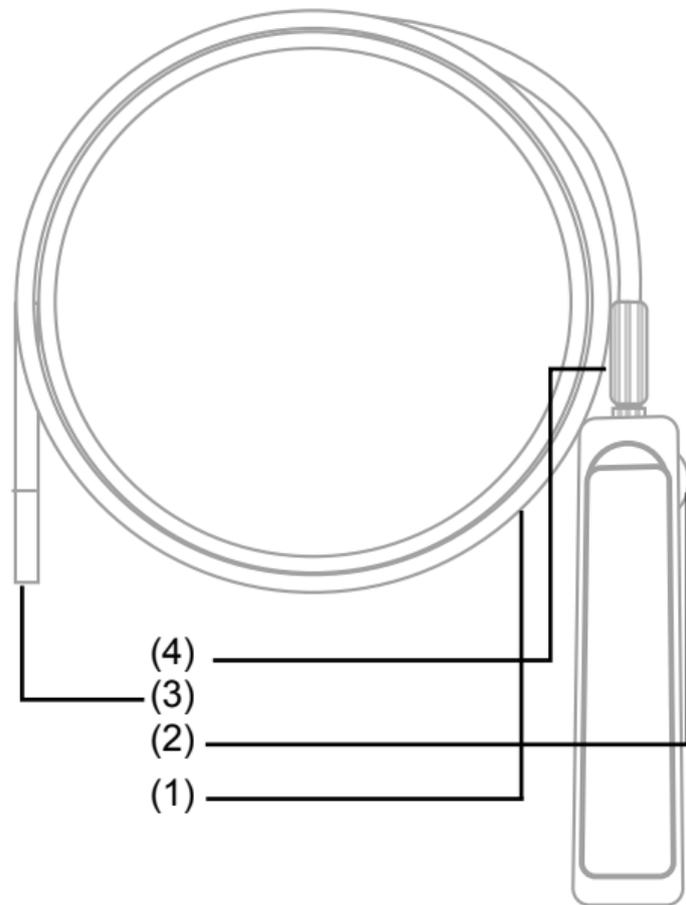
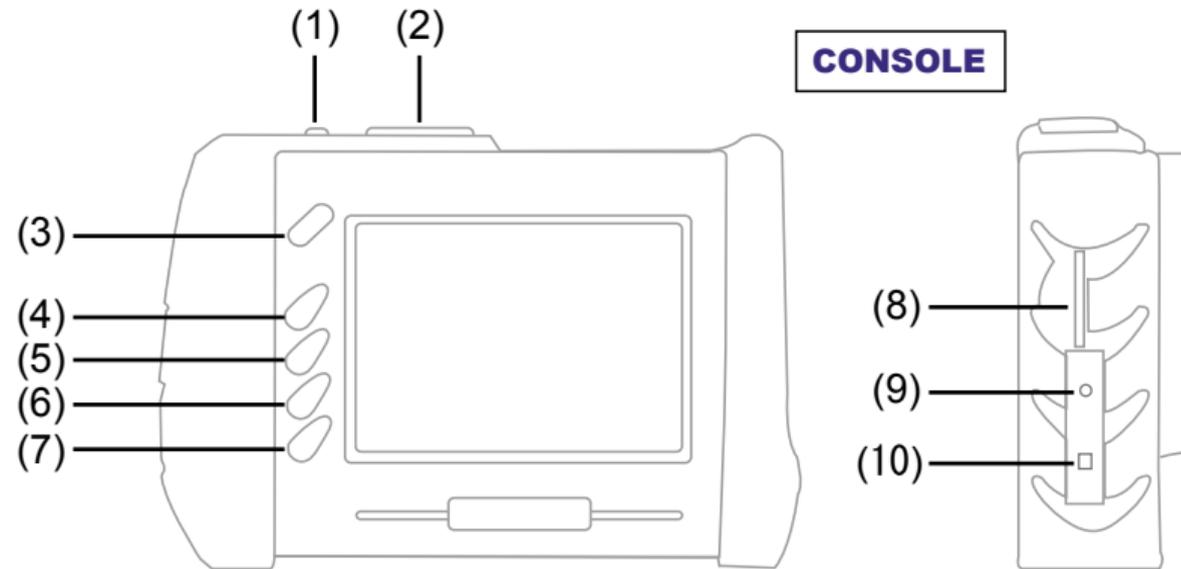


