MANUAL MOBILE RADIO
BASE STATION TERMINAL EQUIPMENT
A1 AND A2 NOISE REDUCERS
PLACING IN AND REMOVING FROM SERVICE

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1. GENERAL

1.01 Operating adjustments for the noise reducers are limited almost entirely to the N RDN (noise reduction) control. Incoming radio noise varies constantly for numerous reasons and by unpredictable amounts. Unless a radio circuit is frequently monitored at the control terminal, maladjustment of the N RDN control will degrade rather than improve the transmission quality.

1.02 To be effective, adjustments of the N RDN control must be coordinated with other adjustments at the control terminal and at associated equipment. An understanding of the effects of all adjustments is essential to maintain high quality radiotelephone circuits.

1.03 Adjustments can best be performed by experienced attendants able to monitor, analyze, and compensate for continually changing radio transmission conditions. Noise reducer operating methods are included with control terminal procedures.

2. PREPARATION FOR SERVICE

2.01 Perform the following steps to determine if noise reducer action is required and, if so, to set the level at which noise reducer action begins.

STEP	PROCEDURE
1	Operate the noise reducer NRCO (noise reducer cutoff) switch to OFF. *Note:* This disables the noise reducer action. The noise reducer functions as a fixed-gain voice-frequency amplifier.
2	Monitor the noise level when there is no speech on the incoming radio circuit.
3	Operate the NRCO switch to IN if the noise is loud enough to be annoying.
4	Adjust the N RDN control until sufficient noise reduction is obtained.
5	Set the N RDN control, when there is speech on the circuit, to the lowest step that will give satisfactory noise reduction.

STEP	PROCEDURE
	Note: When high noise levels require high settings of the N RDN control, distortion of the received speech may be evident. In such cases, the attendant must select a control setting to obtain the best compromise between noise reduction and distortion. If noise levels are consistently high, some improvement may be obtained by decreasing the sensitivity of the gain increaser circuit. This should be done by qualified technicians and only after careful analysis.
6	Decrease the sensitivity of the gain increaser circuit, if required, by changing the optional connection from terminal 7 to terminal 3 on transformer GI IN and/or by connecting the 6-dB input pad. *Note:* If the input pad is inserted, increase the amplifier gain by 6 dB in order to maintain the same overall gain of the noise reducer.
7	Increase amplifier gain, if required, by changing the optional connection from terminal 3 to terminal 7 on transformer IN and/or by changing the strapping on resistors J, K, and L.

3. ATTENTION DURING SERVICE

3.01 Monitoring the circuit will reveal changes in the noise level and will indicate, to an experienced attendant, any required N RDN control adjustments. During no-speech intervals, intermittent or steady lighting of the receiving indicator lamp (where provided in the control terminal) indicates increased noise level and the need for adjustment. Changes in the N RDN control setting will not always compensate for the noise nor result in improved transmission quality.

3.02 If trouble occurs in the gain increaser portion of a noise reducer during service, operate the NRCO switch to OUT. This converts the noise reducer to a fixed-gain amplifier. A noise reducer may be patched out at jacks that terminate the connecting circuits at the input and output of the noise reducer. When a noise reducer is patched out, the resulting level change may require changes in the settings of controls at the control terminal or associated equipment.

4. REMOVING FROM SERVICE

4.01 When operated from *ac*, there is no provision on the noise reducer panel for removing filament voltage which is provided from a separate 10-volt filament transformer. When operated from *dc*, the filament circuit may be opened by inserting a dummy plug in the FIL jack on the noise reducer.

4.02 The −24 volt and +130 volt inputs to the noise reducer may be interrupted only by removing the appropriate fuses on the power distribution panel.