

1. Introduction

Congratulations on your purchase of a Multi-Frequency monitor. One of the most versatile monitors available today, the **C7T SERIES** automatically adjusts its vertical and horizontal scanning frequencies to those of your computer's graphics adapter. The **C7T SERIES** provides crisp text and vivid color graphic displays when used with Multi-Frequency and compatible graphics adapters (see specifications).

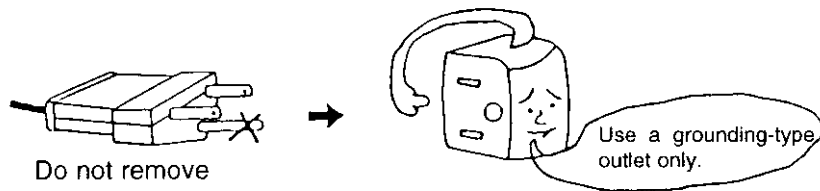
2. Precautions

1. To prevent electric shock, do not remove screws or cover. There are no user-serviceable parts inside the monitor. Refer servicing to qualified service personnel.
DO NOT REMOVE THE TILT/SWIVEL BASE!

2. The input power source:
The **monitor** is designed to be Full Range from AC 100V to AC 240V.

WARNING: This appliance should be grounded (earthed)

3. The monitor is equipped with a grounding plug which must be used with an easily accessible grounded power outlet located near to your equipment.
This is a safety feature. If you are unable to insert the plug into the outlet, contact an electrician.



4. Do not put the monitor or other heavy objects on the power supply cord. A damaged power cord may cause fire or electric shock.
5. Do not insert sharp objects into the monitor. They may cause fire or failure.
6. Do not allow liquids to fall into the cabinet.

7. To reduce eye fatigue, avoid using the display in direct sunlight or other bright lights.
8. Do not operate the monitor beyond the specified temperature and humidity range (see specifications).
9. For proper operation, keep the monitor adequately ventilated.
10. Keep the monitor away from transformers, motors, fans or strong magnetic fields.
11. If the monitor does not operate properly, turn the power switch off and then unplug the monitor.
12. When an irregular supply is applied, a protective circuit will turn off the monitor (the power indicator will also be turned off). If this happens, turn off the power switch, and wait at least 30 seconds before turning it on again.

3. Features

1. Automatically scan horizontal frequencies ranged from 30kHz to 70kHz and vertical frequencies ranged from 50Hz to 100Hz.
2. Meets DPMS and NUTEK power saving standards.
3. All functions can be controlled by on screen display.
4. Plug and play, if supported by your PC.
5. Full-scan display — 15.9 inch diagonal viewable image size.
6. Rotation (tilt control) .
7. Self test — When you disconnect the signal cable from PC, the display will produce the rectangular full white pattern including small RGB rectangles, as below:



