



INSTALLATION

OF

TRANSISTORIZED CONTROL CONSOLE (XC Series)

Model 4EC72A10

LB1-3801 DF-4078

INSTALLATION SPECIFICATIONS

Dimensions (H x W x D)	5-1/2" x 19-7/8" x 12"
Power Requirements (maximum)	95 watts @ 117 volts AC, 50/60 cps
Temperature Range	-30°C to +60°C (-22°F to +140°F)

INSTALLING THE CONSOLE

The Transistorized Control Console should be located within convenient reach of the dispatcher. The Console can be mounted on a desk with sufficient room left over for log books, notebooks, paper work, etc. Install the Console as follows:

1. Unscrew the two knurled knobs on the back of the Console, and remove the top cover.
2. Connect the microphone or optional handset to mike jack J801. Install Hookswitch as shown on Page 4.
3. If footswitch 4KC1C1 is used, connect the leads to TB804-1 and TB803-8.
4. For Tone Control Method: Any circuit capable of handling audio frequencies 300 to 3000 cps range can be used. It is not necessary to observe polarity in wire line connections. Make connections as shown in Figure 1.

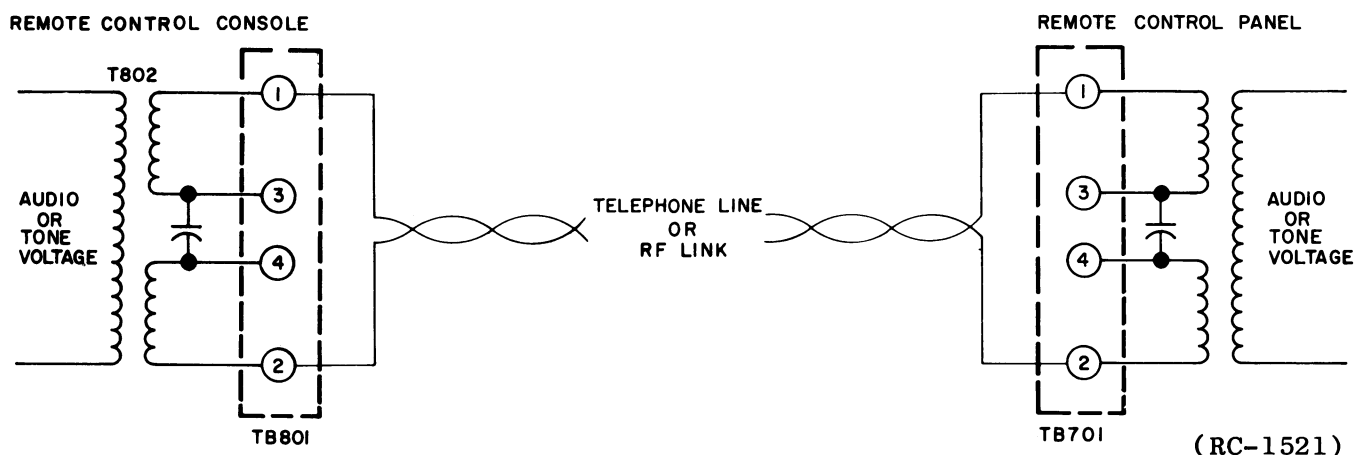


Figure 1 - Tone Control Connections

5. For DC Control Method:

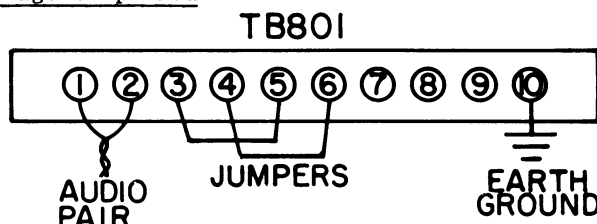
- A. Three types of telephone line connections are commonly used in DC control application. Before choosing one of these methods, consider both the cost and performance of each, as one method may be available at a considerably lower rate. In addition, some local telephone companies offer no choice, but will provide an audio pair and a control pair. The following chart contains information to assist in selecting the control method and type of telephone line to be leased.

Method	Description	Advantages or Disadvantages
1	One metallic pair: for both audio and control voltages with control voltage simplexed from line to line.	Economical: dependable where earth currents may be large, or where a good earth ground cannot be obtained; keying clicks will be heard in paralleled Remote Control Units.
2	One metallic pair: for both audio and control voltages with control voltage simplexed from line to ground.	Economical: earth ground currents (encountered near power company sub-stations) may interfere with control functions; keying clicks minimized.
3	Two telephone pairs: one for audio voltage and one for control voltage (metallic pair).	Provides best performance; keying clicks will not be heard; least susceptible to earth ground currents which may interfere with control functions.

