幾何校正盒 Ch

YA-S10

用戶說明書

- 在使用幾何校正盒和投影機系統之前,必須閱讀YA-S10設置手冊中的注意事項。
- 在使用幾何校正盒和投影機系統之前,必須執行YA-S10設置手冊中介紹的設置操作。
- 重務必將所有用戶文件妥善保管以便日後需要時查閱。
- 要取得本說明書的最新版本時請訪問下示URL網站。 http://world.casio.com/manual/projector/

器材名稱:資料投影機

本說明書中的"投影機" - 詞專指資料投影機。

- DLP為美國Texas Instruments公司的註冊商標。
- HDMI、HDMI徽標及High-Definition Multimedia Interface為HDMI Licensing, LLC公司的商標或註冊商標。
- XGA為美國IBM Corporation公司的註冊商標。
- Crestron是美國Crestron Electronics, Inc.的註冊商標。
- 其他公司及產品名稱可能為其相關所有者的註冊商標或商標。
- 本產品的一部分根據Independent JPEG Group的部分軟體開發而成。
- 本用戶說明書之內容如有變更,恕不另行通知。
- 不得複製本說明書或其中的任何部分。 您可以個人使用本說明書。 未經卡西歐計算機公司(CASIO COMPUTER CO., LTD.)的許可不得他用。
- 卡西歐計算機公司(CASIO COMPUTER CO., LTD.)對於第三方因使用本產品或本說明書而引起的任何損失或索賠不負任何責任。
- 卡西歐計算機公司(CASIO COMPUTER CO., LTD.) 對由於本產品的故障或維修,或任何其他原因造成 資料丟失而導致的任何損害或損失皆不負任何責任。
- 本說明書中的插圖畫面僅為示範參考之用,可能會與產品的實際畫面不完全相同。



目錄

	可使用的外部裝置
7	疑難排解
設置選單的使用	支援的訊號18

術語及習慣用語

- 本說明書中的"投影機系統"一詞是指下列系統。
 - XJ-SK600雙投影系統
 - XJ-SK650雙投影系統
 - 由YA-S10幾何校正盒(在本說明書中稱為"控制盒")組成的投影機系統能連接一台或兩台CASIO投 影機
- 請用控制盒的遙控器 (YT-200)上的 [▲], [▼], [◀], 及 [▶] 鍵選擇投影畫面上出現的對話方塊或選單中的設定項。 當本說明書中有"選擇xxx"的操作說明時請使用這些鍵。



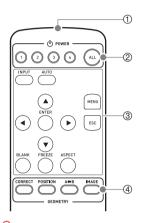
● 在本說明書中介紹的投影機中,有些型號在某些地區未銷售。

如何執行控制盒的操作

控制盒的操作可以用其遙控器(YT-200)或控制盒上的鍵來控制。 使用控制盒的遙控器可以像控制單台投影機一樣控制投影機系統。

控制盒的遙控器

控制盒的前後都有訊號接收器。 進行操作時,請將控制盒的遙控器上的訊號發射器指向兩個訊號接收器 之一。



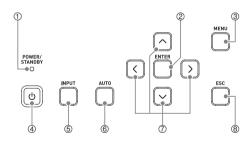
- ① 遙控器的訊號發射器
- ② [ALL], [1], [2], [3], [4] 鍵用於打開或關閉電源。 有關詳情請參閱YA-S10設置手冊。
- ③ [INPUT], [AUTO], [▲], [▼], [◄], [▶], [ENTER], [MENU], [ESC], [BLANK], [FREEZE], [ASPECT] 鍵用於各種投影操作。 這些操作在本說明書的後部詳述。
- ④ [CORRECT], [POSITION], [A ⇔ B], [IMAGE] 鍵 用於調整投影的形狀。 有關詳情請參閱YA-S10設置手冊。



重要!

為避免耗盡電池,不要將遙控器放在其按鈕會被意外按下的地方。

控制盒的鍵鈕和指示燈



- ① POWER/STANDBY指示燈
- ② [ENTER] 鍵
- ③ [MENU] 鍵
- ④ [()](電源)鍵
- ⑤ [INPUT] 鍵
- ⑥ [AUTO] 鍵
- ⑦ 游標鍵(ヘ/\//</>)
- ® [ESC] 鍵

如何改變輸入源(INPUT)

- 1. 按[INPUT]鍵。
- 2. 在出現的"輸入"對話方塊上,選擇輸入源後按[ENTER]鍵。

RGB輸入訊號的自動調整(AUTO)

若從電腦輸入的RGB訊號未正確投影,請按[AUTO]鍵自動調整。 若影像未改善,請檢查下列各點。

- 檢查並確認訊號的種類是控制盒所支援的。 有關詳情請參閱 "支援的訊號"一節(第18頁)。
- 在設置選單上,改變"機器設定 → 自動調整"設定(第9頁)。

如何使影像空白並靜音(BLANK)

按[BLANK]鍵切斷輸入源的影像和聲音 *1 。 此時投影變為空白畫面(初始預設選項)、藍色畫面、預設 徽標或自訂徽標。 *2

要恢復正常的投影與聲音時,請再次按[BLANK]鍵或按[ESC]鍵。

- *1 當HDMI輸入源被選擇時,連接在控制盒上的投影機系統將從投影機的揚聲器輸出聲音。
- *2 使用"畫面設定 → 空白畫面"設定(第9頁)可以設定空白畫面的投影。

影像的凍結(FREEZE)

按[FREEZE]鍵可凍結目前輸入源的投影。 要返回輸入源的實時投影時,請再次按[FREEZE]鍵或按[ESC] 鍵。

如何改變輸入源投影的橫縱比(ASPECT)

按[ASPECT]鍵可依下示順序之一循環選換輸入源影像的橫縱比。

HDMI (PC)或RGB輸入源:

L 標準 → 全屏 —

HDMI (DTV) 或色差輸入源:

→ 標準 → 全屏 → 16:9 → 信箱 —

選擇"標準"可保持輸入源影像的原橫縱比,而選擇"全屏"可投射最大尺寸的影像,填滿目標螢幕。 "信箱"選項將源影像的尺寸改變為水平1280點寬,並保持源影像的橫縱比。源影像的頂部和底部可能 會被切去,只有垂直800點的縱向的中央區域被投影。選擇"16:9"可將輸入的源影像調整為16:9橫縱 比進行投影。



請注意,以商業為目的或在公共場所進行演示時放大或縮小影像,有侵犯資料所有者的版權的可能。

音量的調節

使用下述操作可以調節從投影機的揚聲器輸出的聲音的音量,或使聲音的輸出靜音。



註

只有當控制盒選擇HDMI輸入,並且HDMI音頻訊號輸入到投影機系統時,投影機才輸出聲音。

如何調節投影機的揚聲器的音量

- 按[MENU]鍵顯示設置選單。
- 2. 選擇 "音量調整" 後按[ENTER]鍵。
- 3. 用[◀]鍵及[▶]鍵調整音量。 設定完畢後,按[MENU]鍵。