8. Color temperature selection — 9300K/6550K/ user adjustable.

4. Specifications

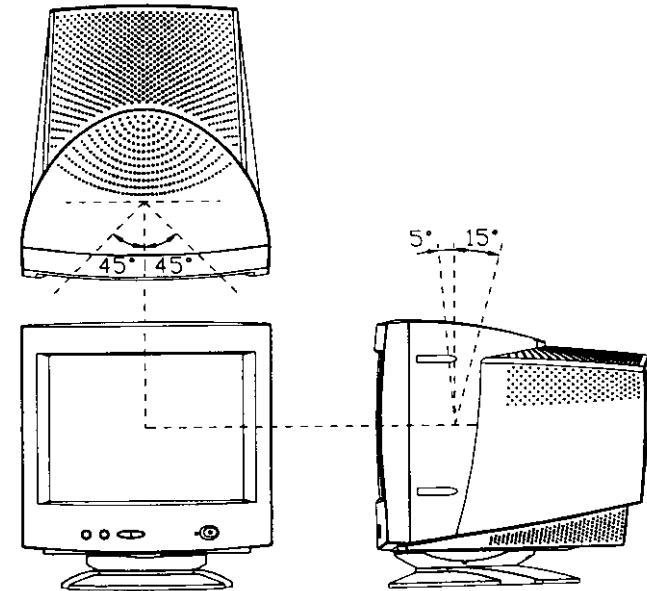
Power Source:	AC 100-240V, 50/60Hz (Full Range)
Power Consumption:	(1) Normal: 100W MAX. (2) Stand-by Mode: < 15W (2) Suspend Mode: < 15W (3) Off Mode: < 5W
Picture Tube:	90° deflection, 0.27mm dot pitch (0.25, 0.26, 0.28mm option) 15.9" Diagonal (viewable) low radiation, non-glare. Anti-static. /light transmission 53%. MPRII 1990 compliant. Selected models are TCO 1995 compliant. 1024 x 768 At 85Hz refresh rate.
Maximum Graphics Resolutions	
Input Signals	
* Video:	Analog 0.7 vp-p / 75 ohm positive
Separate Sync:	positive / negative
Synchronization	
* Horizontal:	30kHz to 70kHz
* Vertical:	50Hz to 100Hz
Active Display Area	
* Horizontal:	306mm typical
* Vertical:	230mm typical
Safety Standard:	UL / CSA / TÜV
EMI Standard:	FCC Class B, EN50082-1, EN55022
Environmental Conditions	
* Operating Temperature:	0°C ~ 40°C
* Operating Humidity:	10% ~ 80% (non-condensing)
* Storage Temperature:	-40°C ~ +65°C
* Storage Humidity:	5%~95%
High Voltage:	25.5kV
Misconvergence:	Less than 0.3mm (Center), 0.5mm (Corner)
Dimensions (W)×(H)×(D):	416mm × 443mm × 455mm
Weight (Net):	17.1kg

Tilt and Swivel Operation:

The swivel range is normally limited to 45 degrees to the right and the left of the front position (marked by a small molded pip on the top front bottom of the base).

The tilt range is normally limited at an angle of -5 degrees forwards and + 15 degrees backwards. This allows you to set the screen angle to the viewing position most comfortable to you.

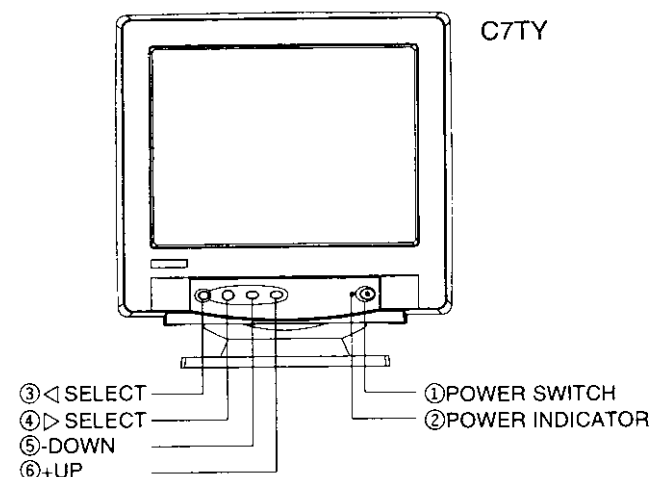
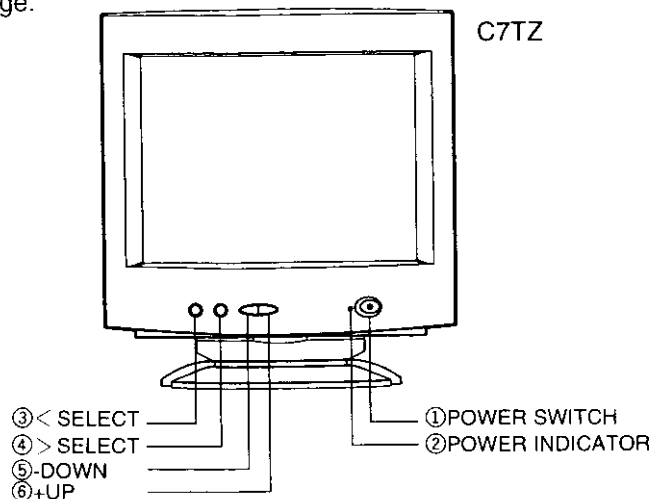
Note: *When this display is operated with the vertical frequency under 55Hz, the image on the screen may flicker.



