

ACE472



AUTOMATIC CABLE EQUALIZATION AMPLIFIER

INSTRUCTION MANUAL

IB 641402

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SHIPPING INSPECTION

Remove from shipping container and inspect for shipping damage. The ACE472 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 was purchased with a ACE472 Card, the Card will be installed at the factory into the Mainframe with labels attached and the retaining screw engaged and locked.

HOW AND WHERE TO MOUNT THE UNIT

Select a position for the RMS-400 that is near the video recorder, monitor or other equipment that needs video control. The placement is not critical. Then install the ACE472 PC CARD in any unused CARD SLOT that is empty. Follow the instructions for card installation, be sure to remove the retaining screw on the front of the card and 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 to 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.
7. Insert the thumb-screw that was removed in step 4 while rotating it in a clock-wise direction. When it begins to thread into the card, continue until it is finger tight. CAUTION TIGHTEN 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.

MODULE CARD INSTALLATION (cont.)

Most circuit board modules have several adjustments which are carefully factory set with precision instruments for optimum performance. WARNING: DO NOT adjust any controls, 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.

HOW TO CABLE THE UNIT

The unit has two independent channels. All input, output, and controls are marked with the suffix "A" or "B" depending on the channel you are working with. This manual will describe the connection and operation of the "A" channel. The "B" channel is connected and operated exactly the same as the "A" channel.

Connect a BNC cable from your source video to the "VIDEO INPUT A" of the ACE472 PC Card. The "VIDEO INPUT" is internally terminated by a precision 75 Ohm termination to match standard video cable. The ACE472-UTP connects to a CAT-5 twisted pair cable, and has a 105 Ohm Termination on screw terminals.

Next connect a BNC cable from the PRIMARY VIDEO OUTPUT (A1) connector on the ACE472 to the equipment you wish to have controlled video supplied to. There are two separate video outputs on each channel so that two video circuits may be driven at once with the same video signal. The "VIDEO OUTPUTS" of the ACE472 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. Failure to terminate the output cables with an accurate 75 Ohm termination is the leading cause of incorrect video output voltages.

POWER SUPPLY INSTALLATION

Power for the ACE472 is supplied by the RMS-400 Mainframe. It supplies the card with +/- 12 VDC to power the card.

SET-UP OF THE UNIT

There are no adjustments or controls that have to be set at installation. The ACE472 will now automatically control all video that passes through it and maintain the proper levels as indicated in the specifications.

OPERATION

The ACE472 is a base-band video processor that stabilizes video levels, clamps out low frequency interference, and automatically corrects Luminance and Chrominance levels on any length of cable up to 5000 feet long. The ACE472 will control the following parameters at the output:

OPERATION (cont.)

1. White level is automatically gain-regulated to make the white level (luminance) exactly 100 I.R.E. White level is not clipped but retains a linear gray scale. Level is adjusted up as well as down to keep the luminance level correct. Output video level is regulated to 1 volt peak-to-peak.
2. Chrominance (color information) is automatically corrected, thus compensating for cable slope losses up to 5000 feet and other sources of high frequency attenuation.
3. 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 ACE472 automatically 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 ACE472 from any Proc Amp that strips and re-inserts new SYNC signals.

The ACE472 insures constant standard video signals even though video from a multitude of variable level sources are used. This helps to insure correct CCTV operation without loss of signal due to over or under video level and improves overall picture quality.

FRONT PANEL INDICATORS

A "VIDEO ON" indicator for each channel shows that a video signal is present at that input to identify signal continuity.

BY-PASS PUSH BUTTON OPERATION

The ACE472 has a by-pass mode of operation. The switch on the front panel is used to set the amplifier and equalizer to unity gain, (no correction). With this push button you can make a quick comparison between active control and no control. Use this button to see the picture improvement gained by the ACE472. Look at the video image and push the button, compare the before and after picture quality.

Depressing the by-pass button also enables the operator to examine the picture without automatic correction, so that the action of the camera iris controls may be observed, and if necessary, be adjusted.

CARE AND MAINTENANCE OF THE ACE472

Care should be taken not to subject the ACE472 to extreme moisture or temperatures outside normal operating range. There are no periodic maintenance adjustments to be made on the ACE472. If the unit does not function properly it should be returned to the factory for repair. There are no field adjustable controls.