如何使投影機的揚聲器的輸出靜音

- 1. 按「MENU」鍵顯示設置選單。
- 2. 選擇 "音量調整" 後按[ENTER]鍵。
- 3. 選擇"靜音"後按[◀]鍵及[▶]鍵將設定改變為"開"。
- 4. 按[MENU]鍵。

要取消投影機的揚聲器輸出的靜音時,請在上述操作的第3步用[◀]及[▶]鍵將設定改變為"關",或執行"如何調節投影機的揚聲器的音量"一節中的操作。

自訂徽標的建立

您可以捕捉一個投影畫面並將其作為影像資料保存在控制盒的內存中。 您保存到控制盒內存中的影像稱為"自訂徽標"。

自訂徽標有以下用途。

- 用作"無訊號畫面",當沒有訊號輸入控制盒時該畫面被投影。
- 用作"空白畫面",您按[BLANK]鍵時此畫面被投影。



重要! -

請注意,以商業為目的或在公共場所進行演示時用控制盒保存影像,有侵犯資料所有者的版權的可能。

如何捕捉畫面並將其保存為自訂徽標



雷亜I

- 當您使用下述操作開始捕捉畫面時,目前保存在控制盒內存中的自訂徽標立即被刪除。
- 若捕捉操作由於任何原因在完成之前被中斷,自訂徽標將復原為初始出廠預設影像(淡綠影像)。但根據中斷的時機,捕捉操作可能部分完成,使書而影像的一部分保存為自訂徽標。
- 在螢幕上投射要註冊為自訂徽標的影像。
 - 若輸入源為RGB或HDMI(PC),則請使用下列解析度之一: 1366 × 768, 1360 × 768, 或 1280 × 800以下。 若投影的解析度不是上述之一,您將無法進行畫面捕捉。
 - 只有下列色差訊號能捕捉: 480i, 480p, 576i, 576p。不能使用不是上述色差訊號的輸入源進行書面捕捉。
 - 投影中有受保護的內容時不能進行書面捕捉。
- 按[MENU]鍵顯示設置選單。
- 3. 選擇"機器設定"後按[ENTER]鍵。
- 4. 選擇 "自訂徽標捕捉" 後按[ENTER]鍵。
- 5. "開始捕捉畫面。 繼續?"對話方塊出現時,請選擇"是"後按[ENTER]鍵。
 - 您按[ENTER]鍵時的投影將凍結在螢幕上,並且捕捉開始。
 - 若影像保存成功,則"畫面捕捉完畢。"訊息將出現片刻。

如何將自訂徽標指定為無訊號畫面或空白畫面

按[MENU]鍵顯示設置選單後執行下述操作之一。

- ●用"畫面設定→無訊號畫面"(第9頁)選擇"自訂徽標"。
- ●用"書面設定 → 空白書面" (第9頁)選擇"自訂徽標"。

設置選單的使用

按[MENU]鍵在投影上顯示下示的設置選單。 您可用此選單調整投影(亮度,對比度等)或改變控制盒的設定。



設置選單的基本操作

目的:	操作:	
顯示設置選單 退出設置選單	按[MENU]鍵。 按[MENU]鍵退出設置選單將保存其顯示過程中您配置的設定。	
選擇一個選單項	用[▲]及[▼]鍵將加亮移動至含有您要選擇的選單項的選單處,然後按[ENTER]鍵。 然後,用[▲]鍵及[▼]鍵將加亮移動至要選擇的選單項處。	
配置選單項的設定	 對於右側有◀和▶箭頭的選單項,用[◀]及[▶]鍵可改變設定。 對於右側有"變更[ENTER]"或"確定[ENTER]"的選單項,按[ENTER]鍵可顯示用於配置設定的對話方塊。 	

設置選單的設定

選單項名右側括弧中的字母表示影像的輸入源。 衹有當特定的輸入源被選擇時,此種選單項的設定才生效。 各字母的含義為:R代表RGB輸入,C代表色差輸入,H代表HDMI(PC)輸入,而D代表HDMI(DTV)輸入。 右側沒有字母的選單項則無論影像的輸入源為何都有效。

使用此選單項:	目的:
影像屬性 → 亮度	調整投影的亮度
影像屬性 → 對比度	調整投影的對比度
影像屬性 → 彩色模式*1	選擇下列投影的彩色模式之一: "標準" , "圖形" , "劇場" , "黑板" , "遊戲" 。
影像屬性 → 色平衡	選擇下列預設色平衡之一: "暖色" , "標準" , "冷色" 。 還可用於分別調整紅 、 綠、藍
影像屬性 → 復原選單預設值	將"亮度","對比度","彩色模式"及"色平衡"各設定返回至其初始預設值。
調整位置 → 垂直位置 (RC)	根據目標螢幕調整輸入源影像的垂直與水平位置。
調整位置 → 水平位置 (RC)	

使用此選單項:	目的:	
調整位置 → 頻率 (R)	當投影因控制盒無法對應RGB輸入訊號的頻率而出現豎線時,調整RGB輸入訊號的頻率。若投影在調整過程中消失了,請按[AUTO]鍵使其出現後再進行調整。 有關詳情請參閱"RGB輸入訊號的自動調整(AUTO)"一節(第4頁)。	
調整位置 → 相位(R)	當影像因控制盒的相位與RGB輸入訊號的相位不匹配而產生閃爍時,調整RGB輸入訊號的相位。	
調整位置 → 復原選單預設值(RC)	將"垂直位置","水平位置","頻率"及"相位"各設定返回至其初始預設值。	
音量調整 → 音量 (HD)	有關詳情請參閱"音量的調節"一節(第6頁)。	
音量調整 → 靜音 (HD)		
音量調整 → 復原選單預設值(HD)	將"音量"和"靜音"各設定返回至其初始預設值。	
畫面設定→ 横縦比	改變輸入源影像的橫縱比。 此設定與[ASPECT]鍵設定的(第5頁)相同。	
畫面設定→ 無訊號畫面	指定當控制盒沒有輸入訊號(無訊號畫面)時或當畫面因[BLANK]鈕被按而變為空白	
畫面設定→ 空白畫面	(空白畫面)時投影何種畫面。 選項有"藍色"(藍色畫面),"黑色"(黑色畫面),"徽標"(預設徽標畫面)及"自訂徽標"(第6頁)。	
畫面設定 → 影像變形	顯示與[CORRECT]鍵被按下時出現的相同的"影像變形"選單。 有關詳情請參閱 YA-S10設置手冊。	
畫面設定 → 復原選單預設值	將 "無訊號畫面"和 "空白畫面"各設定返回至其初始預設值。 此操作不影響"影像變形"選單的設定。	
輸入設定 → COMPUTER端子(RC)	指定是否自動識別COMPUTER端子的輸入訊號的種類,或固定為RGB訊號或色差訊號。	
輸入設定 → 訊號名指示符	指定當[INPUT]鍵被按下來改變輸入訊號時是顯示(開)還是不顯示(關)新選擇的輸入訊號的種類。	
輸入設定 → 復原選單預設值	將 "COMPUTER端子"和 "訊號名指示符"各設定返回至其初始預設值。	
機器設定 → 自動調整 (R)	指定自動頻率和相位調整設定。 開: 自動調整有效。 關: 自動調整無效。	
機器設定 → 訊號搜索 (R)	當控制盒不能自動探測到RGB輸入訊號時可使用此設定。 1: 初始預設設置 2: 當投影1280 × 768 或1400 × 1050訊號失敗時選擇。 3: 當投影1360 × 768訊號失敗時選擇。	
機器設定 → 環保模式*1	指定節電優先還是投影亮度優先。 開: 節電有效。 關(標準): 節電無效,正常亮度。 關(亮): 節電無效,最大亮度。	
機器設定 → 自動關機	啟用或禁用自動關機功能,當無任何動作(不進行任何操作並且無訊號輸入)經過 10分鐘時該功能自動關閉投影機系統的電源。 選項有 "關" (自動關機功能無效)和 "10分鐘" (無任何動作經過10分鐘後自動關機)。	
機器設定 → 即時開機	啟用(開)或禁用(關)當控制盒的電源線插入電源插座時的控制盒自動開機功能。 在控制盒上連接投影機時,投影機亦在此時開機。	

