CALL FORWARDING—ALL CALLS, CALL FORWARDING—ALL CALLS—REMOTE, CALL FORWARDING—BUSY AND DON'T ANSWER, AND CALL FORWARDING—DON'T ANSWER

FEATURE DOCUMENTS

"DIMENSION®" PBX

INTRODUCTION

1. GENERAL INFORMATION

1.01 This section describes the Call Forwarding—All Calls, Call Forwarding—All Calls—Remote, Call Forwarding—Busy and Don't Answer, and Call Forwarding—Don't Answer features provided with the DIMENSION PBX. These are optional features provided as follows:

(a) *Call Forwarding—All Calls:* Initially provided in Feature Package (FP) 1. The override capability for this feature, allowing the designated station to call or transfer a call to the forwarding station, was initially provided in FPs 8 and 12.

(b) *Call Forwarding—All Calls—Remote:* Initially provided in FP8, Issue 3.

within the PBX (designated during feature activation). Calls to a station with this feature active forward whenever the call is unanswered. The don't answer interval is administrable and is based on the number of ring cycles before the call forwards.

DESCRIPTION

3. USER OPERATION

APPLICATIONS

3.01 The Call Forwarding features improve call handling, reduce the frustration of calling a station which is frequently busy or unattended, and improve an organization's public image and internal efficiency. Other advantages include:

- A reduced need for multiline key telephones

- Fewer missed calls

- The workload of an attendant (or secretary) can be reduced by forwarding calls (directed toward a busy or unattended station) to another station instead of the attendant.

3.02 Call Forwarding—All Calls should be used for a station which will be unattended for long periods of time. Call Forwarding—Busy and Don't Answer should be used for a station which is frequently busy. Call Forwarding—Don't Answer should be used for a station which is unattended for short periods of time. ◆A person working at a location outside the PBX which is served by a local central office can use Call Forwarding—All Calls—Remote to forward calls.◆

3.03 The designated station in a call forwarding relationship can override the Call Forwarding—All Calls feature and call or transfer a call to the forwarding station. Only the designated station can override call forwarding. The attendant cannot use call forwarding—all calls override. One benefit of call forwarding—all calls override is that a station user (forwarding calls for the purpose of minimizing interruptions) can be quickly notified of important or emergency calls.

GENERAL

3.04 The Call Forwarding features may be included in a DIMENSION PBX system with or without

Electronic Custom Telephone Service (ECTS). The operation of an ECTS station is somewhat different than a non-ECTS station (refer to paragraphs 3.16 through 3.19). In this section, whenever a station is referred to as an ECTS station, it is assumed the station set is a multibutton electronic telephone in a DIMENSION PBX with a custom calling feature button assigned to Call Forwarding.

3.05 Two access codes activate the four Call Forwarding features. One access code activates Call Forwarding—All Calls ◆and Call Forwarding—All Calls—Remote if the forwarding station line class of service allows call forwarding outside.◆ The other access code activates either Call Forwarding—Busy and Don't Answer, or Call Forwarding—Don't Answer. A forwarding station can have only one of these features active; the choice is administered in the station line class of service. One access code cancels all the Call Forwarding features.

3.06 The Call Forwarding features can be activated or canceled by either the forwarding station or the attendant. The forwarding station can only activate/cancel forwarding for its own line. The attendant can activate/cancel forwarding for any station within the PBX, provided the station line class of service allows the type of forwarding the attendant attempts to activate.

3.07 When the Call Forwarding—All Calls feature is active, calls to the forwarding station are processed as follows:

- The designated station, instead of the forwarding station, receives ringing (the forwarding station, if idle, receives a single, short burst of ringing to remind the station user calls are being forwarded).

- The calling station hears busy/ringback tone, depending on the busy/idle condition of the designated station.

- Calls to a busy or idle forwarding station are forwarded to the designated station (unless the designated station calls or transfers a call to the forwarding station using call forwarding—all calls override).

See Part 7, INTERACTIONS, for exceptions.

