



Thank you for purchasing the operative field technologies:

SHADOW HILLS OPTOGRAPH

The following is an overview of its functions and a guide for use.

Shadow Hills Optograph

UNDERSTANDING YOUR SHADOW HILLS OPTOGRAPH

You have been issued our unique technology developed by the engineers at the Shadow Hills Austin Research Facility. This is the most advanced system for decelerating audio transmissions. By balancing temporal and transient proportions, the most ardent program material can be brought into compliance, for the proper use by our field operatives.

TRANSIENT LIMITING

OPTICAL COMPRESSION

The Shadow Hills Optograph utilizes our Electroluminescent Optical Attenuator, which controls the amount of transients of the source material being processed. This type of processing is highly effective for reducing the input material's dynamics and imparts a characteristic two-stage recover time. The processed signal recovers eighty percent of the processed signal recovers quickly, while the last twenty-percent takes over a second, depending on the amount of attenuation applied. The controls for the Electroluminescent Optical Attenuator are Threshold and Makeup Gain.

THRESHOLD ROTARY ATTENUATOR

The Threshold rotary attenuator controls the threshold at which the onset of compression occurs, thus determining the level of gain reduction. Turning the Compression control clockwise delivers more compression. Turning the Compression control counter-clockwise reduces the amount of compression. When fully counter-clockwise no compression occurs.

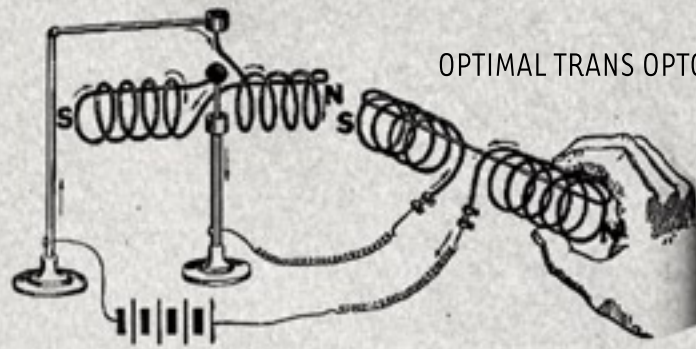
MAKEUP GAIN ROTARY ATTENUATOR

The Makeup Gain rotary attenuator controls the gain required to make up the level attenuated by the compression circuit. Turning this control clockwise increases the amount of makeup gain. Turning this control counter-clockwise reduces the signal level.

SIDECHAIN FILTER

Built into the sidechain, are very powerful selections of filters: 90 hertz, 150 hertz, 250 hertz, and bandpass. By engaging the filters, you choose at which point the onset of compression occurs. First





OPTIMAL TRANS OPTOGRAPHOGRAPHY

position, nothing below ninety triggers compression. Second position, nothing below one-fifty. Third, nothing below two-fifty. The fourth position is a musical bandpass filter. In this position, compression is triggered by the program's mid-range frequency content, ignoring the highest and lowest frequencies. These filters are amazingly useful for shifting the focus of what should be more compressed and creating compression curves on purpose.

OUTPUT TRANSFORMER SWITCHING TECHNOLOGY

At the output processing stage of the Shadow Hills Optograph is our Transformer Switching Matrix. By means of these controls, it is possible to change the output transformer, with the flick of a switch, thus changing the frequency response and distortion characteristics. The positions are: Nickel, Iron, and Steel.

- Top position- Nickel
This setting has low distortion characteristics and flat low frequency response. The upper bandwidth has a ten-kilohertz boost of one decibel.
- middle position- Iron
This setting is more colored and has a one-decibel boost at one-hundred hertz.
- bottom position- Steel
This setting is the most colored and has a one-decibel boost at forty hertz, with a tight cue. Different program material will reveal greater differences, depending on how close the fundamentals are to those frequencies.

In addition to our Transformer Switching Matrix, the engineers at the Shadow Hills Austin Research Facility have devised an additional process for temporal and transient adjustment. This technology is called Transformer Desaturate. When engaged, processed signals pass through a special tertiary winding of the steel transformer, that cancels out distortion and frequency non-linearities, while adding the transient limiting properties caused by passing through the magnetics.

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INDICATION METERING

The Meter Selector switches the type of indication presented by the Optograph's medium sized meters. The selections are, Optical and Output. The first position indicates the amount of optical gain reduction. The second position indicates the output level in decibels.

STEREO OPERATION

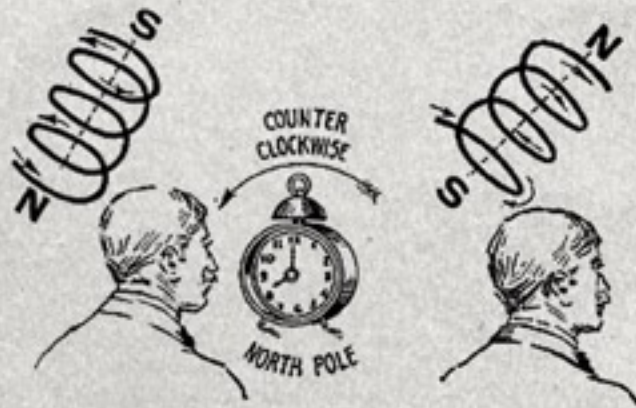
The Shadow Hills Optograph can operate in Dual Mono or Stereo. While in Dual Mono, each side has independent operation and all of the controls, on both sides, are active. In Stereo, the left hand controls operate all of the Optograph's features. The only exception is the Meter Select Switch, which remains independent on both channels. This facilitates viewing a combination of gain reduction and output.

HARDWIRE BYPASS

The Hardwire Bypass determines whether the Optograph is actively effecting the program material. When out, the unprocessed material is heard. When in, the Hardwire is switched to Engage, processing is underway.

OPERATIVE DEPLOYMENT

The Engineers at our Austin Research facility have made every effort when designing the Shadow Hills Optograph, that all of the technologies contained therein, enhance the capabilities of operatives while in-theater. The Optograph is battle-hardened to withstand the rigors of the most adverse environments and the most grueling deployments. Our hope is that the Shadow Hills Optograph will prove our technological superiority in practice and will lead to our inevitable victory!



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EVADING ENEMY CAPTURE

Should the probability of it's capture be greater than not, it is the duty of the operative **so issued to destroy the Optograph to keep the technologies it contains, from falling into the wrong hands and thus our advantage forfeited to the enemy.** The following instructions are offered for the proper destruction and disposal of the Shadow Hills Optograph, should it become your duty.

First use a hex key to remove the nine 6/32 screws from the top cover. Inside along the bottom of the unit are the two main audio boards. On each of the audio boards are the Shadow Hills Operational amplifiers. There are four total. These "Op-amps" attach to the audio boards by six pins. Pull each "Op-amp" out vertically. They are friction locked only. No de-soldering is required. Once removed, break off each of the six pins and crush the "Op-amp" circuit board with the heel of your boot. If time permits, incinerate all pieces after crushing, then burry or scatter the inundated remains. Remove both audio boards from chassis. Cut all wires several times, in a random fashion, so that the former lengths cannot be determined. The Transformers connected to the audio boards and chassis must be shot through their cores, and the windings unraveled, their lamination separated, bent and scattered some distance away. The audio boards should be crushed under heel. Then folded or ripped, then incinerated according to the previously described method. The 8/32 screws that attach the front panel to the chassis should be removed. The tube and meter glass should be smashed and meter pointers broken off. The panel should bent or folded then placed inside the chassis and either buried at least six feet deep or exploded by a grenade or other means.



Your cooperation is greatly appreciated.