使用此選單項:	目的:	
機器設定 → 自訂徽標捕捉	請參閱 "自訂徽標的建立" (第6頁)。	
機器設定→ 遙控器電源編號	指定遙控器上的哪個電源鈕([1],[2],[3],[4])用於打開控制盒的電源。 請參閱 YA-S10設置手冊中的"控制盒電源的打開/關閉"一節。	
機器設定 → 語言	指定顯示語言。 英語,法語,德語,義大利語,西班牙語,瑞典語,葡萄牙語,荷蘭語,挪威語,波 蘭語,芬蘭語,捷克語,土耳其語,俄語,中國語(簡體字),中國語(繁體字), 韓國語,日本語	
機器設定 → 復原選單預設值	將"環保模式","自動關機","即時開機"及"遙控器電源編號"各設定返回至 其初始預設值。當輸入源是RGB時,此操作還初始化"自動調整"設定。 此操作不清 除用"自訂徽標捕捉"操作保存的自訂徽標。	
有線LAN設定 → 遙控開啟	指定控制盒的電源是否可以通過有線LAN遙控打開。 選擇 "有效" 啟用遙控開啟功能,而選擇 "無效" 則禁用該功能。	
	重要!	
	在進行了"有線LAN設定 → 初始化有線LAN設定"或"全部復原為預設值 → 全部復原為預設值"操作後,此選項自動變為"無效"。若您使用有線LAN設定 操作投影機系統,則必須在初始化之後將此設定改回"有效"。	
有線LAN設定 → 有線LAN資訊	顯示下述資訊。 盒名: 控制盒的名稱	
13 9000 11 39 111	MAC地址: 控制盒的唯一的MAC地址 IP地址: 控制盒的IP地址	
有線LAN設定 → 初始化有線LAN設定	初始化"遙控開啟"設定和控制盒的LAN設定(第13頁上的"LAN設定")。	
運作資訊	顯示下述資訊。 衹有當輸入源是RGB或HDMI(PC)時解析度資訊才出現。 輸入訊號,訊號名,解析度,水平頻率,垂直頻率,掃描制式,照明時間(A),照 明時間(B)	
全部復原為預設值 → 全部復原為預設值	初始化下列除外的所有設置選單項的設定。 - 畫面設定 → 影像變形 - 機器設定 → 語言 - 用"自訂徽標補捉"操作保存的自訂徽標	

*1 當控制盒連接在下列任何型號的投影機之一上時,此項目不能設定。 XJ-A131,XJ-A141,XJ-A146,XJ-A241,XJ-A246,XJ-A251,XJ-A256 您可以使用投影機的遙控器改變投影機上的相應設定。

如何使用有線LAN控制投影機系統

涌渦在控制盒的ILAN埠上連接電腦或其他外部裝置,可以從這些裝置控制投影機系統。

可使用的外部裝置

- 本投影機系統支援Crestron Electronics公司的控制器及軟體(RoomView®)的命令。 http://www.crestron.com/
- 有關能與投影機系統的LAN埠連接並控制投影機系統的外部裝置種類的資訊,以及各外部裝置可使用的控制命令的資訊將刊載在下列卡西歐網站上。 http://www.casio-intl.com/support/

如何使用電腦配置控制盒的LAN設定

本節介紹如何在控制盒與電腦之間建立LAN連接,然後用電腦上的網頁瀏覽器來配置控制盒的LAN設定。



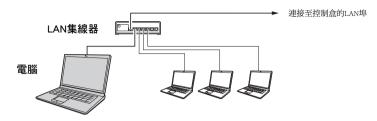
重要!

若是第一次連接電腦與控制盒,或若是在進行了"有線LAN設定"選單上的"初始化有線LAN設定"操作之後進行連接,則在通過LAN連接控制控制盒之前必須執行下述操作。

- 1. 將控制盒與電腦連接在含有DHCP伺服器的網路上。
- 2. 用由DHCP伺服器自動配置給控制盒的IP地址,顯示控制盒的系統管理頁面。
- 3. 使用下述操作配置控制盒的LAN設定。

如何設立控制盒與電腦的LAN連接

1. 將控制盒的LAN埠連接在與電腦連接的相同的LAN集線器或其他網路裝置上。



- 在上圖所示的結構中,應使用直通型LAN網線。 若要直接連接控制盒的LAN埠與電腦的LAN埠, 則請使用交叉型LAN網線。
- 2. 執行下述操作,取得控制盒的IP地址。
 - (1) 按[MENU]鍵顯示設置選單。
 - (2) 選擇 "有線LAN設定 → 有線LAN資訊"。
- 3. 在電腦上啟動網頁瀏覽器。
- 4. 在網頁瀏覽器的地址列中輸入控制盒的IP地址,然後按[Enter]鍵。
 - 例如,若控制盒的IP地址是192.168.100.10, 請輸入http://192.168.100.10。
 - ◆控制盒系統的管理頁面將出現。有關所需下一步操作的說明,請參閱下述"如何配置控制盒的 LAN設定"一節。

