MAINTENANCE CENTER OPERATION SERIAL ALARM REPORTING FREQUENCY DIVERSITY DR 6/11-135 REMOTE SYSTEM OPERATIONS

CONTENTS PAGE

This section contains procedures for and an explanation of protection switching, order-wire calling, and performance testing of remote operations that can be performed by the alarm surveillance center.

PROTECTION SWITCHING OPERATIONS

Table A shows protection switching controls that can be remotely operated and their resulting operations. System switching block diagrams in Fig. 1 and 2 show switch paths for referenced remote operations performed in Table A.

TABLE A

REMOTE PROTECTION SWITCHING OPERATIONS (NOTE)

OPERATOR SENDS CONTROL POINT	OPERATION COMPLETED
CH( ) LINE SW	Radio Line Errorless Switch (FIG. 1) to Protection Channel for Selected Channel
CH( ) MAN LO	Locks Out the Selected Channel and Inhibits Automatic Protection Switching and Alarm Reporting Capabilities for That Channel
CH( ) SPAN SW	End-to-End Span Switch (FIG. 1) to Protection Channel for Selected Channel
PROT PRE SW	End-to-End Protection Access Switch (FIG. 2) of Protection Channel with Preemptible Features
PROT ACC SW	End-to-End Protection Access Switch (FIG. 2) of Protection Channel Without Preemptible Features
PROT MAN LO	Locks Out the Protection Channel and Inhibits an Automatic Switch from any Failed Regular Channel to Protection
CH( ) MAN RESET	Resets CH ( ) Operations
PROT MAN RESET	Resets PROT Operations

Note: Refer to the "Control Point Explanations" Section for additional information.

CONTROL SYSTEM OPERATIONS

Table B shows control system controls that can be remotely operated and their resulting operations.

TABLE B

REMOTE CONTROL SYSTEM OPERATIONS (NOTE)

OPERATOR SENDS CONTROL POINT	OPERATION COMPLETED
CONT ALM RESET	Resets the Terminal Control System Alarm and also Activates the Exerciser Test Operation
EXERCISER TEST	Instructs Terminal to Perform Internal Control System Diagnostic Tests and Protection Switch Exercising

Note: Refer to the "Control Point Explanations" Section for additional information.