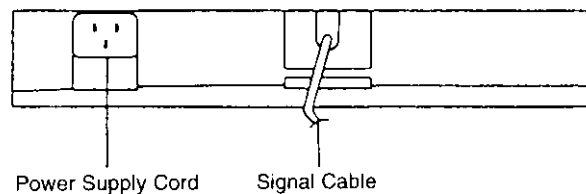
5. Control Locations and Adjustments

Note: The circled numbers indicate the control functions explained on the following page.

FRONT



REAR



Control Functions

① POWER SWITCH

Push to power on the monitor, and push again to power off.

(Due to auto degaussing, immediately after power on, the picture maybe disturbed for about 2 sec., following completion of the auto degaussing the display will be stable.)

② POWER INDICATOR

* The power indicator is green, when the monitor is providing a display.

* The power indicator is yellow when the monitor is in either "STAND-BY" or "SUSPEND" stage of power save.

* The power indicator will be amber when the monitor is in the "OFF" stage of power save.

③ < SELECT Press to reveal the OSD (On Screen Display) menu and select the function icon from right to the left.

④ > SELECT Press to reveal the OSD (On Screen Display) menu and select the function icon from left to the right.

⑤ - DOWN After choosing function to be adjusted, to decrease or change the function setting by pressing down.

⑥ +UP After choosing function to be adjusted, to increase or change the function setting by pressing down.

The OSD icons represent the following adjustment functions:

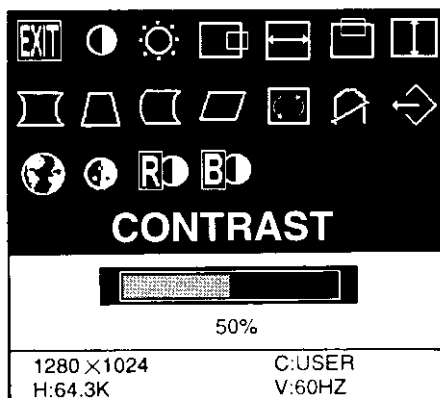
ICON	Name	Function
	EXIT	To Quickly remove the OSD menu.
	CONTRAST	To adjust the contrast of the display.
	BRIGHTNESS	To adjust the brightness of the display.
	HORIZONTAL POSITION	To adjust the horizontal position of the display.
	H. SIZE	To adjust the horizontal size of the display.
	VERTICAL POSITION	To adjust the vertical position of the display.
	V. SIZE	To adjust the height of the display.
	PINCUSHION	To adjust the straightness of the vertical edges of the display.

	TRAPEZOID	To adjust the straightness of the vertical edges in conjunction with side pincushion.
	PIN BALANCE	To balance the pincushion distortion
	PARALLEL	To adjust the display squareness
	TILT	To adjust the display tilt.
	DEGAUSS	To manually degauss the display.
	DATA RECALL	To recall the original factory display settings.
	MULTI-LINGUAL	To select desired language display on the OSD menu. designated in order of English, French, German, Italian, Spanish.
	COLOR	To select the required white color background of the display.
	RED CONTRAST	When "user" color is selected, to adjust red color to obtain desired white color background of the display.
	BLUE CONTRAST	When "user" color is selected, to adjust blue color to obtain desired white color background of the display.

⑦ OSD (ON SCREEN DISPLAY) menu.

The OSD menu is displayed as below with clear indication of the operating mode in the bottom half of the OSD, to obtain the menu press either of the two "select" keys.