如何配置控制盒的LAN設定

- 用電腦上的網頁瀏覽器顯示控制盒系統的管理頁面。
 - 請參閱 "如何設立控制盒與電腦的LAN連接" (第12頁)。
- 2. 單擊 "系統管理"。 在出現的畫面上,輸入密碼(初始預設值: admin)後單擊[Login] 鈕。
 - "狀態"畫面出現。
- 3. 單擊左欄中的"設置"顯示"設置"畫面。
- 4. 通過輸入數值或選擇一個選項來改變設定。
 - 有關各設定項的詳細說明,請參閱下述 "LAN設定" 一節。
- 5. 要套用您配置的設定時,請單擊[Apply]鈕。

LAN設定

	設定名	說明
IP設置	自動獲取IP地址/ 使用下列IP地址	指定是自動獲取IP地址還是手動指定一個IP地址。 ● 選擇"使用下列IP地址"將套用您手動輸入的IP地址、子網路遮罩及預設閘道。 ● 當您選擇了"自動獲取IP地址"時不需要(亦無法)指定IP地址、子網路遮罩及預設閘道。 初始預設值: 自動獲取IP地址
	IP地址	指定控制盒的IP地址。
	子網路遮罩	指定子網路遮罩,即控制盒所屬子網的IP地址範圍。
	預設閘道	指定子網的預設閘道。
方塊名		可以輸入最多20個字元的名稱作為控制盒的識別碼。
遙控開		指定當控制盒在待機狀態下時(已通電源但尚末開機)是否可以通過有線 LAN使控制盒開機。 有效: 可以開機。 無效: 不能開機(初始預設)。

如何改變登入密碼

- 1. 用電腦上的網頁瀏覽器顯示控制盒系統的管理頁面。
 - 請參閱 "如何設立控制盒與電腦的LAN連接" (第12頁)。
- 2. 單擊"變更密碼"。
- 在出現的畫面上輸入新密碼兩次,一次在"新密碼"輸入方塊中,一次在"再次輸入密碼"輸入方塊中。
 - 密碼最長可以輸入八個單位元組的字元。
 - ●請注意,下次登入System Admin頁面時需要此處輸入的密碼。不可忘記您輸入的密碼。若您把密碼手寫記錄了下來,請小心不要將其丟失或讓他人看到。
- 4. 要使密碼變更有效時,請單擊[Apply]鈕。

如何將控制盒的LAN設定返回至其出廠預設值

- 1. 用電腦上的網頁瀏覽器顯示控制盒系統的管理頁面。
 - 請參閱 "如何設立控制盒與電腦的LAN連接" (第12頁)。
- 2. 單擊"復原出廠預設值"。
- 3. 在出現的畫面上單擊[Apply]鈕。

如何用RS-232C命令操作投影機系統

您可以使用市賣的序列電纜(交叉)在控制盒上連接電腦,然後用RS-232C命令控制投影機系統。

命令傳送格式

	使用下列設定配置電腦的序列埠。	
	資料速率	19200bps
資料位元 通訊協定		8位元
进 机 励 企	奇偶校驗	無
	停止位元	1位元
	流程控制	無
	需要控制盒的設置資訊時傳送此命令。	
	傳送格式	(<命令>?)
讀取命令	接收格式	(<相應的命令設定範圍>,<目前設定>)
順収叩マ	命令傳送範例	[[WOL17]] 從電腦向控制盒傳送。
		↓
		[(10-1310], 115]) 從控制盒返回電腦。
	傳送此命令來控制控制盒(開機/關機等)並在控制盒中寫入資料。	
	傳送格式	(<命令><設定值>)
寫入命令	命令傳送範例	[([VIO]LIO]) 從電腦向控制盒傳送。
		↓
		控制盒的音量設定變為0。

- 所有命令都使用ASCII字元及十進制的整數。
- 當控制盒接收到不認識的命令時將返回一個問號(?)。同時,要設定一個超出相應允許範圍的數值的任何命令都將被忽略。
- 若控制盒正在執行一個由之前傳送的命令、控制盒的鍵操作或遙控器的鍵操作激活的進程,則必須等 到控制盒完成該進程後才能傳送下一個命令。

命令列表

控制盒關機時衹有下列功能有效。不要向控制盒傳送任何其他的命令。

● 開機/關機: 讀取

● 電源開: 寫入

R: 可以讀取 W: 可以寫入

功能	命令	RW	設定範圍
開機/關機:	PWR	RW	0: 關,1: 開
輸入切換: 0: 將輸入源切換為COMPUTER端子,並將COMPUTER端子的設定改變為RGB。 1: 將輸入源切換為COMPUTER端子,並將COMPUTER端子的設定改變為色差。 6: 將輸入源切換為COMPUTER端子,並將COMPUTER端子的設定改變為自動。 7: 將輸入源切換為HDMI。	SRC	RW	0: RGB, 1: 色差, 6: 自動1(RGB/色差), 7: HDMI
空白畫面 : 打開或關閉空白畫面。	BLK	RW	0: 關,1: 開
音量: 當聲音從投影機的揚聲器或線路輸出時,指定從HDMI輸入控制 盒的聲音的輸出音量。	VOL	RW	0 至 30*1
彩色模式 : 指定彩色模式。	PST	RW	1: 圖形, 2: 劇場, 3: 標準, 4: 黑板, 5: 遊戲
橫縱比: 指定橫縱比。*2	ARZ	RW	0: 標準・1: 16:9, 3: 信箱・4: 全屏
獲取照明時間 : 執行此命令能取得連接在控制盒上的投影機的照明使用時間。 若連接有兩台投影機,則該命令取得兩個中較大的照明使用時間。	LMP	R	0- 單位: 小時

^{*1} 允許的最大音量取決於連接的投影機。

^{*2} 此設定與用"如何改變輸入源投影的橫縱比(ASPECT)" (第5頁)配置的設定相同。

指示燈

控制盒的POWER/STANDBY指示燈將如下所述點亮、閃動或熄滅,表示目前的控制盒的狀態。

熄滅: 控制盒未插入電源。

閃動為紅色: 控制盒初始化中(此時不能打開電源。) 點亮為紅色: 控制盒的待機模式(可以打開電源) 閃動為綠色: 控制盒正在熱身(電源剛剛打開) 點亮為綠色: 已開機並且控制盒動作正常



