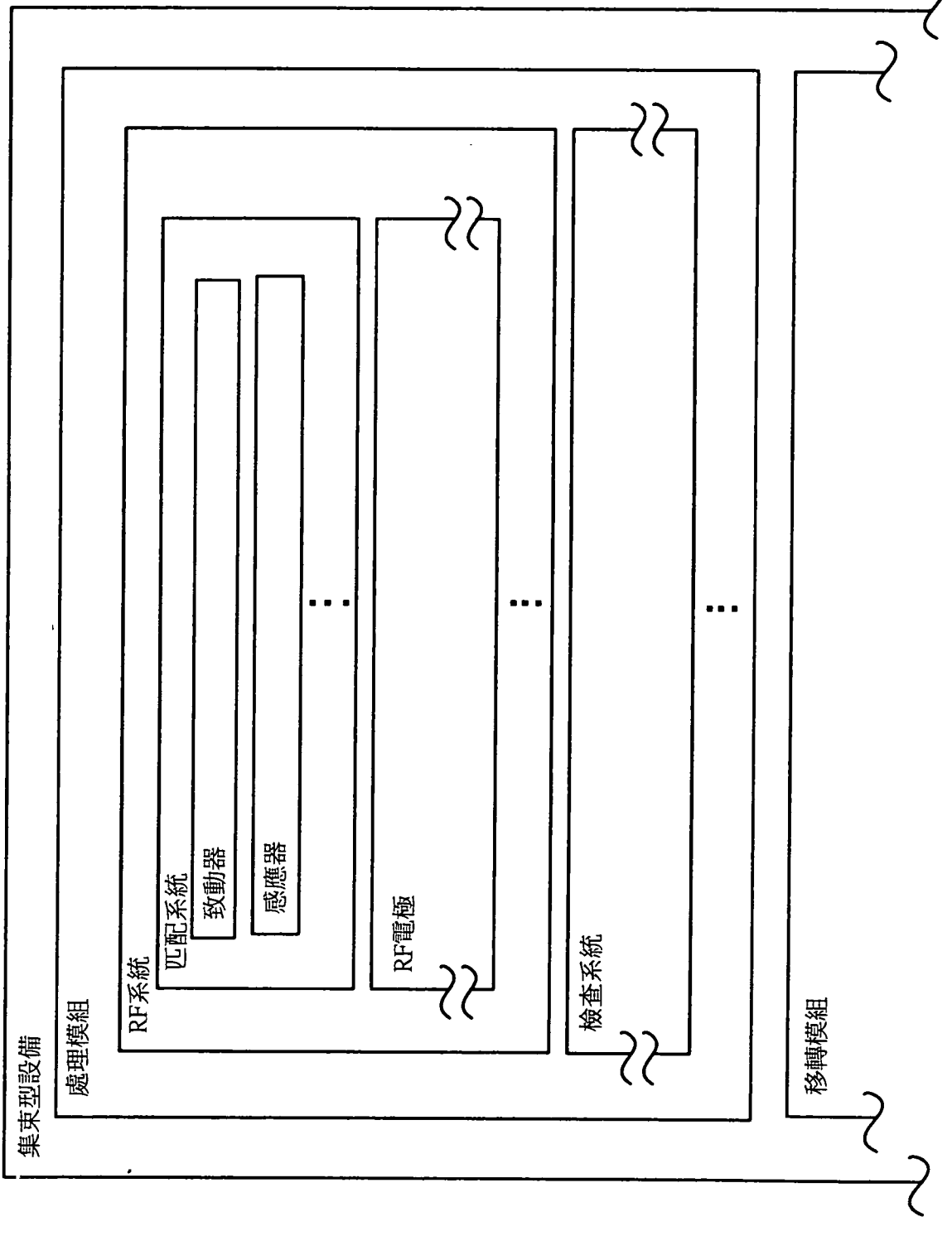


圖8

```
"SYSCONFIG.txt"                                    SYSCONFIG.txt

"
        Warning!
        This file is generated by LamConfigurationApp.exe.
        Do not edit this file with any text editor.
"

EthernetAddress: '00-0D-60-EF-1D-F5'
ExpirationDate: '08/31/2006'
Protection: false
Simulation: true
ExpirationWarning: false
platform: #Domino3Ports

images: (
        HostImage: (
                address: '167.191.21.217'
                exists: true
                uiFileName: '.\config\resourcesUI.cfg'
                port: 20006
                label: 'UI'
                filename: '.\config\HostImage.cfg'
                imageFileName: 'lamCTC.im'
                autoStart: false
                forDevelopment: true
                simulated: true
                oesAddress: '167.191.21.217'
                autoPosition: true
                "color: 'paleGreen'"
                "color: 'salmon'"
                "color: 'darkCyan'"
                "color: 'royalBlue'"
                iconize: true
        )
        PM1Image: (
                address: '167.191.21.217'
                exists: true
                currentProcessType: #Poly
                port: 20001
                label: 'PM1'
                filename: '.\config\pm.cfg'
                imageFileName: 'lamPM.im'
                script: 'PM.script'
                autoStart: false
                forDevelopment: true
                simulated: true
                singlePlaneMotion: true
                oesAddress: '167.191.21.217'
                autoPosition: true
                "color: 'paleGreen'"
                "color: 'salmon'"
                "color: 'darkCyan'"
                "color: 'royalBlue'"
                iconize: true
        )
        PM2Image: (
                address: '167.191.21.217'
                exists: true
                currentProcessType: #Poly
                port: 20002
                label: 'PM2'
                filename: '.\config\pm.cfg'
```

附表 A

```
        imageFileName: 'lamPM.im'
        script: 'PM.script'
        autoStart: false
        forDevelopment: true
        simulated: true
        singlePlaneMotion: true
        oesAddress: '167.191.21.217'
        autoPosition: true
        "color: 'paleGreen'"
        "color: 'salmon'"
        "color: 'darkCyan'"
        "color: 'royalBlue'"
        iconize: true
)
PM3Image: (
        address: '167.191.21.217'
        exists: true
        currentProcessType: #Poly
        port: 20003
        label: 'PM3'
        filename: '.\config\pm.cfg'
        imageFileName: 'lamPM.im'
        script: 'PM.script'
        autoStart: false
        forDevelopment: true
        simulated: true
        singlePlaneMotion: true
        oesAddress: '167.191.21.217'
        autoPosition: true
        "color: 'paleGreen'"
        "color: 'salmon'"
        "color: 'darkCyan'"
        "color: 'royalBlue'"
        iconize: true
)
PM4Image: (
        address: '167.191.21.217'
        exists: true
        currentProcessType: #Poly
        port: 20004
        label: 'PM4'
        filename: '.\config\pm.cfg'
        imageFileName: 'lamPM.im'
        script: 'PM.script'
        autoStart: false
        forDevelopment: true
        simulated: true
        singlePlaneMotion: false
        oesAddress: '167.191.21.217'
        autoPosition: true
        "color: 'paleGreen'"
        "color: 'salmon'"
        "color: 'darkCyan'"
        "color: 'royalBlue'"
        iconize: true
)
TMCImage: (
        address: '167.191.21.217'
        exists: true
        port: 20005
        label: 'TransferChamber'
        filename: '.\config\TMCImage.cfg'
        imageFileName: 'lamTM.im'
```

A2

SYSCONFIG.txt

```
script: 'TM.script'
autoStart: false
forDevelopment: true
simulated: true
oesAddress: '167.191.21.217'
autoPosition: true
"color: 'paleGreen'"
"color: 'salmon'"
"color: 'darkCyan'"
"color: 'royalBlue'"
iconize: true
)
)
@@-'_-
```

A3

ConfigOptions.txt

```
"ConfigOptions.txt"

EthernetAddress: '00-0D-60-EF-1D-F5'
ExpirationDate: '08/31/2006'
ModuleLabel: 'PM1'
ModuleType: #(#Poly)
                                        "ModuleType: #None #Poly #Metal #DFC #Strip #ADP"
ModuleSpec: #None
                                        "ModuleSpec: #None #Kiyo #Exelan #Flex #Microwave2
#BiasStrip #Microwave1 #TCPStrip"
BSRInstalled: false
                                        "BSRInstalled: false true"
singlePlaneMotion: true
                                        "singlePlaneMotion: false true"
WaferSize: #_200MM
                                        "WaferSize: #_200MM #_300MM"
EMSOption: #None
                                        "EMSOption: #None #StandalonePFCAbatement
#PFCAbatementWithGRC"
RoughPump: #Edwards
RoughingPumpType: #Edwards
RoughPumpInstalled: true
                                        "RoughPump: #Edwards #Ebara #Generic #Alcatel #None"
TurboPump: #Alcatel
                                        "TurboPump: #Alcatel #Seiko #Edwards #Simulated
#None"
VIOPProcessManometer: false
                                        "VIOPProcessManometer: false true"
GasBox: #EnhancedGasBox
IGSGasBoxInstalled: false
DSOGasBoxInstalled: false
                                        "GasBox: #EnhancedGasBox #OnBoard #IGS #IGSDSO"
GasBoxType: #EightLines
                                        "GasBoxType: #EightLines #TwelveLines #SixteenLines
#OnBoard"
DigitalMFCInstalled: true
                                        "DigitalMFCInstalled: false true"
SplitGasInjectorInstalled: false
                                        "SplitGasInjectorInstalled: false true"
VoDMInstalled: false
                                        "VoDMInstalled: true false"
GasFeedType: #None
GasRatioControllerInstalled: false
DualGasFeedInstalled: false
                                        "GasFeedType: #None #FixedOrifice #MFC"
VCRToxicGasBoxInstalled: false
                                        "VCRToxicGasBoxInstalled: false true"
GasConfigTableInstalled: false
                                        "GasConfigTableInstalled: false true"
TCPRFGenType: #Apex
TCPRFInstalled: true
MicrowaveInstalled: false
                                        "TCPRFGenType: #Apex #RFDS #None"
TCPVProbeType: #Vpk
TCPVProbeTest: false
                                        "TCPVProbeType: #None #Vpk #Vpk2pk"
BiasRFGenType: #RFDS
BiasRFInstalled: true
BiasAutoTuneTimeEnabled: true
                                        "BiasRFGenType: #RFDS #Apex #None"
BiasVprobeType: #VCI4
                                        "BiasVprobeType: #VCI4 #VCI6"
OESInstalled: true
```

附表 B

ConfigOptions.txt

```
PlasmaDetectionWithOES: false
G3: false
ENIGenInterface: #None
UpperMatchInstalled: false
TunableESCInstalled: false
ESCType: #Bipolar
HeControlType: #Single
TCUControlType: #Single
ChillerType: #LonWorks
ChillerInterface: #LonWorks
ChillerSimulated: false
#GatewaySingleChannel #Simulated"
TopPlateHeaterInstalled: false
CoolantReturnMonitorInstalled: false
Anafaze: #TMBLonAnafaze
LonAnafaze: true
TCPWindowHeating: false
TCPWindowHeatedShieldInstalled: false
TCPWindowTempControl: #None
LeakDetectorsInstalled: true
DIWaterLeakDetectorInstalled: false
MainWaterValveInstalled: true
LifterPinType: #DirectDrive
#PerimeterPins"
MetrologyTuning: true
CDTrim: true
CDFeedBack: false
TCPMatchType: #TwoMotor
VIOP: true
ADIO: false
UsePM6: false
lifterPinControlInProcess: true
DilutionGasInstalled: false
magnetDoorInstalled: false
GasLineEvacPrecharge: true
PriSecValveDelay: true
@@EvOy
```

```
"OESInstalled: false true"
"PlasmaDetectionWithOES: true false"
"G3: false true"
"ENIGenInterface: #Serial #OB2 #None"
"UpperMatchInstalled: false true"
"TunableESCInstalled: false true"
"ESCType: #Monopolar #Bipolar #None"
"HeControlType: #Single #Dual #DualBypass"
"TCUControlType: #Single #Dual"
"ChillerType: #LonWorks #GatewayDualChannels
"TopPlateHeaterInstalled: false true"
"CoolantReturnMonitorInstalled: false true"
"TCPWindowTempControl: #None #Plasma #Heater"
"LeakDetectorsInstalled: true false"
"DIWaterLeakDetectorInstalled: false true"
"MainWaterValveInstalled: true false"
"LifterPinType: #DirectDrive #CableDrive
"MetrologyTuning: false true"
"CDTrim: false true"
"CDFeedBack: false true"
"TCPMatchType: #TwoMotor #FourMotor"
```

B2

SYSCONFIG.txt

```
"SYSCONFIG.txt"

"
        Warning!
        This file is generated by LamConfigurationApp.exe.
        Do not edit this file with any text editor.
"

EthernetAddress: '00-0D-60-EF-1D-F5'
ExpirationDate: '08/31/2006'
Protection: false
Simulation: true
ExpirationWarning: false
platform: #Domino3Ports

images: (
        HostImage: (
                address: '167.191.21.217'
                exists: true
                uiFileName: '.\config\resourcesUI.cfg'
                port: 20006
                label: 'UI'
                filename: '.\config\HostImage.cfg'
                imageFileName: 'lamCTC.im'
                autoStart: false
                forDevelopment: true
                simulated: true
                oesAddress: '167.191.21.217'
                autoPosition: true
                "color: 'paleGreen'"
                "color: 'salmon'"
                "color: 'darkCyan'"
                "color: 'royalBlue'"
                iconize: true
        )
        PM1Image: (
                address: '167.191.21.217'
                exists: true
                currentProcessType: #Poly
                port: 20001
                label: 'PM1'
                filename: '.\config\pm.cfg'
                imageFileName: 'lamPM.im'
                script: 'PM.script'
                autoStart: false
                forDevelopment: true
                simulated: true
                singlePlaneMotion: true
                oesAddress: '167.191.21.217'
                autoPosition: true
                "color: 'paleGreen'"
                "color: 'salmon'"
                "color: 'darkCyan'"
                "color: 'royalBlue'"
                iconize: true
        )
        PM2Image: (
                address: '167.191.21.217'
                exists: true
                currentProcessType: #Poly
                port: 20002
                label: 'PM2'
                filename: '.\config\pm.cfg'
```

1002

附表 C

```
        imageFileName: 'lamPM.im'
        script: 'PM.script'
        autoStart: false
        forDevelopment: true
        simulated: true
        singlePlaneMotion: true
        oesAddress: '167.191.21.217'
        autoPosition: true
        "color: 'paleGreen'"
        "color: 'salmon'"
        "color: 'darkCyan'"
        "color: 'royalBlue'"
        iconize: true
)
PM3Image: (
        address: '167.191.21.217'
        exists: true
        currentProcessType: #Poly
        port: 20003
        label: 'PM3'
        filename: '.\config\pm.cfg'
        imageFileName: 'lamPM.im'
        script: 'PM.script'
        autoStart: false
        forDevelopment: true
        simulated: true
        singlePlaneMotion: true
        oesAddress: '167.191.21.217'
        autoPosition: true
        "color: 'paleGreen'"
        "color: 'salmon'"
        "color: 'darkCyan'"
        "color: 'royalBlue'"
        iconize: true
)
PM4Image: (
        address: '167.191.21.217'
        exists: true
        currentProcessType: #Poly
        port: 20004
        label: 'PM4'
        filename: '.\config\pm.cfg'
        imageFileName: 'lamPM.im'
        script: 'PM.script'
        autoStart: false
        forDevelopment: true
        simulated: true
        singlePlaneMotion: false
        oesAddress: '167.191.21.217'
        autoPosition: true
        "color: 'paleGreen'"
        "color: 'salmon'"
        "color: 'darkCyan'"
        "color: 'royalBlue'"
        iconize: true
)
TMCImage: (
        address: '167.191.21.217'
        exists: true
        port: 20005
        label: 'TransferChamber'
        filename: '.\config\TMCImage.cfg'
        imageFileName: 'lamTM.im'
```

C2

SYSCONFIG.txt

```
script: 'TM.script'
autoStart: false
forDevelopment: true
simulated: true
oesAddress: '167.191.21.217'
autoPosition: true
"color: 'paleGreen'"
"color: 'salmon'"
"color: 'darkCyan'"
"color: 'royalBlue'"
iconize: true
)
)
@@-'.-
```

C3

"ConfigOptions.txt"

```
EthernetAddress: '00-0D-60-EF-1D-F5'
ExpirationDate: '08/31/2006'
ModuleLabel: 'TransferChamber'
platform: #Domino3Ports

PDO1: #BrooksV4

#SMIFV1"
PDO2: #BrooksV4

#SMIFV1"
PDO3: #BrooksV4

#SMIFV1"
AGV: #Not_Installed

PGV: #Not_Installed

TagReader1: #Hermos

#AdvanTagOnly #Asyst8400SmartTagOnly #AdvanTagAnd8400SmartTag #KeyenceBL600"
TagReader2: #Hermos

#AdvanTagOnly #Asyst8400SmartTagOnly #AdvanTagAnd8400SmartTag #KeyenceBL600"
TagReader3: #Hermos

#AdvanTagOnly #Asyst8400SmartTagOnly #AdvanTagAnd8400SmartTag #KeyenceBL600"
SlotValveAL1: #SlotValveV3

SlotValveAL2: #SlotValveV3

SlotValvePM1: #SlotValveV3

SlotValvePM2: #SlotValveV3

SlotValvePM3: #SlotValveV3

SlotValvePM4: #SlotValveV3

CoverWaferStnLocation: #Not_Installed

#AtWaferBufferStation2 #AtCoolStationAL1_4Slots #AtCoolStationAL2_4Slots #AtCoolStationAL1_7Slots
#AtCoolStationAL2_7Slots"
CoolStationAL1: #Installed

CoolStationAL2: #Installed
```

ConfigOptions.txt

1102

```
"platform: #Domino3Ports #Domino #Domino3PortsExtended"

"PDO1: #BrooksV4 #BrooksV3 #BrooksV2 #ErgoPDO #ErgoPDOV1 #ERGO200 #SMIF

"PDO2: #BrooksV4 #BrooksV3 #BrooksV2 #ErgoPDO #ErgoPDOV1 #ERGO200 #SMIF

"PDO3: #BrooksV4 #BrooksV3 #BrooksV2 #ErgoPDO #ErgoPDOV1 #ERGO200 #SMIF

"AGV: #Not_Installed #AGVHWInstalled"

"PGV: #Not_Installed #AGVHWInstalled"

"TagReader1: #Hermos #HermosRS232 #OmronV700HMD11 #OmronV700HMD13
#AdvanTagOnly #Asyst8400SmartTagOnly #AdvanTagAnd8400SmartTag #KeyenceBL600"

"TagReader2: #Hermos #HermosRS232 #OmronV700HMD11 #OmronV700HMD13
#AdvanTagOnly #Asyst8400SmartTagOnly #AdvanTagAnd8400SmartTag #KeyenceBL600"

"TagReader3: #Hermos #HermosRS232 #OmronV700HMD11 #OmronV700HMD13
#AdvanTagOnly #Asyst8400SmartTagOnly #AdvanTagAnd8400SmartTag #KeyenceBL600"

"SlotValveAL1: #SlotValveV3 #SlotValveV2 #SlotValveV1 #Simulated"

"SlotValveAL2: #SlotValveV3 #SlotValveV2 #SlotValveV1 #Simulated"

"SlotValvePM1: #SlotValveV3 #SlotValveV2 #SlotValveV1 #Simulated"

"SlotValvePM2: #SlotValveV3 #SlotValveV2 #SlotValveV1 #Simulated"

"SlotValvePM3: #SlotValveV3 #SlotValveV2 #SlotValveV1 #Simulated"

"SlotValvePM4: #SlotValveV3 #SlotValveV2 #SlotValveV1 #Simulated"

"CoverWaferStnLocation: #Not_Installed #AtWaferBufferStation1
#AtCoolStationAL1_4Slots #AtCoolStationAL2_4Slots #AtCoolStationAL1_7Slots

"CoolStationAL1: #Not_Installed #Installed #Installed7Slots"
```

附表 D

BufferStation: #Buffer1By25

MetrologyICD: #Nova_ICD

#Copper_ICD"
OCRBoardType: #None

EnhancedTput: #Installed

LonWorkType: #PCLTA

Ionizer_Installed: false

MaxSlotNumber1: #wafer25

MaxSlotNumber2: #wafer25

MaxSlotNumber3: #wafer25

Aligner: #Installed

SensorBox1: #Not_Installed

DualLight: #Simulated
RockerSlotValves: #Installed
DualSlotValveOperatingInPMSideOnly: false
TargetID: #TargetID10A
@@i1§!