For User Mode:



HOW TO READJUST THE DISPLAY SETTINGS

1. Press the ◀ or ▶ SELECT key on the front panel to reveal the OSD menu and choose the icon for the function you wish to adjust.
2. The chosen icon will change in colour from white to red, the icon function and its horizontal bar graph setting will appear in the middle of the OSD menu.
3. If you want to readjust the selected function, press and hold down either the +UP key to increase or the -DOWN key to decrease the setting until desired level is reached. Approximately 7-8 seconds after release of the key the new setting will be memorized and the OSD menu will disappear.
4. When you select the RECALL icon from the OSD menu and press either the UP key or the DOWN key, the settings of all functions will return to the original factory settings, after which the bar graphs of the default settings will be purple in colour.

COLOUR TEMPERATURE SELECTION

Press the ◀ or ▶ SELECT key to reveal the OSD menu and select the ● icon from the OSD menu. Press either the +UP or -DOWN key, the OSD will change to reveal the following options:

C=9300k or 6550k or USER in the lower part of the OSD menu. Repeatedly pressing the UP or DOWN key anyone of the above options can be selected. If USER colour is required and needs to be adjusted (C=USER), and using ◀ or ▶ SELECT key to choose the R and B on the OSD menu, press the +UP or -DOWN key again to change the colour of R or B setting as you require. The new setting will automatically be stored in user mode only.

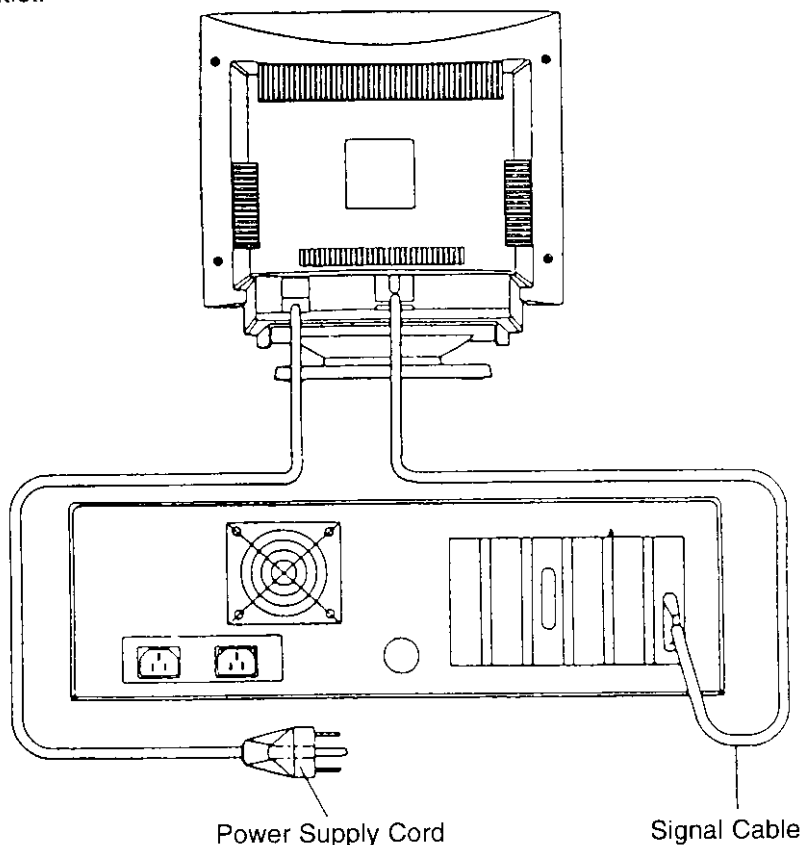
MULTI-LINGUAL SELECTION

Press the ◀ or ▶ SELECT key to reveal the OSD menu and select the 🌐 icon from the OSD menu. Then press either of +UP or -DOWN key, the OSD will change the language display on OSD menu in order of English, French, German, Italian, Spanish, as required.

