AUTOMATIC NUMBER ANNOUNCEMENT SYSTEM (A.N.A.C.) GENERAL INFORMATION

CONTENTS

1. GENERAL

1.1 Description of System

1.11 The following will briefly describe the method of operation and interconnection of the Automatic Number Announcement Circuit (ANAC) with Automatic Number Identification (ANI) and Automatic Message Accounting (AMA) circuits in the various switching systems.

1.12 To use the ANAC from outside the plant, the craftsman dials a 3-digit access code followed by the 7-digit number believed to be associated with that line (or, if unknown any 7-digit number with a proper office code). If a check of the AMA/ANI cross connection by the ANAC verifies association of the number dialed with the line, 60-ipm tone and high tone are heard. If no match occurs, a connection is set up to a Telco location and the craftsman hears the audible ring. On answer, the craftsmam identifies himself. Upon satisfactory verification, a start signal from the Telco location enables automatic voice announcement to the craftsman of the number as determined by ANAC from the AMA/ANI cross connection.

1.13 A feature for use with ANAC associated with LAMA Crossbar No. 5, Step-by-Step, Crossbar No. 5 and No. 1, and Panel Automatic Number Identification Systems, and #1 or #2 ESS equipped with TSPS permits a craftsman at the central office distributing frame to dial the access code only and receive an automatic readout of the billing number from the main frame loudspeaker.

1.14 The NS-02503-01 circuit has a feature that allows up to 2 ESS type offices and 7 electro mechanical offices to share one ANAC unit. This is referred to as a shared anac arrangement.

1.15 The NS-02503-01 circuit has a feature that allows up to a maximum of 10 offices of any type to share one main frame loudspeaker. This is referred to as multi-anac arrangement.

1.2 Offices with ANI

1.21 Panel, No. 1 Crossbar and No. 5 Crossbar with ANI require connection of the ANAC to the tip and ring output of a standard ANI outgoing trunk for ten-digit dialing (access code + seven-digits). A separate dedicated standard type trunk with associated access code must be assigned for the three-digit dialing from the central office distributing frame. Appropriate routing cross-connections are required in decoders or markers so that the special code will cause selection of the dedicated trunk.

1.22 Step-by-Step offices with ANI have two options available when provided with access code plus one-digit dialing from central office distributing frame. The first option requires an additional access code and a standard ANI outgoing trunk in addition to the access code and trunk which are dedicated to ten-digit dialing from outside the central office. The second optional arrangement is provided to permit use of the same access code and ANI outgoing trunk used to access the ANAC from outside the plant. With this arrangement the ANAC utilizes a relay delay timer with a three second timing between the first and second digit of the called number to determine if the call is to be treated as an access code plus one-digit or access code plus seven-digit call.

1.23 When a call is initiated from outside the plant, the user dials the special 3-digit code and the number to be identified. The number is MF pulsed forward by an auxiliary sender in Panel and No. 1 Crossbar offices. In Step-by-Step offices the caller dial pulses the number directly into the ANAC. The ANAC then requests number identification in the same manner as a Centralized Automatic Message Accounting (CAMA) office. The identified 7-digit number is MF pulsed by the ANI outpulser to the ANAC. A comparison is made of the called and calling number and if they match, a combination busy and high tone is returned to the line as a match and disconnect indication. If no match is obtained, the call is connected to the Telephone Company Plant Service Center and upon proper identification a start signal is sent to the ANAC so that a voice announcement of the identified number is given.

1.24 When a call is initiated from the central office distributing frame, the user dials the special 3-digit code (plus 1-digit for party identification in Step-by-Step offices) and receives an automatic readout of the billing number from the main frame loudspeaker.

1.3 No. 5 Crossbar Offices with LAMA

1.31 When ten-three digit dialing is provided with the ANAC, one AMA recorder is provided for ANAC use. Two AMA outgoing trunks shall be assigned to provide access to the ANAC. The ANAC has a 25 lead connection to the recorder connector. These leads are multiple connections at a terminal strip to transmitting leads from any transverter to the recorder. In addition there is one lead to control cut-in when the transverter is passing the office index and number to the recorder. The dedicated trunk DJ lead is brought through the ANAC to signal that the recorder and transverter are connected.

1.32 When a call is initiated from outside the central office, the caller dials a special 3-digit code followed by the 7 digits of the number to be identified. Marker cross-connections route the call to the dedicated trunk and cause the MF out-sender to be attached and primed with the dialed 10-digit number plus "delete three" instructions. The 7-digit number is MF pulsed to

the ANAC and the ANAC obtains the directory number translation from the AMA recorder. The office index is expanded to the full 3-digit office code and the two 7-digit numbers are compared. The operation for match and failure to match is the same as that described in paragraph 1.2.

