

**MAINTENANCE MANUAL
FOR
MASTR REMOTE/REPEATER STATIONS
WITH SATELLITE RECEIVER AND VOTING SELECTOR
(OPTION 7688)**

CONTENTS

Description	Page 1
Selector Audio Connections	2
Adjustment	2
Modifications	2
Overlay Harness	3

DESCRIPTION

Option 7688 adds the following assemblies to the repeater station:

- Voting Selector Panel
- Tone/Audio Panel
- Line Amplifier
- Resistor Kit 19A129030G1

The Voting Selector panel is used with satellite receivers to form a receiver voting system. The Tone/Audio panel and Line Amplifier enables the station receiver to be used as a satellite receiver.

The satellite receivers are located so that at least one receiver will receive a good quality signal from a Personal or Mobile two-way radio transmitting from a specified operating area. The satellite receiver outputs are applied to the Voting Selector which selects the receiver with the best audio quality to be transmitted by the repeater station. All of the external satellite receivers are connected to the Voting Selector by AC or DC lines, or on RF link.

VOTING SELECTOR PANEL

The basic Voting Selector consists of an Interconnection Board, 117-Volt Power Supply, an Audio Module and up to six Receiver Modules (one for each satellite receiver). The Voting Selector provides continuous voting for the satellite receivers. The selected audio is amplified and applied to the repeater transmitter and to the Selector speaker.

Complete instructions for the Voting Selector are contained in Maintenance Manual LBI-4292.

LINE AMPLIFIER

The line amplifier provides the required de-emphasis and audio amplification. It also contains a squelch circuit to eliminate noise feed-through while the receiver is squelched. The output of the line amplifier drives a 600-ohm line matching transformer on the tone/audio panel.

Complete instructions for the line amplifier are contained in the Power Supply Maintenance Manual (LBI-4323).

TONE/AUDIO PANEL

The tone/audio panel contains a 1950 Hz tone generator, a tone gate, and a line transformer. When the receiver is squelched, the 1950 Hz tone is applied to the telephone pair. When the receiver is unsquelched, the tone is removed and the receiver audio is applied to the Voting Selector panel.

Complete instructions for the tone/audio panel are contained in Maintenance Manual LBI-4294.

SELECTOR AUDIO CONNECTIONS

All audio inputs from the satellite receivers must be connected to terminal boards mounted on the back of the Voting Selector Panel. A #22 AWG twisted pair is recommended for the audio leads. To gain access to the input terminals, remove the station back door and then remove the back plate on the Selector panel. Connect the audio pairs to the line input terminals as shown in the following chart:

Audio for Receiver Module:	Connect Audio Pair To:
1 (see note)	
2	TB9-21 and TB9-15
3	TB9-7 and TB9-10
4	TB9-2 and TB9-5
5	TB8-17 and TB8-20
6	TB8-12 and TB8-15

NOTE: Receiver Module 1 is connected to the station receiver by the receiver voting overlay harness.

VOTING SELECTOR ADJUSTMENT

The adjustment procedure for the Voting Selector also includes adjustment of the satellite receivers. For complete instructions, refer to the Maintenance Manual for the Voting Selector.

MODIFICATIONS

For receiver voting applications, modifications are required to the repeater panel and the station Interconnection cable.