6. Connections

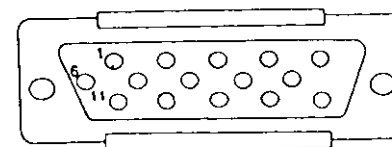
Your monitor has two connecting cables: a Power Supply Cord, which connects to a wall outlet, surge protector or other power source, and a Signal Cable, which connects to the graphics adapter of your computer. To ensure safety and correct operation, always follow these four steps when connecting the monitor:

1. Disconnect the power supply cords from your computer and monitor.
2. Connect the signal cable from the monitor to the graphics adapter of your computer. The connector is shaped so that it will only fit when properly aligned.
3. Secure the connection by tightening the two screws on the connector.
4. Plug the power supply cords of the computer and monitor into an AC outlet.



7. Pin Assignments and Signal Levels

Min D-SUB Type 15-P



PIN NO.	SIGNAL	PIN NO.	SIGNAL
1	* RED	9	+5V FROM PC
2	* GREEN	10	GROUND
3	* BLUE	11	NO-CONNECTION
4	NO-CONNECTION	12	SDA
5	SELF TEST PIN	13	H. SYNC.
6	GROUND	14	V. SYNC.
7	GROUND	15	SCK
8	GROUND		

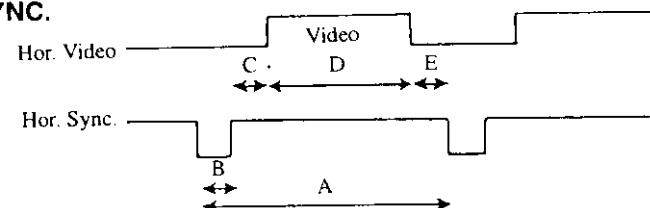
SIGNAL LEVEL

1. The signal level of pin 1,2,3. is 0.7 Vp-p.
2. The signal level of pin 13,14.. is 5 Vp-p.

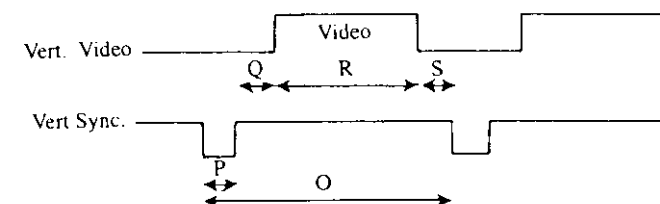
8. Timing Charts

SEPARATE SYNC.

HORIZONTAL



VERTICAL



FACTORY MODES

Mode No.	1	2	3	4	Unit
Resolution	640×350	640×480	720×400	640×480	
Horizontal Frequency	31.469	31.469	31.468	37.500	kHz
(A) Horizontal Period	31.778	31.778	31.778	26.667	usec
(B) Horizontal Pulse Width	3.813	3.813	3.813	2.032	usec
(C) Horizontal Back Porch	1.907	1.907	1.907	3.810	usec
(D) Horizontal Active Area	25.422	25.422	25.423	20.318	usec
(E) Horizontal Front Porch	0.636	0.636	0.636	0.18	usec
(F) H. Sync. Polarity	+	-	-	-	
Vertical Frequency	70.000	59.940	70.000	75.000	Hz
(O) Vertical Period	14.2	16.683	14.286	13.333	msec
(P) Vertical Pulse Width	0.063	0.064	0.063	0.080	msec
(Q) Vertical Back Porch	1.8749	1.049	1.143	0.427	msec
(R) Vertical Active Area	11.1221	15.253	12.698	12.800	msec
(S) Vertical Front Porch	1.2076	0.318	0.381	0.027	msec
(T) V. Sync. Polarity	-	-	+	-	
(U) Interlaced	No	No	No	No	

