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TECHNICAL LETTER #10

436A AMPLIFIER

The 436A Amplifier is described in the attached Operating Instructions. It is a compressor of low cost and good quality. This amplifier is being used in a number of unusual situations and some of these are outlined.

A local newspaper Want Ad Department receives want ads over the telephone from varying local and suburban districts, and these are transcribed on a typewriter. The volume has varied over a range of 20-30 db depending upon the loss of individual circuits, and considerable parts of the message must be repeated because of low intelligibility. When the 436A Compressor Amplifier was inserted in the circuit, the volume from the distant originating area was raised so that it was equal with the telephone call from a local area and satisfactory transcriptions were made without repetition.

A local gas company recently instituted a program for teaching their employees the proper conduct in discussing troubles with customers. An attempt was made to tape record the telephone conversations and play them back to the employee, but the volume varied over wide limits and unsatisfactory reproduction resulted. The 436A Compressor Amplifier was inserted between the telephone circuit and the tape recorder input and by means of the compressor action, the telephone conversation is of sufficient uniformity in volume so that a good playback is obtained for instructional purposes.

Recently one of the airlines in Los Angeles discovered that some of their passenger agents were accepting gratuities so that a customer could secure a reservation on a plane and this had resulted in the plane being overbooked. A supervisory circuit is being installed, using the 436A Compressor Amplifier, so that continuous monitoring of the incoming calls can be accomplished.

These examples indicate that there are many places in telephone company operations with business concerns such as the airlines, Western Union, newspapers, and department stores where this compressor amplifier can be utilized to improve services.

A freight trucking organization utilizes a telephone conference system to delay discussing their many problems regarding re-routing of trucks and repairs on equipment and other general business. These leased line facilities extend over distances as great as 1,500 miles. There are several of their staff in each city who participate in the discussion and a microphone and loudspeaker are presently used on a press-to-talk basis. The 436A Compressor Amplifier enables this conversation to be maintained at a uniform volume regardless of the cable losses.



Recently a drug company in Los Angeles installed a telephone conference hookup so their main office executive organization could talk back and forth simultaneously to several distant city offices to save expense and travel time of their executives to Los Angeles. The telephone company leased equipment for this purpose as shown in schematic form in Figure 1. It is anticipated that there will be a growing demand throughout the nation for this type of service and Altec Lansing Corporation will provide the necessary equipment in complete form, mounted and completely wired in a cabinet, so that it is only necessary to make a connection to the phone line and the loudspeaker. In this application, it proved desirable to increase the gain of the 436A, improve its input balance, and raise its threshold to confine the range of compression to the higher levels. The modification consists of replacing T1 with a TB-103 Input Transformer, removing R1, R2 and C1, removing a connection between R10 and R11 junction and R7, installing 200K and 15K, 1/2 watt resistors and connecting their junction with the junction of R10 and R11, and removing connection between the primary of T1 and chassis ground. Drawing 6190 (attached) shows the schematic after modification.

The 436A Compressor Amplifier has been used in conjunction with the 342A Amplifier by making connections as described in Technical Letter #8.

Shielded wire of low capacity should be used between the amplifiers and should be of minimum length. The build-out resistance of 100K reduces the response of the 342A 4 db at 50 cycles. This can be compensated for, if required, by advancing the bass control from flat to a one o'clock position.

The procedure for proper operation is to open the input volume control to that point where the desired amount of compression takes place. The master volume control is then used to produce the required output power.

The 436A Amplifier is recommended for any public address system since it will insure proper level with varying distance of the talker from the microphone, as well as his relative loudness. Other unusual applications of this amplifier will arise and we would appreciate being informed of them.

