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HDV-3 Reproduce Amplifier

The HDV-3 is a reproduce amplifier designed to provide a transparent musical sound stage to the sound of a standard ATR102. HDV-3 is a new improved version of the HDV-2 predecessor module. This unit has been produced and assembled solely by the ATR Service team.

It is a two-channel playback system consisting of the highest quality transformerless dual triode tape head preamp coupled to a solid-state final gain stage. The front-end tube stage provides accurate musical depth, presence and focused midrange that compliments many different musical styles. The HDV-3 is a modular design and plugs directly into the ATR100 motherboard cage and is transparent to the operation of the recorder. The HDV-3 channel outputs can be taken directly at low line level or feed the machine's Input / Output Assemblies.

HDV-3 systems operate at 15 IPS NAB / CCIR and 30 IPS AES Equalization. Systems are capable of working with either 1/2 inch or 1/4-inch tape format versions.

There are three important design innovations that make the HDV-3 a powerful production tool.

First, the HDV-3 was designed to be a musically accurate amplifier without bias of the technology used. The transformerless tube front end came about after listening tests to different front-end designs and determined to sound the most musical.

Second, the HDV-3 is a prochoice and allows direct comparison with the original Ampex electronics with a front panel mounted selector switch. This bold feature ensures that the user has a definitive reference point in choosing the most suitable electronics for a particular project or song in that project. Third, the HDV-3 has front panel control over high frequency head damping. The engineer can use the high frequency head damping control in conjunction with the high frequency equalizer to create slight broadband variations in the mid and high frequency response curves.

Set-Up Instruction

Translator Cable Installation:

Supplied cable is for use the HDV-3 (slot #3&4), and original Audio Cards (slots #1&2) through dedicated channels with two separate 2-trks playback heads.

Refer to Ampex operation manual page 2-15 figure 2-11. Remove I/O module connector cable from connector J-13 (deeper inside of the ATR housing). Install supplied translator cable as follows. Connector marked Stock routes to J-13. Connector marked HDV-3 routes to J14 (closer to the front of the ATR housing). Then attach the I/O module connector to the translator cable.

Amplifier Module Installation:

- Carefully line up and insert the HDV-3 amplifier module into audio channel slot positions 3 and 4 on the main card cage. Do not force the amplifier module. If the module does not easily slide in, call for assistance. Be sure module is fully seated. When seated properly, the face will line up evenly with the other circuit cards. Handle gently. **DO NOT JAR OR SHOCK THE MODULE, TUBE DAMAGE WILL RESULT.**

- Power up the machine. **The HDV-3 incorporates a power-up mute of approx. 40 seconds. During the tube mute period the HDV-3 will revert to the standard ATR electronics no matter how the selector toggle switch is selected.**

Note: Make all internal changes with the AC line off. This will save hours of repair. Never install or remove the HDV-3 with the power on. When the machine is moved, it is recommended to remove the HDV-3 amplifier from the machine. Vacuum tubes will be easily damaged by vibration and shock.

Do not operate Tube / Stock monitor switch or transport speed switch at loud listening levels or monitor speaker damage may result.

- (Ch. 1 and Ch. 2) push on header jumpers located on the horizontal circuit board. First determine the front-end sensitivity jumper position as follows: **Pins shorted for ¼" two track and open in the store position for ½" two track.** The two header type jumpers are directly in back of each tube socket. The tube located closest to the front panel is the left channel. It is recommended to use needle nose pliers for easy access to the jumpers. Jumpers are to change a level of sensitivity depending of the size of the head.
- Be sure HD pots are set to the mechanical detents. High frequency head damping has been optimized at 30 IPS for the playback head included with your HDV-3 Amplifier. The HF damping detents represent the flattest overall mid-band and HF response. Although the detents apply to both 15 and 30 IPS, use listening tests to determine the most

musical setting. Try the HDV-3 in various levels of EQ trim. The equalizer itself is very effective for subtle broadband adjustments to programs.

- To align the HDV-3 follow established procedures for gain, HF and LF trims. Project reference tones are most effective at displaying the condition and channel balance of the record machine. Note however that the LF tones are deceptive due to different head contours.
- The LF contour internal trims allow variations of the 30 IPS LF shelf equalizer. These are pre adjusted by ATR Service using our shop machine with Fux Magnetics Playhead . It is not recommended to adjust without consulting us first. If mis-aligned will cause either a thin out, phase lag or puff up the bottom end. It is set for the flattest overall bottom end.
- It may not be obvious but there is internal high voltage. Refer any service to a qualified service person. Don't poke around this unit with the power on.

We hope you will enjoy a superior quality of analog sound!