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Product Content Introduction**HANDLE****1 – Handle**

- (1) Insert Tube
- (2) On/Off Switch & Light
Source Adjustment
- (3) Camera Lens
- (4) Insert Tube Connector

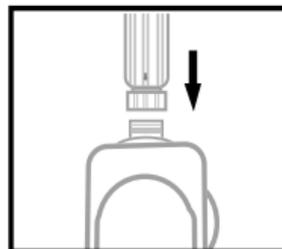
CONSOLE**2 – Console**

- (1)  RECORD
- (2)  SNAP
- (3)  POWER
- (4)  PREVIOUS
- (5)  NEXT
- (6) OK/MENU
- (7) ESC
- (8) SD Port
- (9) Video Output
- (10) AC Jack

(Please read all instruction manual before usage)

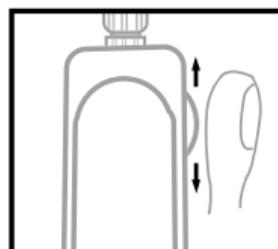
First Time Use

STEP1 : Insert the insertion tube into the connector according to the direction of the arrow and tighten the screw nut.(Figure.1)



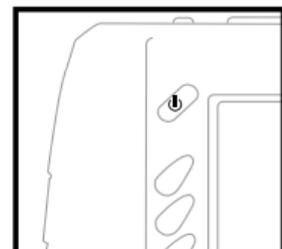
(Figure.1)

STEP2 : To activate the insertion tube controller, turn the LED adjustment dial clockwise until you hear a “click” followed by illumination of the adjacent green light.(Figure.2)



(Figure.2)

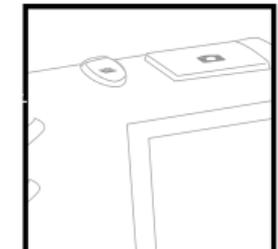
STEP3 : Press and hold down the  button on the console for 3 seconds until the image is displayed on the monitor.(Figure.3)



(Figure.3)

STEP4 : Aim the camera lens at the selected object.

Press  to capture a .jpg image, or  to begin recording a .asf video.(Figure.4)



(Figure.4)

Direct or Wireless transmitting modes

Your **M²** provides two transmitting modes, “Direct Mode” and “Wireless Mode”.

»Direct Mode – Simply insert the insertion tube controller into the USB socket located on the back of the console. This will automatically activate the Direct Mode transmitting mode. During Direct Mode, all images are transmitted through the wired socket, not wirelessly. This can be helpful when working in an area where other high frequency wireless equipment is being used because there will be no interference with the video signal.

»Wireless Mode – **M²** also has a built-in wireless transmission function. It will adjust to Wireless Mode automatically once the console and insertion tube controller are separated.

Environment

System Environment

The **M²** provides three simple working modes:Preview, Browse and Manual Mode.

Preview Mode	Users will find themselves working under Preview Mode as soon as they activate the console. While aiming the camera tip on targeted object, the image will be display on the monitor simultaneously. All photoing and vide recording are executed under Preview Mode.
Browse Mode	Users may instantly view photos and progress basic file maintaining feature.
Manual Mode	User may complete their preferences setup and file maintaining here.

Note: The system returns to Preview Mode automatically after 10 seconds without any response in Manual Model.

Multi-function key

Each console button performs a unique function depending upon the Mode in which the system is being operated..

Push Buttons	Preview mode	Browse Mode	Manual Mode
▲	Switch to Browse Mode to view photos and videos..	Move to previous photo or video.	Move upward through the main manual.
▼	Switch to Browse Mode to view photos and videos.	Move to next photo or video.	Move the light bar downward.
OK/MENU	Entering Manual Mode.	Delete photo or video.	Execute selected command.
ESC	Return to Preview Mode.	Return to Preview Mode.	Return to Preview Mode.
	Capture a .jpg photo	View the next photo or pause/play video clips.	Display various data for repair
	Start and stop video recording	Return to Preview Mode	Return to Preview Mode

Manual On Screen

The user may press the **OK/MENU** button in Manual Mode to execute desired commands as indicated below(Figure.5)

DELETE ALL
VIDEO OUTPUT
DATE/TIME SETUP
LANGUAGE
VIDEO FORMAT
AUTO POWER OFF



(Figure.5)

DELETE ALL

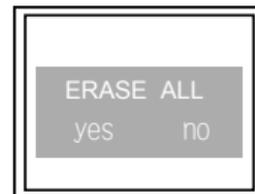
After initiating this command, select “yes” or “no” by pressing up or down arrow buttons.