- B. After the control method has been selected, make the telephone line connections to TB801 on the rear of the Control Console. Make sure that the control pair identified in Step 5 is connected to corresponding terminals on both the Control Console and the remote control panel (i.e., TB801-1 to TB701-1, and TB801-2 to TB701-2).

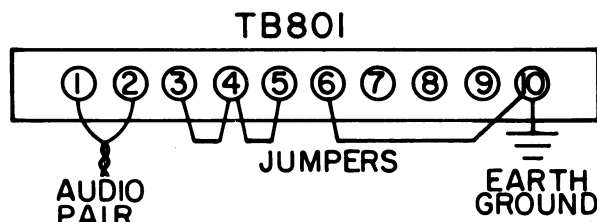
Method 1 - Single Telephone Pair (Control Voltage Simplexed Line to Line)

- Connect telephone pair to TB801-1 and TB801-2.
- Connect jumper between TB801-3 and TB801-5.
- Connect jumper between TB801-4 and TB801-6.



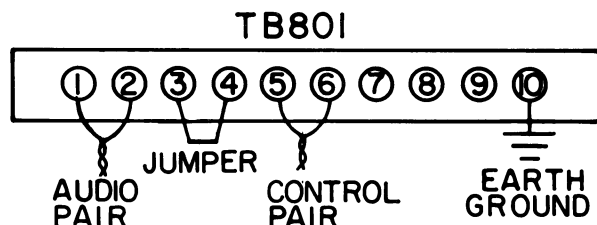
Method 2 - Single Telephone Pair (Control Voltage Simplexed Line to Ground)

- Connect telephone pair to TB801-1 and TB801-2.
- Connect jumper between TB801-3 and TB801-4.
- Connect jumper between TB801-4 and TB801-5.
- Connect jumper between TB801-6 and TB801-10.



Method 3 - Separate Control and Audio Pairs

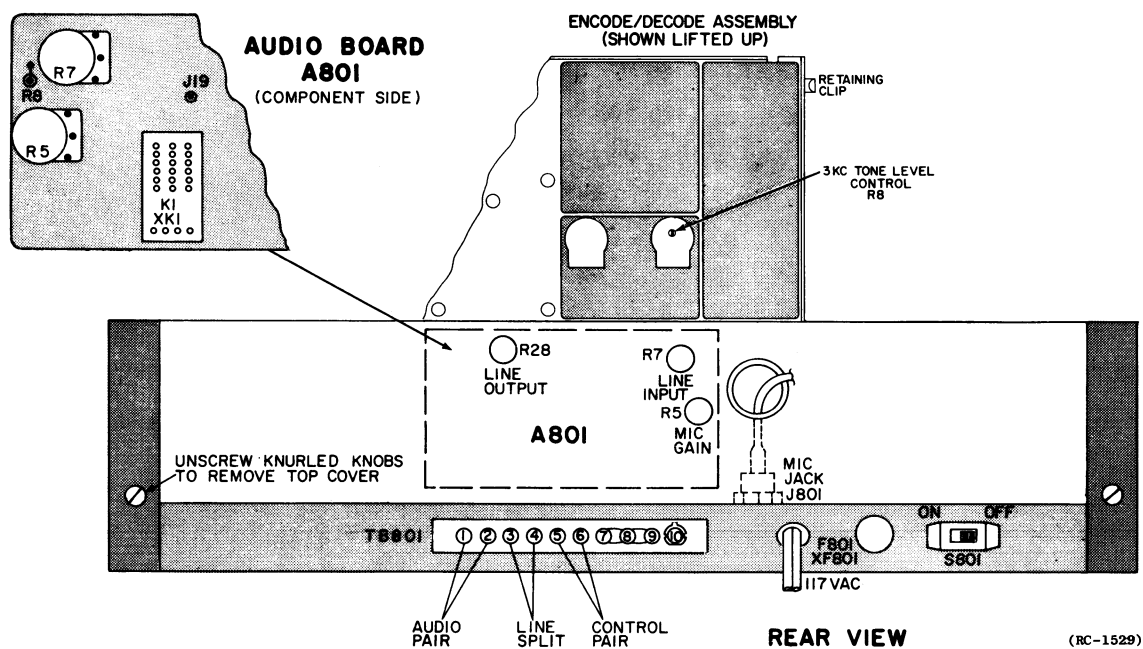
- Connect audio pair to TB801-1 and TB801-2.
- Connect control pair to TB801-5 and TB801-6.
- Connect jumper between TB801-3 and TB801-4.