ConfigOptions.txt

"CoolStationAL2: #Not_Installed #Installed #Installed7Slots"

"BufferStation: #Not_Installed #Buffer1By25 #Buffer2By25"

"MetrologyICD: #Not_Installed #Nova_ICD #KLA_ICD #KLA_ICDSpectra

"OCRBoardType: #None #Cognex1700 #Cognex8100"

"EnhancedTput: #Not_Installed #Installed"

"LonWorkType: #PCLTA #iLon600"

"Ionizer_Installed: false true"

"MaxSlotNumber1: #Wafer25 #Wafer26"

"MaxSlotNumber2: #Wafer25 #Wafer26"

"MaxSlotNumber3: #Wafer25 #Wafer26"

"Aligner: #Installed #Not_Installed"

"SensorBox1: #Not_Installed #Installed"

D2

```
TMCImage.cfg.print

#alarmIDsFilename -> '.\config\TMCImageAlarmIDs.txt'
#eventIDsFilename -> '.\config\TMCImageEventIDs.txt'
#swVersion -> 'CW2.0Beta2'
#type -> #LamEmbeddedImage
#updateBy -> 'unknown user'
#updateDateTime -> 'January 6, 2005, 1:08:44 pm'
#variableIDsFilename -> '.\config\TMCImageVarIDs.txt'
#alarmHandlers
  #TMCImage
    #alarmBase -> 18
    #eventBase -> 83
    #name -> #TMCAlarmHandler
    #partners -> #()
    #type -> #LamAlarmHandler
#boards
  #filename -> './config/TMCImageBoards.cfg'
  #templateKey -> #LamConfigMaker
#bufferResources
  #options
    #Platform
      #defaultOption -> #Domino3Ports
      #Domino
        #CoverWaferStation
          #filename -> './config/CoverWaferStation1_V1.cfg'
          #templateKey -> #LamConfigMaker
      #Domino3Ports
        #CoverWaferStation
          #filename -> './config/CoverWaferStation1.cfg'
          #templateKey -> #LamConfigMaker
      #Domino3PortsExtended
        #CoverWaferStation
          #filename -> './config/CoverWaferStation1.cfg'
          #templateKey -> #LamConfigMaker
#configVarHandlers
  #TMCImage
    #name -> #ConfigVarHandler
    #type -> #ConfigVarHandler
#eventHandlers
  #TMCImage
    #name -> #TMCEventHandler
    #postPartners -> #(#CTCEventHandler)
    #queryPartners -> #()
    #type -> #LamEventHandler
#gasInterlockHandlers
  #TMCImage
    #name -> #TMCGasInterlockHandler
    #type -> #LamGasInterlockHandler
#lonWorks
  #interface
    #exists -> true
    #hbPollingTime -> 100
    #hbPulse -> 2000
    #name -> #LonNetworkInterface
    #nvPollingTime -> 15
    #priority -> 80
    #simulationType -> #SimulateNotExist
    #type -> #LonWinNetworkInterface
    #device
      #type -> #LonWinNetworkDriverInterface
    #hostNodes
      #NIFNode1
        #deviceName -> 'LON1'
        #domainIndex0 -> 0
        #domainIndex1 -> 1
        #domainLength0 -> 0
        #domainLength1 -> 1
        #domainNum0 -> 0
```

附表 E

```
TMCImage.cfg.print

        #domainNum1 -> 1
        #hostNodeNum -> 126
        #subnetNum -> 7
        #options
          #LonWorkType
            #defaultOption -> #PCLTA
            #iLon600
              #deviceName -> 'X.Default.LON1'
            #PCLTA
              #deviceName -> 'LON1'
#machineServices
  #level2
    #SEMIE39Handlers
      #TMCImage
        #image -> #TMCImage
        #name -> #E39Handler
        #SEMIE39MachineHandlerName -> #HostImageE39Handler
        #type -> #LamSEMIE39EmbeddedHandler
  #level3
    #SEMIE90Handlers
      #TMCImage
        #image -> #TMCImage
        #name -> #SEMIE90SubstLocationHandler
        #type -> #LamSEMIE90SubstLocationHandler
#newsServices
  #TMCImage
    #type -> #LamNewsServiceConfigurer
    #defaultNewsService
      #name -> #TMCNewsService
      #proxyTimeout -> 0
      #serverNames -> #(#CTCNewsService)
      #type -> #LamNewsService
#portResources
  #Port3
    #Platform
      #defaultOption -> #Domino3Ports
      #Domino
      #Domino3Ports
        #Port3
          #filename -> './config/Port3.cfg'
          #templateKey -> #LamConfigMaker
      #Domino3PortsExtended
        #Port3
          #filename -> './config/Port3.cfg'
          #templateKey -> #LamConfigMaker
  #Port1
    #filename -> './config/Port1.cfg'
    #templateKey -> #LamConfigMaker
  #Port2
    #filename -> './config/Port2.cfg'
    #templateKey -> #LamConfigMaker
#processResources
  #AirLock1
    #filename -> './config/AirLock1.cfg'
    #templateKey -> #LamConfigMaker
  #AirLock2
    #filename -> './config/AirLock2.cfg'
    #templateKey -> #LamConfigMaker
  #CoolStationAL1
    #filename -> './config/CoolStationAL1.cfg'
    #templateKey -> #LamConfigMaker
  #CoolStationAL2
    #filename -> './config/CoolStationAL2.cfg'
    #templateKey -> #LamConfigMaker
  #options
    #Platform
      #defaultOption -> #Domino3Ports
      #Domino
```

E2

```
TMCImage.cfg.print

      #Domino3Ports
        #MetrologyICD
          #filename -> './config/MetrologyICD.cfg'
          #templateKey -> #LamConfigMaker
      #Domino3PortsExtended
        #APM1
          #filename -> './config/pnp/APM1.cfg'
          #templateKey -> #LamConfigMaker
        #APM1_2
          #filename -> './config/pnp/APM1_2.cfg'
          #templateKey -> #LamConfigMaker
        #APM2
          #filename -> './config/pnp/APM2.cfg'
          #templateKey -> #LamConfigMaker
        #APM3
          #filename -> './config/pnp/APM3.cfg'
          #templateKey -> #LamConfigMaker
        #APM3_4
          #filename -> './config/pnp/APM3_4.cfg'
          #templateKey -> #LamConfigMaker
        #APM4
          #filename -> './config/pnp/APM4.cfg'
          #templateKey -> #LamConfigMaker
        #MetrologyICD
          #filename -> './config/MetrologyICD.cfg'
          #templateKey -> #LamConfigMaker
#transportResources
  #options
    #Platform
      #defaultOption -> #Domino3Ports
      #Domino
        #filename -> './config/TMCImageTMResD2Port.cfg'
        #templateKey -> #LamConfigMaker
      #Domino3Ports
        #filename -> './config/TMCImageTMResD3Port.cfg'
        #templateKey -> #LamConfigMaker
      #Domino3PortsExtended
        #filename -> './config/TMCImageTMResD3PortExt.cfg'
        #templateKey -> #LamConfigMaker
#variableHandlers
  #TMCImage
    #name -> #TMCVariableHandler
    #queryPartners -> #()
    #type -> #LamVariableHandler
```

E3

TMCImageTMResD3Port.cfg.print

```
#updateBy -> 'Sherry Gu'
#updateDateTime -> 'December 20, 2004, 2:51:10 pm'
#AtmArm
  #alarmBase -> 148
  #calibrationDirname -> 'config'
  #calibrationFilename -> 'atmcalibration3Port.cfg'
  #eventBase -> 512
  #image -> 'TMCImage'
  #initialEnvironment -> #Atmosphere
  #initialFacingValue -> #Port1
  #name -> #AtmArm
  #numberOfDaysToKeepFolders -> 30
  #numberOfTMLs -> 1
  #ocrRotateMultiplyFactor -> 100
  #repType -> #LamATMRepresentative
  #type -> #AtmosphericTransportResourceFA
  #variableBase -> 262
  #HX24DataLogger
    #filename -> './config/HX24DataLogger.cfg'
    #templateKey -> #LamConfigMaker
  #configVariableInitialization
    #AccessModeViolationChangeToOutOfService
      #alias -> #AccessModeViolationChangeToOutOfService
      #value -> false
    #AirLock1PostPosition
      #alias -> #AirLock1PostPosition
      #value -> 69.0
    #AirLock1PostPositionIncrement
      #alias -> #AirLock1PostPositionIncrement
      #value -> 0.0
    #AirLock1PostPositionIncrementRange
      #alias -> #AirLock1PostPositionIncrementRange
      #value -> 330.0
    #AirLock1PostPositionIncrementStartAngle
      #alias -> #AirLock1PostPositionIncrementStartAngle
      #value -> 64.0
    #AirLock2PostPosition
      #alias -> #AirLock2PostPosition
      #value -> 279.0
    #AirLock2PostPositionIncrement
      #alias -> #AirLock2PostPositionIncrement
      #value -> 0.0
    #AirLock2PostPositionIncrementRange
      #alias -> #AirLock2PostPositionIncrementRange
      #value -> 330.0
    #AirLock2PostPositionIncrementStartAngle
      #alias -> #AirLock2PostPositionIncrementStartAngle
      #value -> 274.0
    #AirLockPlaceR_Offset
      #alias -> #DynamicAlignmentR_PlaceOffset
      #value -> 0
    #AirLockPlaceT_Offset
      #alias -> #DynamicAlignmentT_PlaceOffset
      #value -> 0
    #AllowInitAPMsWhenInitializeAll
      #alias -> #AllowInitAPMsWhenInitializeAll
      #value -> true
    #AllowInitMetrologyWhenInitializeAll
      #alias -> #AllowInitMetrologyWhenInitializeAll
      #value -> true
    #AllowLoadUnloadErrorToContinueAGVOperation
      #alias -> #AllowLoadUnloadErrorToContinueAGVOperation
      #value -> 0
    #AllowStartUnderRemoteMode
      #alias -> #AllowStartUnderRemoteMode
      #value -> true
    #DisablePostPosition
```

附表 F

```
TMCImageTMResD3Port.cfg.print

    #alias -> #DisableAlignerPostPosition
    #value -> false
  #DisableRescan
    #alias -> #DisableAlignerRescan
    #value -> true
  #E84CheckForClampStateWhenPodAbsent
    #alias -> #E84CheckForClampStateWhenPodAbsent
    #value -> false
  #E84SetToManualWhenInitAll
    #alias -> #E84SetToManualWhenInitAll
    #value -> false
  #E87BypassReadIDGlobal
    #alias -> #E87BypassReadIDGlobal
    #value -> false
  #E87CarrierIDNoStateToWaitingForHost
    #alias -> #E87CarrierIDNoStateToWaitingForHost
    #value -> false
  #E87CarrierReleaseTimeout
    #alias -> #E87CarrierReleaseTimeout
    #value -> 45
  #E87ClampFirstAndThenReadTagUnderManualMode
    #alias -> #E87ClampFirstAndThenReadTagUnderManualMode
    #value -> false
  #E87EquipBasedCarrierIDNotMatchGoNoState
    #alias -> #E87EquipBasedCarrierIDNotMatchGoNoState
    #value -> false
  #E87ExeBindWaitTimeAfterAGVPodPresent
    #alias -> #E87ExeBindWaitTimeAfterAGVPodPresent
    #value -> 3
  #E87GotoReadyToUnloadWithShuttleOut
    #alias -> #E87GotoReadyToUnloadWithShuttleOut
    #value -> false
  #E87SlotMapWaitingForHostToSlotMapVerificationFail
    #alias -> #E87SlotMapWaitingForHostToSlotMapVerificationFail
    #value -> false
  #EnableOfflineMetrologyCapability
    #alias -> #EnableOfflineMetrologyCapability
    #value -> false
  #EnableOfflineMetrologyFileDeletionPolicy
    #alias -> #EnableOfflineMetrologyFileDeletionPolicy
    #value -> false
  #EnablePostAlignmentPositionIncrement
    #alias -> #EnablePostAlignmentPositionIncrement
    #value -> false
  #EnableS6F71SiteBySiteDataSend
    #alias -> #EnableS6F71SiteBySiteDataSend
    #value -> false
  #FiducialType
    #alias -> #FiducialType
    #value -> #NTCH
  #LightCurtainWorkWithPIOBit6
    #alias -> #LightCurtainWorkWithPIOBit6
    #value -> false
  #MetrologyPostPosition
    #alias -> #MetrologyPostPosition
    #value -> 180.0
  #MismatchCarrierIDChangeTagStateToError
    #alias -> #MismatchCarrierIDChangeTagStateToError
    #value -> false
  #OABSwitchTimeout
    #alias -> #OABSwitchTimeout
    #value -> 45
  #OCRAngleToRotateBack
    #alias -> #OcrAngleToRotateBack
    #value -> 0
  #OCRDebugMode
    #alias -> #OcrDebugMode
    #value -> false
```

F2

```
TMCImageTMResD3Port.cfg.print

    #OCREnabled
      #alias -> #OCR_Enabled
      #comment -> 'By default OCR is not installed or Enabled'
      #value -> false
    #OCRErrorBypass
      #alias -> #OcrErrorBypass
      #value -> 1
    #OCRNumberOfRetriesFor_SEMI_M14
      #alias -> #OcrNumberOfRetriesFor_SEMI_M14
      #comment -> 'Set the number of retries for read operation'
      #value -> 5
    #OCRNumberOfRetriesFor_SEMI_T7
      #alias -> #OcrNumberOfRetriesFor_SEMI_T7
      #comment -> 'Set the number of retries for read operation'
      #value -> 8
    #OCROffsetAngle
      #alias -> #OcrWaferRotateAngle
      #value -> 900
    #OCRPlaceToCenterAlign
      #alias -> #OCRPlaceToCenterAlign
      #comment -> 'The default option is 0 for No second align prior to
      rotating the OCR angle'
      #value -> 0
    #OCRScoreLimitFor_SEMI_M14
      #alias -> #OcrScoreLimit_SEMI_M14
      #value -> 70
    #OCRTypeOfReadOption
      #alias -> #OcrSelectReadOptionType
      #comment -> 'Perform 0=M14, 1=T7 or 2 = BOTH, for 1700 units - this is
      no longer necessary '
      #value -> 0
    #OCRVerifyCyclingTest
      #alias -> #OcrVerifyCyclingTestEnabled
      #comment -> 'This flag is used to cycle the wafers out form the loadlock
      to the aligner and then return to the loadlock again - SHOULD BE USED
      WITH EXTREME CAUTION!'
      #value -> false
    #OfflineMetrologyDirectory
      #alias -> #OfflineMetrologyDirectory
      #value -> '\'
    #OfflineMetrologyDrive
      #alias -> #OfflineMetrologyDrive
      #value -> #K:
    #OfflineMetrologyFilePreservationDays
      #alias -> #OfflineMetrologyFilePreservationDays
      #value -> 90
    #OfflineMetrologyType
      #alias -> #OfflineMetrologyType
      #value -> #File
    #PostAlignerPositionIncrement
      #alias -> #PostAlignerPositionIncrement
      #value -> 30.0
    #PostAlignerPositionIncrementRange1
      #alias -> #PostAlignerPositionIncrementRange1
      #value -> 30.0
    #PostAlignerPositionIncrementRange2
      #alias -> #PostAlignerPositionIncrementRange2
      #value -> 330.0
    #PrJobRecipeNameFullPathSpecial
      #alias -> #PrJobRecipeNameFullPathSpecial
      #value -> false
    #ReadTagPage3And4AfterReadingPage1And2
      #alias -> #E87ReadTagPage3And4AfterReadingPage1And2
      #value -> false
    #RejectS3F17UnderLocalMode
      #alias -> #RejectS3F17UnderLocalMode
      #value -> true
    #SetS3F17ToWorkWithS2F49
```

F3

```
TMCImageTMResD3Port.cfg.print

      #alias -> #SetS3F17ToWorkWithS2P49
      #comment -> 'Use for backward compatibility with earlier implementation
      of S3F17 and S2P49 type of operation'
      #value -> false
    #SkipAlignerBetweenPortAndInLineMetrology
      #alias -> #SkipAlignerBetweenPortAndInLineMetrology
      #value -> false
    #WaferAlignmentDuringLoadingToBuffer
      #alias -> #WaferAlignmentDuringLoadingToBuffer
      #value -> false
  #inligner
    #name -> #LamAcuLigner
    #simulated -> true
    #type -> #LamAcuLigner
    #commandProcessor
      #exists -> true
      #name -> #Aligner
      #timeout -> 20000
      #type -> #LamBCommandProcessor
      #port
        #exists -> true
        #homePosition -> '0000'
        #name -> #SimInligner
        #port -> '/tyIPCCo/09'
        #simulated -> true
        #simulationType -> #SimInligner
        #type -> #SharedSerialPort
  #locations
    #TMLs
      #mutexGroup -> #EE
      #namePrefix -> #EndEffector
      #quantity -> 1
      #rejectedAttributes -> #()
      #requiredAttributes -> #()
      #type -> #CWTransportMaterialLocation
  #metrology
    #name -> #KLAICD
  #neighbors
    #comments -> 'Adding of partners are done in code now based on
    portResources and processResources '
    #partners -> #()
  #resources
    #options
      #Ionizer_Installed
        #Ionizer
          #filename -> './config/pnp/Ionizer.cfg'
          #templateKey -> #LamConfigMaker
  #Rs232OCR
    #filename -> './config/OCR3Ports.cfg'
    #templateKey -> #LamConfigMaker
  #sensorBox1
    #filename -> './config/pnp/sensorBox1.cfg'
    #templateKey -> #LamConfigMaker
  #sensors
    #AirFilterSystemOK
      #activeLogic -> 1
      #boardID -> #LLBoard
      #channelID -> 22
      #name -> #AirFilterSystemOK
      #simulationType -> #LamSimulatedBinarySensor
      #type -> #LamDigitalBoardSensor
      #variableBase -> 888
    #MEV_Fan1RPM
      #alias -> #MEV_Fan1_AI
      #boardID -> #TMBoard2
      #channelID -> 5
      #exists -> true
      #maxRawValue -> 5.0
```

F4

```
THCImageTMResD3Port.cfg.print

      #maxValue -> 5000
      #minRawValue -> 0.0
      #minValue -> 0
      #name -> #MiniEnvironmentFan1RPM
      #rawValueUnitsDesc -> 'RPM'
      #simulationType -> #LamSimulatedAnalogSensor
      #type -> #LamAnalogBoardSensor
      #valueUnitsDesc -> 'RPM'
    #MEV_Fan2RPM
      #alias -> #MEV_Fan2_AI
      #boardID -> #TMBoard2
      #channelID -> 6
      #exists -> true
      #maxRawValue -> 5.0
      #maxValue -> 5000
      #minRawValue -> 0.0
      #minValue -> 0
      #name -> #MiniEnvironmentFan2RPM
      #rawValueUnitsDesc -> 'RPM'
      #simulationType -> #LamSimulatedAnalogSensor
      #type -> #LamAnalogBoardSensor
      #valueUnitsDesc -> 'RPM'
    #options
      #AGV
        #defaultOption -> #Not_Installed
        #AGVHWInstalled
          #AtmPressureLow
            #activeLogic -> 1
            #boardID -> #AGVBoard
            #channelID -> 16
            #name -> #PressureLow
            #simulated -> true
            #simulationType -> #LamSimulatedBinarySensor
            #type -> #LamDigitalBoardSensor
            #variableBase -> 1137
          #AtmPressureOK
            #activeLogic -> 1
            #boardID -> #AGVBoard
            #channelID -> 17
            #name -> #PressureOK
            #simulated -> true
            #simulationType -> #LamSimulatedBinarySensor
            #type -> #LamDigitalBoardSensor
            #variableBase -> 1137
        #Not_Installed
          #AtmPressureLow
            #activeLogic -> 1
            #boardID -> #AGVBoard
            #channelID -> 16
            #name -> #PressureLow
            #simulated -> true
            #simulationType -> #LamSimulatedBinarySensor
            #type -> #LamDigitalBoardSensor
            #variableBase -> 1137
          #AtmPressureOK
            #activeLogic -> 1
            #boardID -> #AGVBoard
            #channelID -> 17
            #name -> #PressureOK
            #simulated -> true
            #simulationType -> #LamSimulatedBinarySensor
            #type -> #LamDigitalBoardSensor
            #variableBase -> 1137
  #transferManager
    #type -> #TransferManager
    #portals
      #sendReceivePortal
        #receivePartners -> #(#AirLock1 #AirLock2 #AtmPrep #Port1 #Port2
```

