VM472

AUTOMATIC VIDEO LEVEL CONTROL

INSTRUCTION MANUAL

IB 6411-01

VM472
VIDEO MASTER
TABLE OF CONTENTS

SHIPPING INSPECTION

Remove from shipping container and inspect for shipping damage. The VM472 is a Slide in Card that fits into the RMS-400 Mainframe and Power Supply. The card is supplied with a retaining screw (attached to the PC Board), a Front Label Designator and this instruction book. If an RMS-400 Mainframe and Power Supply has been purchased with Card, the Card will be installed into the Mainframe with labels attached and the retaining screw engaged and locked.

HOW AND WHERE TO MOUNT THE VIDEO MASTER

Select a position for the RMS-400 that is near the modulator or other equipment that needs video control. The placement is not critical. Then install the VM472 PC CARD in any unused CARD SLOT that is empty. Follow the instructions for card installation, be sure not to apply excessive force to the card during installation.

MODULE CARD INSTALLATION

1. Select one of the un-used nine positions to be occupied by the new circuit board module.

2. Remove the blank label in that position by peeling it off of the front panel. Peel the label slowly to remove all of the label and adhesive. Any remaining adhesive may be removed by rubbing the surface with your thumb. WARNING DO NOT USE SOLVENTS TO REMOVE THE LABEL ADHESIVE. The solvent could damage the equipment cards or cause a fire.

3. Peel the backing off of the new label and apply it to the front panel of the RMS-400 rack in the position of the new card. Align the new label with the screw head in the hole in the lower right hand corner of the label, then align the center thumbscrew with the clearance hole in the front panel. This should cause the label to be straight and vertical. When the label is in place press firmly the secure the label.

4. Then remove the thumb-screw retainer from the product card, it is located at the front of the card and is removed by rotating the knob counter-clock-wise.

5. Select any and all product options on the specific card.

6. Next slide the card into the card guides at the rear of the RMS-400. Be sure that the notch in the circuit card is facing forward and down. Push the card all the way to the front of the rack until it stops. DO NOT APPLY EXCESSIVE FORCE TO THE CARD.

MODULE CARD INSTALLATION (cont.)

7. Insert the thumb-screw that was removed in step 5 while rotating it in a clock-wise direction. When it begins to thread into the card, continue until it is finger tight. CAUTION TIGHT BY HAND ONLY, DO NOT USE TOOLS TO TIGHTEN THE THUMB-SCREW. OVER TIGHTENING WILL DAMAGE THE CIRCUIT CARD.

8. Attach any cables or wires necessary for operation.

Most circuit board modules have several adjustments which are carefully factory set with precision instruments for optimum performance. Change only those which must be adjusted, some controls when mis-adjusted produce little change under normal operating conditions, but can seriously reduce the ability of the unit to function correctly under other conditions which may be encountered. Therefore, if you must adjust a control, place a mark on it before moving it, so that it may be returned to its original setting with reasonable accuracy.

HOW TO CABLE THE VIDEO MASTER

Connect a BNC cable from your source video to the "VIDEO INPUT" of the VIDEO MASTER. The "VIDEO INPUT" is internally terminated by a precision 75 Ohm termination to match standard video cable.

Next connect a BNC cable from the "PRIMARY VIDEO OUTPUT" connector on the VIDEO MASTER to the equipment you wish to have controlled video supplied to. The "VIDEO OUTPUTS" of the VIDEO MASTER have a 75 Ohm output impedance to match standard video cable. Be sure the equipment being driven is properly terminated with a precision 75 Ohm termination to insure correct video level.

POWER SUPPLY INSTALLATION

Power for the VM472 is supplied by the RMS-400 Mainframe. It supplies the card with +/- 12 VDC to power the card.

SET-UP OF THE VIDEO MASTER

There are no adjustments or controls that have to be set at installation. The VIDEO MASTER will now automatically control all video that passes through it and maintain the proper levels as indicated in the specifications.

OPERATION

The VM771 VIDEO MASTER is a base-band video processor that stabilizes video levels, clamps out low frequency interference, and automatically corrects Luminance-to - Chrominance Inequality. The VM472 input level operating range is 0.5 to 2.0 Volts peak-to-peak. Within this input range the VM472 will control the following parameters at the output:

1. Sync level is automatically gain-regulated to 40 IRE Units.

2. White level is automatically gain-regulated so as not to exceed 100 IRE Units (but still permits a fade to black). White level is not clipped, but retains a linear gray scale. A front panel control can be used if clipping is required. A red LED will indicate clipping.

3. Output video level is regulated to 1 volt peak-to-peak (at 100% White level).

4. Luminance-to-Chrominance ratio is automatically corrected, compensating for cable slope loss or other sources of high frequency attenuation.

5. Back Porch Clamping eliminates all incoming low frequency interference such as 60 cycle ground loops, and also cancels low frequency distortion in the video signal. Common Mode interference is also eliminated.

Since VM472 processes sync and picture peak voltages independently without altering the time relationships within the video signal, the timing between SYNC and COLOR BURST is not altered. Therefore horizontal Sync, Color Burst Timing, and Chrominance Phase (SC/H) retain their original relationship. This feature distinguishes the VM472 from any Proc Amp that strips and re-inserts new SYNC signals.

The VM472 insures constant standard video signals even though video from a multitude of variable level sources are used. This helps to insure correct CATV Scrambler operation, video Recording, and Broadcast levels.

FRONT PANEL CONTROLS AND INDICATORS

A "VIDEO ON" indicator shows that a video signal is present at the output to identify signal continuity. The front panel Video Clipper control can be used to clip video levels the exceed 120 I.R.E. units. By adjusting the Clip Control you can set video clipping to prevent fast transient over level signals from disrupting down stream equipment. When video is being clipped a RED LED will illuminate to indicate the clipping of video.

BY-PASS MODES OF OPERATION

The VM472 has two by-pass modes of operation. The first one is a power fail by-pass. If the power supplied to the RMS-400 fails, the video will be by-passed to the Primary Output by relay, the input termination is removed and the down stream equipment is used for termination. This prevents double termination when the video is switched.

The second by-pass mode occurs when the video level at the input of the VM472 is two low to control. When the input video level is below 0.4 Volts Peak to Peak the video is by-passed to both the Primary and Secondary Video Outputs. Both outputs can drive a 75 Ohm load. When the video level returns the unit switches back to control mode.

CARE AND MAINTENANCE OF THE VIDEO MASTER

Care should be taken not to subject the VM472 to extreme moisture or temperatures outside normal operating range. There are no periodic maintenance adjustments to be made on the VM472. If the unit does not function properly it should be returned to the factory for repair.