

IMPORTANT SAFEGUARDS

1. Read all of these instructions.
2. Save these instructions for later use.
3. Unplug this monitor from the wall outlet before cleaning. Do not use liquid cleaners or aerosol cleaners. Use a damp cloth for cleaning.
4. Do not use attachments not recommended by the monitor manufacturer as they may cause hazards.
5. Do not use this monitor near water for example, near a bathtub, wash - bowl, kitchen sink, of laundry tub, in a wet basement or near a swimming pool, etc.
6. Do not place this monitor on an unstable cart, stand, or table. The monitor may fall, causing serious injury to a child or adult, and serious damage to the appliance.
7. Slots and openings in the cabinet and the back or bottom are provided for ventilation, and to ensure reliable operation of the monitor and to protect it from overheating, these openings must not be blocked or covered. The openings should never be blocked by placing the monitor on a bed, sofa, rug, or other similar surface. This should never be placed near or over a radiator or heat register. This monitor should not be placed in a built-in installation such as a bookcase unless proper ventilation is provided.
8. This monitor should be operated only from the type of power source indicated on the marking label. If you are not sure of the power supplied to your home, consult your monitor dealer or local power company.
9. This monitor is equipped with a 3-wire grounding type plug, a plug having a third(grounding) pin. This plug will only fit into a groundingtype power outlet. This is a safety feature. If you are unable to insert the plug into the outlet, contact your electrician to replace your obsolete outlet. Do not defeat the purpose of the groundingtype plug.
10. Do not allow anything to rest on the power cord. Do not locate this monitor where the cord will be abused by persons walking on it.

11. Follow all warnings and instructions marked on the monitor.
12. For added protection for this monitor during a lightning storm, or when it is left unattended and unused for long periods of time, unplug it from the wall outlet. This will prevent damage to the set due to lightning and powerline surges.
13. Do not overload wall outlets and extension cords as this can result in fire or electric shock.
14. Never push objects of any kind into this monitor through cabinet slots, as they may touch dangerous voltage points or short out parts that could result in a fire or electric shock. Never spill liquid of any kind on the monitor.
15. Do not attempt to service this monitor yourself as opening or removing covers may expose you to dangerous voltage or other hazards. Refer all servicing to qualified service personnel.
16. Unplug this monitor from the wall outlet and refer servicing to qualified service personnel under the following conditions:
 - a. When the power cord or plug is damaged or frayed.
 - b. If liquid has been spilled into the monitor.
 - c. If the monitor has been exposed to rain or water.
 - d. If the monitor does not operate normally by following the operating instructions. Adjust only those controls that are controls improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore normal operation.
 - e. If the monitor has been dropped or the cabinet has been damaged.
 - f. When the monitor exhibits a distinct change in performance this indicates a need for service.
17. When replacement parts are required, be sure the service technician has used replacement parts specified by the manufacturer that have the same characteristics as the original part. Unauthorized substitutions may result in fire, electric shock, or other hazards.
18. Upon completion of any service or repairs to this monitor, ask the service technician to perform routine safety checks to determine that the monitor is in safe operating condition.

FEDERAL COMMUNICATIONS COMMISSION RADIO FREQUENCY INTERFERENCE STATEMENT

NOTE : This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation.

If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment to an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio, TV technician for help.

CAUTION : Any changes or modifications not expressly approved by the part responsible for compliance could void the user's authority to operate the equipment.

CANADIAN DEPARTMENT OF COMMUNICATIONS COMPLIANCE STATEMENT

This digital apparatus does not exceed the Class A/Class B (whichever is applicable) limits for radio noise emissions from digital apparatus set out in the Radio Interference Regulations of the Canadian Department of Communications.

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INTRODUCTION

This manual explains how to correctly install, operate and get the best performance from your monitor. Please read this user's manual carefully before installing your monitor, then keep it near your monitor for quick reference.