- Connect terminal 10 of TB801 to a good earth ground such as a cold water pipe or an electrical conduit. This is required as a safety measure for the dispatcher, regardless of the control method used.
- After the telephone line connections have been completed, a few adjustments may be re-required before placing the unit in service. Before applying power to the Console, make sure that the station installation and adjustment has been completed, and that all telephone lines have been connected to the remote control panel. Then connect power cable W801 to a 117-volt, 50/60 cps AC source, and turn the power switch (S801) on the back of the Console to the ON position.

8. Make any necessary adjustments as shown on the ADJUSTMENT PROCEDURE on the following page. Before starting adjustment, make sure that the station VOLUME control (R511 on the EP-38-A) has been set for no more than 6 volts RMS at the audio pair with standard test modulation. For parallel consoles, remove R8 (360 ohms) on Audio Board A801 in all parallel units except the main console.

INITIAL ADJUSTMENT PROCEDURE



This adjustment procedure is provided for initial adjustments, when required. Refer to the Maintenance Manual for the Complete Adjustment Procedure.

LINE OUTPUT

The Control Console has been set at the factory for a line output of 6 volts RMS (+18 dbm). This level may be reduced when required by local telephone company regulations, or whenever line losses and noise pickup permit an adequate signal-to-noise ratio.

PROCEDURE:

1. Feed a 1000-cps, 30-millivolt signal into pins 1 and 2 of mike jack J801.
2. Connect an AC-VTVM across the audio pair. Use a 0.5-mfd capacitor in series with the meter if DC is simplex line-to-line.
3. Adjust LINE OUTPUT control R28 for 6 volts RMS (or as required by local regulations).

MIC GAIN

The MIC GAIN has been adjusted at the factory for threshold of compression according to the type microphone ordered with the Console. Use of excessive compression will accent background noise during pauses in transmission.

PROCEDURE:

1. Key the microphone and talk into the mike from a normal distance (12 to 15 inches for the Desk or Boom mike, or across the face of the Military mike).
2. Adjust MIC GAIN control R5 for threshold of compression as indicated by the Compression Meter or by a reading of 0.4 volt DC on a 20,000 ohm-per-volt meter connected from A801-J19 to ground.

LINE INPUT

The LINE INPUT has been adjusted at the factory for an input of 180 millivolts RMS (-12 dbm) for threshold of compression. Use of excessive compression will accent background and line noise during pauses in transmission.

PROCEDURE:

1. Feed a 1000-cps signal onto the audio pair from the source with the largest line loss (this may be the base station or another Console). Adjust audio generator to produce +18 dbm on the audio pair (or less when required by local telephone company regulations).
2. Adjust the LINE INPUT control (R7) for threshold of compression as indicated by the line between the red and green area on the Compression Meter, or by a reading of 0.4 volt DC on a 20,000 ohm-per-volt meter connected from A801-J19 to ground.

3-KC TONE LEVEL

1. Turn the power OFF. Next, remove the top cover and slip off the two retaining clips on each side of the hinged Encoder/Decoder assembly. Then swing open the top section.
2. Turn the power back ON. Key the microphone and adjust 3-KC Tone Level Control R8 for a reading of 300 millivolts at TB701-1 and -2 of station control panel Model 4KC16A10.

ACCESSORIES

CLOCK ACCESSORY

To set the clock, turn the power OFF and remove the top cover. Then turn the indicator wheels in either direction until the correct time shows in the window.

TONE JACK (Option 5003)

Turn the power OFF. Then remove the top cover and connect the tone option plug to the jack next to mike jack J801 on the Console Chassis.

HANDSET HOOKSWITCH (Option 5002)

1. Turn the power OFF. Then remove and discard link connectors between TB801-7 & 8, and TB801-8 & -9.
2. Connect Hookswitch leads as follows:
Green-White lead to TB801-7; Brown-Green lead to TB801-8; White-Blue-Red lead to TB801-9; and White-Red-Black lead to TB801-10.

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