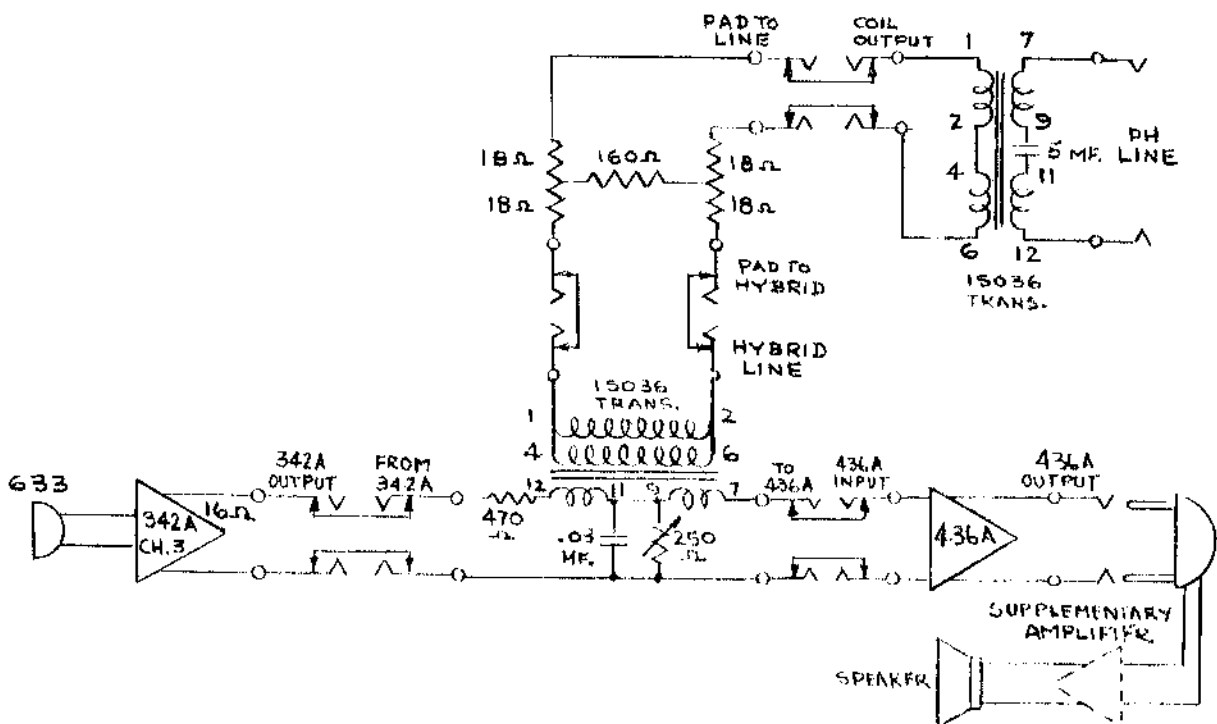
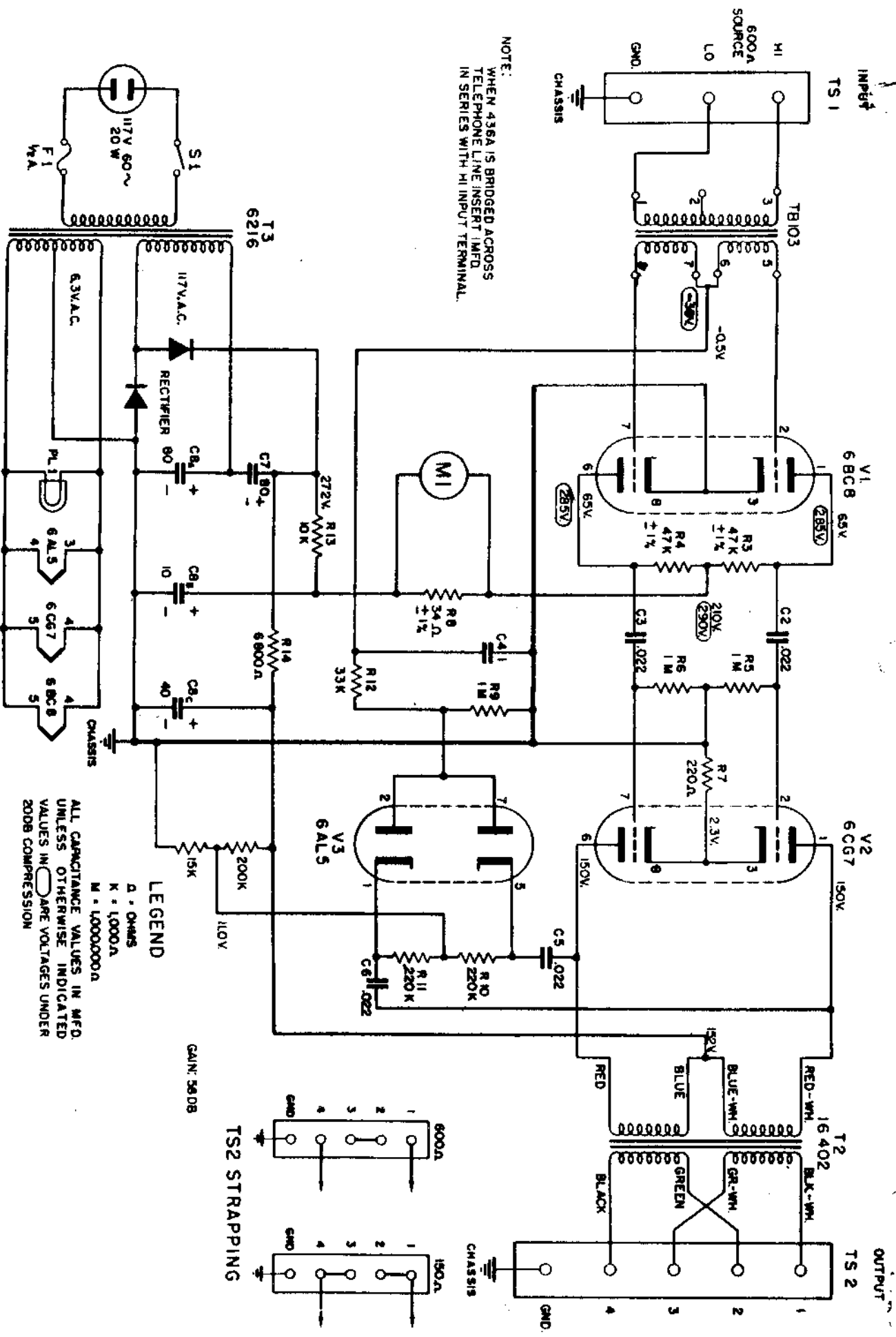


FIG.1

ALTEC LANSING 436 A COMPRESSOR AMPLIFIER



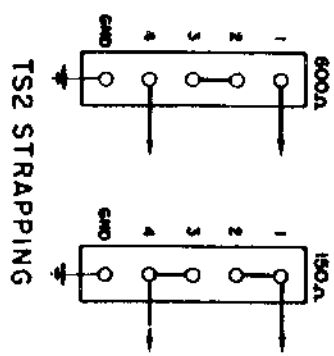
NOTE:
WHEN 436A IS BRIDGED ACROSS
TELEPHONE LINE INSERT IMFD
IN SERIES WITH HI INPUT TERMINAL.

ALL CAPACITANCE VALUES IN MFD.
UNLESS OTHERWISE INDICATED
VALUES IN \square ARE VOLTAGES UNDER
20DB COMPRESSION

LEGEND

Δ - OHMS
K - 1,000A
M - 1,000,000A

GAIN: 56 DB



Model	436A	Version	1
Part No.	436A	Rev.	1
Manufacturer	ALTEC LANSING CORPORATION		
Product	436A AMPLIFIER MODIFIED FOR INCREASED GAIN AND HIGHER COMPRESSION THRESHOLD		
Part No.	6190		