F5

```
TMCImageTMResD3Port.cfg.print

        #Port3 #CoolStationAL1 #CoolStationAL2 #MetrologyICD
        #CoverWaferStation)
        #sendPartners -> #(#AirLock1 #AirLock2 #AtmPrep #Port1 #Port2 #Port3
        #CoolStationAL1 #CoolStationAL2 #MetrologyICD #CoverWaferStation)
  #transportMaterialLocations
    #group1
      #location1
        #name -> #EndEffector
  #transportMechanism
    #alarmBase -> 165
    #eventBase -> 430
    #exists -> true
    #name -> #TX
    #status -> 'offline'
    #type -> #LamRelianceTransportMechanism
    #variableBase -> 1446
    #actuators
      #ExtendEnableAL1
        #alias -> #ExtendEnableAL1_DO
        #boardID -> #TMBoard2
        #channelID -> 3
        #name -> #ExtendEnableAL1
        #simulationType -> #SimulatedBinaryActuator
        #type -> #LamDigitalBoardActuator
        #customAttributes
          #enumArray -> #(#Off #On)
          #enumBase -> 0
      #ExtendEnableAL2
        #alias -> #ExtendEnableAL2_DO
        #boardID -> #TMBoard2
        #channelID -> 4
        #name -> #ExtendEnableAL2
        #simulationType -> #SimulatedBinaryActuator
        #type -> #LamDigitalBoardActuator
        #customAttributes
          #enumArray -> #(#Off #On)
          #enumBase -> 0
      #robotHoldActuator
        #alias -> #RobotHold_DO
        #boardID -> #SlotValve
        #channelID -> 13
        #name -> #RobotHoldActuator
        #simulated -> true
        #simulationType -> #SimulatedBinaryActuator
        #type -> #LamDigitalBoardActuator
        #customAttributes
          #enumArray -> #(#Off #On)
          #enumBase -> 0
      #robotResetActuator
        #alias -> #RobotReset_DO
        #boardID -> #SlotValve
        #channelID -> 14
        #name -> #RobotResetActuator
        #simulated -> true
        #simulationType -> #SimulatedBinaryActuator
        #type -> #LamDigitalBoardActuator
        #customAttributes
          #enumArray -> #(#Off #On)
          #enumBase -> 0
    #configVariableInitialization
      #DisableExtendedAlign
        #alias -> #DisableExtendedAlign
        #value -> false
    #robotController
      #alarmBase -> 165
      #armNumber -> 1
      #comment -> 'simulationType = SimulatedAqua, type = Reliance'
      #eventBase -> 430
```

F6

```
TMCImageTMResD3Port.cfg.print

        #exists -> true
        #name -> #RelianceRobot
        #type -> #RelianceATMForUI
        #variableBase -> 1446
        #commandProcessor
          #commandDelay -> 1000
          #exists -> true
          #name -> #Robot
          #simulationType -> #SimBCommandProcessor
          #timeout -> 60000
          #type -> #LamBCommandProcessor
          #port
            #baud -> 9600
            #dataBits -> 8
            #exists -> true
            #name -> #SerialPort
            #parity -> #none
            #port -> 'COM6'
            #simulationType -> #SimATMCP
            #stopBits -> 1
            #type -> #SharedSerialPort
        #configVariableInitialization
          #ATMAlignAndPickTime
            #alias -> #ATMAlignAndPickTime
            #value -> 9
          #ATMAlignOCRTime
            #alias -> #ATMAlignOCRTime
            #value -> 4.0
          #ATMPickTime
            #alias -> #ATMPickTime
            #value -> 4.2
          #ATMPlaceTime
            #alias -> #ATMPlaceTime
            #value -> 4.4
          #ATMPlaceToAlignerTime
            #alias -> #ATMPlaceToAlignerTime
            #value -> 3.2
    #waferBufferMechanism
      #controlTaskPeriod -> 1000
      #controlTaskPriority -> 51
      #name -> #WaferBufferStation
      #type -> #LamWaferBufferMechanism
      #options
        #BufferStation
          #defaultOption -> #Not_Installed
          #Buffer1By25
            #maxSlotNumber -> 25
            #maxSlotNumberPerBuffer -> 25
          #Buffer2By25
            #maxSlotNumber -> 50
            #maxSlotNumberPerBuffer -> 25
          #Not_Installed
            #exists -> false
#TransferChamber
  #alarmBase -> 155
  #eventBase -> 414
  #name -> #TransferChamber
  #neighborChambers -> #(#AirLock1 #AirLock2 #PM1 #PM2)
  #numberOfTMLs -> 2
  #repType -> #LamVTMRepresentative
  #statusUpdateIntervalMilliseconds -> 500
  #type -> #LamDominoTransferChamberFA
  #variableBase -> 1025
  #agv
    #filename -> './config/agv/agvif_t.cfg'
    #templateKey -> #LamConfigMaker
  #calibration
    #config
```

F7

```
TMCImageTMResD3Port.cfg.print

      #name -> 'calibration.cfg'
    #dynaAlign
      #name -> 'DACalibration.dat'
    #dynamicAlignment
      #alignmentPartners -> #(#AirLock1 #AirLock2 #PM1 #PM2 #PM3 #PM4)
  #configVariableInitialization
    #AirLock1MaxPressureDifference
      #alias -> #TMAirLock1MaxPressureDifferenceForSlotValveOpen
      #value -> 200
    #AirLock1SlotValvePresent
      #alias -> #TMAirLock1SlotValvePresent
      #value -> true
    #AirLock2MaxPressureDifference
      #alias -> #TMAirLock2MaxPressureDifferenceForSlotValveOpen
      #value -> 200
    #AirLock2SlotValvePresent
      #alias -> #TMAirLock2SlotValvePresent
      #value -> true
    #DAdirectionData
      #alias -> #DynamicAlignmentDirection
      #value -> #retract
    #DApresentAirLock1
      #alias -> #DynamicAlignmentPresentAirLock1
      #value -> true
    #DApresentAirLock2
      #alias -> #DynamicAlignmentPresentAirLock2
      #value -> true
    #DApresentPM1
      #alias -> #DynamicAlignmentPresentPM1
      #value -> true
    #DApresentPM2
      #alias -> #DynamicAlignmentPresentPM2
      #value -> true
    #DApresentPM3
      #alias -> #DynamicAlignmentPresentPM3
      #value -> true
    #DApresentPM4
      #alias -> #DynamicAlignmentPresentPM4
      #value -> true
    #DARadialHardTolerance
      #alias -> #DARadialHardTolerance
      #value -> 4000
    #DARadialSoftTolerance
      #alias -> #DARadialSoftTolerance
      #value -> 2000
    #DAThetaHardTolerance
      #alias -> #DAThetaHardTolerance
      #value -> 300
    #DAThetaSoftTolerance
      #alias -> #DAThetaSoftTolerance
      #value -> 150
    #DisableCDAPressureCheck
      #alias -> #TMDisableCDAPressureCheck
      #value -> false
    #DisableCompensation
      #alias -> #DynamicAlignmentCompensationDisable
      #value -> true
    #DisableCoverSwitchCheck
      #alias -> #TMDisableCoverSwitchCheck
      #value -> false
    #DisableIPXSignalsCheck
      #alias -> #TMDisableIPXSignalsCheck
      #value -> false
    #DisableN2PressureCheck
      #alias -> #TMDisableN2PressureCheck
      #value -> false
    #DisableWaferSensor
      #alias -> #TMDisableWaferSensor
```

F8

```
TMCImageTMResD3Port.cfg.print

      #value -> true
    #EnableDAAirLock1
      #alias -> #EnableDynamicAlignmentAirLock1
      #value -> false
    #EnableDAAirLock2
      #alias -> #EnableDynamicAlignmentAirLock2
      #value -> false
    #EnableDAPlacementTest
      #alias -> #DynamicAlignmentTest
      #value -> false
    #EnableDAPM1
      #alias -> #EnableDynamicAlignmentPM1
      #value -> false
    #EnableDAPM2
      #alias -> #EnableDynamicAlignmentPM2
      #value -> false
    #EnableDAPM3
      #alias -> #EnableDynamicAlignmentPM3
      #value -> false
    #EnableDAPM4
      #alias -> #EnableDynamicAlignmentPM4
      #value -> false
    #PM1MaxPressureDifference
      #alias -> #TMPM1MaxPressureDifferenceForSlotValveOpen
      #value -> 200
    #PM1SlotValvePresent
      #alias -> #TMPM1SlotValvePresent
      #value -> true
    #PM2MaxPressureDifference
      #alias -> #TMPM2MaxPressureDifferenceForSlotValveOpen
      #value -> 200
    #PM2SlotValvePresent
      #alias -> #TMPM2SlotValvePresent
      #value -> true
    #PM3MaxPressureDifference
      #alias -> #TMPM3MaxPressureDifferenceForSlotValveOpen
      #value -> 200
    #PM3SlotValvePresent
      #alias -> #TMPM3SlotValvePresent
      #value -> true
    #PM4MaxPressureDifference
      #alias -> #TMPM4MaxPressureDifferenceForSlotValveOpen
      #value -> 200
    #PM4SlotValvePresent
      #alias -> #TMPM4SlotValvePresent
      #value -> true
    #PressureMonitoredLowerTolerance
      #alias -> #TMPressureMonitoredLowerTolerance
      #value -> 15
    #PressureMonitoredUpperTolerance
      #alias -> #TMPressureMonitoredUpperTolerance
      #value -> 510
    #PumpPurgeCycleNum
      #alias -> #TMPumpPurgeCycleNumber
      #value -> 15
    #TraceDataLogTime
      #alias -> #TMTraceDataLogTime
      #value -> 300
    #UPCSetPoint
      #alias -> #TMUPCSetPoint
      #value -> 90
    #WaferSize
      #alias -> #WaferSize
      #value -> #'300mm'
  #controllableVariableInitialization
    #TraceDataEnable
      #alias -> #TraceDataEnable
      #value -> false
```

F9

TMCImageTMResD3Port.cfg.print

```
#inligner
  #name -> #Lam300Inligner
  #simulated -> true
  #type -> #LamBInligner
  #commandProcessor
    #exists -> true
    #name -> #Aligner
    #timeout -> 20000
    #type -> #LamBCommandProcessor
    #port
      #exists -> true
      #homePosition -> '0000'
      #name -> #SimInligner
      #port -> '/tyIPCCo/09'
      #simulated -> true
      #simulationType -> #SimInligner
      #type -> #SharedSerialPort
#lightTower
  #filename -> '.\config\LightTower3Port.cfg'
  #templateKey -> #CWConfigMaker
#locations
  #TMLs
    #mutexGroup -> #EE
    #namePrefix -> #EndEffector
    #quantity -> 2
    #rejectedAttributes -> #()
    #requiredAttributes -> #()
    #type -> #LamTransportMaterialLocation
#neighbors
  #AirLock1
    #maxPressureDifference -> 200
    #name -> #AirLock1
    #numberHandshakes -> 3
    #slitValve
      #options
        #SlotValveAL1
          #defaultOption -> #SlotValveV1
          #SlotValveV1
            #filename -> './config/slotValve/SlitValveV1AL1.cfg'
            #templateKey -> #LamConfigMaker
          #SlotValveV2
            #filename -> './config/slotValve/SlitValveV2AL1.cfg'
            #templateKey -> #LamConfigMaker
          #SlotValveV3
            #filename -> './config/slotValve/SlitValveV3AL1.cfg'
            #templateKey -> #LamConfigMaker
    #waferSensor
      #activeLogic -> 1
      #alias -> #WaferPresentLeftLL_DI
      #boardID -> #LLBoard
      #channelID -> 0
      #name -> #AirLock1WaferSensor
      #simulationType -> #SimulatedBinarySensor
      #type -> #DigitalBoardSensor
      #variableBase -> 1141
      #customAttributes
        #enumArray -> #(#Off #On)
        #enumBase -> 0
  #AirLock2
    #maxPressureDifference -> 200
    #name -> #AirLock2
    #numberHandshakes -> 3
    #slitValve
      #options
        #SlotValveAL2
          #defaultOption -> #SlotValveV1
          #SlotValveV1
            #filename -> './config/slotValve/SlitValveV1AL2.cfg'
```

F10

```
TMCImageTMResD3Port.cfg.print

            #templateKey -> #LamConfigMaker
          #SlotValveV2
            #filename -> './config/slotValve/SlitValveV2AL2.cfg'
            #templateKey -> #LamConfigMaker
          #SlotValveV3
            #filename -> './config/slotValve/SlitValveV3AL2.cfg'
            #templateKey -> #LamConfigMaker
      #waferSensor
        #activeLogic -> 1
        #alias -> #WaferPresentRightLL_DI
        #boardID -> #LLBoard
        #channelID -> 2
        #name -> #AirLock2WaferSensor
        #simulationType -> #SimulatedBinarySensor
        #type -> #DigitalBoardSensor
        #variableBase -> 1141
        #customAttributes
          #enumArray -> #(#Off #On)
          #enumBase -> 0
    #PM1
      #maxPressureDifference -> 200
      #name -> #PM1
      #numberHandshakes -> 3
      #slitValve
        #options
          #SlotValvePM1
            #defaultOption -> #SlotValveV2
            #Simulated
              #filename -> './config/slotValve/SlitValveV1PM1.cfg'
              #templateKey -> #LamConfigMaker
            #SlotValveV1
              #filename -> './config/slotValve/SlitValveV1PM1.cfg'
              #templateKey -> #LamConfigMaker
            #SlotValveV2
              #filename -> './config/slotValve/SlitValveV2PM1.cfg'
              #templateKey -> #LamConfigMaker
            #SlotValveV3
              #filename -> './config/slotValve/SlitValveV3PM1.cfg'
              #templateKey -> #LamConfigMaker
      #waferSensor
        #activeLogic -> 1
        #alias -> #WaferPresentPM1_DI
        #boardID -> #LLBoard
        #channelID -> 4
        #name -> #PM1WaferSensor
        #simulationType -> #SimulatedBinarySensor
        #type -> #DigitalBoardSensor
        #variableBase -> 1071
        #customAttributes
          #enumArray -> #(#Off #On)
          #enumBase -> 0
    #PM2
      #maxPressureDifference -> 200
      #name -> #PM2
      #numberHandshakes -> 3
      #slitValve
        #options
          #SlotValvePM2
            #defaultOption -> #SlotValveV2
            #Simulated
              #filename -> './config/slotValve/SlitValveV1PM2.cfg'
              #templateKey -> #LamConfigMaker
            #SlotValveV1
              #filename -> './config/slotValve/SlitValveV1PM2.cfg'
              #templateKey -> #LamConfigMaker
            #SlotValveV2
              #filename -> './config/slotValve/SlitValveV2PM2.cfg'
              #templateKey -> #LamConfigMaker
```

F11

```
TMCImageTMResD3Port.cfg.print

            #SlotValveV3
              #filename -> './config/slotValve/SlitValveV3PM2.cfg'
              #templateKey -> #LamConfigMaker
        #waferSensor
          #activeLogic -> 1
          #alias -> #WaferPresentPM2_DI
          #boardID -> #LLBoard
          #channelID -> 5
          #name -> #PM2WaferSensor
          #simulationType -> #SimulatedBinarySensor
          #type -> #DigitalBoardSensor
          #variableBase -> 1071
          #customAttributes
            #enumArray -> #(#Off #On)
            #enumBase -> 0
      #PM3
        #maxPressureDifference -> 200
        #name -> #PM3
        #numberHandshakes -> 3
        #slitValve
          #options
            #SlotValvePM3
              #defaultOption -> #SlotValveV2
              #Simulated
                #filename -> './config/slotValve/SlitValveV1PM3.cfg'
                #templateKey -> #LamConfigMaker
              #SlotValveV1
                #filename -> './config/slotValve/SlitValveV1PM3.cfg'
                #templateKey -> #LamConfigMaker
              #SlotValveV2
                #filename -> './config/slotValve/SlitValveV2PM3.cfg'
                #templateKey -> #LamConfigMaker
              #SlotValveV3
                #filename -> './config/slotValve/SlitValveV3PM3.cfg'
                #templateKey -> #LamConfigMaker
        #waferSensor
          #activeLogic -> 1
          #alias -> #WaferPresentPM3_DI
          #boardID -> #LLBoard
          #channelID -> 6
          #name -> #PM3WaferSensor
          #simulationType -> #SimulatedBinarySensor
          #type -> #DigitalBoardSensor
          #variableBase -> 1071
          #customAttributes
            #enumArray -> #(#Off #On)
            #enumBase -> 0
      #PM4
        #maxPressureDifference -> 200
        #name -> #PM4
        #numberHandshakes -> 3
        #slitValve
          #options
            #SlotValvePM4
              #defaultOption -> #SlotValveV2
              #Simulated
                #filename -> './config/slotValve/SlitValveV1PM4.cfg'
                #templateKey -> #LamConfigMaker
              #SlotValveV1
                #filename -> './config/slotValve/SlitValveV1PM4.cfg'
                #templateKey -> #LamConfigMaker
              #SlotValveV2
                #filename -> './config/slotValve/SlitValveV2PM4.cfg'
                #templateKey -> #LamConfigMaker
              #SlotValveV3
                #filename -> './config/slotValve/SlitValveV3PM4.cfg'
                #templateKey -> #LamConfigMaker
        #waferSensor
```

F12

```
TMCImageTMResD3Port.cfg.print

        #activeLogic -> 1
        #alias -> #WaferPresentPM4_DI
        #boardID -> #LLBoard
        #channelID -> 7
        #name -> #PM4WaferSensor
        #simulationType -> #SimulatedBinarySensor
        #type -> #DigitalBoardSensor
        #variableBase -> 1071
        #customAttributes
          #enumArray -> #(#Off #On)
          #enumBase -> 0
  #pressureControlSetting
    #purge
      #gasName -> #NitrogenPurge
      #lowerTolerance -> 75
      #setpoint -> 90
      #upperTolerance -> 600
  #pressureGasCoordinator
    #filename -> '.\config\TMPGCDomino.cfg'
    #templateKey -> #CWConfigMaker
  #pressureSettings
    #Atmosphere -> 760000
    #Transfer -> 0
    #Vacuum -> 0
  #sensors
    #CDAPressureSwitch_DI
      #activeLogic -> 1
      #alias -> #CDAPressure_DI
      #boardID -> #TMBoard2
      #channelID -> 6
      #name -> #CDAPressure_DI
      #simulationType -> #LamSimulatedBinarySensor
      #type -> #LamDigitalBoardSensor
      #customAttributes
        #enumArray -> #(#Triggered #Not_Triggered)
        #enumBase -> 0
    #CoverSwitches_DI
      #activeLogic -> 1
      #alias -> #CoverSwitch_DI
      #boardID -> #TMBoard2
      #channelID -> 20
      #name -> #CoverSwitches_DI
      #simulationType -> #LamSimulatedBinarySensor
      #type -> #LamDigitalBoardSensor
      #customAttributes
        #enumArray -> #(#Triggered #Not_Triggered)
        #enumBase -> 0
    #N2PressureSwitch_DI
      #activeLogic -> 1
      #alias -> #N2Pressure_DI
      #boardID -> #TMBoard2
      #channelID -> 9
      #name -> #N2Pressure_DI
      #simulationType -> #LamSimulatedBinarySensor
      #type -> #LamDigitalBoardSensor
      #customAttributes
        #enumArray -> #(#Triggered #Not_Triggered)
        #enumBase -> 0
    #WaterDetect1Sensor
      #activeLogic -> 1
      #alias -> #LiquidDetect1_DI
      #boardID -> #Facility
      #channelID -> 15
      #name -> #WaterDetect1Sensor
      #simulated -> true
      #simulationType -> #LamSimulatedBinarySensor
      #type -> #LamDigitalBoardSensor
      #customAttributes
```