🧑 重要! 👝

POWER/STANDBY指示燈閃動為橙色時表示控制盒中發生了致命性錯誤。 若此種情況發生,請關 閉控制盒的電源,然後與您的經銷商或特約服務中心聯繫。

疑難排解

投影機系統出現任何問題時請檢查下列各項。

問題	原因及所需要的對策
電源打不開。	 ● 確認控制盒和投影機的電源線已插在電源插座中。 ● 您在遙控器上按的有數字的電源鍵可能與"機器設定 → 遙控器電源編號"設定分配給控制盒的電源鍵不同。 按遙控器上的[ALL]鍵或按控制盒上的[也](電源)鍵。 打開了控制盒的電源後,用設置選單(第10頁)檢查其分配的遙控器編號鍵。 ● 控制盒與投影機之間可能沒有連接RS-232C電纜。請參閱"YA-S10設置手冊"中的"配線"一節,檢查並確認所有連接都正確。 ● 若在檢查了上述事項後電源仍無法打開,則可能是控制盒發生了致命性錯誤。請與您的經銷商或特約服務中心聯繫。
遙控器不起作用。	● 您使用的可能是投影機的遙控器 (YT-120)。 請使用控制盒的遙控器 (YT-200)執行控制盒的操作。● 遙控器中的電池可能已耗盡。 更換電池。
沒有聲音。	 對於本投影機系統,衹有當輸入源是HDMI時才有聲音從投影機的揚聲器(或線路輸出端子)輸出。當輸入源是RGB或色差時投影機不輸出聲音。 若當輸入源是HDMI時沒有聲音輸出,請調節控制盒的音量設定(第6頁)。同時亦請檢查輸入源是否正在輸出聲音。
沒有投影。	控制盒與投影機之間可能沒有連接HDMI電纜。 請參閱 "YA-S10設置手冊"中的 "配線" 一節,檢查並確認所有連接都正確。
投影模糊。	當控制盒上連接有兩台投影機時,兩台投影機的位置及/或"影像變形"設定可能不重合。請執行YA-S10設置手冊中的"如何調整影像使其與投影螢幕匹配(兩台投影機)"和"如何調整投影機的位置(兩台投影機)"各節中的操作。

支援的訊號



即使是下表中列出的訊號,亦不保證能正確顯示影像。

RGB訊號

斜線(/)左側的數值表示解析度,而其右側的數值表示垂直頻率(Hz)。

VESA

訊號名	*1
640 × 480/60	31.5
640 × 480/72	37.9
640 × 480/75	37.5
640 × 480/85	43.3
800 × 600/56	35.2
800 × 600/60	37.9
800 × 600/72	48.1
800 × 600/75	46.9
800 × 600/85	53.7
1024 × 768/60	48.4
1024 × 768/70	56.5

訊號名	*1
1024 × 768/75	60
1024 × 768/85	68.7
1152 × 864/75	67.5
1280 × 768/60	47.8
1280 × 800/60	49.7
1280 × 960/60	60
1280 × 960/85	85.9
1280 × 1024/60	64
1280 × 1024/75	80
1280 × 1024/85	91.1
1360 × 768/60	47.7

訊號名	*1
1366 × 768/60	47.7
1400 × 1050/A*2	65.3
1440 × 900/60	55.9
1600 × 1200/60	75
1680 × 1050/60	65.3

其他

訊號名	*1
1152 × 864/70	64
1400 × 1050/B*2	64

下述訊號名中斜線(/)右側的數值表示垂直頻率(Hz)。

色差訊號

訊號名	*1	
HDTV 1080p/50	56.3	
HDTV 1080p/60	67.5	
HDTV 720p/50	37.5	
HDTV 720p/60	45	
HDTV 1080i/50*3	28.1	
HDTV 1080i/60	33.7	
SDTV 576p/50	31.3	
SDTV 576i/50*3	16.6	
SDTV 480p/60	31.5	
SDTV 480i/60	15.7	

HDMI訊號 (PC)

*1	
37.9	
48.4	
47.8	
49.7	
60	
64	
65.3	

HDMI訊號 (DTV)

訊號名	*1
SDTV 480p/60	31.5
SDTV 576p/50	31.25
HDTV 720p/50	37.5
HDTV 720p/60	45
HDTV 1080i/50*3	28.13
HDTV 1080i/60	33.75
HDTV 1080p/50	56.25
HDTV 1080p/60	67.5

- *1: 水平頻率(kHz)
- *2: 垂直頻率60Hz
- *3: 投影這些訊號時影像可能會失真。若發生此種情況,請開啟影像源裝置(DVD播放機等)的漸進輸出設定。有關詳情請參閱該影像源裝置附帶的用戶文件。

GPL與LGPL

- (1)本產品使用附帶有GNU General Public License(GPL)及GNU Lesser General Public License(LGPL)授權的軟體(本軟體)。根據GPL及LGPL,本軟體的源代碼為開源代碼。想查看開源代碼的任何人都可以從CASIO投影機下載網站下載源代碼。請按照GPL及LGPL的條款及條件複製、修改或分發本軟體。
- (2) 本軟體照原樣提供,沒有任何明確的或隱含的保修。但此種放棄不影響對產品本身的保修的條款及條件(包括因本軟體引起的故障)。
- (3)下述為本軟體附帶的GPL及LGPL授權。

GNU GENERAL PUBLIC LICENSE

Version 2. June 1991

```
Copyright (C) 1989, 1991 Free Software Foundation, Inc. 51 Franklin Street, Fifth Floor, Boston, MA 02110-1301, USA
```

Everyone is permitted to copy and distribute verbatim copies of this license document, but changing it is not allowed.

Preamble

The licenses for most software are designed to take away your freedom to share and change it. By contrast, the GNU General Public License is intended to guarantee your freedom to share and change free software--to make sure the software is free for all its users. This General Public License applies to most of the Free Software Foundation's software and to any other program whose authors commit to using it. (Some other Free Software Foundation software is covered by the GNU Lesser General Public License instead.) You can apply it to your programs, too.

When we speak of free software, we are referring to freedom, not price. Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for this service if you wish), that you receive source code or can get it if you want it, that you can change the software or use pieces of it in new free programs; and that you know you can do these things.

To protect your rights, we need to make restrictions that forbid anyone to deny you these rights or to ask you to surrender the rights. These restrictions translate to certain responsibilities for you if you distribute copies of the software, or if you modify it.

For example, if you distribute copies of such a program, whether gratis or for a fee, you must give the recipients all the rights that you have. You must make sure that they, too, receive or can get the source code. And you must show them these terms so they know their rights.

We protect your rights with two steps: (1) copyright the software, and (2) offer you this license which gives you legal permission to copy, distribute and/or modify the software.

Also, for each author's protection and ours, we want to make certain that everyone understands that there is no warranty for this free software. If the software is modified by someone else and passed on, we want its recipients to know that what they have is not the original, so that any problems introduced by others will not reflect on the original authors' reputations.

Finally, any free program is threatened constantly by software patents. We wish to avoid the danger that redistributors of a free program will individually obtain patent licenses, in effect making the program proprietary. To prevent this, we have made it clear that any patent must be licensed for everyone's free use or not licensed at all.

The precise terms and conditions for copying, distribution and modification follow.

TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License applies to any program or other work which contains a notice placed by the copyright holder saying it may be distributed under the terms of this General Public License. The "Program", below, refers to any such program or work, and a "work based on the Program" means either the Program or any derivative work under copyright law: that is to say, a work containing the Program or a portion of it, either verbatim or with modifications and/or translated into another language. (Hereinafter, translation is included without limitation in the term "modification".) Each licensee is addressed as "you".

