

# VM-417

## User Manual

# Video Meter

### INTRODUCTION

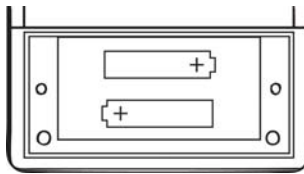
The VM-417 separates and measures the amplitude of various components in a composite video signal. The amplitude of these components are measured in IRE units. The video signal standard is 140 IRE (1 V p-p). Where an IRE unit is approximately .00714 volts (1/140 volt).

1. Sync Pulse (Stabilizes picture)
2. Video Level (Composite, the amplitude of the total signal)
3. Luminance (Average white level)
4. Color Burst (Color reference pulse)
5. Focus (Intermediate Frequency Content)

### BATTERY INSTALLATION:

With a small Philips screwdriver remove the two small screws on the lower back of the unit and remove the battery cover. Install 2 AA batteries in the orientation shown

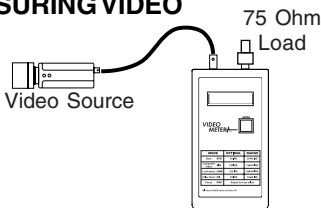
Figure 1



### METER OPERATION

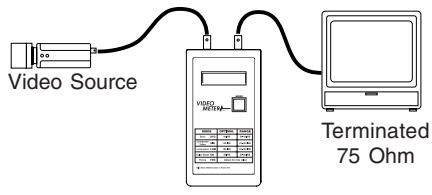
The VM-417 uses a single button labeled MODE for all its functions. Pressing and holding the MODE button for approx. 1 second will turn the unit "ON". Each additional press of the button again will scroll the unit through its various measurement functions. To power down the unit, press and hold the MODE button approx. 2 seconds until "PWR DWN" appears on the LCD then release the button. The unit will also automatically power down 2 minutes after the last time MODE is pressed. The unit has a Low Battery Sense and will display "LOW BAT" if they are below their optimum levels.

### MEASURING VIDEO



Terminated Hook-up

1. Connect meter to video source as shown.
2. Use 75 Ohm terminator on second BNC jack
3. Make meter readings



In-Line Hook-up

1. Connect meter in line as picture above
2. Be sure destination is terminated with 75 Ohms
3. Make meter readings

Impromper Termination Ohms can result in incorrect readings

### Adjusting Camera Focus

Press and release Mode Button until Focus Mode appears. Rotate the camera's lens slowly while watching the Video Meter's LCD. Adjust it back and forth until you obtain the highest reading on the LCD.

## OPERATING MODES

LCD Display	MODE	Description	Optimal Reading	Units
VM 417	Initialization	Unit turning on	N/A	N/A
SYC xxx	Sync Mode	Measures the Horizontal Synchronization pulse	40	IRE
VID xxx	Video Mode (Composite)	Measures the entire signal (Sync + Luminance)	140 (with white picture)	IRE
LUM xxx	Luminance Measurement Mode (Brightness)	Measures the Luminance (Includes the Chrominance information in color signals)	100 (with white picture)	IRE
CB xxx	Color Burst	Measures the Color Stabilization Burst	40	IRE
FCS xxx	Focus	Measures the high frequency video response	Adjust for Max Reading	Focus Units
LOW BAT	Low Battery Sense	Batteries are low. Replace the Batteries	N/A	N/A
OVR RNG	Over Range	Signal Level In is above measurable range	N/A	N/A
PWR DWN	Power Down	Unit is Powering Down	N/A	N/A

## SPECIFICATIONS

SYNC; IEEE STD : 40  
 Range: 0-100 IRE  
 Measurement: Sync to Back Porch

VIDEO (COMPOSITE); IEEE STD : 140  
 Range: 0-300 IRE  
 Measurement: Sync to Peak White

LUMINANCE; IEEE STD : 100  
 Range: 0-250 IRE  
 Measurement: Peak White to Back Porch

COLOR BURST; IEEE STD : 40  
 Range: 0-100 IRE  
 Measurement: 3.58Mhz Color Burst Amplitude on Back Porch

FOCUS:  
 Reading 0 - 900  
 Adjust for Highest Reading

VIDEO INPUT  
 Standard: NTSC Baseband Composite  
 Impedance: High Z  
 Connectors: 2 BNC (Female),  
 1 Attached Male BNC 75ohm Terminator

POWER:  
 2- AA Batteries  
 Automatic Power Down: Approximately 2 Minutes  
 Low Battery Indicator: LCD Flashing "LOW BAT"

MISC:  
 Size: 3,25" W x 6.5" H x 1.5" D  
 Case: ABS Plastic  
 Display: 7-Character, .3" Character Height, 14-Seg Alphanumeric LCD



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