GETTING STARTED

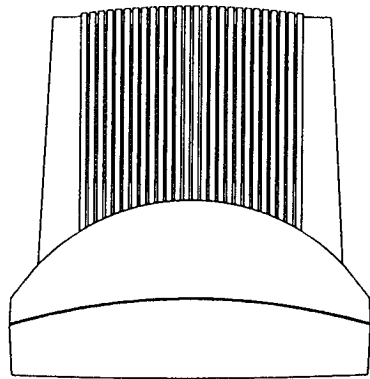
First, please check that the contents of the carton box corresponds with the following checklist :

- 17-inch color monitor
- Signal cable
- Power cord
- Tilt/swivel stand
- User's manual

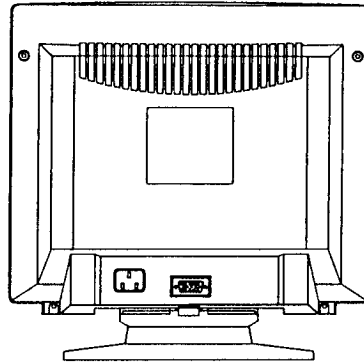
If there is any item missing or damaged, please contact your dealer. Please keep the carton box and packing materials so that you may properly store or transport your monitor.

EXTERNAL VIEW

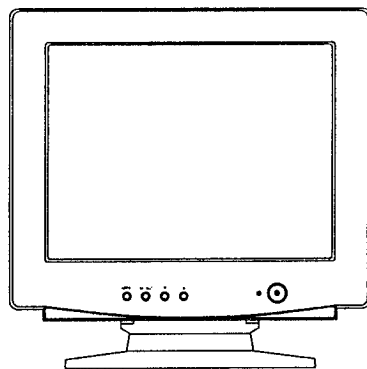
TOP VIEW



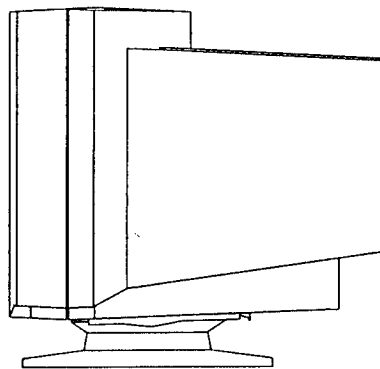
REAR VIEW



FRONT VIEW



SIDE VIEW



PRODUCT FEATURES

- The monitor automatically scans proper frequency Within the following ranges :
Horizontal Frequency : 30 - 85 KHz
Vertical Frequency : 50 - 160 Hz
- This monitor complies with the energy saving requirements of EPA(Energy Star Program), VESA DPMS(Display Power Management Signaling). The color of the power LED indicates the state of power consumption.
- Since the monitor can sense the power voltage automatically, you may use it at any voltage within its power input range.
- This monitor complies with MPR II regulations to reduce electromagnetic radiation which may have a harmful effect on human health.
- The full screen feature provides a larger viewing area then a conventional screen.
- The monitor has the ability to make picture totally flicker free.
- With OSD(On Screen Display), you can easily adjust controls and ascertain which mode is currently in use.
- The monitor is equipped with factory-preset modes.
- The monitor provides a more vivid and visually comfortable image with its 17-inch FST(Flat Square Tube).
- The Invar Shadow Mask feature reduces discoloration caused by mask doming and improves the screen focus.