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running the Program is not restricted, and the output from the Program is covered only if its contents constitute a work based on the Program (independent of having been made by running the Program). Whether that is true depends on what the Program does.

1. You may copy and distribute verbatim copies of the Program's source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and give any other recipients of the Program a copy of this License along with the Program.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

- 2. You may modify your copy or copies of the Program or any portion of it, thus forming a work based on the Program, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:
 - a) You must cause the modified files to carry prominent notices stating that you changed the files and the date of any change.
 - b) You must cause any work that you distribute or publish, that in whole or in part contains or is derived from the Program or any part thereof, to be licensed as a whole at no charge to all third parties under the terms of this License.
 - c) If the modified program normally reads commands interactively when run, you must cause it, when started running for such interactive use in the most ordinary way, to print or display an announcement including an appropriate copyright notice and a notice that there is no warranty (or else, saying that you provide a warranty) and that users may redistribute the program under these conditions, and telling the user how to view a copy of this License. (Exception: if the Program itself is interactive but does not normally print such an announcement, your work based on the Program is not required to print an announcement.)

These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Program, and can be reasonably considered independent and separate works in themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the Program, the distribution of the whole must be on the terms of this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or collective works based on the Program.

In addition, mere aggregation of another work not based on the Program with the Program (or with a work based on the Program) on a volume of a storage or distribution medium does not bring the other work under the scope of this License.

- 3. You may copy and distribute the Program (or a work based on it, under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you also do one of the following:
 - a) Accompany it with the complete corresponding machine-readable source code, which must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,
 - b) Accompany it with a written offer, valid for at least three years, to give any third party, for a charge no more than your cost of physically performing source distribution, a complete machine-readable copy of the corresponding source code, to be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,
 - c) Accompany it with the information you received as to the offer to distribute corresponding source code. (This alternative is allowed only for noncommercial distribution and only if you received the program in object code or executable form with such an offer, in accord with Subsection b above.)

The source code for a work means the preferred form of the work for making modifications to it. For an executable work, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the executable. However, as a special exception, the source code distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

If distribution of executable or object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place counts as distribution of the source code, even though third parties are not compelled to copy the source along with the object code.

4. You may not copy, modify, sublicense, or distribute the Program except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense or distribute the Program is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.

- 5. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Program or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Program (or any work based on the Program), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying the Program or works based on it.
- 6. Each time you redistribute the Program (or any work based on the Program), the recipient automatically receives a license from the original licensor to copy, distribute or modify the Program subject to these terms and conditions. You may not impose any further restrictions on the recipients' exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties to this License.
- 7. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not distribute the Program at all. For example, if a patent license would not permit royalty-free redistribution of the Program by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Program.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system, which is implemented by public license practices. Many people have made generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system; it is up to the author/donor to decide if he or she is willing to distribute software through any other system and a licensee cannot impose that choice.

This section is intended to make thoroughly clear what is believed to be a consequence of the rest of this License.

- 8. If the distribution and/or use of the Program is restricted in certain countries either by patents or by copyrighted interfaces, the original copyright holder who places the Program under this License may add an explicit geographical distribution limitation excluding those countries, so that distribution is permitted only in or among countries not thus excluded. In such case, this License incorporates the limitation as if written in the body of this License.
- 9. The Free Software Foundation may publish revised and/or new versions of the General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Program specifies a version number of this License which applies to it and "any later version", you have the option of following the terms and conditions either of that version or of any later version published by the Free Software Foundation. If the Program does not specify a version number of this License, you may choose any version ever published by the Free Software Foundation.

10.If you wish to incorporate parts of the Program into other free programs whose distribution conditions are different, write to the author to ask for permission. For software which is copyrighted by the Free Software Foundation, write to the Free Software Foundation; we sometimes make exceptions for this. Our decision will be guided by the two goals of preserving the free status of all derivatives of our free software and of promoting the sharing and reuse of software generally.

NO WARRANTY

- 11.BECAUSE THE PROGRAM IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE PROGRAM "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.
- 12.IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR REDISTRIBUTE THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER PROGRAMS), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Programs

If you develop a new program, and you want it to be of the greatest possible use to the public, the best way to achieve this is to make it free software which everyone can redistribute and change under these terms.

To do so, attach the following notices to the program. It is safest to attach them to the start of each source file to most effectively convey the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.

```
one line to give the program's name and an idea of what it does. Copyright (C) yyyy name of author
```

This program is free software; you can redistribute it and/or modify it under the terms of the GNU General Public License as published by the Free Software Foundation; either version 2 of the License, or (at your option) any later version.

This program is distributed in the hope that it will be useful, but WITHOUT ANY WARRANTY; without even the implied warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU General Public License for more details.

You should have received a copy of the GNU General Public License along with this program; if not, write to the Free Software Foundation, Inc., 51 Franklin Street, Fifth Floor, Boston, MA 02110-1301, USA.

Also add information on how to contact you by electronic and paper mail.

If the program is interactive, make it output a short notice like this when it starts in an interactive mode:

```
Gnomovision version 69, Copyright (C) year name of author Gnomovision comes with ABSOLUTELY NO WARRANTY; for details type 'show w'. This is free software, and you are welcome to redistribute it under certain conditions; type 'show c' for details.
```

The hypothetical commands 'show w' and 'show c' should show the appropriate parts of the General Public License. Of course, the commands you use may be called something other than 'show w' and 'show c'; they could even be mouse-clicks or menu items--whatever suits your program.

You should also get your employer (if you work as a programmer) or your school, if any, to sign a "copyright disclaimer" for the program, if necessary. Here is a sample; alter the names:

```
Yoyodyne, Inc., hereby disclaims all copyright interest in the program 'Gnomovision' (which makes passes at compilers) written by James Hacker.
```

```
signature of Ty Coon, 1 April 1989
Ty Coon, President of Vice
```

This General Public License does not permit incorporating your program into proprietary programs. If your program is a subroutine library, you may consider it more useful to permit linking proprietary applications with the library. If this is what you want to do, use the GNU Lesser General Public License instead of this License.

GNU LESSER GENERAL PUBLIC LICENSE

Version 2.1, February 1999

```
Copyright (C) 1991, 1999 Free Software Foundation, Inc. 51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA Everyone is permitted to copy and distribute verbatim copies of this license document, but changing it is not allowed.

[This is the first released version of the Lesser GPL. It also counts as the successor of the GNU Library Public License, version 2, hence the version number 2.1.]
```

Preamble

The licenses for most software are designed to take away your freedom to share and change it. By contrast, the GNU General Public Licenses are intended to guarantee your freedom to share and change free software--to make sure the software is free for all its users.

