

Bulletin	Removing the high frequency record boost from early Ampex tape recorders
Applies to	Ampex models 300, 400, 350, and 351 (early versions)
Date	2018 August 2
Revision	1
Total pages	5

Problem

Ampex 300, 400, and 350 (and very early 351) record electronics used a 20 mH air-core inductor to form a resonant circuit used to provide the additional high-frequency boost required when using older types of magnetic tapes.

Ampex machines manufactured after 1959 (approximately) did not use this inductor since it was no longer needed with tape formulations introduced around that time.

Fix

The problem may be fixed by either disconnecting or removing this inductor. See specific instructions for various models.

Note that this modification is for the record circuit only; it does not change playback response. Playback of recordings made with older tape formulations will remain unchanged.

Acknowledgments

Full-Track Productions would like to thank Jay McKnight (*Magnetic Reference Laboratory, Inc.* San Jose, California) for technical suggestions and review of the procedures outlined in this bulletin.

IMPORTANT NOTICE AND TERMS OF USE

Full-Track Productions is not liable for any damage or injury that may result from inappropriate use of information in this document—always refer service to qualified personnel. Contents of this document copyright © 2005-2018 by Full-Track Productions, all rights reserved. This bulletin may be distributed only if reproduced in its entirety (including this notice) without any alteration whatsoever. No fee may be charged for this bulletin nor for any information detailed here.

Ampex 300

If present, disconnect one end of L101 (20 mH air-core inductor). This component provided additional high-frequency boost and is not needed when using modern tape formulations; disconnecting it removes it from the circuit.

Note that L101 was only installed on older Ampex 300 electronics.

The following is excerpted from Ampex service bulletin 9-04 / 25 June 1959; you may also want to perform the other modifications listed.

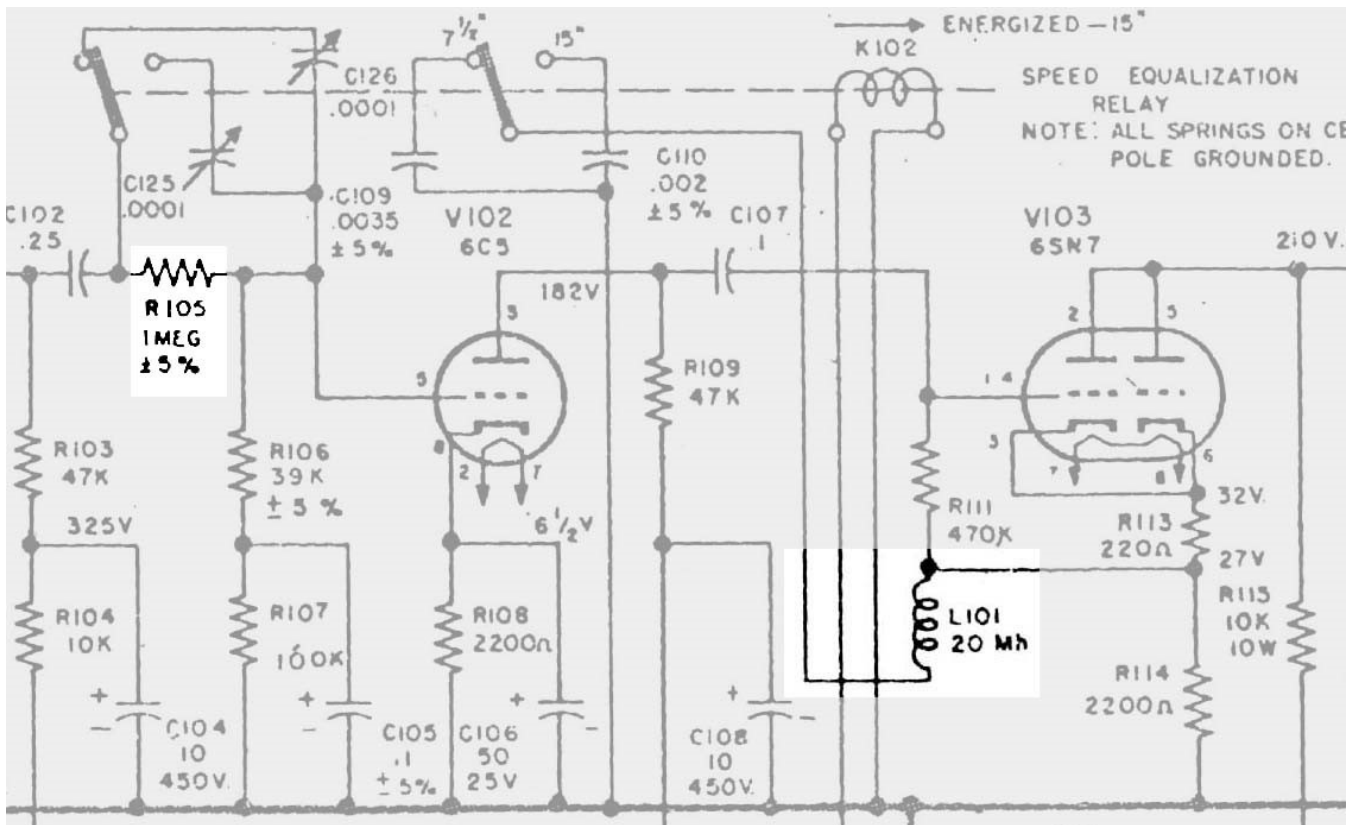
Clip out C110 (.002) and C109 (.0035). These are the two capacitors leading from the long terminal board to the equalization relay. This effectively removes L101 from the circuit as well and, if desired, its leads may be clipped and the coil removed from the board.