1.33 The requirement for three-digit dialing of access code only from the distributing frame is accomplished through the marker route relay cross-connections which simulate trunk test calls requiring senders but no pulsing. For this type of call the marker primes the sender with the usual digit and AMA information and, in addition grounds the ND lead in the sender. This causes the operation of relay EP (sender) which prepares for release of the sender after it has completed its AMA functions.

1.34 A provision is made to allow continued availability of ANAC when regular AMA recorder operation is transferred to the AMA emergency recorder operation. A 26 lead cable is required for cross-connection to the emergency recorder to obtain the calling telephone number.

1.4 No. 1 Crossbar Offices with LAMA

1.41 A dedicated outgoing appearance on the office line frame is assigned for ANAC use. The ANAC has 15 leads to each transverter to monitor for the special 3-digit code. When the code is detected, a path is prepared to operate the cut-in relay for the 25 number leads for that transverter. When the transverter signals that it is passing the directory number to the recorder, the cut-in relay operates and the number is registered in the ANAC.

1.42 Use of ANAC in No. 1 Crossbar involves the special code and the 7-digit number. The operation of the ANAC is the same as that described in paragraph 1.32.

1.5 Step-by-Step Offices with LAMA

1.51 The first two digits of the AMA test code direct the call to the ANAC via the first and second selectors. The third digit must be "odd" to simulate a ring party and "even" to simulate a tip party. The remaining 7 digits are dialed into the ANAC.

1.52 The office Line Verification Circuit is then used to obtain the calling line identification. The ANAC receives this number from the Line Verification Circuit on a 2/5 basis (25 leads plus control). The office index is translated to the proper A, B, and C digits. The operation for match and failure to match is the same as that described in paragraph 1.2.

→ 1.6 #1 or #2 ESS Equipped With TSPS

1.61 For 3 digit access from the ESS office mainframe the craftsman dials a 3 digit code across the line terminals at the MDF. The translation for this call will be established so as to direct the ESS program to an outgoing TSPS type of trunk. The tip and ring leads of the TSPS trunk will be bridged across the tip and ring leads of the ANAC.

1.62 For 10 digit access from outside of the ESS office the craftsman dials a 10 digit number consisting of a 3 digit access code plus the 7 digit number requiring identification. The access code will direct the call to a TSPS trunk similar to the 3 digit call. The match/no match procedure and readout will be handled in the same manner as other types of 10 digit calls.

1.7 Description of Components

1.71 The following circuits are grouped per switching system.

1.711 AMA Systems

1.7111 Automatic Number Announcer for Step-by-Step, Crossbar No. 1 or No. 5 offices.

NS-02500-01

1.7112 Number Verification Circuit for use with ANAC in Crossbar No. 1 or No. 5 offices.

NS-02501-01

1.7113 Number Verification Circuit for use with ANAC in Step-by-Step offices.

NS-02502-01

→ Arrowed lines indicate new or changed information.

Reason for Reissue:
To change Paragraphs 1.13, 1.6, 1.7121 and 2.7.
To add Paragraphs 1.14 and 1.15.

3.

1.712 ANI Systems

1.7121 Automatic Number Announcer for Verification Circuit for use in Panel, Crossbar No. 1 or No. 5 offices, and #1 or #2 ESS with TSPS. ←

NS-02503-01

1.7122 Automatic Number Announcer and Verification Circuit for use in Step-by-Step offices.

NS-02504-01

2. TEST INDEX

2.1 Section 351 - this section contains Power Supply and fusing tests for all circuits in the system.

2.2 Section 352 - this section contains the method of performing supplementary tests on the Multifrequency Reciever.

2.3 Section 353 - this section contains the method of performing tests on the Automatic Number Announcer and the Number Verification Circuit for use with Automatic Number Announcer in No. 1 Crossbar AMA offices.

2.4 Section 354 - this section contains the method of performing tests on the Automatic Number Announcer and Verification Circuit for use in Step-by-Step ANI offices.

2.5 Section 355 - this section contains the method of performing tests on the Automatic Number Announcer and the Number Verification Circuit for use in Step-by-Step AMA offices.

2.6 Section 356 - this section contains the method of performing tests on the Automatic Number Announcer Circuit and the Number Verification Circuit for use in No. 5 AMA offices.

2.7 Section 357 - this section contains the method of performing tests on the Automatic Number Announcer and Verification Circuit for use in Panel, Crossbar No. 1 or Crossbar No. 5 ANI offices, or #1 or #2 ESS equipped with TSPS.

2.8 Section 358 - this section contains the method of performing tests on the Shared Security Attendant Preference Circuit.

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