F13

```
TMCImageTMResD3Port.cfg.print

        #enumArray -> #(#Triggered #Not_Triggered)
        #enumBase -> 0
    #WaterDetect2Sensor
      #activeLogic -> 1
      #alias -> #LiquidDetect2_DI
      #boardID -> #Facility
      #channelID -> 16
      #name -> #WaterDetect2Sensor
      #simulated -> true
      #simulationType -> #LamSimulatedBinarySensor
      #type -> #LamDigitalBoardSensor
      #customAttributes
        #enumArray -> #(#Triggered #Not_Triggered)
        #enumBase -> 0
  #transferManager
    #type -> #TransferManager
    #portals
      #sendReceivePorts1
        #receivePartners -> #(#AirLock1 #AirLock2 #PM1 #PM2 #PM3 #PM4)
        #sendPartners -> #(#AirLock1 #AirLock2 #PM1 #PM2 #PM3 #PM4)
        #movementManager
          #completedSize -> 0
          #type -> #CWMovementManager
  #transportMaterialLocations
    #group1
      #location1
        #name -> #EndEffector1
      #location2
        #name -> #EndEffector2
  #transportMechanism
    #alarmBase -> 165
    #eventBase -> 430
    #exists -> true
    #name -> #Arm
    #status -> 'offline'
    #type -> #LamMag7TransportMechanism
    #variableBase -> 1446
    #actuators
      #robotEnableActuator
        #alias -> #RobotEnable_DO
        #boardID -> #TMBoard2
        #channelID -> 0
        #name -> #RobotEnableActuator
        #simulationType -> #SimulatedBinaryActuator
        #type -> #LamDigitalBoardActuator
        #customAttributes
          #enumArray -> #(#Off #On)
          #enumBase -> 0
      #robotHoldActuator
        #alias -> #RobotHold_DO
        #boardID -> #SlotValve
        #channelID -> 13
        #name -> #RobotHoldActuator
        #simulated -> true
        #simulationType -> #SimulatedBinaryActuator
        #type -> #LamDigitalBoardActuator
        #customAttributes
          #enumArray -> #(#Off #On)
          #enumBase -> 0
      #robotResetActuator
        #alias -> #RobotReset_DO
        #boardID -> #SlotValve
        #channelID -> 14
        #name -> #RobotResetActuator
        #simulated -> true
        #simulationType -> #SimulatedBinaryActuator
        #type -> #LamDigitalBoardActuator
        #customAttributes
```

F14

```
TMCImageTMResD3Port.cfg.print

          #enumArray -> #(#Off #On)
          #enumBase -> 0
      #calibration
        #name -> #sensorCalibration
        #type -> #SensorCalibration
        #customAttributes
          #enumArray -> #(#Off #On)
          #enumBase -> 0
      #robotController
        #alarmBase -> 165
        #armNumber -> 2
        #comment -> 'simulationType = SimulatedMag7'
        #eventBase -> 430
        #exists -> true
        #name -> #MagRobot
        #type -> #VTMPortUI
        #variableBase -> 1446
        #commandProcessor
          #commandDelay -> 500
          #exists -> true
          #name -> #Robot
          #simulationType -> #SimBCommandProcessor
          #timeout -> 35000
          #type -> #LamBCommandProcessor
          #port
            #baud -> 9600
            #dataBits -> 8
            #exists -> true
            #name -> #SerialPort
            #parity -> #none
            #port -> 'COM7'
            #simulationType -> #SimVTMCP
            #stopBits -> 1
            #type -> #SharedSerialPort
        #configVariableInitialization
          #VTMExtendTime
            #alias -> #VTMExtendTime
            #value -> 2.2
          #VTMPickTime
            #alias -> #VTMPickTime
            #value -> 4.3
          #VTMPlaceTime
            #alias -> #VTMPlaceTime
            #value -> 3.9
          #VTMRetractTime
            #alias -> #VTMRetractTime
            #value -> 2.2
          #VTMRotateTime
            #alias -> #VTMRotateTime
            #value -> 2.3
```

F15

```
TMCImageTMResD2Port.cfg.print


#updateBy -> 'Sherry Gu'
#updateDateTime -> 'December 20, 2004, 2:51:53 pm'
#AtmArm
  #alarmBase -> 148
  #calibrationDirname -> 'config'
  #calibrationFilename -> 'atmcalibration.cfg'
  #eventBase -> 512
  #image -> 'TMCImage'
  #initialEnvironment -> #Atmosphere
  #initialPacingValue -> #Port1
  #name -> #AtmArm
  #numberOfTMLs -> 1
  #ocrRotateMultiplyFactor -> 1
  #repType -> #LamATMRepresentative
  #type -> #AtmosphericTransportResourceFA
  #variableBase -> 262
  #configVariableInitialization
    #AccessModeViolationChangeToOutOfService
      #alias -> #AccessModeViolationChangeToOutOfService
      #value -> false
    #AirLock1PostPosition
      #alias -> #AirLock1PostPosition
      #value -> 69.0
    #AirLock1PostPositionIncrement
      #alias -> #AirLock1PostPositionIncrement
      #value -> 0.0
    #AirLock1PostPositionIncrementRange
      #alias -> #AirLock1PostPositionIncrementRange
      #value -> 330.0
    #AirLock1PostPositionIncrementStartAngle
      #alias -> #AirLock1PostPositionIncrementStartAngle
      #value -> 64.0
    #AirLock2PostPosition
      #alias -> #AirLock2PostPosition
      #value -> 279.0
    #AirLock2PostPositionIncrement
      #alias -> #AirLock2PostPositionIncrement
      #value -> 0.0
    #AirLock2PostPositionIncrementRange
      #alias -> #AirLock2PostPositionIncrementRange
      #value -> 330.0
    #AirLock2PostPositionIncrementStartAngle
      #alias -> #AirLock2PostPositionIncrementStartAngle
      #value -> 274.0
    #AirLockPlaceR_Offset
      #alias -> #DynamicAlignmentR_PlaceOffset
      #value -> 0
    #AirLockPlaceT_Offset
      #alias -> #DynamicAlignmentT_PlaceOffset
      #value -> 0
    #AllowInitAPMsWhenInitializeAll
      #alias -> #AllowInitAPMsWhenInitializeAll
      #value -> true
    #AllowLoadUnloadErrorToContinueAGVOperation
      #alias -> #AllowLoadUnloadErrorToContinueAGVOperation
      #value -> 0
    #AllowStartUnderRemoteMode
      #alias -> #AllowStartUnderRemoteMode
      #value -> true
    #DisablePostPosition
      #alias -> #DisableAlignerPostPosition
      #value -> false
    #DisableRescan
      #alias -> #DisableAlignerRescan
      #value -> true
    #E84CheckForClampStateWhenPodAbsent
      #alias -> #E84CheckForClampStateWhenPodAbsent
```

附表 G

```
TMCImageTMResD2Port.cfg.print

    #value -> false
  #E84SetToManualWhenInitAll
    #alias -> #E84SetToManualWhenInitAll
    #value -> false
  #E87BypassReadIDGlobal
    #alias -> #E87BypassReadIDGlobal
    #value -> false
  #E87CarrierIDNoStateToWaitingForHost
    #alias -> #E87CarrierIDNoStateToWaitingForHost
    #value -> false
  #E87CarrierReleaseTimeout
    #alias -> #E87CarrierReleaseTimeout
    #value -> 45
  #E87ClampFirstAndThenReadTagUnderManualMode
    #alias -> #E87ClampFirstAndThenReadTagUnderManualMode
    #value -> false
  #E87EquipBasedCarrierIDNotMatchGoNoState
    #alias -> #E87EquipBasedCarrierIDNotMatchGoNoState
    #value -> false
  #E87ExeBindWaitTimeAfterAGVPodPresent
    #alias -> #E87ExeBindWaitTimeAfterAGVPodPresent
    #value -> 3
  #E87GotoReadyToUnloadWithShuttleOut
    #alias -> #E87GotoReadyToUnloadWithShuttleOut
    #value -> false
  #E87SlotMapWaitingForHostToSlotMapVerificationFail
    #alias -> #E87SlotMapWaitingForHostToSlotMapVerificationFail
    #value -> false
  #EnableOfflineMetrologyCapability
    #alias -> #EnableOfflineMetrologyCapability
    #value -> false
  #EnableOfflineMetrologyFileDeletionPolicy
    #alias -> #EnableOfflineMetrologyFileDeletionPolicy
    #value -> false
  #EnablePostAlignmentPositionIncrement
    #alias -> #EnablePostAlignmentPositionIncrement
    #value -> false
  #EnableS6F71SiteBySiteDataSend
    #alias -> #EnableS6F71SiteBySiteDataSend
    #value -> false
  #FiducialType
    #alias -> #FiducialType
    #value -> #NTCH
  #LightCurtainWorkWithPIOBit6
    #alias -> #LightCurtainWorkWithPIOBit6
    #value -> false
  #MismatchCarrierIDChangeTagStateToError
    #alias -> #MismatchCarrierIDChangeTagStateToError
    #value -> false
  #OABSwitchTimeout
    #alias -> #OABSwitchTimeout
    #value -> 45
  #OCRAngleToRotateBack
    #alias -> #OcrAngleToRotateBack
    #value -> 0
  #OCRDebugMode
    #alias -> #OcrDebugMode
    #value -> false
  #OCREnabled
    #alias -> #OCR_Enabled
    #comment -> 'By default OCR is not installed or Enabled'
    #value -> false
  #OCRErrorBypass
    #alias -> #OcrErrorBypass
    #value -> 1
  #OCRNumberOfRetriesFor_SEMI_M14
    #alias -> #OcrNumberOfRetriesFor_SEMI_M14
    #comment -> 'Set the number of retries for read operation'
```

G2

```
TMCImageTMResD2Port.cfg.print

      #value -> 5
    #OCRNumberOfRetriesFor_SEMI_T7
      #alias -> #OcrNumberOfRetriesFor_SEMI_T7
      #comment -> 'Set the number of retries for read operation'
      #value -> 8
    #OCROffsetAngle
      #alias -> #OcrWaferRotateAngle
      #value -> 900
    #OCRPlaceToCenterAlign
      #alias -> #OCRPlaceToCenterAlign
      #comment -> 'The default option is 0 for No second align prior to
      rotating the OCR angle'
      #value -> 0
    #OCRScoreLimitFor_SEMI_M14
      #alias -> #OcrScoreLimit_SEMI_M14
      #value -> 70
    #OCRTypeOfReadOption
      #alias -> #OcrSelectReadOptionType
      #comment -> 'Perform 0=M14, 1=T7 or 2 = BOTH '
      #value -> 0
    #OCRVerifyCyclingTest
      #alias -> #OcrVerifyCyclingTestEnabled
      #comment -> 'This flag is used to cycle the wafers out form the loadlock
      to the aligner and then return to the loadlock again - SHOULD BE USED
      WITH EXTREME CAUTION!'
      #value -> false
    #OfflineMetrologyDirectory
      #alias -> #OfflineMetrologyDirectory
      #value -> '\'
    #OfflineMetrologyDrive
      #alias -> #OfflineMetrologyDrive
      #value -> #K:
    #OfflineMetrologyFilePreservationDays
      #alias -> #OfflineMetrologyFilePreservationDays
      #value -> 90
    #OfflineMetrologyType
      #alias -> #OfflineMetrologyType
      #value -> #File
    #PostAlignerPositionIncrement
      #alias -> #PostAlignerPositionIncrement
      #value -> 30.0
    #PostAlignerPositionIncrementRange1
      #alias -> #PostAlignerPositionIncrementRange1
      #value -> 30.0
    #PostAlignerPositionIncrementRange2
      #alias -> #PostAlignerPositionIncrementRange2
      #value -> 330.0
    #PrJobRecipeNameFullPathSpecial
      #alias -> #PrJobRecipeNameFullPathSpecial
      #value -> false
    #ReadTagPage3And4AfterReadingPage1And2
      #alias -> #E87ReadTagPage3And4AfterReadingPage1And2
      #value -> false
    #RejectS3F17UnderLocalMode
      #alias -> #RejectS3F17UnderLocalMode
      #value -> true
    #SetS3F17ToWorkWithS2F49
      #alias -> #SetS3F17ToWorkWithS2F49
      #comment -> 'Use for backward compatibility with earlier implementation
      of S3F17 and S2F49 type of operation'
      #value -> false
    #WaferAlignmentDuringLoadingToBuffer
      #alias -> #WaferAlignmentDuringLoadingToBuffer
      #value -> false
  #inligner
    #name -> #LamAcuLigner
    #simulated -> true
    #type -> #LamAcuLigner
```

G3

```
TMCImageTMResD2Port.cfg.print

    #commandProcessor
      #exists -> true
      #name -> #Aligner
      #timeout -> 20000
      #type -> #LamBCommandProcessor
      #port
        #exists -> true
        #homePosition -> '0000'
        #name -> #SimInligner
        #port -> '/tyIPCCo/09'
        #simulated -> true
        #simulationType -> #SimInligner
        #type -> #SharedSerialPort
  #locations
    #TMLs
      #mutexGroup -> #EE
      #namePrefix -> #EndEffector
      #quantity -> 1
      #rejectedAttributes -> #()
      #requiredAttributes -> #()
      #type -> #CWTransportMaterialLocation
  #neighbors
    #comments -> 'Adding of partners are done in code now based on
    portResources and processResources '
    #partners -> #()
  #resources
    #options
      #Ionizer_Installed
        #Ionizer
          #filename -> './config/pnp/Ionizer.cfg'
          #templateKey -> #LamConfigMaker
  #Rs232OCR
    #filename -> './config/OCR.cfg'
    #templateKey -> #LamConfigMaker
  #sensorBox1
    #filename -> './config/pnp/sensorBox1.cfg'
    #templateKey -> #LamConfigMaker
  #sensors
    #AirFilterSystemOK
      #activeLogic -> 1
      #boardID -> #LLBoard
      #channelID -> 22
      #name -> #AirFilterSystemOK
      #simulationType -> #LamSimulatedBinarySensor
      #type -> #LamDigitalBoardSensor
      #variableBase -> 888
    #options
      #AGV
        #defaultOption -> #Not_Installed
        #AGVHWInstalled
          #AtmPressureLow
            #activeLogic -> 1
            #boardID -> #AGVBoard
            #channelID -> 16
            #name -> #PressureLow
            #simulationType -> #LamSimulatedBinarySensor
            #type -> #LamDigitalBoardSensor
            #variableBase -> 1137
          #AtmPressureOK
            #activeLogic -> 1
            #boardID -> #AGVBoard
            #channelID -> 17
            #name -> #PressureOK
            #simulationType -> #LamSimulatedBinarySensor
            #type -> #LamDigitalBoardSensor
            #variableBase -> 1137
        #Not_Installed
          #AtmPressureLow
```

G4

```
THCImageTMResD2Port.cfg.print

            #activeLogic -> 1
            #boardID -> #AGVBoard
            #channelID -> 16
            #name -> #PressureLow
            #simulated -> true
            #simulationType -> #LamSimulatedBinarySensor
            #type -> #LamDigitalBoardSensor
            #variableBase -> 1137
          #AtmPressureOK
            #activeLogic -> 1
            #boardID -> #AGVBoard
            #channelID -> 17
            #name -> #PressureOK
            #simulated -> true
            #simulationType -> #LamSimulatedBinarySensor
            #type -> #LamDigitalBoardSensor
            #variableBase -> 1137
  #transferManager
    #type -> #TransferManager
    #portals
      #sendReceivePortal
        #receivePartners -> #(#AirLock1 #AirLock2 #AtmPrep #Port1 #Port2
        #Port3 #CoolStationAL1 #CoolStationAL2 #CoverWaferStation)
        #sendPartners -> #(#AirLock1 #AirLock2 #AtmPrep #Port1 #Port2 #Port3
        #CoolStationAL1 #CoolStationAL2 #CoverWaferStation)
  #transportMaterialLocations
    #group1
      #location1
        #name -> #EndEffector
  #transportMechanism
    #alarmBase -> 165
    #eventBase -> 430
    #exists -> true
    #name -> #TX
    #status -> 'offline'
    #type -> #LamReliance4TransportMechanism
    #variableBase -> 1446
    #actuators
      #ExtendEnableAL1
        #alias -> #ExtendEnableAL1_DO
        #boardID -> #TMBoard2
        #channelID -> 3
        #name -> #ExtendEnableAL1
        #simulationType -> #SimulatedBinaryActuator
        #type -> #LamDigitalBoardActuator
        #customAttributes
          #enumArray -> #(#Off #On)
          #enumBase -> 0
      #ExtendEnableAL2
        #alias -> #ExtendEnableAL2_DO
        #boardID -> #TMBoard2
        #channelID -> 4
        #name -> #ExtendEnableAL2
        #simulationType -> #SimulatedBinaryActuator
        #type -> #LamDigitalBoardActuator
        #customAttributes
          #enumArray -> #(#Off #On)
          #enumBase -> 0
      #robotHoldActuator
        #alias -> #RobotHold_DO
        #boardID -> #SlotValve
        #channelID -> 13
        #name -> #RobotHoldActuator
        #simulated -> true
        #simulationType -> #SimulatedBinaryActuator
        #type -> #LamDigitalBoardActuator
        #customAttributes
          #enumArray -> #(#Off #On)
```

G5

```
TMCImageTMResD2Port.cfg.print

          #enumBase -> 0
        #robotResetActuator
          #alias -> #RobotReset_DO
          #boardID -> #SlotValve
          #channelID -> 14
          #name -> #RobotResetActuator
          #simulated -> true
          #simulationType -> #SimulatedBinaryActuator
          #type -> #LamDigitalBoardActuator
          #customAttributes
            #enumArray -> #(#Off #On)
            #enumBase -> 0
      #configVariableInitialization
        #DisableExtendedAlign
          #alias -> #DisableExtendedAlign
          #value -> false
      #robotController
        #alarmBase -> 165
        #armNumber -> 1
        #comment -> 'simulationType = SimulatedAqua'
        #eventBase -> 430
        #exists -> true
        #name -> #AquaRobot
        #simulationType -> #ATMForUI
        #type -> #ATMForUI
        #variableBase -> 1446
        #commandProcessor
          #commandDelay -> 500
          #exists -> true
          #name -> #Robot
          #simulationType -> #SimBCommandProcessor
          #timeout -> 60000
          #type -> #LamBCommandProcessor
          #port
            #baud -> 9600
            #dataBits -> 8
            #exists -> true
            #name -> #SerialPort
            #parity -> #none
            #port -> 'COM3'
            #simulationType -> #SimATMCP
            #stopBits -> 1
            #type -> #SharedSerialPort
        #configVariableInitialization
          #ATMAlignAndPickTime
            #alias -> #ATMAlignAndPickTime
            #value -> 9
          #ATMAlignOCRTime
            #alias -> #ATMAlignOCRTime
            #value -> 4.0
          #ATMPickTime
            #alias -> #ATMPickTime
            #value -> 4.2
          #ATMPlaceTime
            #alias -> #ATMPlaceTime
            #value -> 4.4
          #ATMPlaceToAlignerTime
            #alias -> #ATMPlaceToAlignerTime
            #value -> 3.2
    #waferBufferMechanism
      #controlTaskPeriod -> 1000
      #controlTaskPriority -> 51
      #name -> #WaferBufferStation
      #type -> #LamWaferBufferMechanism
      #options
        #BufferStation
          #defaultOption -> #Not_Installed
          #Buffer1By25
```

G6

```
TMCImageTMResD2Port.cfg.print

          #maxSlotNumber -> 25
          #maxSlotNumberPerBuffer -> 25
        #Buffer2By7
          #maxSlotNumber -> 14
          #maxSlotNumberPerBuffer -> 7
        #Not_Installed
          #exists -> false
#TransferChamber
  #alarmBase -> 155
  #eventBase -> 414
  #name -> #TransferChamber
  #neighborChambers -> #(#AirLock1 #AirLock2 #PM1 #PM2)
  #numberOfTMLs -> 2
  #repType -> #LamVTMRepresentative
  #statusUpdateIntervalMilliseconds -> 500
  #type -> #LamDominoTransferChamberFA
  #variableBase -> 1025
  #agv
    #filename -> './config/agv/agvif_t.cfg'
    #templateKey -> #LamConfigMaker
  #calibration
    #config
      #name -> 'calibration.cfg'
    #dynaAlign
      #name -> 'DACalibration.dat'
  #configVariableInitialization
    #AirLock1MaxPressureDifference
      #alias -> #TMAirLock1MaxPressureDifferenceForSlotValveOpen
      #value -> 200
    #AirLock1SlotValvePresent
      #alias -> #TMAirLock1SlotValvePresent
      #value -> true
    #AirLock2MaxPressureDifference
      #alias -> #TMAirLock2MaxPressureDifferenceForSlotValveOpen
      #value -> 200
    #AirLock2SlotValvePresent
      #alias -> #TMAirLock2SlotValvePresent
      #value -> true
    #DAdirectionData
      #alias -> #DynamicAlignmentDirection
      #value -> #retract
    #DApresentAirLock1
      #alias -> #DynamicAlignmentPresentAirLock1
      #value -> true
    #DApresentAirLock2
      #alias -> #DynamicAlignmentPresentAirLock2
      #value -> true
    #DApresentPM1
      #alias -> #DynamicAlignmentPresentPM1
      #value -> true
    #DApresentPM2
      #alias -> #DynamicAlignmentPresentPM2
      #value -> true
    #DApresentPM3
      #alias -> #DynamicAlignmentPresentPM3
      #value -> true
    #DApresentPM4
      #alias -> #DynamicAlignmentPresentPM4
      #value -> true
    #DARadialHardTolerance
      #alias -> #DARadialHardTolerance
      #value -> 4000
    #DARadialSoftTolerance
      #alias -> #DARadialSoftTolerance
      #value -> 2000
    #DAThetaHardTolerance
      #alias -> #DAThetaHardTolerance
      #value -> 300
```