Loosen the two screws holding the long terminal board to the chassis. Remove R105 (1 meg) resistor located on the relay side of the terminal board and replace it with a 470K, 1 watt, 5% resistor (Ampex number 041-124). Replace the terminal board on the amplifier chassis. Set the amplifier to the new record curves attached using the test procedure given in the maintenance manual. After installing the amplifier in the recorder, a complete response check of the machine should be made with the same kind of tape which will be used during recording. Some trimming of the record equalization may be required depending upon the tape used.

Date: June 25, 1959

Model: 300

Buletin No: 9-04

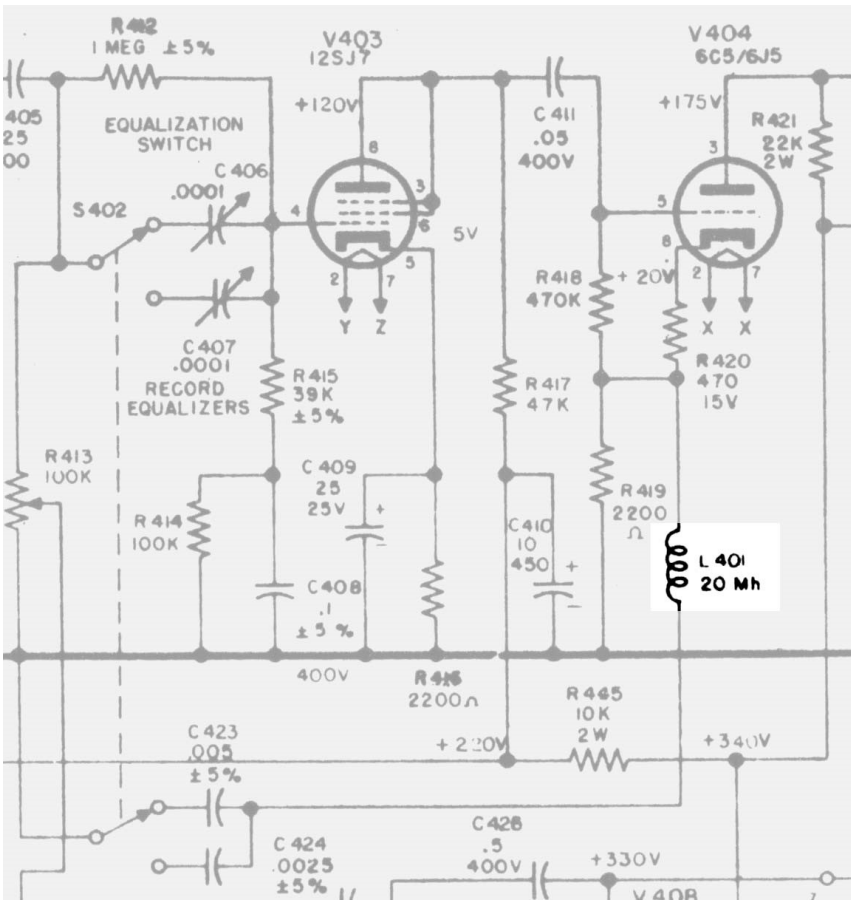


Ampex 400, 402, and 403

Disconnect or remove L401. This disconnects C423 and C424 which are effectively removed from the circuit.

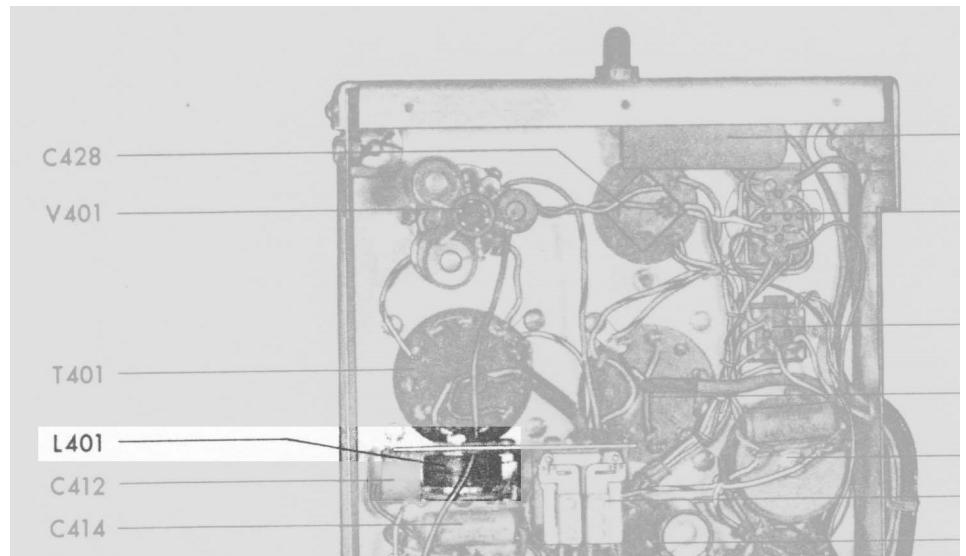
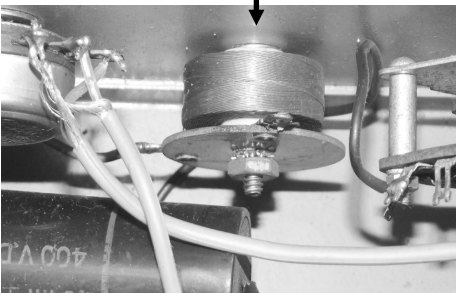
On the model 400, 400A, 401, and 401A, L401 is on the underside of the chassis (near input transformer T401).

On the model 402 and 403, L401 is mounted on rear of front panel (between input level pot and equalization switch).