This license, the Lesser General Public License, applies to some specially designated software packages--typically libraries--of the Free Software Foundation and other authors who decide to use it. You can use it too, but we suggest you first think carefully about whether this license or the ordinary General Public License is the better strategy to use in any particular case, based on the explanations below.

When we speak of free software, we are referring to freedom of use, not price. Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for this service if you wish); that you receive source code or can get it if you want it; that you can change the software and use pieces of it in new free programs; and that you are informed that you can do these things.

To protect your rights, we need to make restrictions that forbid distributors to deny you these rights or to ask you to surrender these rights. These restrictions translate to certain responsibilities for you if you distribute copies of the library or if you modify it.

For example, if you distribute copies of the library, whether gratis or for a fee, you must give the recipients all the rights that we gave you. You must make sure that they, too, receive or can get the source code. If you link other code with the library, you must provide complete object files to the recipients, so that they can relink them with the library after making changes to the library and recompiling it. And you must show them these terms so they know their rights.

We protect your rights with a two-step method: (1) we copyright the library, and (2) we offer you this license, which gives you legal permission to copy, distribute and/or modify the library.

To protect each distributor, we want to make it very clear that there is no warranty for the free library. Also, if the library is modified by someone else and passed on, the recipients should know that what they have is not the original version, so that the original author's reputation will not be affected by problems that might be introduced by others.

Finally, software patents pose a constant threat to the existence of any free program. We wish to make sure that a company cannot effectively restrict the users of a free program by obtaining a restrictive license from a patent holder. Therefore, we insist that any patent license obtained for a version of the library must be consistent with the full freedom of use specified in this license.

Most GNU software, including some libraries, is covered by the ordinary GNU General Public License. This license, the GNU Lesser General Public License, applies to certain designated libraries, and is quite different from the ordinary General Public License. We use this license for certain libraries in order to permit linking those libraries into non-free programs.

When a program is linked with a library, whether statically or using a shared library, the combination of the two is legally speaking a combined work, a derivative of the original library. The ordinary General Public License therefore permits such linking only if the entire combination fits its criteria of freedom. The Lesser General Public License permits more lax criteria for linking other code with the library.

We call this license the "Lesser" General Public License because it does Less to protect the user's freedom than the ordinary General Public License. It also provides other free software developers Less of an advantage over competing non-free programs. These disadvantages are the reason we use the ordinary General Public License for many libraries. However, the Lesser license provides advantages in certain special circumstances.

For example, on rare occasions, there may be a special need to encourage the widest possible use of a certain library, so that it becomes a de-facto standard. To achieve this, non-free programs must be allowed to use the library. A more frequent case is that a free library does the same job as widely used non-free libraries. In this case, there is little to gain by limiting the free library to free software only, so we use the Lesser General Public License.

In other cases, permission to use a particular library in non-free programs enables a greater number of people to use a large body of free software. For example, permission to use the GNU C Library in non-free programs enables many more people to use the whole GNU operating system, as well as its variant, the GNU/Linux operating system.

Although the Lesser General Public License is Less protective of the users' freedom, it does ensure that the user of a program that is linked with the Library has the freedom and the wherewithal to run that program using a modified version of the Library.

The precise terms and conditions for copying, distribution and modification follow. Pay close attention to the difference between a "work based on the library" and a "work that uses the library". The former contains code derived from the library, whereas the latter must be combined with the library in order to run.

TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License Agreement applies to any software library or other program which contains a notice placed by the copyright holder or other authorized party saying it may be distributed under the terms of this Lesser General Public License (also called "this License"). Each licensee is addressed as "you".

A "library" means a collection of software functions and/or data prepared so as to be conveniently linked with application programs (which use some of those functions and data) to form executables.

The "Library", below, refers to any such software library or work which has been distributed under these terms. A "work based on the Library" means either the Library or any derivative work under copyright law: that is to say, a work containing the Library or a portion of it, either verbatim or with modifications and/or translated straightforwardly into another language. (Hereinafter, translation is included without limitation in the term "modification".)

"Source code" for a work means the preferred form of the work for making modifications to it. For a library, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the library.

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running a program using the Library is not restricted, and output from such a program is covered only if its contents constitute a work based on the Library (independent of the use of the Library in a tool for writing it). Whether that is true depends on what the Library does and what the program that uses the Library does.

1. You may copy and distribute verbatim copies of the Library's complete source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and distribute a copy of this License along with the Library.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

- 2. You may modify your copy or copies of the Library or any portion of it, thus forming a work based on the Library, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:
 - a) The modified work must itself be a software library.
 - b) You must cause the files modified to carry prominent notices stating that you changed the files and the date of any change.
 - c) You must cause the whole of the work to be licensed at no charge to all third parties under the terms of this License.

d) If a facility in the modified Library refers to a function or a table of data to be supplied by an application program that uses the facility, other than as an argument passed when the facility is invoked, then you must make a good faith effort to ensure that, in the event an application does not supply such function or table, the facility still operates, and performs whatever part of its purpose remains meaningful.

(For example, a function in a library to compute square roots has a purpose that is entirely well-defined independent of the application. Therefore, Subsection 2d requires that any application-supplied function or table used by this function must be optional: if the application does not supply it, the square root function must still compute square roots.)

These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Library, and can be reasonably considered independent and separate works in themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the Library, the distribution of the whole must be on the terms of this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or collective works based on the Library.

In addition, mere aggregation of another work not based on the Library with the Library (or with a work based on the Library) on a volume of a storage or distribution medium does not bring the other work under the scope of this License.

- 3. You may opt to apply the terms of the ordinary GNU General Public License instead of this License to a given copy of the Library. To do this, you must alter all the notices that refer to this License, so that they refer to the ordinary GNU General Public License, version 2, instead of to this License. (If a newer version than version 2 of the ordinary GNU General Public License has appeared, then you can specify that version instead if you wish.) Do not make any other change in these notices.
 - Once this change is made in a given copy, it is irreversible for that copy, so the ordinary GNU General Public License applies to all subsequent copies and derivative works made from that copy.
 - This option is useful when you wish to copy part of the code of the Library into a program that is not a library.
- 4. You may copy and distribute the Library (or a portion or derivative of it, under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you accompany it with the complete corresponding machine-readable source code, which must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange.
 - If distribution of object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place satisfies the requirement to distribute the source code, even though third parties are not compelled to copy the source along with the object code.
- 5. A program that contains no derivative of any portion of the Library, but is designed to work with the Library by being compiled or linked with it, is called a "work that uses the Library". Such a work, in isolation, is not a derivative work of the Library, and therefore falls outside the scope of this License.

However, linking a "work that uses the Library" with the Library creates an executable that is a derivative of the Library (because it contains portions of the Library), rather than a "work that uses the library". The executable is therefore covered by this License. Section 6 states terms for distribution of such executables.