To delete all, select “yes”. Exit by pressing the **OK/MENU** button.(Figure.6)

VIDEO OUTPUT

This command will send the video signal out through the AV port.

The monitor will turn black until you execute this command again.



(Figure.6)

DATE/TIME SETUP

Use the arrow buttons to select Year/Month/day or Hour/Min/Sec. Press  to increase the number, or press  to decrease. Select "Display ON" to print the date on the photo.(Figure.7)



(Figure.7)

LANGUAGE

Use this command to select the desired language.(Figure.8)



(Figure.8)

VIDEO FORMAT

Set up your video format.

AUTO POWER OFF

Set the auto power off feature to your desired length of time.(Figure.9)



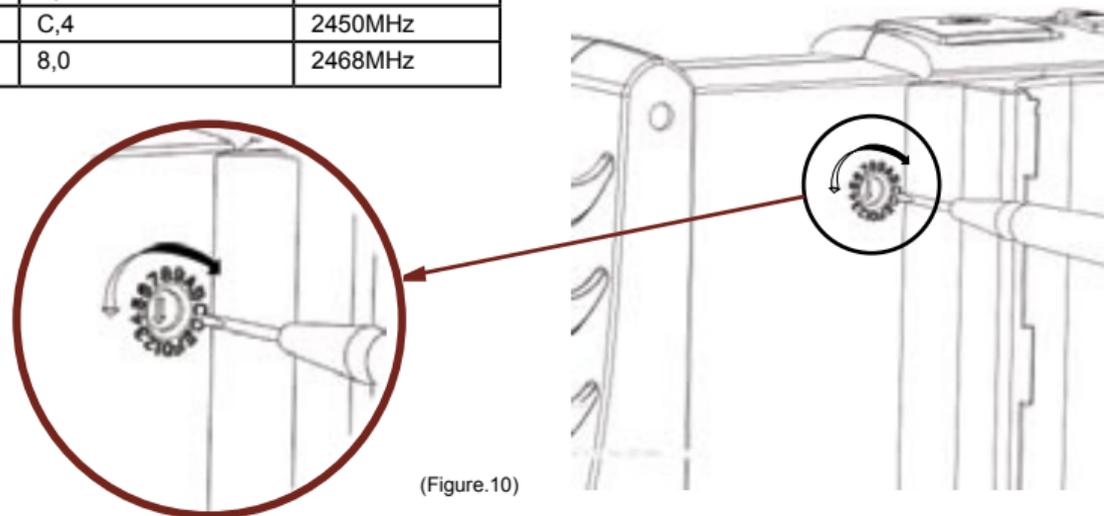
(Figure.9)

Channel Adjusting

The **M²** 's handle and console must be on the same channel during wireless transmission. Adjust the channel by using a small slotted screw driver following the direction of the arrow sign as shown below.(Figure.10)

Users may refer to the following table to choose a suitable channel.

Channel	Arrow Indication	Frequency
1	9,1	2414MHz
2	A,2	2432MHz
3	C,4	2450MHz
4	8,0	2468MHz



(Figure.10)

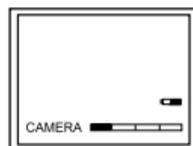
Operating Instruction

Power On/Off

STEP1: To turn the console on, press the  button for 3~5 seconds until you see the sign below appear on your monitor

( SD card memory capacity  Battery capacity)

STEP2: Press the  button for 3~5sec to turn the console off.(Figure.11)

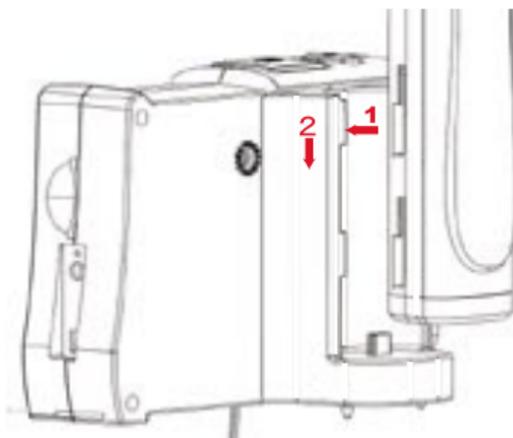


(Figure.11)

Change from Wireless to Direct Mode

STEP1:Slide the handle into the USB socket as demonstrated in the diagram below.