G7

```
TMCImageTMResD2Port.cfg.print

    #DAThetaSoftTolerance
      #alias -> #DAThetaSoftTolerance
      #value -> 150
    #DisableCDAPressureCheck
      #alias -> #TMDisableCDAPressureCheck
      #value -> false
    #DisableCompensation
      #alias -> #DynamicAlignmentCompensationDisable
      #value -> true
    #DisableCoverSwitchCheck
      #alias -> #TMDisableCoverSwitchCheck
      #value -> false
    #DisableIPXSignalsCheck
      #alias -> #TMDisableIPXSignalsCheck
      #value -> false
    #DisableN2PressureCheck
      #alias -> #TMDisableN2PressureCheck
      #value -> false
    #DisableWaferSensor
      #alias -> #TMDisableWaferSensor
      #value -> true
    #EnableDAAirLock1
      #alias -> #EnableDynamicAlignmentAirLock1
      #value -> false
    #EnableDAAirLock2
      #alias -> #EnableDynamicAlignmentAirLock2
      #value -> false
    #EnableDAPlacementTest
      #alias -> #DynamicAlignmentTest
      #value -> false
    #EnableDAPM1
      #alias -> #EnableDynamicAlignmentPM1
      #value -> false
    #EnableDAPM2
      #alias -> #EnableDynamicAlignmentPM2
      #value -> false
    #EnableDAPM3
      #alias -> #EnableDynamicAlignmentPM3
      #value -> false
    #EnableDAPM4
      #alias -> #EnableDynamicAlignmentPM4
      #value -> false
    #PM1MaxPressureDifference
      #alias -> #TMPM1MaxPressureDifferenceForSlotValveOpen
      #value -> 200
    #PM1SlotValvePresent
      #alias -> #TMPM1SlotValvePresent
      #value -> true
    #PM2MaxPressureDifference
      #alias -> #TMPM2MaxPressureDifferenceForSlotValveOpen
      #value -> 200
    #PM2SlotValvePresent
      #alias -> #TMPM2SlotValvePresent
      #value -> true
    #PM3MaxPressureDifference
      #alias -> #TMPM3MaxPressureDifferenceForSlotValveOpen
      #value -> 200
    #PM3SlotValvePresent
      #alias -> #TMPM3SlotValvePresent
      #value -> true
    #PM4MaxPressureDifference
      #alias -> #TMPM4MaxPressureDifferenceForSlotValveOpen
      #value -> 200
    #PM4SlotValvePresent
      #alias -> #TMPM4SlotValvePresent
      #value -> true
    #PressureMonitoredLowerTolerance
      #alias -> #TMPressureMonitoredLowerTolerance
```

G8

```
TMCImageTMResD2Port.cfg.print

      #value -> 15
    #PressureMonitoredUpperTolerance
      #alias -> #TMPressureMonitoredUpperTolerance
      #value -> 510
    #PumpPurgeCycleNum
      #alias -> #TMPumpPurgeCycleNumber
      #value -> 15
    #TraceDataLogTime
      #alias -> #TMTraceDataLogTime
      #value -> 300
    #UPCSetPoint
      #alias -> #TMUPCSetPoint
      #value -> 90
    #WaferSize
      #alias -> #WaferSize
      #value -> #'300mm'
  #controllableVariableInitialization
    #TraceDataEnable
      #alias -> #TraceDataEnable
      #value -> false
  #inligner
    #name -> #Lam300Inligner
    #simulated -> true
    #type -> #LamBInligner
    #commandProcessor
      #exists -> true
      #name -> #Aligner
      #timeout -> 20000
      #type -> #LamBCommandProcessor
      #port
        #exists -> true
        #homePosition -> '0000'
        #name -> #SimInligner
        #port -> '/tyIPCCo/09'
        #simulated -> true
        #simulationType -> #SimInligner
        #type -> #SharedSerialPort
  #lightTower
    #filename -> '.\config\LightTower.cfg'
    #templateKey -> #CWConfigMaker
  #locations
    #TMLs
      #mutexGroup -> #EE
      #namePrefix -> #EndEffector
      #quantity -> 2
      #rejectedAttributes -> #()
      #requiredAttributes -> #()
      #type -> #LamTransportMaterialLocation
  #neighbors
    #AirLock1
      #maxPressureDifference -> 200
      #name -> #AirLock1
      #numberHandshakes -> 3
      #slitValve
        #options
          #SlotValveAL1
            #defaultOption -> #SlotValveV1
            #SlotValveV1
              #filename -> './config/slotValve/SlitValveV1AL1.cfg'
              #templateKey -> #LamConfigMaker
            #SlotValveV2
              #filename -> './config/slotValve/SlitValveV2AL1.cfg'
              #templateKey -> #LamConfigMaker
            #SlotValveV3
              #filename -> './config/slotValve/SlitValveV3AL1.cfg'
              #templateKey -> #LamConfigMaker
      #waferSensor
        #activeLogic -> 1
```

G9

```
TMCImageTMResD2Port.cfg.print

        #alias -> #WaferPresentLeftLL_DI
        #boardID -> #LLBoard
        #channelID -> 0
        #name -> #AirLock1WaferSensor
        #simulationType -> #SimulatedBinarySensor
        #type -> #DigitalBoardSensor
        #variableBase -> 1141
        #customAttributes
          #enumArray -> #(#Off #On)
          #enumBase -> 0
      #AirLock2
        #maxPressureDifference -> 200
        #name -> #AirLock2
        #numberHandshakes -> 3
        #slitValve
          #options
            #SlotValveAL2
              #defaultOption -> #SlotValveV1
              #SlotValveV1
                #filename -> './config/slotValve/SlitValveV1AL2.cfg'
                #templateKey -> #LamConfigMaker
              #SlotValveV2
                #filename -> './config/slotValve/SlitValveV2AL2.cfg'
                #templateKey -> #LamConfigMaker
              #SlotValveV3
                #filename -> './config/slotValve/SlitValveV3AL2.cfg'
                #templateKey -> #LamConfigMaker
        #waferSensor
          #activeLogic -> 1
          #alias -> #WaferPresentRightLL_DI
          #boardID -> #LLBoard
          #channelID -> 2
          #name -> #AirLock2WaferSensor
          #simulationType -> #SimulatedBinarySensor
          #type -> #DigitalBoardSensor
          #variableBase -> 1141
          #customAttributes
            #enumArray -> #(#Off #On)
            #enumBase -> 0
      #PM1
        #maxPressureDifference -> 200
        #name -> #PM1
        #numberHandshakes -> 3
        #slitValve
          #options
            #SlotValvePM1
              #defaultOption -> #SlotValveV2
              #Simulated
                #filename -> './config/slotValve/SlitValveV1PM1.cfg'
                #templateKey -> #LamConfigMaker
              #SlotValveV1
                #filename -> './config/slotValve/SlitValveV1PM1.cfg'
                #templateKey -> #LamConfigMaker
              #SlotValveV2
                #filename -> './config/slotValve/SlitValveV2PM1.cfg'
                #templateKey -> #LamConfigMaker
              #SlotValveV3
                #filename -> './config/slotValve/SlitValveV3PM1.cfg'
                #templateKey -> #LamConfigMaker
        #waferSensor
          #activeLogic -> 1
          #alias -> #WaferPresentPM1_DI
          #boardID -> #LLBoard
          #channelID -> 4
          #name -> #PM1WaferSensor
          #simulationType -> #SimulatedBinarySensor
          #type -> #DigitalBoardSensor
          #variableBase -> 1071
```

G10

```
TMCImageTMResD2Port.cfg.print

        #customAttributes
          #enumArray -> #(#Off #On)
          #enumBase -> 0
    #PM2
      #maxPressureDifference -> 200
      #name -> #PM2
      #numberHandshakes -> 3
      #slitValve
        #options
          #SlotValvePM2
            #defaultOption -> #SlotValveV2
            #Simulated
              #filename -> './config/slotValve/SlitValveV1PM2.cfg'
              #templateKey -> #LamConfigMaker
            #SlotValveV1
              #filename -> './config/slotValve/SlitValveV1PM2.cfg'
              #templateKey -> #LamConfigMaker
            #SlotValveV2
              #filename -> './config/slotValve/SlitValveV2PM2.cfg'
              #templateKey -> #LamConfigMaker
            #SlotValveV3
              #filename -> './config/slotValve/SlitValveV3PM2.cfg'
              #templateKey -> #LamConfigMaker
      #waferSensor
        #activeLogic -> 1
        #alias -> #WaferPresentPM2_DI
        #boardID -> #LLBoard
        #channelID -> 5
        #name -> #PM2WaferSensor
        #simulationType -> #SimulatedBinarySensor
        #type -> #DigitalBoardSensor
        #variableBase -> 1071
        #customAttributes
          #enumArray -> #(#Off #On)
          #enumBase -> 0
    #PM3
      #maxPressureDifference -> 200
      #name -> #PM3
      #numberHandshakes -> 3
      #slitValve
        #options
          #SlotValvePM3
            #defaultOption -> #SlotValveV2
            #Simulated
              #filename -> './config/slotValve/SlitValveV1PM3.cfg'
              #templateKey -> #LamConfigMaker
            #SlotValveV1
              #filename -> './config/slotValve/SlitValveV1PM3.cfg'
              #templateKey -> #LamConfigMaker
            #SlotValveV2
              #filename -> './config/slotValve/SlitValveV2PM3.cfg'
              #templateKey -> #LamConfigMaker
            #SlotValveV3
              #filename -> './config/slotValve/SlitValveV3PM3.cfg'
              #templateKey -> #LamConfigMaker
      #waferSensor
        #activeLogic -> 1
        #alias -> #WaferPresentPM3_DI
        #boardID -> #LLBoard
        #channelID -> 6
        #name -> #PM3WaferSensor
        #simulationType -> #SimulatedBinarySensor
        #type -> #DigitalBoardSensor
        #variableBase -> 1071
        #customAttributes
          #enumArray -> #(#Off #On)
          #enumBase -> 0
    #PM4
```

G11

```
TMCImageTMResD2Port.cfg.print

      #maxPressureDifference -> 200
      #name -> #PM4
      #numberHandshakes -> 3
      #slitValve
        #options
          #SlotValvePM4
            #defaultOption -> #SlotValveV2
            #Simulated
              #filename -> './config/slotValve/SlitValveV1PM4.cfg'
              #templateKey -> #LamConfigMaker
            #SlotValveV1
              #filename -> './config/slotValve/SlitValveV1PM4.cfg'
              #templateKey -> #LamConfigMaker
            #SlotValveV2
              #filename -> './config/slotValve/SlitValveV2PM4.cfg'
              #templateKey -> #LamConfigMaker
            #SlotValveV3
              #filename -> './config/slotValve/SlitValveV3PM4.cfg'
              #templateKey -> #LamConfigMaker
      #waferSensor
        #activeLogic -> 1
        #alias -> #WaferPresentPM4_DI
        #boardID -> #LLBoard
        #channelID -> 7
        #name -> #PM4WaferSensor
        #simulationType -> #SimulatedBinarySensor
        #type -> #DigitalBoardSensor
        #variableBase -> 1071
        #customAttributes
          #enumArray -> #(#Off #On)
          #enumBase -> 0
#pressureControlSetting
  #purge
    #gasName -> #NitrogenPurge
    #lowerTolerance -> 75
    #setpoint -> 90
    #upperTolerance -> 600
#pressureGasCoordinator
  #filename -> '.\config\TMPGCDomino.cfg'
  #templateKey -> #CWConfigMaker
#pressureSettings
  #Atmosphere -> 760000
  #Transfer -> 0
  #Vacuum -> 0
#sensors
  #CDAPressureSwitch_DI
    #activeLogic -> 1
    #alias -> #CDAPressure_DI
    #boardID -> #TMBoard2
    #channelID -> 6
    #name -> #CDAPressure_DI
    #simulationType -> #LamSimulatedBinarySensor
    #type -> #LamDigitalBoardSensor
    #customAttributes
      #enumArray -> #(#Triggered #Not_Triggered)
      #enumBase -> 0
 #CoverSwitches_DI
   #activeLogic -> 1
   #alias -> #CoverSwitch_DI
   #boardID -> #TMBoard2
   #channelID -> 20
   #name -> #CoverSwitches_DI
   #simulationType -> #LamSimulatedBinarySensor
   #type -> #LamDigitalBoardSensor
   #customAttributes
     #enumArray -> #(#Triggered #Not_Triggered)
     #enumBase -> 0
#N2PressureSwitch_DI
```

G12

```
TMCImageTMResD2Port.cfg.print

      #activeLogic -> 1
      #alias -> #N2Pressure_DI
      #boardID -> #TMBoard2
      #channelID -> 9
      #name -> #N2Pressure_DI
      #simulationType -> #LamSimulatedBinarySensor
      #type -> #LamDigitalBoardSensor
      #customAttributes
        #enumArray -> #(#Triggered #Not_Triggered)
        #enumBase -> 0
    #WaterDetect1Sensor
      #activeLogic -> 1
      #alias -> #LiquidDetect1_DI
      #boardID -> #Facility
      #channelID -> 15
      #name -> #WaterDetect1Sensor
      #simulated -> true
      #simulationType -> #LamSimulatedBinarySensor
      #type -> #LamDigitalBoardSensor
      #customAttributes
        #enumArray -> #(#Triggered #Not_Triggered)
        #enumBase -> 0
    #WaterDetect2Sensor
      #activeLogic -> 1
      #alias -> #LiquidDetect2_DI
      #boardID -> #Facility
      #channelID -> 16
      #name -> #WaterDetect2Sensor
      #simulated -> true
      #simulationType -> #LamSimulatedBinarySensor
      #type -> #LamDigitalBoardSensor
      #customAttributes
        #enumArray -> #(#Triggered #Not_Triggered)
        #enumBase -> 0
  #transferManager
    #type -> #TransferManager
    #portals
      #sendReceivePortal
        #receivePartners -> #(#AirLock1 #AirLock2 #PM1 #PM2 #PM3 #PM4)
        #sendPartners -> #(#AirLock1 #AirLock2 #PM1 #PM2 #PM3 #PM4)
        #movementManager
          #completedSize -> 0
          #type -> #CWMovementManager
  #transportMaterialLocations
    #group1
      #location1
        #name -> #EndEffector1
      #location2
        #name -> #EndEffector2
  #transportMechanism
    #alarmBase -> 165
    #eventBase -> 430
    #exists -> true
    #name -> #Arm
    #status -> 'offline'
    #type -> #LamMag7TransportMechanism
    #variableBase -> 1446
    #actuators
      #robotEnableActuator
        #alias -> #RobotEnable_DO
        #boardID -> #TMBoard2
        #channelID -> 0
        #name -> #RobotEnableActuator
        #simulationType -> #SimulatedBinaryActuator
        #type -> #LamDigitalBoardActuator
        #customAttributes
          #enumArray -> #(#Off #On)
          #enumBase -> 0
```

G13

```
TMCImageTMResD2Port.cfg.print

      #robotHoldActuator
        #alias -> #RobotHold_DO
        #boardID -> #SlotValve
        #channelID -> 13
        #name -> #RobotHoldActuator
        #simulated -> true
        #simulationType -> #SimulatedBinaryActuator
        #type -> #LamDigitalBoardActuator
        #customAttributes
          #enumArray -> #(#Off #On)
          #enumBase -> 0
      #robotResetActuator
        #alias -> #RobotReset_DO
        #boardID -> #SlotValve
        #channelID -> 14
        #name -> #RobotResetActuator
        #simulated -> true
        #simulationType -> #SimulatedBinaryActuator
        #type -> #LamDigitalBoardActuator
        #customAttributes
          #enumArray -> #(#Off #On)
          #enumBase -> 0
    #calibration
      #name -> #sensorCalibration
      #type -> #SensorCalibration
      #customAttributes
        #enumArray -> #(#Off #On)
        #enumBase -> 0
    #robotController
      #alarmBase -> 165
      #armNumber -> 2
      #comment -> 'simulationType = SimulatedMag7'
      #eventBase -> 430
      #exists -> true
      #name -> #MagRobot
      #type -> #VTMPortUI
      #variableBase -> 1446
      #commandProcessor
        #commandDelay -> 500
        #exists -> true
        #name -> #Robot
        #simulationType -> #SimBCommandProcessor
        #timeout -> 35000
        #type -> #LamBCommandProcessor
        #port
          #baud -> 9600
          #dataBits -> 8
          #exists -> true
          #name -> #SerialPort
          #parity -> #none
          #port -> 'COM7'
          #simulationType -> #SimVTMCP
          #stopBits -> 1
          #type -> #SharedSerialPort
      #configVariableInitialization
        #VTMExtendTime
          #alias -> #VTMExtendTime
          #value -> 2.2
        #VTMPickTime
          #alias -> #VTMPickTime
          #value -> 4.3
        #VTMPlaceTime
          #alias -> #VTMPlaceTime
          #value -> 3.9
        #VTMRetractTime
          #alias -> #VTMRetractTime
          #value -> 2.2
        #VTMRotateTime
```

G14

```
TMCImageTMResD2Port.cfg.print

        #alias -> #VTMRotateTime
        #value -> 2.3
```

G15

pm.cfg.print

```
#alarmIDsFilename -> '.\config\PMAlarmIDs.txt'
#alarmIDsUsingEtchNumbering -> '.\config\PMStripUsingEtchAlarmIDs.txt'
#comment -> 'pm..cfg --> VIOP PM'
#eventIDsFilename -> '.\config\PMEventIDs.txt'
#eventIDsUsingEtchNumbering -> '.\config\PMStripUsingEtchEventIDs.txt'
#swVersion -> 'CW2.0Beta2'
#type -> #LamEmbeddedImage
#updateBy -> 'ControlWORKS Librarian'
#updateDateTime -> 'January 7, 2005, 5:07:16 pm'
#variableIDsFilename -> '.\config\PMVarIDs.txt'
#variableIDsUsingEtchNumbering -> '.\config\PMStripUsingEtchVarIDs.txt'
#alarmHandlers
  #ImageName
    #alarmBase -> 18
    #eventBase -> 83
    #name -> #AlarmHandler
    #type -> #LamAlarmHandler
#boards
  #comment -> '05/10/01 -- Set #maxAckTime = 500 ms, #minUpdateTime = 100 or
  200 ms, #wakeupTime = 100 or 200 ms for all LonWorks nodes.  '
  #maxAckTime_comment -> '#maxAckTime is the timeout before retry.  It used to
  be 2000 ms.  500 ms should be long enough.  '
  #minUpdateTime_comment -> '#minUpdateTime is the minimum time interval for
  borad to update its value.  Default is 50 ms.  100 ms is fast enough for
  faster nodes.  200 ms can be used for less responsive nodes.  '
  #wakeupTime_comment -> '#wakeupTime is the delay between checking the
  incoming message queue.  Default is 7 ms.  That is too fast.  Basically
  board driver just spinning (priority 80) before it receive a message from
  the queue.'
  #AnafazeBoard
    #filename -> '.\config\AnafazeBoard.cfg'
    #templateKey -> #LamConfigMaker
  #IEMSBoard
    #address -> 67
    #boardID -> #IEMSBoard
    #boardMinUpdateTime -> 100
    #deviceName -> 'ltnib'
    #HBNV -> 0
    #hbSize -> 1
    #hbTimeout -> 20
    #maxAckTime -> 500
    #maxInputRawValue -> 10.0
    #maxOutputRawValue -> 10.0
    #minInputRawValue -> -10.0
    #minOutputRawValue -> 0.0
    #minUpdateTime -> 100
    #name -> #IEMSBoard
    #nOutNV -> 11
    #numRetries -> 3
    #priority -> 80
    #resetHBNV -> 3
    #simulationType -> #SimulateNotExist
    #statusNV -> 1
    #totalNV -> 31
    #type -> #LonExtendedADIOBoard
    #wakeupTime -> 100
    #bitmaps
      #bitmap1 -> 255
      #bitmap2 -> 255
    #deadBands
      #db1 -> 64
      #db10 -> 64
      #db11 -> 64
      #db12 -> 64
      #db13 -> 64
      #db14 -> 64
      #db15 -> 64
```