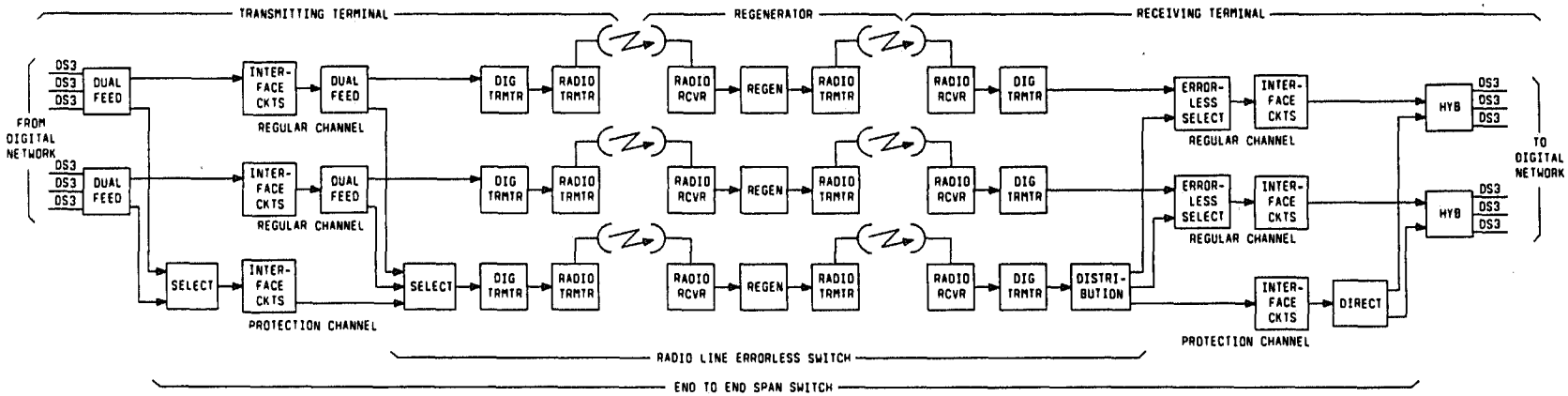

Fig. 1—DR 6/11 1 x N System

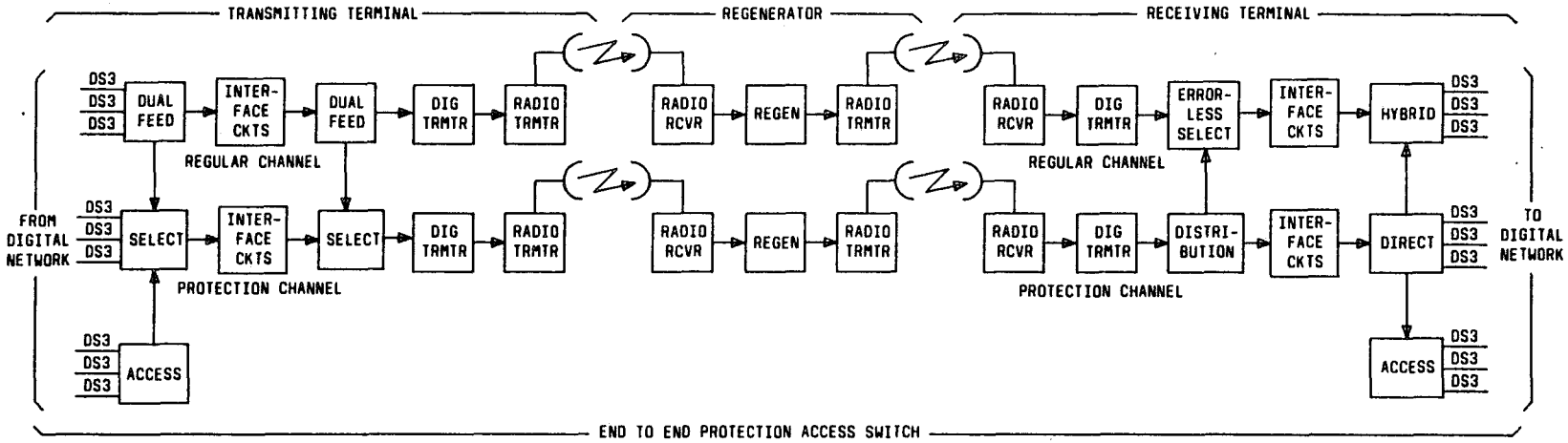

Fig. 2—DR 6/11 1 x 1 System With Access

ORDER-WIRE CALLING

The 135-Mb/s Digital Radio order-wire feature can be accessed using a touch-tone telephone set. The office records should contain the telephone number assigned to each radio system equipped with the order-wire feature. The records should also contain the 2- or 3-digit code assigned to each particular station in a radio system. With the above information, order-wire calling is accomplished as follows:

1. Call the telephone number assigned to the radio system order-wire circuit you are trying to contact. The order-wire circuit will answer within one or two rings.

   Note: If all stations are on-hook, you will hear a dial tone. If one or more stations are off-hook, you and anyone currently using the order-wire circuit will hear a triple beep.

2. Perform one of the following actions.

   Caution: Accidentally pressing the " * " will cause the order-wire circuit to be disconnected immediately.

   Note 1: This step must be performed within 20 seconds or the order-wire circuit will be disconnected.

   Note 2: If no one answers within 3 minutes, the order-wire circuit will be disconnected.

   Note 3: If order-wire circuit answers with dial tone sound, signaling with two or more digits will change the dial tone to an intermittent tone until a station goes off-hook.

   - To call a particular station, press the assigned 2- or 3-digit code for that station.
   - To call all stations connected to this order-wire circuit, press the " # " symbol three times.
   - To call all stations assigned 2-digit codes that begin with (N), press (N), then " # " .

     Example: For three stations assigned codes 1-2, 1-3, and 1-4, press " 1" , then " # " .
   - To call all stations assigned 3-digit codes that begin with (N), press (N), then " # " and " # " .

     Example: For three stations assigned codes 6-1-1, 6-2-2, and 6-3-3, press " 6" , then " # " , then " # " .
   - To call all stations assigned 3-digit codes that begin with (N) (M), press (N), then (M), then " # " .

