FEATURE DOCUMENT

MAKE BUSY FEATURES

NO. 2 ELECTRONIC SWITCHING SYSTEM

INTRODUCTION

1. GENERAL INFORMATION

1.01 This document covers the various methods that may be used to make customer lines and trunks busy to terminating calls.

1.02 In the No. 2 Electronic Switching System (ESS), certain lines and trunks may be made busy either by the customer or by the telephone company to prevent calls from being completed to them.

2. DEFINITION

2.01 *Remote Make Busy* is a feature, normally associated with business customer lines, that allows a customer at a private branch exchange (PBX) or multiline hunt group (MLHG) to block (by operation of a key) incoming calls to a designated member or set of members of the MLHG. Remote make busy can also be applied to an individual residential customer line by building a MLHG or by making it appear as a mobile radio line to the No. 2 ESS (see 2.03).

2.02 *Carrier Group Alarm* is a feature that automatically removes trunks from service in a failing carrier group. This feature can also be applied such that trunks can be made maintenance busy manually by operation of a key.

2.03 *Mobile Radio* systems normally return busy or reorder tone to the calling party when all channels are busy. Mobile systems can be made busy manually via key control to prevent incoming calls from terminating to the system.

2.04 *Route Transfer* is a feature that permits calls to operators, repair service, etc., to be rerouted to another facility upon operation of a key.

2.05 All make busy features are available with all No. 2 ESS generic programs except the carrier group alarm and trunk make busy features which require EF-1 or later generic programs.

2.06 This document covers each of these features in general terms. For more details on a specific feature, refer to the individual feature document listed in Table A.

TABLE A

MAKE BUSY FEATURE INDEX

FEATURE	ASSIGNMENT	FEATURE DOCUMENT
Remote Make Busy for PBX and MLHG Lines	Per Line or Group of Lines	232-190-125
Remote Make Busy for Individual Lines Using Mobile Radio Feature	Per Line	232-190-124
Mobile Radio - All Channels Busy	Per Mobile System	232-190-124
Trunk Make Busy - Carrier Group Alarm	Per Carrier Group	232-190-030
Trunk Make Busy - Key Control	Per Trunk or Set of Trunks	232-190-030
Route Transfer - Key Control	Per Route Index	232-190-011

DESCRIPTION

3. USER OPERATION

A. Remote Make Busy for Multiline Hunt Group Customers

3.01 Customers that are a part of a MLHG may have remote make busy keys associated with member lines. When a make busy key is operated, the member or members associated with the key appear busy to terminating calls. Calls may be originated from these lines.

B. Remote Make Busy Using the Mobile Radio Feature

3.02 When the remote make busy feature is applied to individual lines, all calls to the line receive busy tone or reorder tone when the associated make busy key is operated. Calls may still be originated from these lines.

C. Mobile Radio—All Channels Busy

3.03 When all channels of a mobile radio system are busy, the calling party attempting to reach a unit in the mobile system receives reorder or busy tone. A mobile radio system can be made busy by optional key control. When this key is operated, all calls to the mobile system receive busy or reorder tone. The mobile radio feature may be used as a make busy feature for any group of lines by using the mobile radio translations.

D. Trunk Make Busy—Carrier Group Alarm

3.04 When a carrier facility failure occurs, the trunks associated with the failing carrier group are removed from service. Calls in progress when the carrier failure occurs are usually dropped.

E. Trunk Make Busy—Key Control

3.05 Trunks may be made busy to traffic by applying make busy keys to the carrier group alarm ferrods. When calls are attempted over these trunks and the associated keys are operated, the trunks appear busy to traffic and no calls are terminated to them.

F. Route Transfer

3.06 Route transfer is used when a facility such as a repair desk or similar operator position is to be unattended for a period of time. Route transfer is activated by operation of a key at the position being rerouted.

3.07 When route transfer is in effect, the customer making a call to a facility whose traffic has been transferred over another route is unaware that a route transfer has been made.