附表 H

```
pm.cfg.print

      #db16 -> 64
      #db2 -> 64
      #db3 -> 64
      #db4 -> 64
      #db5 -> 64
      #db6 -> 64
      #db7 -> 64
      #db8 -> 64
      #db9 -> 64
    #options
      #PmtOption
        #defaultOption -> #None
        #HAPAbatementWithTPU
        #None
          #exists -> false
          #type -> #SimulateNotExist
        #PFCAbatement
        #PFCAbatementWithGRC
        #StandalonePFCAbatement
    #slewRates
      #slewRate1 -> 0
      #slewRate2 -> 0
      #slewRate3 -> 0
      #slewRate4 -> 0
      #slewRate5 -> 0
      #slewRate6 -> 0
      #slewRate7 -> 0
      #slewRate8 -> 0
  #Node_1
    #address -> 1
    #boardID -> #Node_1
    #boardMinUpdateTime -> 100
    #deviceName -> 'ltnib'
    #HBNV -> 0
    #hbSize -> 1
    #hbTimeout -> 20
    #maxAckTime -> 500
    #maxInputRawValue -> 10.0
    #maxOutputRawValue -> 10.0
    #minInputRawValue -> -10.0
    #minOutputRawValue -> 0.0
    #minUpdateTime -> 100
    #name -> #Node_1
    #nOutNV -> 11
    #numRetries -> 3
    #priority -> 80
    #resetHBNV -> 3
    #simulationType -> #SimulateNotExist
    #statusNV -> 1
    #totalNV -> 21
    #type -> #LonWinAnalogBoard
    #wakeupTime -> 100
    #bitmaps
      #bitmap1 -> 255
      #bitmap2 -> 255
    #deadBands
      #db1 -> 16
      #db10 -> 64
      #db11 -> 64
      #db12 -> 64
      #db13 -> 64
      #db14 -> 64
      #db15 -> 64
      #db16 -> 64
      #db2 -> 64
      #db3 -> 64
      #db4 -> 64
      #db5 -> 64
```

H2

```
pm.cfg.print

      #db6 -> 64
      #db7 -> 64
      #db8 -> 64
      #db9 -> 64
    #options
      #ATACFixture
        #ATACBiasMatch
          #simulated -> false
        #ATACDfcTopPlate
          #simulated -> false
        #ATACGasBox
          #simulated -> false
        #ATACTCPMatch
          #simulated -> false
      #NodeBoardOptimizerInstalled
        #EnableNodeBoardOptimizer -> true
    #slewRates
      #slewRate1 -> 0
      #slewRate2 -> 0
      #slewRate3 -> 0
      #slewRate4 -> 0
      #slewRate5 -> 0
      #slewRate6 -> 0
      #slewRate7 -> 0
      #slewRate8 -> 0
  #Node_2
    #address -> 2
    #boardID -> #Node_2
    #boardMinUpdateTime -> 100
    #deviceName -> 'ltnia'
    #HBNV -> 0
    #hbSize -> 1
    #hbTimeout -> 20
    #maxAckTime -> 500
    #maxInputRawValue -> 10.0
    #maxOutputRawValue -> 10.0
    #minInputRawValue -> -10.0
    #minOutputRawValue -> 0.0
    #minUpdateTime -> 100
    #name -> #Node_2
    #nOutNV -> 11
    #numRetries -> 3
    #priority -> 80
    #resetHBNV -> 3
    #simulationType -> #SimulateNotExist
    #statusNV -> 1
    #totalNV -> 21
    #type -> #LonWinAnalogBoard
    #wakeupTime -> 100
    #bitmaps
      #bitmap1 -> 255
      #bitmap2 -> 255
    #deadBands
      #db1 -> 64
      #db10 -> 64
      #db11 -> 64
      #db12 -> 64
      #db13 -> 64
      #db14 -> 64
      #db15 -> 64
      #db16 -> 64
      #db2 -> 64
      #db3 -> 64
      #db4 -> 64
      #db5 -> 64
      #db6 -> 64
      #db7 -> 64
      #db8 -> 64
```

H3

```
pm.cfg.print

      #db9 -> 64
    #options
      #ModuleType
        #defaultOption -> #Poly
        #None
        #Poly
        #Strip
          #options
            #MicrowaveInstalled
              #comment -> 'For Strip chamber, only Microwave Strip has Node 2'
              #optionActiveLogic -> false
              #options
                #PIIS
                  #exists -> false
                  #optionActiveLogic -> false
      #NodeBoardOptimizerInstalled
        #EnableNodeBoardOptimizer -> true
    #slewRates
      #slewRate1 -> 0
      #slewRate2 -> 0
      #slewRate3 -> 0
      #slewRate4 -> 0
      #slewRate5 -> 0
      #slewRate6 -> 0
      #slewRate7 -> 0
      #slewRate8 -> 0
  #Node_3
    #address -> 3
    #boardID -> #Node_3
    #boardMinUpdateTime -> 100
    #deviceName -> 'ltnib'
    #HBNV -> 0
    #hbSize -> 1
    #hbTimeout -> 20
    #maxAckTime -> 500
    #maxInputRawValue -> 10.0
    #maxOutputRawValue -> 10.0
    #minInputRawValue -> -10.0
    #minOutputRawValue -> 0.0
    #minUpdateTime -> 100
    #name -> #Node_3
    #nOutNV -> 11
    #numRetries -> 3
    #priority -> 80
    #resetHBNV -> 3
    #simulationType -> #SimulateNotExist
    #statusNV -> 1
    #totalNV -> 21
    #type -> #LonWinAnalogBoard
    #wakeupTime -> 100
    #bitmaps
      #bitmap1 -> 255
      #bitmap2 -> 255
    #deadBands
      #db1 -> 64
      #db10 -> 64
      #db11 -> 64
      #db12 -> 64
      #db13 -> 64
      #db14 -> 64
      #db15 -> 64
      #db16 -> 64
      #db2 -> 64
      #db3 -> 64
      #db4 -> 64
      #db5 -> 64
      #db6 -> 64
      #db7 -> 64
```

H4

```
pm.cfg.print

      #db8 -> 64
      #db9 -> 64
    #options
      #ATACFixture
        #ATACBiasElectrode
          #simulated -> true
        #ATACDfcBiasElectrode
          #simulated -> true
        #ATACGasBox
          #simulated -> false
      #DSOGasBoxInstalled
        #ioScanRate -> 50
        #totalNV -> 31
        #type -> #LonNode23Board
      #IGSGasBoxInstalled
        #exists -> false
      #ModuleType
        #defaultOption -> #Poly
        #Strip
          #options
            #GasBoxType
              #defaultOption -> #TwelveLines
              #OnBoard
                #exists -> false
      #NodeBoardOptimizerInstalled
        #EnableNodeBoardOptimizer -> true
    #slewRates
      #slewRate1 -> 0
      #slewRate2 -> 0
      #slewRate3 -> 0
      #slewRate4 -> 0
      #slewRate5 -> 0
      #slewRate6 -> 0
      #slewRate7 -> 0
      #slewRate8 -> 0
  #Node_4
    #address -> 4
    #boardID -> #Node_4
    #boardMinUpdateTime -> 100
    #deviceName -> 'ltnia'
    #HBNV -> 0
    #hbSize -> 1
    #hbTimeout -> 20
    #maxAckTime -> 500
    #maxInputRawValue -> 10.0
    #maxOutputRawValue -> 10.0
    #minInputRawValue -> -10.0
    #minOutputRawValue -> 0.0
    #minUpdateTime -> 100
    #name -> #Node_4
    #nOutNV -> 11
    #numRetries -> 3
    #priority -> 80
    #resetHBNV -> 3
    #simulationType -> #SimulateNotExist
    #statusNV -> 1
    #totalNV -> 21
    #type -> #LonWlnAnalogBoard
    #wakeupTime -> 100
    #bitmaps
      #bitmap1 -> 255
      #bitmap2 -> 255
    #deadBands
      #db1 -> 64
      #db10 -> 64
      #db11 -> 64
      #db12 -> 64
      #db13 -> 64
```

H5

```
pm.cfg.print

      #db14 -> 64
      #db15 -> 64
      #db16 -> 64
      #db2 -> 64
      #db3 -> 64
      #db4 -> 64
      #db5 -> 64
      #db6 -> 64
      #db7 -> 64
      #db8 -> 64
      #db9 -> 64
    #options
      #ATACFixture
        #ATACBiasElectrode
          #simulated -> true
        #ATACDfcBiasElectrode
          #simulated -> true
        #ATACGasBox
          #simulated -> false
      #DSOGasBoxInstalled
        #ioScanRate -> 50
        #totalNV -> 31
        #type -> #LonNode23Board
      #IGSGasBoxInstalled
        #exists -> false
      #ModuleType
        #defaultOption -> #Poly
        #Strip
          #options
            #GasBoxType
              #defaultOption -> #TwelveLines
              #OnBoard
                #exists -> false
      #NodeBoardOptimizerInstalled
        #EnableNodeBoardOptimizer -> true
    #slewRates
      #slewRate1 -> 0
      #slewRate2 -> 0
      #slewRate3 -> 0
      #slewRate4 -> 0
      #slewRate5 -> 0
      #slewRate6 -> 0
      #slewRate7 -> 0
      #slewRate8 -> 0
  #Node_96DIO
    #address -> 3
    #boardID -> #Node_96DIO
    #boardMinUpdateTime -> 100
    #deviceName -> 'ltnib'
    #exists -> false
    #HBNV -> 0
    #hbSize -> 1
    #maxAckTime -> 500
    #maxInputRawValue -> 10.0
    #maxOutputRawValue -> 10.0
    #minInputRawValue -> -10.0
    #minOutputRawValue -> 0.0
    #minUpdateTime -> 100
    #name -> #Node_96DIO
    #nOutNV -> 8
    #numRetries -> 3
    #priority -> 80
    #resetHBNV -> 3
    #simulationType -> #SimulateNotExist
    #statusNV -> 1
    #totalNV -> 46
    #type -> #LonNode96DIOBoard
    #wakeupTime -> 100
```

H6

```
pm.cfg.print

    #bitmaps
      #bitmap1 -> 255
      #bitmap2 -> 255
    #chEnable
      #ch1 -> 1
      #ch10 -> 1
      #ch11 -> 1
      #ch12 -> 1
      #ch13 -> 1
      #ch14 -> 1
      #ch15 -> 1
      #ch16 -> 1
      #ch17 -> 1
      #ch18 -> 1
      #ch19 -> 1
      #ch2 -> 1
      #ch20 -> 1
      #ch21 -> 1
      #ch22 -> 1
      #ch23 -> 1
      #ch24 -> 1
      #ch3 -> 1
      #ch4 -> 1
      #ch5 -> 1
      #ch6 -> 1
      #ch7 -> 1
      #ch8 -> 1
      #ch9 -> 1
    #deadBands
      #db1 -> 64
      #db10 -> 64
      #db11 -> 64
      #db12 -> 64
      #db13 -> 64
      #db14 -> 64
      #db15 -> 64
      #db16 -> 64
      #db17 -> 64
      #db18 -> 64
      #db19 -> 64
      #db2 -> 64
      #db20 -> 64
      #db21 -> 64
      #db22 -> 64
      #db23 -> 64
      #db24 -> 64
      #db3 -> 64
      #db4 -> 64
      #db5 -> 64
      #db6 -> 64
      #db7 -> 64
      #db8 -> 64
      #db9 -> 64
    #options
      #ATACFixture
        #ATACBiasElectrode
          #simulated -> true
        #ATACDfcBiasElectrode
          #simulated -> true
        #ATACGasBox
          #simulated -> false
      #IGSGasBoxInstalled
        #exists -> true
      #ModuleType
        #defaultOption -> #Poly
        #Strip
          #options
            #GasBoxType
```

H7

```
pm.cfg.print

              #defaultOption -> #TwelveLines
              #OnBoard
                #exists -> false
    #slewRates
      #slewRate1 -> 0
      #slewRate2 -> 0
      #slewRate3 -> 0
      #slewRate4 -> 0
      #slewRate5 -> 0
      #slewRate6 -> 0
      #slewRate7 -> 0
      #slewRate8 -> 0
  #NVRam
    #boardID -> #NVRam
    #name -> #NVRam
    #nextStartOffset -> 0
    #simulationType -> #SimulatedNVRam
    #type -> #NVRam
  #options
    #ADIO
      #ADIO_1
        #address -> 4227801088
        #boardID -> #ADIO_1
        #maxRawValue -> 10.0
        #minRawValue -> -10.0
        #name -> #ADIO_1
        #programmableMask -> 65535
        #simulationType -> #SimulateNotExist
        #type -> #LamADIOBoard
      #ADIO_2
        #address -> 4227805184
        #boardID -> #ADIO_2
        #maxRawValue -> 10.0
        #minRawValue -> -10.0
        #name -> #ADIO_2
        #programmableMask -> 65535
        #simulationType -> #SimulateNotExist
        #type -> #LamADIOBoard
        #options
          #BiasRFInstalled
            #exists -> false
            #optionActiveLogic -> false
    #ChillerSimulated
      #optionActiveLogic -> false
      #options
        #ChillerInterface
          #GatewayDualChannels
            #GatewayChillerBoard
              #address -> 70
              #boardID -> #GatewayChillerBoard
              #boardMinUpdateTime -> 100
              #deviceName -> 'ltnia'
              #HBNV -> 0
              #hbSize -> 1
              #hbTimeout -> 20
              #maxAckTime -> 500
              #maxInputRawValue -> 10.0
              #maxOutputRawValue -> 10.0
              #minInputRawValue -> -10.0
              #minOutputRawValue -> -10.0
              #minUpdateTime -> 100
              #name -> #GatewayChillerBoard
              #nOutNV -> 11
              #numRetries -> 3
              #priority -> 80
              #resetHBNV -> 3
              #simulationType -> #SimulateNotExist
              #statusNV -> 1
```

H8

```
pm.cfg.print

                #totalNV -> 30
                #type -> #LonGateway96Board
                #wakeupTime -> 100
                #bitmaps
                  #bitmap1 -> 255
                  #bitmap2 -> 0
                #deadBands
                  #db1 -> 64
                  #db10 -> 64
                  #db11 -> 64
                  #db12 -> 64
                  #db13 -> 64
                  #db14 -> 64
                  #db15 -> 64
                  #db16 -> 64
                  #db2 -> 64
                  #db3 -> 64
                  #db4 -> 64
                  #db5 -> 64
                  #db6 -> 64
                  #db7 -> 64
                  #db8 -> 64
                  #db9 -> 64
                #serialChannel1Config
                  #channel -> 1
                  #enable -> true
                #serialChannel2Config
                  #channel -> 2
                  #enable -> true
                #slewRates
                  #slewRate1 -> 0
                  #slewRate2 -> 0
                  #slewRate3 -> 0
                  #slewRate4 -> 0
                  #slewRate5 -> 0
                  #slewRate6 -> 0
                  #slewRate7 -> 0
                  #slewRate8 -> 0
              #GatewaySingleChannel
                #GatewayChillerBoard
                  #address -> 70
                  #boardID -> #GatewayChillerBoard
                  #boardMinUpdateTime -> 100
                  #deviceName -> 'ithie'
                  #HBNV -> 0
                  #hbSize -> 1
                  #hbTimeout -> 20
                  #maxAckTime -> 500
                  #maxInputRawValue -> 10.0
                  #maxOutputRawValue -> 10.0
                  #minInputRawValue -> -10.0
                  #minOutputRawValue -> -10.0
                  #minUpdateTime -> 100
                  #name -> #GatewayChillerBoard
                  #nOutNV -> 11
                  #numRetries -> 3
                  #priority -> 80
                  #resetHBNV -> 3
                  #simulationType -> #SimulateNotExist
                  #statusNV -> 1
                  #totalNV -> 30
                  #type -> #LonGateway96Board
                  #wakeupTime -> 100
                  #bitmaps
                    #bitmap1 -> 255
                    #bitmap2 -> 0
                  #deadBands
                    #db1 -> 64
```

H9

pm.cfg.print

```
                #db10 -> 64
                #db11 -> 64
                #db12 -> 64
                #db13 -> 64
                #db14 -> 64
                #db15 -> 64
                #db16 -> 64
                #db2 -> 64
                #db3 -> 64
                #db4 -> 64
                #db5 -> 64
                #db6 -> 64
                #db7 -> 64
                #db8 -> 64
                #db9 -> 64
              #serialChannel1Config
                #channel -> 1
                #enable -> true
              #serialChannel2Config
                #channel -> 2
                #enable -> true
              #slewRates
                #slewRate1 -> 0
                #slewRate2 -> 0
                #slewRate3 -> 0
                #slewRate4 -> 0
                #slewRate5 -> 0
                #slewRate6 -> 0
                #slewRate7 -> 0
                #slewRate8 -> 0
            #LonWorks
              #ChillerBoard
                #address -> 70
                #boardID -> #ChillerBoard
                #boardMinUpdateTime -> 100
                #deviceName -> 'ltnia'
                #HBNV -> 0
                #hbSize -> 1
                #hbTimeout -> 20
                #maxAckTime -> 2000
                #minUpdateTime -> 100
                #name -> #ChillerBoard
                #nOutNV -> 7
                #numRetries -> 3
                #resetHBNV -> 3
                #simulationType -> #SimulateNotExist
                #statusNV -> 1
                #totalNV -> 10
                #type -> #ChillerLonWorksBoard
                #wakeupTime -> 100
              #options
                #TCUControlType
                  #Dual
                    #ChillerBoard_2
                      #address -> 71
                      #boardID -> #ChillerBoard_2
                      #boardMinUpdateTime -> 100
                      #deviceName -> 'ltnia'
                      #HBNV -> 0
                      #hbSize -> 1
                      #maxAckTime -> 2000
                      #minUpdateTime -> 100
                      #name -> #ChillerBoard_2
                      #nOutNV -> 7
                      #numRetries -> 3
                      #resetHBNV -> 3
                      #simulationType -> #SimulateNotExist
                      #statusNV -> 1
```

H10

```
pm.cfg.print

                    #totalNV -> 10
                    #type -> #ChillerLonWorksBoard
                    #wakeupTime -> 100
          #None
    #DigitalMFCInstalled
      #DMFCBoard
        #address -> 41
        #autoZeroMFCFirmwareVersion -> 10.1
        #boardID -> #DMFCBoard
        #boardMinUpdateTime -> 100
        #deviceName -> 'ltnib'
        #firmwareMinUpdateVer -> 8.0
        #HBNV -> 0
        #hbSize -> 1
        #hbTimeout -> 20
        #maxAckTime -> 500
        #maxInputRawValue -> 100
        #maxOutputRawValue -> 100
        #minInputRawValue -> 0
        #minOutputRawValue -> 0.0
        #minUpdateTime -> 100
        #name -> #DMFCBoard
        #nOutNV -> 15
        #numRetries -> 3
        #priority -> 80
        #repType -> #BoardRepresentative
        #resetHBNV -> 3
        #simulationType -> #SimulateNotExist
        #statusNV -> 1
        #totalNV -> 36
        #type -> #LonGasBoxBoard
        #wakeupTime -> 100
        #deadBands
          #db1 -> 2
          #db10 -> 2
          #db11 -> 2
          #db12 -> 2
          #db13 -> 2
          #db14 -> 2
          #db15 -> 2
          #db16 -> 2
          #db17 -> 2
          #db18 -> 2
          #db19 -> 2
          #db2 -> 2
          #db20 -> 2
          #db21 -> 2
          #db22 -> 2
          #db23 -> 2
          #db24 -> 2
          #db3 -> 2
          #db4 -> 2
          #db5 -> 2
          #db6 -> 2
          #db7 -> 2
          #db8 -> 2
          #db9 -> 2
    #DualGasFeedInstalled
      #Node_5
        #address -> 5
        #boardID -> #Node_5
        #boardMinUpdateTime -> 100
        #deviceName -> 'ltnib'
        #HBNV -> 0
        #hbSize -> 1
        #maxAckTime -> 500
        #maxInputRawValue -> 10.0
        #maxOutputRawValue -> 10.0
```