Mode No.	5	6	7	8	Unit
Resolution	800×600	640×480	800×600	1024×768	
Horizontal Frequency	37.878	43.269	46.875	48.363	kHz
(A) Horizontal Period	26.4	23.1	21.333	20.677	usec
(B) Horizontal Pulse Width	3.2	1.556	1.616	2.092	usec
(C) Horizontal Back Porch	2.2	2.222	3.232	2.462	usec
(D) Horizontal Active Area	20.0	17.778	16.162	15.754	usec
(E) Horizontal Front Porch	1.0	1.556	0.323	0.369	usec
(F) H. Sync. Polarity	+	-	+	-	
Vertical Frequency	60.31	85.0	75.000	60.000	Hz
(O) Vertical Period	16.579	11.764	13.333	16.667	msec
(P) Vertical Pulse Width	0.1056	0.069	0.064	0.124	msec
(Q) Vertical Back Porch	0.6072	0.578	0.448	0.600	msec
(R) Vertical Active Area	15.84	11.093	12.800	15.880	msec
(S) Vertical Front Porch	0.0264	0.023	0.021	0.062	msec
(T) V. Sync. Polarity	+	+	+	-	
(U) Interlaced	No	No	No	No	

Remark: * Denotes + or -

Mode No.	9	10	11	12	Unit
Resolution	800×600	1024×768	1280×1024	1024×768	
Horizontal Frequency	53.674	60.2	64.3	68.6	kHz
(A) Horizontal Period	18.774	16.6	15.55	14.52	usec
(B) Horizontal Pulse Width	1.138	1.2	0.97	1.013	usec
(C) Horizontal Back Porch	2.702	2.2	2.24	2.2	usec
(D) Horizontal Active Area	14.222	12.8	11.96	10.836	usec
(E) Horizontal Front Porch	0.712	0.4	0.38	0.471	usec
(F) H. Sync. Polarity	+	+	+	+	
Vertical Frequency	85.061	75	60.38	85	Hz
(O) Vertical Period	11.846	13.346	16.561	11.764	msec
(P) Vertical Pulse Width	0.056	0.05	0.047	0.044	msec
(Q) Vertical Back Porch	0.507	0.498	0.498	0.524	msec
(R) Vertical Active Area	11.264	12.749	15.923	11.182	msec
(S) Vertical Front Porch	0.019	0.049	0.093	0.014	msec
(T) V. Sync. Polarity	+	+	+	+	
(U) Interlaced	No	No	No	No	

2. USER MODES

Additional to the 12 factory pre-set modes there are a further 5 modes which the user can define.

After adjusting anyone of the following functions in the manner described in section ⑤ (pincushion, trapezoid, H - position, width, V-position, height, tilt, pin balance, parallel), the new setting will automatically be stored after four seconds.

9. Troubleshooting

Before you call an authorized service center, please check if the following items are properly connected.

If a non-IBM personal computer or graphics adaptor is being used, make sure the pin assignments of signal input connector and the signal timing meet the specifications detailed previously.

PROBLEM	CHECKS	LOCATION
No Picture or POWER indicator off.	* AC cord plugged in * POWER switch on * Signal cable connected	Rear Front Rear
No picture, POWER indicator off, AC cord plugged in, POWER switch on.	* Turn off POWER switch, wait at least 30 seconds, turn it back on.	Front
Image is not centered.	* V-CENTERING Control * H-PHASE Control	Front Front
No picture, POWER indicator on.	* CONTRAST Control * BRIGHTNESS Control	Front Front

10. Automatic Power Saving Description

Introduction:

"Green Concept" has prevailed throughout the information market of the world for some years. EPA(Environmental Protection Agency) stipulates that all information products sold to the UNITED STATES should meet the requirement of environmental protection. Thus, we promote a series of monitors with power saving features which meet "EPA" energy star requirement. Below are the criteria.

FEATURES:

1. When the monitor is connected to an unpowered PC or both horizontal and Vertical syncs are not present, the monitor will enter the "off" state and the power LED will be amber.
2. When either no horizontal or vertical sync is present, the monitor will automatically enter the "Suspend" or "Stand-BY" state and the power LED Color will be yellow.
3. When the PC recovers from the sleep state by either operation of the keyboard or mouse, the monitor will power up normally and the power LED will be green.

POWER CONSUMPTION:

The monitor power is reduced to less than 5 Watts in the power save "OFF" state and meets the U.S.A "EPA" energy star requirement and VESA "DPMS" requirement.