STEP2:The image may appear fuzzy for an instant while switching from wireless to direct mode.(Figure.12)



(Figure.12)

Controller Handle Indicator Lights

Light	indication	Status description
Green	In use	Working under full battery
Dark Red	low battery	Please recharge the battery when the dark red light appears during usage.
Orange	Charging while in use	Charging while in use
Red	Charging while power off	Charging while power off
None	Full battery(During power-off)	The light dims when the battery is fully charged.

Taking Photos

Press  button during Preview mode to take the photo. Or, continue press the  button to show the photo that has just been taken. (Figure.13)

Image Status: Returns to preview mode automatically after photo is taken.



(Figure.13)

Video Recording

STEP1: Press  button to start video recording.

Image Status:  sign will appear at the left bottom of the screen.

STEP2: Press  button again to stop recording.(Figure.14)

Image Status:  sign disappears.



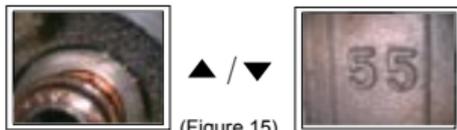
(Figure.14)

Note: User may return to Preview mode anytime by pressing  button regardless of working under Browse mode or Manual mode.

Viewing photo/video

STEP1: Press  or  during preview mode.

Image Status: Displaying the latest photo/video.



(Figure.15)

STEP2: Press  or  again to view the oldest or second to last photo/video.(Figure.15)

Image Status: All files will be stored according to the time sequence of photo capture/video recording

Note: When viewing videos, the video will be displayed automatically until it ends and then the next photo or video will be displayed.

Setting Time/Date

STEP1: Press **OK/MENU**

STEP2: Press  or  to move to Date/Time command.

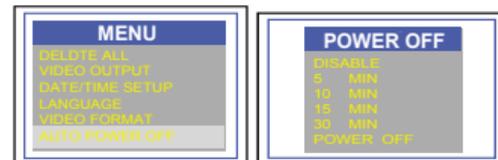
STEP3: Press **OK/MENU** to initiate the command.

STEP4: Press  to increase the number or  to decrease.

STEP5: Press  for next adjustment

STEP6: Repeat step 4 and 5 until the correct time/date are set.

STEP7: Press **OK/MENU** to complete the set up.(Figure.16)



(Figure.16)

Setting Time Display

STEP1: Press **OK/MENU**

STEP2: Press ▲ or ▼ to move to “Date/Time” command.

STEP3: Press **OK/MENU**

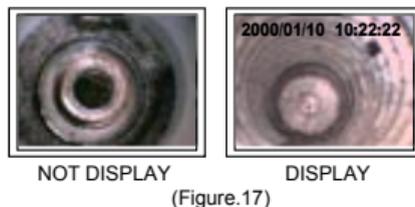
STEP4: Press ▲ or ▼ for “Display” option

STEP5: Press  to switch the “display” function between ON/OFF.

Image Status: Press  once for ON, press again for OFF.

STEP6: Press **OK/MENU** to complete set up.

STEP7: Press **ESC** to return to Preview Mode.(Figure.17)



(Figure.17)

Viewing on a TV monitor

STEP1: Plug the included AV cord into the AV socket located on the right side of the console.

Notice: Please plug the other end of the AV cord into the “AV in” socket on the external monitor.

STEP2: Press **OK/MENU**

STEP3: Press ▲ or ▼ to move to “Video output” option.



(Figure.18)

4.Press **OK/MENU** (Figure.18)

Image Status: image will be transmitted to the external monitor.

Setting video format

STEP1: Press **OK/MENU**

STEP2: Press ▲ or ▼ to move to“Video Format” option.

STEP3: Press **OK/MENU**

STEP4: Press ▲ or ▼ to select NTSC/PAL.

STEP5: Press **OK/MENU**

Deleting specific photo(Browse Mode only)

STEP1: Enter Browse Mode, follow by press ▲ or ▼ to locate the photo or video you wish to delete.