H11

```
pm.cfg.print

        #minInputRawValue -> -10.0
        #minOutputRawValue -> 0.0
        #minUpdateTime -> 100
        #name -> #Node_5
        #nOutNV -> 11
        #numRetries -> 3
        #priority -> 80
        #resetHBNV -> 3
        #simulationType -> #SimulateNotExist
        #statusNV -> 1
        #totalNV -> 21
        #type -> #LonWinAnalogBoard
        #wakeupTime -> 100
        #bitmaps
          #bitmap1 -> 255
          #bitmap2 -> 255
        #deadBands
          #db1 -> 64
          #db10 -> 64
          #db11 -> 64
          #db12 -> 64
          #db13 -> 64
          #db14 -> 64
          #db15 -> 64
          #db16 -> 64
          #db2 -> 64
          #db3 -> 64
          #db4 -> 64
          #db5 -> 64
          #db6 -> 64
          #db7 -> 64
          #db8 -> 64
          #db9 -> 64
        #options
          #DSOGasBoxInstalled
            #exists -> false
          #IGSGasBoxInstalled
            #exists -> false
          #ModuleType
            #defaultOption -> #Poly
            #Strip
              #options
                #GasBoxType
                  #defaultOption -> #TwelveLines
                  #OnBoard
                    #exists -> false
        #slewRates
          #slewRate1 -> 0
          #slewRate2 -> 0
          #slewRate3 -> 0
          #slewRate4 -> 0
          #slewRate5 -> 0
          #slewRate6 -> 0
          #slewRate7 -> 0
          #slewRate8 -> 0
      #ENIGenInterface
        #defaultOption -> #None
        #None
        #OB2
          #ENIOneBoxBoard
            #filename -> '.\config\Dfc\ENIOneBox.cfg'
            #templateKey -> #LamConfigMaker
        #Serial
          #ENIRF27MHzGen
            #filename -> '.\config\Dfc\ENIRFSerialGen.cfg'
            #templateKey -> #LamConfigMaker
            #defined
              #alias -> #ENIRF27MHzGen
```

H12

```
pm.cfg.print

            #BoardID -> #ENIRF27MHzGen
            #commandProcessor.port.port -> '/tyCo/1'
            #debug -> #false
            #name -> #ENIRF27MHzGen
            #rfWatchdogResetTimeout -> 10000
            #statusVariableInitialization.VersionNumber.alias ->
            #ENIRFGen27MHzVersionNumber
          #ENIRF2MHzGen
            #filename -> '.\config\Dfc\ENIRFSerialGen.cfg'
            #templateKey -> #LamConfigMaker
            #defined
              #alias -> #ENIRF2MHzGen
              #BoardID -> #ENIRF2MHzGen
              #commandProcessor.port.port -> '/tyCo/2'
              #debug -> #false
              #name -> #ENIRF2MHzGen
              #rfWatchdogResetTimeout -> 10000
              #statusVariableInitialization.VersionNumber.alias ->
              #ENIRFGen2MHzVersionNumber
          #options
            #ENI60MHzGen
              #ENIRF60MHzGen
                #filename -> '.\config\Dfc\ENIRFSerialGen.cfg'
                #templateKey -> #LamConfigMaker
                #defined
                  #alias -> #ENIRF60MHzGen
                  #BoardID -> #ENIRF60MHzGen
                  #commandProcessor.port.port -> '/tyCo/3'
                  #debug -> #false
                  #name -> #ENIRF60MHzGen
                  #rfWatchdogResetTimeout -> 20000
                  #statusVariableInitialization.VersionNumber.alias ->
                  #ENIRFGen60MHzVersionNumber
            #G3
              #options
                #ENI60MHzGen
                  #optionActiveLogic -> false
                  #AERF60MHzGen
                    #filename -> '.\config\Dfc\AERFSerialGen.cfg'
                    #templateKey -> #LamConfigMaker
                    #defined
                      #alias -> #AERF60MHzGen
                      #BoardID -> #AERF60MHzGen
                      #commandProcessor.port.port -> '/tyCo/3'
                      #debug -> #false
                      #exists -> false
                      #name -> #AERF60MHzGen
                      #statusVariableInitialization.PartNumber.alias ->
                      #RFGen60MHzPartNumber
                      #statusVariableInitialization.SerialNumber.alias ->
                      #RFGen60MHzSerialNumber
                      #statusVariableInitialization.VersionNumber.alias ->
                      #RFGen60MHzVersionNumber
    #GasRatioControllerInstalled
      #GasFeedControlBoard
        #address -> 42
        #boardID -> #GasFeedControlBoard
        #boardMinUpdateTime -> 100
        #deviceName -> 'ltnia'
        #HBNV -> 0
        #hbSize -> 1
        #hbTimeout -> 20
        #maxAckTime -> 500
        #maxInputRawValue -> 10.0
        #maxOutputRawValue -> 10.0
        #minInputRawValue -> -10.0
        #minOutputRawValue -> 0.0
        #minUpdateTime -> 100
```

H13

```
pm.cfg.print

        #name -> #GasFeedControlBoard
        #nOutNV -> 11
        #numRetries -> 3
        #priority -> 80
        #resetHBNV -> 3
        #simulationType -> #SimulateNotExist
        #statusNV -> 1
        #totalNV -> 30
        #type -> #LonGatewayBoard
        #wakeupTime -> 100
        #bitmaps
          #bitmap1 -> 255
          #bitmap2 -> 255
        #deadBands
          #db1 -> 64
          #db10 -> 64
          #db11 -> 64
          #db12 -> 64
          #db13 -> 64
          #db14 -> 64
          #db15 -> 64
          #db16 -> 64
          #db2 -> 64
          #db3 -> 64
          #db4 -> 64
          #db5 -> 64
          #db6 -> 64
          #db7 -> 64
          #db8 -> 64
          #db9 -> 64
        #slewRates
          #slewRate1 -> 0
          #slewRate2 -> 0
          #slewRate3 -> 0
          #slewRate4 -> 0
          #slewRate5 -> 0
          #slewRate6 -> 0
          #slewRate7 -> 0
          #slewRate8 -> 0
    #pmDoorSelection
      #defaultOption -> #sensorOnly
      #door
        #SlotValveNode
          #address -> 17
          #boardID -> #SlotValveNode
          #deviceName -> 'ltnib'
          #HBNV -> 0
          #hbSize -> 1
          #hbTimeout -> 20
          #maxAckTim -> 2000
          #name -> #SlotValveNode
          #nOutNV -> 6
          #numRetries -> 3
          #resetHBNV -> 3
          #simulated -> true
          #simulationType -> #SimulateNotExist
          #statusNV -> 1
          #totalNV -> 12
          #type -> #LonWinDigitalBoard
      #sensorOnly
    #RoughingPumpType
      #defaultOption -> #Edwards
      #Ebara
      #Edwards
      #Generic
        #GatewayPumpBoard
          #address -> 68
          #boardID -> #GatewayPumpBoard
```

H14

```
pm.cfg.print

          #boardMinUpdateTime -> 100
          #deviceName -> 'ltnia'
          #HBNV -> 0
          #hbSize -> 1
          #hbTimeout -> 20
          #maxAckTime -> 500
          #maxInputRawValue -> 10.0
          #maxOutputRawValue -> 10.0
          #minInputRawValue -> -10.0
          #minOutputRawValue -> -10.0
          #minUpdateTime -> 100
          #name -> #GatewayPumpBoard
          #nOutNV -> 11
          #numRetries -> 3
          #priority -> 80
          #resetHBNV -> 3
          #simulationType -> #SimulateNotExist
          #statusNV -> 1
          #totalNV -> 30
          #type -> #LonGatewayBoard
          #wakeupTime -> 100
          #bitmaps
            #bitmap1 -> 255
            #bitmap2 -> 0
          #deadBands
            #db1 -> 64
            #db10 -> 64
            #db11 -> 64
            #db12 -> 64
            #db13 -> 64
            #db14 -> 64
            #db15 -> 64
            #db16 -> 64
            #db2 -> 64
            #db3 -> 64
            #db4 -> 64
            #db5 -> 64
            #db6 -> 64
            #db7 -> 64
            #db8 -> 64
            #db9 -> 64
          #slewRates
            #slewRate1 -> 0
            #slewRate2 -> 0
            #slewRate3 -> 0
            #slewRate4 -> 0
            #slewRate5 -> 0
            #slewRate6 -> 0
            #slewRate7 -> 0
            #slewRate8 -> 0
#VIOP
  #address -> 12713984
  #boardID -> #VIOP
  #encoder -> #(1 1 1 1 0 0)
  #maxRawValue -> 10.0
  #minRawValue -> -10.0
  #name -> #VIOP
  #simulationType -> #SimulateNotExist
  #type -> #LamVIOPBoard
  #options
    #ATACFixture
      #ATACBiasMatch
        #simulated -> false
      #ATACDfcTopPlate
        #simulated -> false
      #ATACTCPMatch
        #simulated -> false
    #ENIGenInterface
```

H15

```
pm.cfg.print

        #defaultOption -> #None
        #None
        #OB2
        #Serial
          #encoder -> #(1 0 0 0 0 0)
    #statusVariableInitialization
      #BoardTemperature
        #alias -> #VMEChassisAmbientTemperature
        #value -> 0.0
      #BoardVersionMajor
        #alias -> #VIOPBoardVersionMajor
        #value -> 0
      #BoardVersionMinor
        #alias -> #VIOPBoardVersionMinor
        #value -> 0
      #BoardVersionNumber
        #alias -> #VIOPBoardVersion
        #value -> '0.0'
      #FirmwareVersionMajor
        #alias -> #VIOPBoardFirmwareVersionMajor
        #value -> 0
      #FirmwareVersionMinor
        #alias -> #VIOPBoardFirmwareVersionMinor
        #value -> 0
      #FirmwareVersionNumber
        #alias -> #VIOPBoardFirmwareVersion
        #value -> '0.0'
#bufferResources
#configVarHandlers
  #ImageName
    #name -> #ConfigVarHandler
    #type -> #ConfigVarHandler
#eventHandlers
  #ImageName
    #name -> #EventHandler
    #type -> #LamEventHandler
#gasInterlockHandlers
  #ImageName
    #name -> #GasInterlockHandler
    #type -> #LamGasInterlockHandler
#lonWorks
  #interface
    #comment -> '05/10/01 -- Change #hbPollingTime from 100 to 300 ms,
    #nvPollingTime from 10 to 100 ms. '
    #hbPollingTime -> 300
    #hbPulse -> 2000
    #name -> #LonNetworkInterface
    #nvPollingTime -> 100
    #priority -> 80
    #simulationType -> #SimulateNotExist
    #type -> #LonWinNetworkInterface
    #device
      #type -> #LonVxNetworkDriverInterface
    #hostNodes
      #MIPNode1
        #deviceName -> 'ltnia'
        #domainIndex0 -> 0
        #domainIndex1 -> 1
        #domainLength0 -> 0
        #domainLength1 -> 1
        #domainNum0 -> 0
        #domainNum1 -> 1
        #hostNodeNum -> 127
        #subnetNum -> 2
      #MIPNode2
        #deviceName -> 'ltnib'
        #domainIndex0 -> 0
        #domainIndex1 -> 1
```

H16

```
pm.cfg.print

        #domainLength0 -> 0
        #domainLength1 -> 1
        #domainNum0 -> 0
        #domainNum1 -> 1
        #hostNodeNum -> 126
        #subnetNum -> 2
    #options
      #ATACFixture
        #ATACBiasMatch
          #simulated -> false
        #ATACDfcTopPlate
          #simulated -> false
        #ATACGasBox
          #simulated -> false
        #ATACICPMatch
          #simulated -> false
#machineServices
  #level2
    #SEMIE39Handlers
      #ImageName
        #name -> #E39Handler
        #SEMIE39MachineHandlerName -> #HostImageE39Handler
        #type -> #LamSEMIE39EmbeddedHandler
  #level3
    #SEMIE90Handlers
      #ImageName
        #name -> #SEMIE90SubstLocationHandler
        #type -> #LamSEMIE90SubstLocationHandler
#maintenanceCountersHandler
  #handler
    #filename -> '.\config\MaintenanceCounters.cfg'
    #templateKey -> #LamConfigMaker
#newsServices
  #ImageName
    #type -> #LamNewsServiceConfigurer
    #defaultNewsService
      #name -> #NewsService
      #proxyTimeout -> 0
      #type -> #LamNewsService
#portResources
#processResources
  #ImageName
    #alarmBase -> 10000
    #autoCleanFrequency -> 0
    #canOperatePartiallyFilled -> true
    #capabilitiesAssigned -> #('Plasma Etcher')
    #currentProcessType -> #Poly
    #endpointDetectors -> #(#OESEndpoint)
    #eventBase -> 10000
    #independentLoadUnload -> false
    #interstepOverheadAlarmMilliseconds -> 2000
    #lateStepTimeoutAlarmMilliseconds -> 2000
    #neighbor -> #TransferChamber
    #numberOfPMLs -> 1
    #rapidTemperatureResources -> #()
    #repType -> #LamProcessChamberRepresentative
    #resourceDechuckSpec -> OrderedCollection (#BiasRFResource->0 #chuckPGC->0
    #pressureGasCoordinator->#DefaultDechuckRecoveryStabilizationTime
    #TCPRFResource->#DefaultDechuckRecoveryDechuckTime #RF27MHzResource->
    #DefaultDechuckRecoveryDechuckTime #RF2MHzResource->
    #DefaultDechuckRecoveryDechuckTime)
    #slowTemperatureResources -> #(#temperatureControl)
    #statusUpdateIntervalMilliseconds -> 500
    #stepResourceDisableSpec_Comment -> 'stepResourceDisableSpec is defined
    under #options -> #ESCType.  Bipolar chuck can be disabled without plasma'
    #stepResourceModifySpec -> #(#pressureGasCoordinator #GasRatioController
    #DualGasFeedController #BCoilInner #BCoilOuter #OneBoxController
    #TCPRFResource #MicrowaveResource #processWaferPositioner #chuckPGC
```

H17

```
pm.cfg.print

    #GmodeInterface #temporatureControl #BiasRFResource #FeedForwardCD)
    #stepResourceMonitorSpec -> #(#OneBoxController #TCPRFResource
    #RF60MHzResource #RF27MHzResource #RF2MHzResource #BiasRFResource
    #MicrowaveResource #pressureGasCoordinator #chuckPGC #temperatureControl
    #BCoilInner #BCoilOuter #processWaferPositioner)
    #stepResourceResumeSpec_Comment -> 'stepResourceResumeSpec is defined
    under #options -> #ESCType.  Bipolar chuck can be resumed at the same time
    as PGC'
    #type -> #LamProcessChamber
    #variableBase -> 10000
    #volume -> 28000
    #actuators
      #options
        #ManualEndpointDI
          #endpointChartRecorderAO
            #alias -> #EndpointChartRecorder_AO
            #boardID -> #ADIO_2
            #channelID -> 5
            #maxRawValue -> 10.0
            #maxValue -> 100000
            #minRawValue -> 0.0
            #minValue -> 0
            #name -> #EndpointChartRecorderAO
            #rawValueUnitsDesc -> 'volt'
            #simulationType -> #LamSimulatedAnalogActuator
            #type -> #LamAnalogADIOBoardActuator
            #valueUnitsDesc -> ''
    #chamberLabel
      #options
        #ModuleType
          #defaultOption -> #Poly
          #ADP
            #label -> #ADP
          #DPC
            #label -> #DPC
          #MCP
            #label -> #MCP
          #Metal
            #label -> #Metal
          #Poly
            #label -> #Poly
          #Strip
            #label -> #Strip
            #options
              #ModuleSpec
                #BiasStrip
                  #label -> #BiasStrip
                #Microwave1
                  #label -> #uWStrip
                #Microwave2
                  #label -> #uWStrip
                #TCPStrip
    #configVariableInitialization
      #BallastAfterProcessAbort
        #alias -> #BallastAfterProcessAbort
        #value -> false
      #ChamberBallastEnabled
        #alias -> #ChamberBallastEnabled
        #value -> true
      #ChamberMatchingO2Line
        #alias -> #ChamberMatchingO2Gas
        #value -> #Gas1
        #options
          #GasBoxType
            #EightLines
              #allowedValues -> EnumeratedValueConstraint allowingValues:
              (OrderedCollection new add: (#Gas1);  add: (#Gas2);  add:
              (#Gas3);  add: (#Gas4);  add: (#Gas5);  add: (#Gas6);  add:
```

H18

```
pm.cfg.print
                (#Gas7); add: (#Gas8); yourself)
              #OnBoard
                #allowedValues -> EnumeratedValueConstraint allowingValues:
                (OrderedCollection new add: (#Gas1); add: (#Gas2); add:
                (#Gas3); yourself)
              #SixteenLines
                #allowedValues -> EnumeratedValueConstraint allowingValues:
                (OrderedCollection new add: (#Gas1); add: (#Gas2); add:
                (#Gas3); add: (#Gas4); add: (#Gas5); add: (#Gas6); add:
                (#Gas7); add: (#Gas8); add: (#Gas9); add: (#Gas10); add:
                (#Gas11); add: (#Gas12); add: (#Gas13); add: (#Gas14); add:
                (#Gas15); add: (#Gas16); yourself)
              #TwelveLines
                #allowedValues -> EnumeratedValueConstraint allowingValues:
                (OrderedCollection new add: (#Gas1); add: (#Gas2); add:
                (#Gas3); add: (#Gas4); add: (#Gas5); add: (#Gas6); add:
                (#Gas7); add: (#Gas8); add: (#Gas9); add: (#Gas10); add:
                (#Gas11); add: (#Gas12); yourself)
            #EnableSchedulingBeforeWacEndTime
              #alias -> #EnableSchedulingBeforeWacEndTime
              #value -> 20.0
            #EnableSchedulingBeforeWaferProcessEndTime
              #alias -> #EnableSchedulingBeforeWaferProcessEndTime
              #value -> 20.0
            #EnableWaferReceivingBeforeWacEndTime
              #alias -> #EnableWaferReceivingBeforeWacEndTime
              #value -> 10.0
            #IgnoreEndpointFailure
              #alias -> #IgnoreEndpointFailure
              #value -> false
            #InterStepTimingImprovement
              #alias_reserved -> #InterStepTimingImprovement
              #value -> false
            #options
              #ESCType
                #Bipolar
                  #DefaultDechuckRecoveryDechuckTime
                    #alias -> #DefaultDechuckRecoveryDechuckTime
                    #value -> 15
                  #DefaultDechuckRecoveryStabilizationTime
                    #alias -> #DefaultDechuckRecoveryStabilizationTime
                    #value -> 30
                #Monopolar
                  #DefaultDechuckRecoveryDechuckTime
                    #alias -> #DefaultDechuckRecoveryDechuckTime
                    #value -> 15
                  #DefaultDechuckRecoveryStabilizationTime
                    #alias -> #DefaultDechuckRecoveryStabilizationTime
                    #value -> 30
                #None
              #GasConfigTableInstalled
                #defaultOption -> false
                #GasMappingEnable
                  #alias -> #GasMappingEnable
                  #value -> false
              #RampEnabled
                #defaultOption -> false
                #RampEnabled
                  #value -> true
            #PowerUpState
              #alias -> #PowerUpState
              #value -> #Previous
            #RecipeWriteBackEnabled
              #alias -> #RecipeWriteBackEnabled
              #value -> true
            #StabilizationTime
              #alias -> #ProcessParameterStabilizationTime
              #value -> 3.0
```