4. SYSTEM OPERATION

A. Remote Make Busy for MLHG Customers

4.01 Remote make busy for PBX or multiline hunting customers is accomplished by assigning remote make busy keys and ferrods to lines or groups of lines. In the No. 2 ESS, up to seven remote make busy keys may be assigned per MLHG. Refer to Section 232-190-125 *Multiline Hunting* for details of operation of this feature.

B. Trunk Make Busy—Carrier Group Alarm or Key Control

4.02 The No. 2 ESS automatically removes trunks from service in failing carrier groups as a result of the carrier group alarm ferrod indication. (The ferrod is saturated when the carrier group is operational, unsaturated when a failure occurs.) The system then prints a message on the maintenance teletypewriter giving the carrier group number and sounds a major alarm.

4.03 Key control can be applied to the carrier group alarm ferrod to allow a trunk or a set of trunks to be made busy. When the key is operated, the carrier group alarm ferrod is unsaturated and the trunk or set of trunks is removed from service. A disadvantage of this arrangement is that a printout and a major alarm are activated when the key is operated. Refer to Section 232-190-030 *Carrier Group Alarm Feature* for details on operation of this feature.

C. Mobile Radio—Make Busy

4.04 Normally, when all channels of a mobile radio system are busy, the "all channels busy" ferrod is saturated and calling parties attempting calls to the mobile system receive busy

tone. Mobile radio systems can be arranged with a make busy feature by applying key control to the all channels busy ferrod. When the key is operated, the all channels busy ferrod is saturated causing the mobile system to appear busy to the system. This make busy feature may be applied to any group of lines by applying the mobile radio line translations to them. Refer to Section 232-190-124 *Mobile Radio Feature* for details on operation of this feature.

D. Route Transfer

4.05 When route transfer is in effect and a call is placed involving the rerouted facility, the system recognizes that the route transfer key is operated and the alternate route index associated with the key is selected and used to route the call to the alternate destination. Refer to Section 232-190-011 *Call Routing Features* for more details on this feature.

CHARACTERISTICS

5. FEATURE ASSIGNMENT

5.01 Table A summarizes the make busy features and their application in the No. 2 ESS.

6. LIMITATIONS

6.01 Refer to the appropriate feature document listed in Table A for limitations on each of these features.

7. INTERACTIONS

7.01 Refer to the appropriate feature document listed in Table A for interactions on these features.

8. RESTRICTION CAPABILITY

8.01 Refer to the feature document listed in Table A.

INCORPORATION INTO SYSTEM

9. COST FACTORS

9.01 For cost factors concerning these features, refer to the feature documents listed in Table A. For the mobile radio feature to be assigned a make busy feature, a remote master

scanner applique circuit SD-1A210 is needed in addition to the costs specified in Section 232-190-124 to permit key control of the all channels busy ferrod. The trunk make busy feature also requires installation of a remote master scanner applique circuit to control the carrier group alarm ferrods.

10. DATA ASSIGNMENTS AND RECORDS

10.01 Refer to the feature documents listed in Table A for office data administration (ODA) input forms and recent change messages required for each of these features.

11. HARDWARE RESTRICTIONS

11.01 Refer to the feature documents listed in Table A.

12. INSTALLATION/ADDITION/DELETION

12.01 Refer to the feature documents listed in Table A.

13. TESTING

13.01 Refer to the feature documents listed in Table A.

14. OTHER PLANNING TOPICS

14.01 Refer to the feature documents listed in Table A.

ADMINISTRATION

15. MEASUREMENTS

15.01 Refer to the feature documents listed in Table A.

16. CHARGING

16.01 Refer to the feature documents listed in Table A.

SUPPLEMENTARY INFORMATION

17. GLOSSARY

17.01 For a glossary of terms commonly used in No. 2 ESS, refer to Section 232-190-003 *Glossary of Terms For No. 2 ESS Feature Documents.*

18. REFERENCES

18.01 The following is a list of related documents that may be consulted for further detail concerning make busy features.

- Section 232-190-125 Multiline Hunting

- Section 232-190-124 Mobile Radio Feature

- Section 232-190-030 Carrier Group Alarm Feature

- Section 232-190-011 Call Routing Features

- TG-2H No. 2 ESS Translations Guide