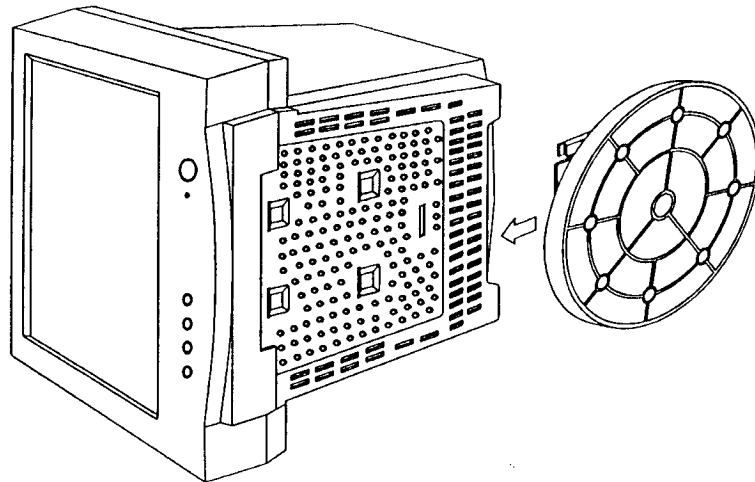
TIPS FOR SAFE USE

- Keep the monitor on a flat, stable surface with the adequate space around it for proper ventilation.
- In the event of an electrical storm, unplug the monitor to prevent damage.
- Never open the cover of the monitor. There are no user serviceable components inside. Dangerous high voltage is present even when the monitor is unplugged. Do not attempt to service the monitor yourself. Refer to qualified service personnel for servicing.
- The power cord is used as a main disconnect device. Disconnect the power cord before servicing.
- The outlet must be installed near the monitor and must be easily accessible.
- This product is equipped with a 3-wire power cord and plug for the user's safety. Use this power cord in conjunction with a properly grounded electrical outlet to avoid electrical shock.
- Do not overload any AC receptacle or extension cords. This may result in a shock or fire hazard.
- Use only one AC power cord per AC receptacle.
- Do not bring any magnetic devices near the monitor. They may cause blurred colors or distortion of the displayed pattern.
- Do not place the monitor near or over a radiator or a heat register, and avoid placing the monitor in direct sunlight.
- To reduce the eye strain, do not place the monitor before a bright background of where sunlight or other light sources fall directly on the screen.
- Do not place the monitor near water or excessive moisture.
- Do not block the monitor's ventilation slots by placing the objects on top or underneath the monitor.

SETUP

INSTALLING THE TILT/SWIVEL STAND

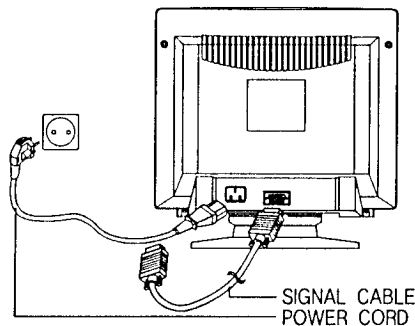
1. Ensure that the power to the monitor is off.
2. Set the monitor face down with the underside facing you. Please be careful so as not to scratch the monitor screen.
3. Align the four hooks on the stand with the slots at the bottom of the monitor.
4. Insert the hooks into the slots.
5. Slide the tilt/swivel stand toward the front of the monitor until the latch locks in position.
6. Turn the monitor and the stand upright.



If you want to remove the tilt/swivel stand on the monitor, press the latch and pull the tilt/swivel stand toward the back of the monitor. Lift the stand to separate.

CONNECTING THE SIGNAL CABLE

1. Turn off the computer and monitor.
2. Connect the 15 pin D-sub connector to the output port of the video card in your computer.
3. Connect the 15 pin D-sub connector to the input port of the monitor located at the rear panel of the monitor.
4. Tighten the screws of both connectors.



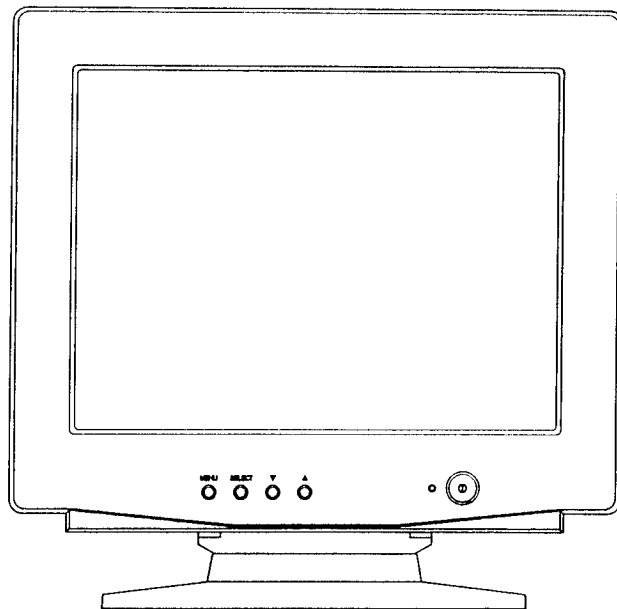
CONNECTING THE POWER CORD

1. Plug the power cord into the AC receptacle located at the back of the monitor.
2. Plug the other end of the power cord into the AC outlet.