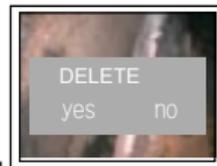
STEP2: Press **OK/MENU**

Image Status: “Delete yes or no” options

STEP3: To select your option, press ▲ or ▼

Image Status: The selected option flashes.

STEP4:Press **OK/MENU** to execute your selected option or press **ESC** to cancel.



(Figure.19)

(Figure.19)

Deleting all photo

STEP1: Press **OK/MENU** during Preview Mode.

Image Status: Showing the Main Manual

STEP2: Press ▲ or ▼ for “Delete All” command

STEP3: Press **OK/MENU**

Image Status: “yes” or “no” option appears

STEP4: Use ▲ or ▼ to select “yes”

STEP5: Press **OK/MENU** to execute. (Figure.20)



(Figure.20)

Setting auto power off

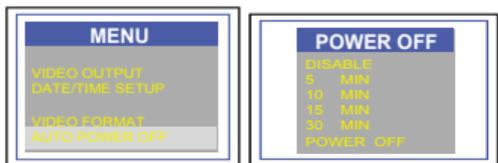
STEP1: Press **OK/MENU** (during Preview mode.)

STEP2: Press ▲ or ▼ for “Auto power off” command

STEP3: Press **OK/MENU**

STEP4: Press ▲ or ▼ to select desired time length or choose “Disable”

STEP5: Press **OK/MENU** (Figure.21)



(Figure.21)

The console will automatically turn off if it has not been used for this preset length of time.

Re-charging the battery

•Re-charging the Console only

Plug the adapter into the outlet and plug the power jack into the socket on the console.

•Combined Console and Handle re-charging

Insert the handle into the rear slot of the console to re-charge both simultaneously.

•Re-charging the Tube Controller only

Connect the handle controller to a PC or Laptop using a standard Mini USB cable for re-charge.

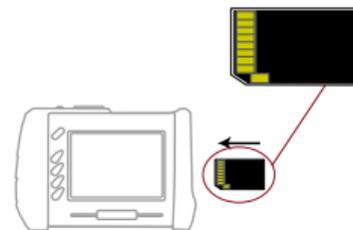
Caution: 1. Turn off the console and handle during re-charging.

2. Ensure the power of PC/Laptop is turned on during re-charging by USB cable.

3. Ignore the “found new hard drive” message during re-charging by USB cable.

INSERT THE SD CARD

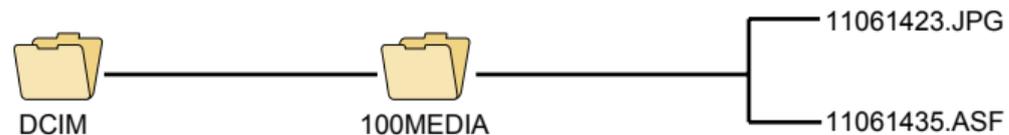
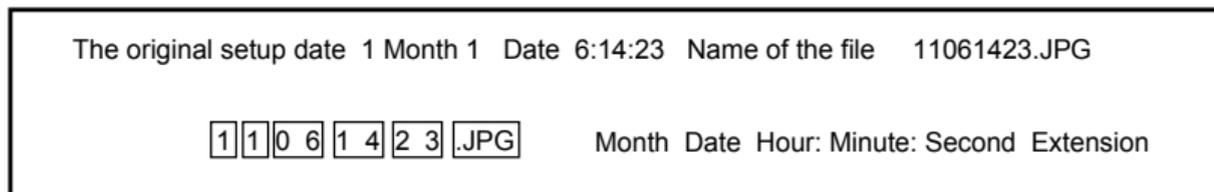
please insert the SD card upside down, see Figure.21



(Figure.21)

Construction of Memory Card Folder

The following information applies to the included SD card only. All photos and videos are stored in the [100MEDIA] folder under the [DCIM] folder. All files will be named according to the time/date setup.



- »Users should complete the time/date setup before usage in order to achieve accurate file management.
- »The time/date is pre-set to 2007/1/1. Users may identify this when the file name begins with the digits 11.
- »File names are not labeled by serial number. They are labeled according to the current time/date.
- »Both photos and videos are named in the same way but with different file extensions, .jpg and .asf.