When a "work that uses the Library" uses material from a header file that is part of the Library, the object code for the work may be a derivative work of the Library even though the source code is not. Whether this is true is especially significant if the work can be linked without the Library, or if the work is itself a library. The threshold for this to be true is not precisely defined by law.

If such an object file uses only numerical parameters, data structure layouts and accessors, and small macros and small inline functions (ten lines or less in length), then the use of the object file is unrestricted, regardless of whether it is legally a derivative work. (Executables containing this object code plus portions of the Library will still fall under Section 6.)

Otherwise, if the work is a derivative of the Library, you may distribute the object code for the work under the terms of Section 6. Any executables containing that work also fall under Section 6, whether or not they are linked directly with the Library itself.

6. As an exception to the Sections above, you may also combine or link a "work that uses the Library" with the Library to produce a work containing portions of the Library, and distribute that work under terms of your choice, provided that the terms permit modification of the work for the customer's own use and reverse engineering for debugging such modifications.

You must give prominent notice with each copy of the work that the Library is used in it and that the Library and its use are covered by this License. You must supply a copy of this License. If the work during execution displays copyright notices, you must include the copyright notice for the Library among them, as well as a reference directing the user to the copy of this License. Also, you must do one of these things:

- a) Accompany the work with the complete corresponding machine-readable source code for the Library including whatever changes were used in the work (which must be distributed under Sections 1 and 2 above); and, if the work is an executable linked with the Library, with the complete machine-readable "work that uses the Library", as object code and/or source code, so that the user can modify the Library and then relink to produce a modified executable containing the modified Library. (It is understood that the user who changes the contents of definitions files in the Library will not necessarily be able to recompile the application to use the modified definitions.)
- b) Use a suitable shared library mechanism for linking with the Library. A suitable mechanism is one that (1) uses at run time a copy of the library already present on the user's computer system, rather than copying library functions into the executable, and (2) will operate properly with a modified version of the library, if the user installs one, as long as the modified version is interface-compatible with the version that the work was made with.
- c) Accompany the work with a written offer, valid for at least three years, to give the same user the materials specified in Subsection 6a, above, for a charge no more than the cost of performing this distribution.
- d) If distribution of the work is made by offering access to copy from a designated place, offer equivalent access to copy the above specified materials from the same place.
- e) Verify that the user has already received a copy of these materials or that you have already sent this user a copy.

For an executable, the required form of the "work that uses the Library" must include any data and utility programs needed for reproducing the executable from it. However, as a special exception, the materials to be distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

It may happen that this requirement contradicts the license restrictions of other proprietary libraries that do not normally accompany the operating system. Such a contradiction means you cannot use both them and the Library together in an executable that you distribute.

- 7. You may place library facilities that are a work based on the Library side-by-side in a single library together with other library facilities not covered by this License, and distribute such a combined library, provided that the separate distribution of the work based on the Library and of the other library facilities is otherwise permitted, and provided that you do these two things:
 - a) Accompany the combined library with a copy of the same work based on the Library, uncombined with any other library facilities. This must be distributed under the terms of the Sections above.
 - b) Give prominent notice with the combined library of the fact that part of it is a work based on the Library, and explaining where to find the accompanying uncombined form of the same work.
- 8. You may not copy, modify, sublicense, link with, or distribute the Library except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense, link with, or distribute the Library is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.
- 9. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Library or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Library (or any work based on the Library), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying the Library or works based on it.
- 10.Each time you redistribute the Library (or any work based on the Library), the recipient automatically receives a license from the original licensor to copy, distribute, link with or modify the Library subject to these terms and conditions. You may not impose any further restrictions on the recipients' exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties with this License.
- 11.If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not distribute the Library at all. For example, if a patent license would not permit royalty-free redistribution of the Library by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Library.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply, and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system which is implemented by public license practices. Many people have made generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system; it is up to the author/donor to decide if he or she is willing to distribute software through any other system and a licensee cannot impose that choice.

This section is intended to make thoroughly clear what is believed to be a consequence of the rest of this License.

- 12.If the distribution and/or use of the Library is restricted in certain countries either by patents or by copyrighted interfaces, the original copyright holder who places the Library under this License may add an explicit geographical distribution limitation excluding those countries, so that distribution is permitted only in or among countries not thus excluded. In such case, this License incorporates the limitation as if written in the body of this License.
- 13. The Free Software Foundation may publish revised and/or new versions of the Lesser General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.
 - Each version is given a distinguishing version number. If the Library specifies a version number of this License which applies to it and "any later version", you have the option of following the terms and conditions either of that version or of any later version published by the Free Software Foundation. If the Library does not specify a license version number, you may choose any version ever published by the Free Software Foundation.
- 14.If you wish to incorporate parts of the Library into other free programs whose distribution conditions are incompatible with these, write to the author to ask for permission. For software which is copyrighted by the Free Software Foundation, write to the Free Software Foundation; we sometimes make exceptions for this. Our decision will be guided by the two goals of preserving the free status of all derivatives of our free software and of promoting the sharing and reuse of software generally.

NO WARRANTY

- 15.BECAUSE THE LIBRARY IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY FOR THE LIBRARY, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE LIBRARY "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE LIBRARY IS WITH YOU. SHOULD THE LIBRARY PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.
- 16.IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR REDISTRIBUTE THE LIBRARY AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE LIBRARY (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE LIBRARY TO OPERATE WITH ANY OTHER SOFTWARE), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Libraries

If you develop a new library, and you want it to be of the greatest possible use to the public, we recommend making it free software that everyone can redistribute and change. You can do so by permitting redistribution under these terms (or, alternatively, under the terms of the ordinary General Public License).

To apply these terms, attach the following notices to the library. It is safest to attach them to the start of each source file to most effectively convey the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.

one line to give the library's name and an idea of what it does. Copyright (C) year name of author

This library is free software; you can redistribute it and/or modify it under the terms of the GNU Lesser General Public License as published by the Free Software Foundation; either version 2.1 of the License, or (at your option) any later version.

This library is distributed in the hope that it will be useful, but WITHOUT ANY WARRANTY; without even the implied warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU Lesser General Public License for more details.

You should have received a copy of the GNU Lesser General Public License along with this library; if not, write to the Free Software Foundation, Inc., 51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA

Also add information on how to contact you by electronic and paper mail.

You should also get your employer (if you work as a programmer) or your school, if any, to sign a "copyright disclaimer" for the library, if necessary. Here is a sample; alter the names:

Yoyodyne, Inc., hereby disclaims all copyright interest in the library 'Frob' (a library for tweaking knobs) written by James Random Hacker.

signature of Ty Coon, 1 April 1990 Ty Coon, President of Vice

That's all there is to it!



CASIO COMPUTER CO., LTD.

6-2, Hon-machi 1-chome Shibuya-ku, Tokyo 151-8543, Japan