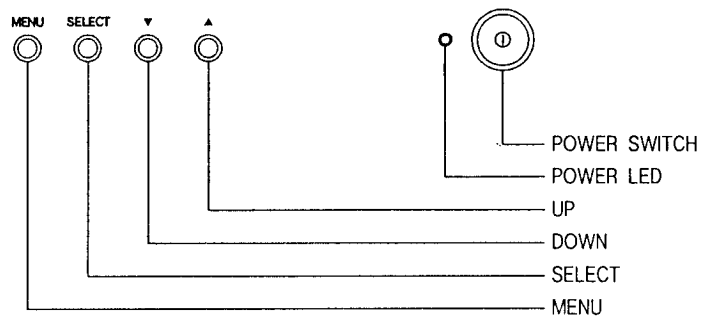
POWER MANAGEMENT SYSTEM

If you use the monitor with a computer which complies with the power saving program, you can set the monitor to go blank when the system has remained unused for a period of time. To specify the period or to disable this feature, set the system time-out field of the computer's system setup program or use special software for power saving. See the computer user's manual for the details of using the system setup. While the monitor is in power saving mode (blank screen), it consumes less power than normal state: the color of the power LED will indicate the state. To restore the screen image, press any key of your keyboard or move your mouse. If the signal cable is connected loosely or disconnected, the power saving feature will operate.

OPERATION & ADJUSTMENT

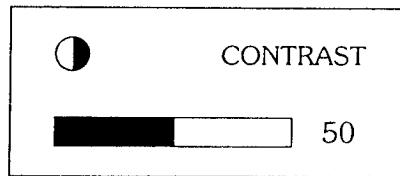


LOCATION AND FUNCTION OF CONTROLS



CONTROL MENU

The adjustment controls are located beneath the screen



<Table 1>



MAIN MENU
<p>BRIGHTNESS</p> <p>SIZE & POSITION</p> <p>GEOMETRY</p> <p>DEGAUSS</p> <p>RECALL & COLOR</p> <p>EXIT</p>
82KHz 76Hz NN


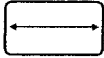
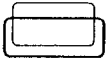
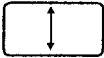

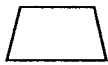
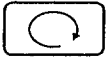

<Table 2>



COLOR CONTROL
COLOR TEMP
COLOR 9300K
COLOR 6500K

<Table 3>

CONTROL	FUNCTION
POWER SWITCH	This switch is used to turn the monitor on or off.
POWER LED	<p>The light of power LED changes according to each state.</p> <ul style="list-style-type: none"> ● on mode : green ● power saving mode <ul style="list-style-type: none"> ◆ stand-by mode : Green toggle ◆ suspend mode : Red toggle ◆ off mode : red
MENU	When you press this button, the CONTROL MENU appears. The CONTROL MENU will disappear in 10 seconds if you don't operate any button. When you press this button again, the CONTROL MENU disappears.
SELECT	This button is used to select the control item on the CONTROL MENU. In CONTROL MENU, the control item could be selected and un-selected by this button.
UP	This button is used to increase the value of any selected control. This button is used to locate to the next control item for select.
DOWN	This button is used to decrease the value of any selected control. This button is used to locate to the previous control item for select.

ICON & DESIGNATION	FUNCTION
 CONTRAST	Adjusts the contrast of intensities, the difference between light and dark areas on the screen. Contrast is adjusted by only using UP and DOWN button without opening the CONTROL MENU window.
 BRIGHTNESS	Adjusts the brightness of the entire display.

 H-POSITION	Adjusts the position of the display horizontally (left or right)
 H-SIZE	Adjusts the display width.(horizontal size)
 V-POSITION	Adjusts the position of the display vertically. (Top or Bottom)
 V-SIZE	Adjusts the display height.(vertical size)
 PINCUSHION	Adjusts the side pincushion and barrel of the display. <ul style="list-style-type: none"> ● image turns to by UP button. ● image turns to by DOWN button.
 TRAPEZOID	Adjusts the trapezoid of the display. <ul style="list-style-type: none"> ● image turns to by UP button. ● image turns to by DOWN button.
 ROTATION	Adjusts the tilt of the display. <ul style="list-style-type: none"> ● image turns to clockwise by UP button ● image turns to count-clockwise by DOWN button
 COLOR CONTROL	Adjusts the color temperatures and R/G gain. <ul style="list-style-type: none"> ● When you press SELECT button, the submenu as table 4 appears
COLOR TEMP.	This control is used to select the factory preset color value. <ul style="list-style-type: none"> ● 6550K : by DOWN button ● 9300K : by UP button