Specification

Camera system & Insert tube	
Insert tubes diameter	5.5 mm
Rescolution	325(H)*250(V)
Housing	stainless Steel
Light Source	White LED
Length	1m 2m 3m (Longest 30m)
Field of View	Horizontal field angle 46 °
	Vertical field angle 34°
	Diagonal field angle 56°
Depth of Field (DOF)	1cm~6cm
Water Resistant	insert tube water resistant
Working Temperature	0°C~55°C
Handle	
Dimension	139.3 * 34.9 * 31.8mm
Weight	0.220kg
Wireless Transceiver Frequency	2.4GHz 4channels (2414MHz 2432 MHz 2450MHz 2468MHz)
Battery	Rechargeable Li-Polymer battery 3.7V
rightness Control	Variable
Audio	integrated microphone
Console	
Console Dimension	146.9 * 105.4 * 71mm
Console Weight	0.335kg

Power	Battery rechargeable Li-Polymer battery 3.7V power supply AC 100-240V 50-60Hz power consumption DC5.5 1.8A
Display	3.5 TFT LCD QVGA
Recording Medium	1G SD CARD (up to 2G)
Video Output Format	NTSC & PAL
Video Output Interface	AV out
Frequency of Wireless Receiver	2.4GHz 4channels (2414MHz 2432 MHz 2450MHz 2468MHz)
Compression Format	Compliant with MPEG4
Still Image Storage Format	jpeg (640*480)
Frame Rate	~30 fps
Exposure	Automatic
White Balance	Fix
S/N Ratio	42dB or more
Language	English Japanese German Spain French Chinese
Recharge Temperature	0°C~40 °C
Working Temperature	-20°C~60 °C
Storage Temperature	-20°C~60 °C

Troubleshooting



1.Unable to turn on the console

Users will not be able to turn on the console when the battery is very low or empty. Please re-charge before use.

2.Can turn on the unit but the image does not appear on the monitor

Please check the insertion tube connector or simply re-connect the insertion tube to correct the problem.

3.Unable to capture photos/videos

Please check the status of the SD card. Users will not be able to capture photos or video if the SD card is not installed properly or if it is full, write protected or damaged.

Insert Tube Maintenance

- To avoid danger, please do not put the insertion tube into any flammable liquid or gas.
- The insertion tube contains a series of small wires that control the optics and electronics of the camera tip. To ensure long-term reliability, do not bend the insertion tube more than 180 degrees, and always bend the insertion tube in as large an arc as possible during usage and storage.

Camera Lens cleaning

- User may clean the camera lens with a cotton swab and small amount of cleaning naphtha

Caution for Use



- Do not remove the SD card during capturing photos or video. This can cause a loss of the image or video and may damage the SD card
- Video recording requires an SD card with fast writing speed. We recommend 80X (or above) writing speed SD cards for better video quality.



- The **M²** is designed for industrial use only. Do not use the system for human or any other biological inspection.
- Do not insert the insertion tube into any flammable gas or liquid (such as a fuel tank) to avoid dangers.
- Do not use the **M²** in a fuel tank or other dangerous environment such as a gasoline or alcohol storage tank.
- Do not use any corrosive liquid for cleaning, such as alcohol.

- Do not try to disassemble the product. This presents a shock hazard and could damage the unit.
- Do not bend the insertion tube over 180 degrees during usage or storage.
- Please use only recommended components or accessories. Unapproved accessories and components may cause damage.
- Please do not use the **M²** in a medical facility or on an airplane, as the wireless signal may interfere with other critical equipment nearby.
- Avoid direct exposure to sunlight for long periods of time.
- Store the system in a cool, dry and well-ventilated place.

15.105 Federal Communications Commission (FCC) Requirements, Part 15

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 are designed to provide reasonable protection against harmful interference 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 into 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.

You are cautioned that changes or modifications not expressly approved by the party responsible for compliance could void your authority to operate the equipment.

This device complies with Part 15 of the FCC Rules. Operation is subject to the

following two conditions:

- (1) This device may not cause harmful interference.
- (2) This device must accept any interference received, including interference that may cause undesired operation.

FCC RF Radiation Exposure Statement:

1. This Transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.
-

Is herewith confirmed to comply with the requirements set out in the Council Directive on the Approximation of the Laws of the Member States relating to Electromagnetic Compatibility (89/336/EEC), Low-voltage Directive (73/23/EEC) and the Amendment Directive (93/68/EEC), the procedures given in European Council Directive 99/5/EC and 89/336EEC.