Repeater Panel

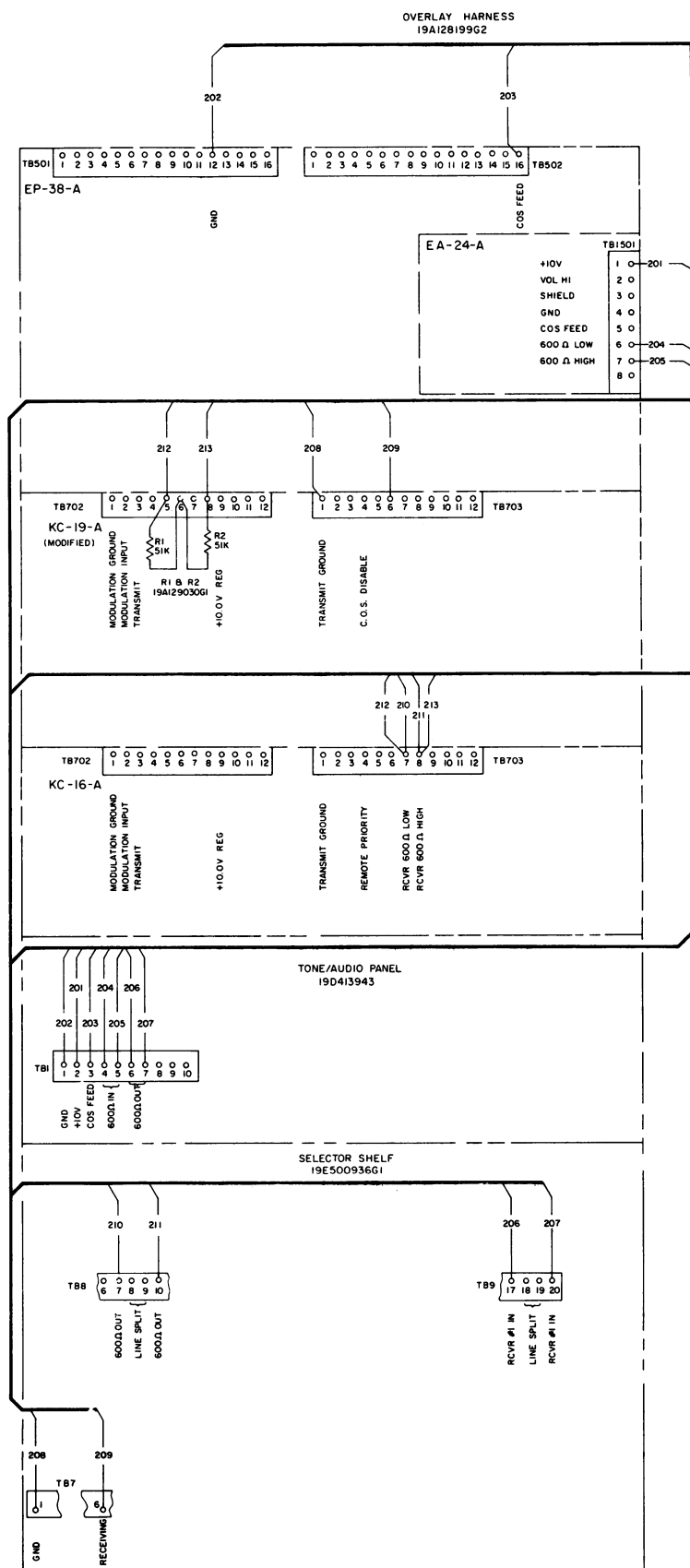
1. Resistor Kit 19A129030G1 is added to the repeater panel to provide 20 dB attenuation of the audio input to the audio coupler circuit. The location and value of the resistors is shown on the Receiver Voting Overlay Harness.

2. Capacitor C5 (0.33 microfarads) is removed from Audio Coupler Board A701. The location of C5 is shown on the Outline Diagram for the Repeater Panel.

Interconnection Cable

When the Receiver Voting Overlay Harness is added, the station Interconnection Cable is modified as follows:

1. Remove wire #4 and #5 connected from TB502-1 and -2 on the EP-38-A to TB702-5 and -6 on the KC-19-A Panel.
2. Remove wire #10 connected from TB502-16 on the EP-38-A to TB703-6 on the KC-19-A Panel.



(19D416031, Rev. 4)

INTERCONNECTION DIAGRAM

**RECEIVER VOTING OVERLAY HARNESS
FOR REMOTE/REPEATER STATIONS**

DF-9026

MOBILE RADIO DEPARTMENT
GENERAL ELECTRIC COMPANY • LYNCHBURG, VIRGINIA 24502

GENERAL  ELECTRIC