 DEGAUSSING	This control is used to degauss the monitor. When you select this control, the monitor is degaussed and CONTROL MENU disappears.
 RECALL	When you select this control, the preset of all function for current mode will be recalled and CONTROL MENU disappears.

REGULATING TILT/SWIVEL

The tilt/swivel stand can be regulated 45° both to the right and left, 11° upwards, and 5° downwards. Regulate the tilt/swivel stand so that you can view the image comfortably. When adjusting the angle of the monitor, hold the lower corners of the monitor in both hands and adjust the angle. Do not push the top of the monitor. You may have color doming in the screen if you swivel the monitor more than 90° while it is on, because the monitor is affected by the earth's magnetic field. In such cases, turn the monitor off and on again or perform the degaussing function after you have newly adjusted the angle of swivel. Magnetic buildup can result from the earth's polarity or can occur if you move the monitor while it on.

MAINTENANCE

To clean the monitor, first turn it off and unplug it from its AC outlet. Wipe cabinet of the monitor with a cloth or a paper towel lightly dampened by household glass cleaner. Do not use alcohol, ammonia based liquid or aerosol spray on the monitor screen. Do not spray a cleaner directly onto the screen. If liquid should soak into the monitor, the internal circuits may be damaged. Use a soft cloth to wipe the monitor screen, because the surface of the CRT is easily scratched.

SPECIFICATIONS

Picture Tube	Type : 17-inch, Flat Square Tube type (16.02-inch, viewing area) Dot Pitch : 0.26mm(MPR II) Face Treatment : Non-glare, Anti-static
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Video	Input Signal : RGB Analog Amp. Bandwidth : 140 MHz Input Sync : TTL, separate negative/positive
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Scan Frequency	Horizontal : 30 - 85 KHz Vertical : 50 - 160 Hz
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Max. Resolution	1600 x 1200 dots(at 65 Hz)
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Power Source	Free Voltage(100 - 240 Vac, 50/60 Hz)
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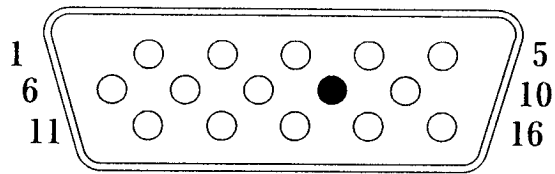
Display Area	Standard Display Area : 306mm(H) x 230mm(V) Full Screen Size : 330mm(H) x 250mm(V)
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Power Consumption	Max.100W															
	<table><tr><th>State</th><th>Recovery Time</th><th>Activity Light</th></tr><tr><td>On</td><td>None</td><td>Green</td></tr><tr><td>Stand-by</td><td>3sec</td><td>Green toggle</td></tr><tr><td>Suspend</td><td>3sec</td><td>Red toggle</td></tr><tr><td>Off</td><td>-</td><td>Red</td></tr></table>	State	Recovery Time	Activity Light	On	None	Green	Stand-by	3sec	Green toggle	Suspend	3sec	Red toggle	Off	-	Red
State	Recovery Time	Activity Light														
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Regulatory Approvals	<table border="1"> <tr> <td>VLF/ELF</td><td>: MPR II</td></tr> <tr> <td>Safety</td><td>: UL, CSA, DHHS</td></tr> <tr> <td>EMI</td><td>: FCC-B</td></tr> </table>	VLF/ELF	: MPR II	Safety	: UL, CSA, DHHS	EMI	: FCC-B
VLF/ELF	: MPR II						
Safety	: UL, CSA, DHHS						
EMI	: FCC-B						