     Example: For three stations assigned codes 8-1-2, 8-1-3, and 8-1-4, press " 8" , then " 1" , then " # " .

PERFORMANCE TESTING

A performance monitor is associated with each digital receiver on a radio channel as shown in Fig. 3. By sending the appropriate performance test control to the terminal or regenerator, any hop of any channel may be tested for 15 minutes.

VERIFICATION OF REPAIRED WORK

Verifying repaired work on a radio channel and clearing repair induced errors can be done remotely by use of the performance test capability built into the DR 6/11-135 Digital Radio System.

The performance test controls need only to be sent to the performance monitors associated with the channel and in the direction of transmission that the repair interrupted. Figure 3 depicts an example of this monitoring arrangement. If a repair was made on the radio transmitter at Station 2, then repair-caused-errors may have been recorded in the performance monitors in Stations 3, 4, and 5. In order to verify the repair, a RCVG AC (or BD) CH( ) PERFORMANCE TEST control should be sent to regenerator Stations 3 and 4, and a RCVG CH( ) PERFORMANCE TEST control should be sent to terminal Station 5.

If the channel meets performance objectives, the performance tests initiated by the remote control will time-out in 15 minutes without reporting any error rate or intermittent problems. This successful verification of performance will clear any repair induced errors from the monitors long-term memory. Refer to the control point explanations for additional details.

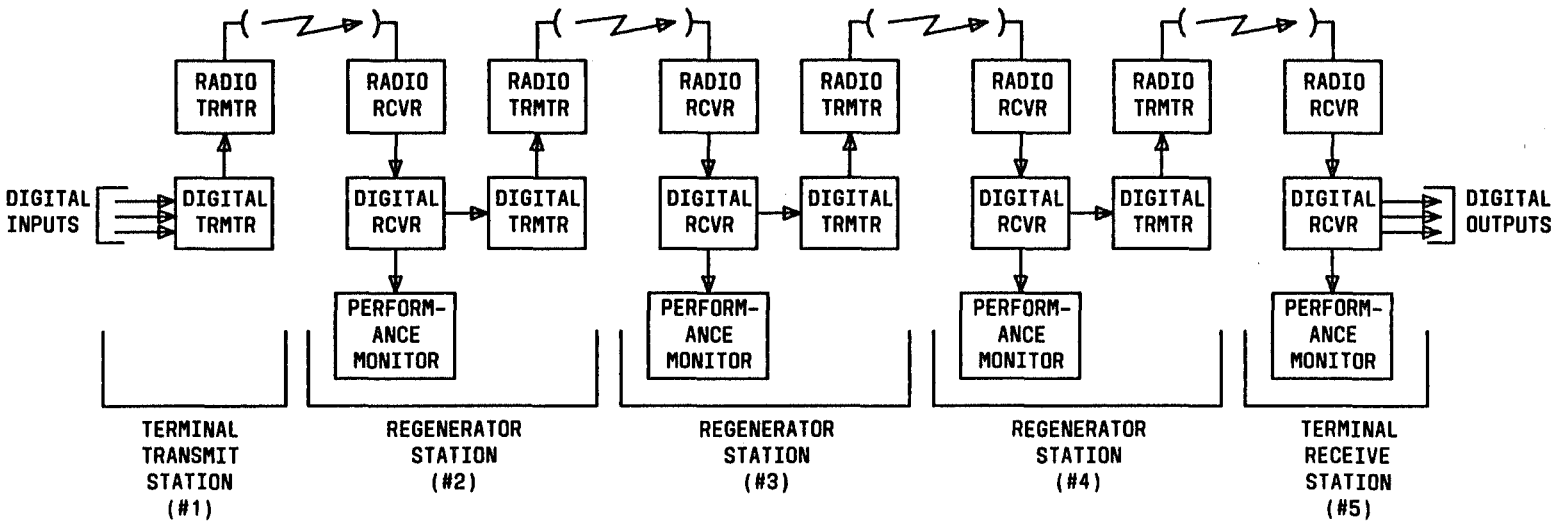

Fig. 3—DR 6/11 Digital Radio Performance Monitoring Capabilities