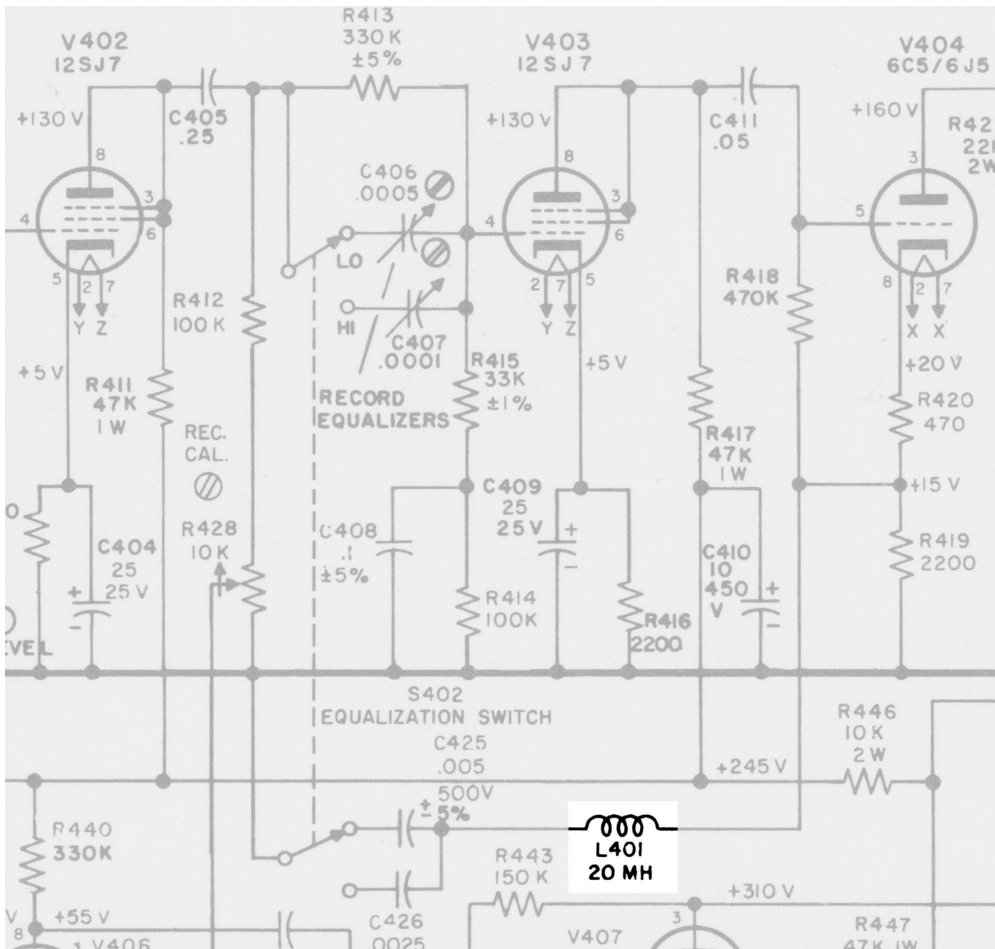
L401 (Ampex 400, 400A, 401, 401A)

L401
(Ampex 402 and
403)

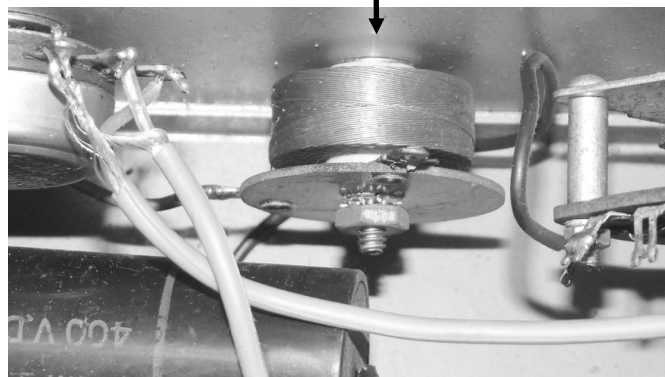


Ampex 350

Disconnect or remove L401 (mounted on rear of front panel between input level pot and equalization switch). This disconnects C425 and C426 which are effectively removed from the circuit.



L401



Ampex 351 (early versions)

Carefully remove 1L-1 (mounted on the record board). This disconnects 1-C11 and 1-C12 which are effectively removed from the circuit.