Dimension	418mm(W) × 417mm(H) × 438mm(D) (set with stand)
Weight(net)	17.3Kg
Operating Environment	Temperature : 10 - 40°C / 50 - 104°F Relative Humidity : 8 - 80%
Storage Environment	Temperature : 20 - 45°C / 68 - 113°F Relative Humidity : 5 - 90%

Description for D-SUB Connector

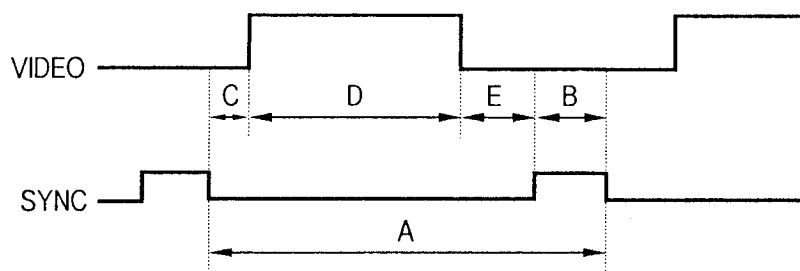


PIN #	PIN DESCRIPTION
1	RED VIDEO
2	GREEN VIDEO
3	BLUE VIDEO
4	SHIELD GROUND
5	SHIELD GROUND
6	RED GROUND
7	GREEN GROUND
8	BLUE GROUND
9	NO CONNECTION
10	H - GROUND
11	V - GROUND
12	SDA
13	H - SYNC
14	V - SYNC
15	SCL

TROUBLESHOOTING

Symptom	Check
No Picture	Check if POWER SWITCH and COMPUTER POWER SWITCH are in the on position. Check if the signal cable is correctly connected to the video card or the computer. Check if the video card is completely seated in its slot. Check if the computer is in the power saving mode. Check if the pins of D-sub connector are not bent.
POWER LED is not lit.	Check if POWER SWITCH is in the on position. Check if the power cord is correctly connected.
Image is unstable.	Check if the signal cable is completely connected to the computer. Check if the signal cable is suitable to the video card.
Image is not centered, too small, or too large.	Adjust H&V SIZE or H&V POSITION to get the proper image.
Picture bounces or a wave pattern is present in the picture.	Keep the devices that may cause electrical interference away from the monitor. See the FCC information at the front cover of the manual.
Color looks blotchy.	Operate DEGAUSSING once.
Picture is blurred.	Adjust CONTRAST and BRIGHTNESS. Operate DEGAUSSING once.
Edges of available area on the screen are not straight.	Adjust PINCUSHION or TRAPEZOID.

SIGNAL TIMING GUIDE



MODE TIMING			VGA1	VGA2	VESA						SUN
			640 × 480	720 × 400	640 × 480	800 × 600	800 × 600	1024 × 768	1024 × 758	1280 × 1024	1280 × 1024
H	FH	KHz	31.469	31.469	37.5	46.875	53.674	60.023	68.677	79.976	81.206
	A	uS	31.778	31.777	26.667	21.333	18.631	16.66	14.561	12.504	12.314
	B	uS	3.813	3.813	2.032	1.616	1.138	1.219	1.016	1.067	0.714
	C	uS	1.589	1.589	3.81	3.232	2.702	2.235	2.201	1.837	2.228
	D	uS	25.422	25.422	20.317	16.162	14.222	13.003	10.836	9.481	9.143
	E	uS	0.318	0.318	0.508	0.323	0.569	0.203	0.508	0.119	0.229
	POL.		NEGA	NEGA	NEGA	POSI	POSI	POSI	POSI	POSI	NEGA
V	FV	Hz	59.94	70.087	75	75	85.061	75.029	84.997	75.025	76.179
	A	mS	16.638	14.268	13.333	13.333	11.756	13.328	11.765	13.329	13.127
	B	mS	0.064	0.064	0.08	0.064	0.056	0.05	0.044	0.038	0.037
	C	mS	0.794	0.858	0.427	0.448	0.503	0.466	0.524	0.475	0.443
	D	mS	15.253	12.711	12.8	12.8	11.179	12.795	11.183	12.804	12.61
	E	mS	0.064	0.191	0.027	0.021	0.019	0.017	0.015	0.013	0.037
	POL.		NEGA	POSI	NEGA	POSI	POSI	POSI	POSI	POSI	NEGA