H19

```
pm.cfg.print

    #controllableVariableInitialization
      #AllowWaferCyclingDuringChamberMaintenance
        #alias -> #AllowWaferCyclingDuringChamberMaintenance
        #value -> false
      #MinEndpointTime
        #alias -> #minEndpointTime
        #value -> 0
        #options
          #ModuleType
            #defaultOption -> #Poly
            #Poly
              #processParameter
                #defaultSetpoint -> 0
                #parameterLabel -> 'Minimum Endpoint Time (sec)'
            #Strip
              #options
                #PIIS
                  #processParameter
                    #defaultSetpoint -> 0
                    #parameterLabel -> 'Minimum Endpoint Time (sec)'
      #options
        #ESCType
          #Bipolar
            #DechuckMacroCommand
              #alias -> #ExecuteDechuckMacroCommand
              #value -> false
          #Monopolar
            #DechuckMacroCommand
              #alias -> #ExecuteDechuckMacroCommand
              #value -> false
          #None
        #RampEnabled
          #RampControlSelect
            #alias -> #ProcessRampControl
            #value -> #NoRamp
            #processParameter
              #allowedValues -> #(#NoRamp #Linear #Hyperbolic)
              #defaultSetpoint -> #NoRamp
              #parameterLabel -> 'Ramp Control'
          #RampTime
            #alias -> #ProcessRampTime
            #value -> 0
            #processParameter
              #defaultSetpoint -> 0
              #parameterLabel -> 'Ramp Time (sec)'
      #OverEtch
        #alias -> #overEtch
        #value -> 0
        #processParameter
          #defaultSetpoint -> 0
          #parameterLabel -> 'OverEtch (%)'
      #ProcessTime
        #isPublic -> true
        #value -> 0
        #processParameter
          #defaultSetpoint -> 0
          #parameterLabel -> 'Process Time (sec)'
      #StepName
        #alias -> #RecipeStepName
        #isPublic -> true
        #value -> ''
        #processParameter
          #defaultSetpoint -> ''
          #editType -> #String
          #parameterLabel -> 'Step Description'
      #StepType
        #alias -> #stepType
        #isPublic -> true
```

H20

```
pm.cfg.print

        #value -> #Time
        #processParameter
          #allowedValues -> #(#Time #Stab #End #OverEtch #EndPT #Chuck
          #DeChuck)
          #defaultSetpoint -> #Time
          #parameterLabel -> 'Step Type'
          #options
            #StripPM
              #allowedValues -> #(#Time #Stab #End)
              #options
                #OESInstalled
                  #allowedValues -> #(#Time #Stab #End #OverEtch #EndPT)
                #PIIS
                  #allowedValues -> #(#Time #Stab #End #OverEtch #EndPT #Chuck
                  #DeChuck)
    #defaultStates
      #process
        #pumpSettings
          #pressure -> #Vacuum
          #useTurbo -> true
      #pumpRough
        #pressure -> #Vacuum
        #useTurbo -> true
      #pumpTurbo
        #pressure -> #Vacuum
        #useTurbo -> true
      #standby
        #pumpState -> #on
        #pumpSettings
          #pressure -> #Vacuum
          #useTurbo -> true
      #transfer
        #pumpState -> #off
        #pumpSettings
          #pressure -> #Vacuum
          #useTurbo -> true
    #FaultDetectorController
      #name -> #FaultDetectorController
      #type -> #FaultDetectorController
    #hostAPC
      #name -> #HostAPC
      #type -> #LamHostAPC
      #configVariableInitialization
        #HostAPCTuningTimeout
          #alias -> #HostAPCTuningTimeout
          #value -> 45
        #HostAPCTuningTimeoutAction
          #alias -> #HostAPCTuningTimeoutAction
          #value -> #Stop
      #controllableVariableInitialization
        #HostAPCTuning
          #alias -> #HostAPCTuning
          #value -> #Disable
          #processParameter
            #allowedValues -> #(#Disable #Enable)
            #defaultSetpoint -> #Disable
            #globalParam -> true
            #isUsableInProcessStep -> true
            #parameterLabel -> 'Host APC Tuning'
            #options
              #FeedForwardCD
                #allowedValues -> #(#Disable #Enable #ExcludeCD)
    #name
      #templateKey -> #ReqSymbol
    #NVRams
      #CurrentWaferCount
        #alias -> #CurrentWaferCount
        #boardID -> #NVRam
```

H21

```
pm.cfg.print

        #channelID -> 80
        #defaultValue -> 0
        #editable -> true
        #minValue -> 0.0
        #name -> #CurrentWaferCount
        #type -> #NVRamPoint
        #unit -> ''
        #valueType -> #Integer
      #ElapsedRFTimeToClean
        #alias -> #ElapsedRFTimeToClean
        #boardID -> #NVRam
        #channelID -> 92
        #defaultValue -> 0
        #editable -> true
        #minValue -> 0
        #name -> #ElapsedRFTimeToClean
        #type -> #NVRamPoint
        #unit -> 'minute'
        #valueType -> #Float
      #ElapsedWaferCountToClean
        #alias -> #ElapsedWaferCountToClean
        #boardID -> #NVRam
        #channelID -> 96
        #defaultValue -> 0
        #editable -> true
        #minValue -> 0
        #name -> #ElapsedWaferCountToClean
        #type -> #NVRamPoint
        #unit -> 'wafer'
        #valueType -> #Integer
      #OnlineState
        #alias -> #OnlineState
        #boardID -> #NVRam
        #channelID -> 1025
        #defaultValue -> true
        #editable -> false
        #name -> #OnlineState
        #type -> #NVRamPoint
        #unit -> ''
        #valueType -> #Boolean
        #customAttributes
          #enumArray -> #(false true)
      #ProcessInfoLotID
        #alias -> #ProcessInfoLotID
        #boardID -> #NVRam
        #channelID -> 1230
        #defaultValue -> ' '
        #editable -> false
        #name -> #ProcessInfoLotID
        #type -> #NVRamPoint
        #unit -> ''
        #valueSize -> 100
        #valueType -> #String
      #ProcessInfoMaterialID
        #alias -> #ProcessInfoMaterialID
        #boardID -> #NVRam
        #channelID -> 1130
        #defaultValue -> ' '
        #editable -> false
        #name -> #ProcessInfoMaterialID
        #type -> #NVRamPoint
        #unit -> ''
        #valueSize -> 100
        #valueType -> #String
      #ProcessInfoRecipeName
        #alias -> #ProcessInfoRecipeName
        #boardID -> #NVRam
        #channelID -> 1030
```

H22

```
pm.cfg.print

        #defaultValue -> ' '
        #editable -> false
        #name -> #ProcessInfoRecipeName
        #type -> #NVRamPoint
        #unit -> ''
        #valueSize -> 100
        #valueType -> #String
      #ProcessInfoSlotID
        #alias -> #ProcessInfoSlotID
        #boardID -> #NVRam
        #channelID -> 196
        #defaultValue -> 1
        #editable -> false
        #minValue -> 1
        #name -> #ProcessInfoSlotID
        #type -> #NVRamPoint
        #unit -> ''
        #valueType -> #Integer
      #ProcessInfoStepElapsedTime
        #alias -> #ProcessInfoStepElapsedTime
        #boardID -> #NVRam
        #channelID -> 200
        #defaultValue -> 0.0
        #editable -> false
        #minValue -> 0.0
        #name -> #ProcessInfoStepElapsedTime
        #type -> #NVRamPoint
        #unit -> 'sec'
        #valueType -> #Float
      #ProcessInfoStepNumber
        #alias -> #ProcessInfoStepNumber
        #boardID -> #NVRam
        #channelID -> 192
        #defaultValue -> 0
        #editable -> false
        #minValue -> 0
        #name -> #ProcessInfoStepNumber
        #type -> #NVRamPoint
        #unit -> ''
        #valueType -> #Integer
      #QualificationMode
        #alias -> #QualificationMode
        #boardID -> #NVRam
        #channelID -> 1026
        #defaultValue -> false
        #editable -> false
        #name -> #QualificationMode
        #type -> #NVRamPoint
        #unit -> ''
        #valueType -> #Boolean
        #customAttributes
          #enumArray -> #(false true)
      #TotalWaferCount
        #alias -> #TotalWaferCount
        #boardID -> #NVRam
        #channelID -> 84
        #defaultValue -> 0
        #editable -> false
        #minValue -> 0.0
        #name -> #TotalWaferCount
        #type -> #NVRamPoint
        #unit -> ''
        #valueType -> #Integer
        #customAttributes
          #isUsedForMaintenance -> true
      #WaferPresent
        #alias -> #WaferPresent
        #boardID -> #NVRam
```

H23

```
pm.cfg.print

        #channelID -> 1024
        #defaultValue -> false
        #editable -> true
        #name -> #WaferPresent
        #type -> #NVRamPoint
        #unit -> ''
        #valueType -> #Boolean
        #customAttributes
          #enumArray -> #(false true)
    #options
      #BiasRFIgnition
        #stepResourceResumeSpec -> #(#pressureGasCoordinator
        #GasRatioController #DualGasFeedController #BCoilInner #BCoilOuter
        #BiasRFResource #RF27MHzResource #RF2MHzResource #MicrowaveResource
        #chuckPGC #temperatureControl #TCPRFResource #FeedForwardCD)
      #ESCType
        #defaultOption -> #Monopolar
        #Bipolar
          #stepResourceDisableSpec -> #(#BiasRFResource #TCPRFResource
          #GmodeInterface #OneBoxController #RF2MHzResource #RF27MHzResource
          #RF60MHzResource #MicrowaveResource #chuckPGC
          #pressureGasCoordinator #GasRatioController #DualGasFeedController
          #OESEndpoint #temperatureControl #BCoilInner #BCoilOuter
          #processWaferPositioner)
          #stepResourceResumeSpec -> #(#(#pressureGasCoordinator #chuckPGC)
          #GasRatioController #DualGasFeedController #BCoilInner #BCoilOuter
          #TCPRFResource #OneBoxController #MicrowaveResource
          #temperatureControl #BiasRFResource #FeedForwardCD)
        #Monopolar
          #stepResourceDisableSpec -> #(#BiasRFResource #chuckPGC
          #TCPRFResource #MicrowaveResource #pressureGasCoordinator
          #GasRatioController #DualGasFeedController #OESEndpoint
          #temperatureControl #processWaferPositioner)
          #stepResourceResumeSpec -> #(#pressureGasCoordinator
          #GasRatioController #DualGasFeedController #BCoilInner #BCoilOuter
          #TCPRFResource #RF27MHzResource #RF2MHzResource #MicrowaveResource
          #chuckPGC #temperatureControl #BiasRFResource #FeedForwardCD)
        #None
          #stepResourceDisableSpec -> #(#OneBoxController #BiasRFResource
          #chuckPGC #TCPRFResource #GmodeInterface #RF2MHzResource
          #RF27MHzResource #RF60MHzResource #MicrowaveResource
          #pressureGasCoordinator #GasRatioController #DualGasFeedController
          #OESEndpoint #temperatureControl #BCoilInner #BCoilOuter
          #processWaferPositioner)
          #stepResourceResumeSpec -> #(#pressureGasCoordinator
          #GasRatioController #DualGasFeedController #BCoilInner #BCoilOuter
          #TCPRFResource #RF27MHzResource #RF2MHzResource #MicrowaveResource
          #chuckPGC #temperatureControl #BiasRFResource #FeedForwardCD)
    #ManualEndpointDI
      #endpointChart
        #AO -> #endpointChartRecorderAO
        #endpointResource -> #OESEndpoint
        #interval -> 200
        #pollMessage -> #getFilter1Value
    #ModuleType
      #defaultOption -> #Poly
      #DFC
        #retryOnProcessAbort -> #EnableWithGoTo
      #Poly
        #retryOnProcessAbort -> #Enable
  #processSummaryCollection
    #name -> #ProcessDataSummary
    #PDSConfigFilename -> 'PDSConfig.txt'
    #type -> #ProcessSummaryCollector
    #configVariableInitialization
      #ProcessDataSummaryEnabled
        #alias -> #ProcessDataSummaryEnabled
        #editable -> false
```

H24

```
pm.cfg.print

          #isPublic -> true
          #value -> false
        #controllableVariableInitialization
          #StepPDS
            #alias -> #StepProcessDataSummary
            #editable -> false
            #value -> #Disable
            #processParameter
              #defaultSetpoint -> #Disable
              #parameterLabel -> 'Process Data Summary'
      #resources
        #ATACFResource
          #filename -> '.\config\ATACfixture.cfg'
          #templateKey -> #LamConfigMaker
        #Facility
          #filename -> '.\config\Facility.cfg'
          #templateKey -> #LamConfigMaker
        #IgnitionMonitor
          #filename -> '.\config\IgnitionMonitor.cfg'
          #templateKey -> #LamConfigMaker
        #OESEndpoint
          #filename -> '.\config\OesParam.cfg'
          #templateKey -> #CWConfigMaker
        #options
          #BCoilInstalled
            #BCoilInner
              #filename -> '.\config\BCoilInner.cfg'
              #templateKey -> #LamConfigMaker
            #BCoilOuter
              #filename -> '.\config\BCoilOuter.cfg'
              #templateKey -> #LamConfigMaker
          #BiasRFInstalled
            #BiasRFResource
              #filename -> '.\config\BiasRF.cfg'
              #templateKey -> #LamConfigMaker
          #ENIGenInterface
            #defaultOption -> #None
            #None
            #OB2
              #OneBoxController
                #filename -> '.\config\Dfc\OneBoxController.cfg'
                #templateKey -> #CWConfigMaker
              #RF27MHzResource
                #filename -> '.\config\Dfc\RF27MHz.cfg'
                #templateKey -> #LamConfigMaker
              #RF2MHzResource
                #filename -> '.\config\Dfc\RF2MHz.cfg'
                #templateKey -> #LamConfigMaker
            #Serial
              #OneBoxController
                #filename -> '.\config\Dfc\OneBoxController.cfg'
                #templateKey -> #CWConfigMaker
              #options
                #ENI60MHzGen
                  #RF60MHzResource
                    #filename -> '.\config\Dfc\SerialRF60MHz.cfg'
                    #templateKey -> #LamConfigMaker
                #G3
                  #options
                    #ENI60MHzGen
                      #optionActiveLogic -> false
                      #RF60MHzResource
                        #filename -> '.\config\Dfc\AERF60MHz.cfg'
                        #templateKey -> #LamConfigMaker
              #RF27MHzResource
                #filename -> '.\config\Dfc\SerialRF27MHz.cfg'
                #templateKey -> #LamConfigMaker
              #RF2MHzResource
```

H25

```
pm.cfg.print
            #filename -> '.\config\Dfc\SerialRF2MHz.cfg'
            #templateKey -> #LamConfigMaker
        #ESCType
          #defaultOption -> #Monopolar
          #Bipolar
            #options
              #HeControlType
                #defaultOption -> #Single
                #Dual
                  #chuckPGC
                    #filename -> '.\config\DualHeBipolarESC.cfg'
                    #templateKey -> #LamConfigMaker
                #DualBypass
                  #chuckPGC
                    #filename -> '.\config\DualHeBipolarESC.cfg'
                    #templateKey -> #LamConfigMaker
                #Single
                  #chuckPGC
                    #filename -> '.\config\BipolarHeESC.cfg'
                    #templateKey -> #LamConfigMaker
          #Monopolar
            #chuckPGC
              #filename -> '.\config\MonopolarHeESC.cfg'
              #templateKey -> #LamConfigMaker
          #None
        #FeedForwardCD
          #FeedForwardCD
            #filename -> '.\config\FeedForwardCD.cfg'
            #templateKey -> #LamConfigMaker
        #GasRatioControllerInstalled
          #GasRatioController
            #filename -> '.\config\GasRatioController.cfg'
            #templateKey -> #LamConfigMaker
        #Gmode
          #GmodeInterface
            #filename -> '.\config\GModeInterface.cfg'
            #templateKey -> #LamConfigMaker
        #MetrologyTuning
          #MetrologyTuning
            #filename -> '.\config\MetrologyTuning.cfg'
            #templateKey -> #LamConfigMaker
        #MicrowaveInstalled
          #MicrowaveResource
            #filename -> '.\config\Microwave.cfg'
            #templateKey -> #LamConfigMaker
        #TCPRFInstalled
          #TCPRFResource
            #filename -> '.\config\TCPRF.cfg'
            #templateKey -> #LamConfigMaker
        #WaferArcSensorInstalled
          #WaferArcMonitor
            #filename -> '.\config\WaferArcDetector.cfg'
            #templateKey -> #LamConfigMaker
      #PCCInterface
        #filename -> '.\config\PCC.cfg'
        #templateKey -> #LamConfigMaker
      #pendantController
        #filename -> '.\config\DoesNotExist.cfg'
        #templateKey -> #CWConfigMaker
      #PlugAndPlaySensor
        #filename -> '.\config\PlugAndPlaySensor.cfg'
        #templateKey -> #CWConfigMaker
      #pressureGasCoordinator
        #filename -> '.\config\PGC.cfg'
        #templateKey -> #LamConfigMaker
      #processWaferPositioner
        #filename -> '.\config\WaferPositioner.cfg'
        #templateKey -> #LamConfigMaker
```

H26

```
pm.cfg.print

      #temperatureControl
        #filename -> '.\config\Temperature.cfg'
        #templateKey -> #LamConfigMaker
    #sensors
      #options
        #ManualEndpointDI
          #manualEndpoint
            #activeLogic -> 0
            #alias -> #ManualEndpoint_DI
            #boardID -> #ADIO_2
            #channelID -> 10
            #name -> #ManualEndpointDI
            #simulated -> true
            #simulationType -> #LamSimulatedBinarySensor
            #type -> #LamPIOADIOBoardSensor
            #customAttributes
              #enumArray -> #(#Active #Inactive)
              #enumBase -> 0
    #statusVariableInitialization
      #CassetteID
        #alias -> #CassetteID
        #isPublic -> true
      #CurrentStepNumber
        #alias -> #CurrentStepNumber
        #isPublic -> true
      #ElapsedProcessTime
        #alias -> #ElapsedProcessTime
        #isPublic -> true
      #InputPortID
        #alias -> #InputPortID
        #isPublic -> true
        #value -> 0
      #JobID
        #alias -> #JobID
        #isPublic -> true
      #LotID
        #alias -> #LotID
        #isPublic -> true
      #MaterialID
        #alias -> #MaterialID
        #isPublic -> true
      #OCRWaferIDCurrent
        #alias -> #OCRWaferIDCurrent
        #isPublic -> true
      #OCRWaferIDPrevious
        #alias -> #OCRWaferIDPrevious
        #isPublic -> true
      #OESElapsedTime
        #alias -> #OESElapsedTime
        #isPublic -> true
      #OESStepNumber
        #alias -> #OESStepNumber
        #isPublic -> true
      #PreviousInputPortID
        #alias -> #PreviousInputPortID
        #isPublic -> true
        #value -> 0
      #PreviousStepElapsedProcessTime
        #alias -> #PreviousStepElapsedProcessTime
        #isPublic -> true
      #ProcessingState
        #alias -> #ProcessingState
        #isPublic -> true
        #value -> false
      #ProcessModuleSpec
        #alias -> #ProcessModuleSpec
        #isPublic -> true
      #RecipeName
```

H27

```
pm.cfg.print

        #alias -> #RecipeName
        #isPublic -> true
      #SlotID
        #alias -> #SlotID
        #isPublic -> true
      #StandbyState
        #alias -> #StandbyState
        #isPublic -> true
        #value -> false
      #StripperType
        #alias -> #StripperType
        #options
          #StripperType
            #defaultOption -> #Phase1
            #Phase1
              #value -> 'Phase1'
            #Phase2
              #value -> 'Phase2'
      #TotalStepConsumedTime
        #alias -> #TotalStepConsumedTime
        #isPublic -> true
        #maxValue -> 10000.0
        #minValue -> 0.0
        #value -> 0.0
      #WaferFlowName
        #alias -> #WaferFlowName
        #isPublic -> true
      #waferSize
        #alias -> #WaferSize
        #options
          #WaferSize
            #defaultOption -> #_200MM
            #_200MM
              #value -> '200MM'
            #_300MM
              #value -> '300MM'
    #transferManager
      #type -> #TransferManager
      #portals
        #sendReceivePortal
          #receivePartners -> #(#TransferChamber)
          #sendPartners -> #(#TransferChamber)
          #movementManager
            #completedSize -> 0
            #type -> #CWMovementManager
    #wac
      #RPTimeKeeper -> #TCPRFResource
      #options
        #ModuleType
          #defaultOption -> #Poly
          #DFC
            #RPTimeKeeper -> #RF2MHzResource
          #Poly
            #RFTimeKeeper -> #TCPRFResource
          #Strip
            #RPTimeKeeper -> #TCPRFResource
            #options
              #MicrowaveInstalled
                #RPTimeKeeper -> #MicrowaveResource
              #TCPRFInstalled
                #RFTimeKeeper -> #TCPRFResource
#transportResources
#variableHandlers
  #ImageName
    #name -> #VariableHandler
    #queryPartners -> #()
    #type -> #LamVariableHandler
```

H28