3.08 ◆When a station has the Call Forwarding—All Calls—Remote feature in its line class of

(1) Go off-hook.

- Dial tone is heard.

(2) Dial the cancellation code.

- Dial tone is removed after the first digit is dialed.

- Confirmation tone is returned when dialing is finished.

(3) Go on-hook.

Activating Call Forwarding From a Busy State (Non-ECTS)

3.14 To activate Call Forwarding from a busy (2-party talking state) forwarding station, proceed as follows:

(1) Depress the switchhook momentarily (flash).

- The other party is put on hold.

- Recall dial tone is returned.

(2) Dial the access code of the desired Call Forwarding feature.

- Dial tone is removed after the first digit is dialed.

- Dial tone is returned when dialing is finished.

(3) Dial the designated station number (see Note).

- Dial tone is removed after the first digit is dialed.

- Confirmation tone is returned when dialing is finished.

Note: ♦When dialing a designated station number outside the PBX (Call Forwarding—All Calls—Remote), a trunk dial access code of up to 3 digits must be entered before the designated station number. After dialing the trunk dial access code, dial tone or intercept tone is returned indicating a valid or invalid access code was entered.♦

(4) Go on-hook.

- The forwarding station rings.

(5) Go off-hook.

- The party on hold returns on-line.

Canceling Call Forwarding From a Busy State (Non-ECTS)

3.15 To cancel Call Forwarding from a busy (2-party talking state) forwarding station, proceed as follows:

(1) Momentarily depress the switchhook (flash).

- The other party is put on hold.

- Recall dial tone is returned.

(2) Dial the cancellation code.

- Dial tone is removed after the first digit is dialed.

- Confirmation tone is returned when dialing is finished.

(3) Go on-hook.

- The forwarding station rings.

(4) Go off-hook.

- The party on hold returns on-line.

B. ECTS User Operation

Activating Call Forwarding (ECTS)

3.16 To activate Call Forwarding from an idle ECTS forwarding station, proceed as follows:

(1) Go off-hook.

- Dial tone is heard.

(2) Depress the feature button assigned the desired Call Forwarding feature.

- The status lamp on the feature button lights.

- Dial tone is heard.

(3) Dial the designated station number (see Note).

- Dial tone is removed after the first digit is dialed.

(3) Depress the active (lighted) feature button.

- The status lamp on the feature button extinguishes.

- If Step (1) was used to put party on hold, depress the CALL HOLD button or proceed to Step (4).

(4) Go on-hook.

- The forwarding station rings.

(5) Go off-hook.

- The party on hold returns on-line.

Activating Call Forwarding (Attendant)

3.20 The attendant can activate or cancel Call Forwarding for any station within the PBX. To activate Call Forwarding for a station via the attendant console, proceed as follows:

(1) Depress an idle switched loop button.

- The ATND lamp lights.

(2) Depress the START button.

- Dial tone is heard.

(3) Dial the access code of the desired Call Forwarding feature.

- Dial tone is removed after the first digit is dialed.

- Dial tone is returned when dialing is finished.

(4) Dial the forwarding station number, or depress the appropriate Direct Station Selection (DSS) button (if provided).

- Dial tone is removed after the first digit is dialed.

- Dial tone is returned when dialing is finished.

(5) Dial the designated station number, or depress the appropriate DSS button (see Note).

- Dial tone is removed after the first digit is dialed.

- Confirmation tone is returned when dialing is finished.

Note: ▸When dialing a designated station number outside the PBX (Call Forwarding—All Calls—Remote), a trunk dial access code of up to 3 digits must be entered before the designated station number. After dialing the trunk dial access code, dial tone or intercept tone is returned indicating a valid or invalid access code was entered.◂

(6) Depress the RELEASE button.

Canceling Call Forwarding (Attendant)

3.21 To cancel Call Forwarding for a station via the attendant console, proceed as follows:

(1) Depress an idle switched loop button.

- The ATND lamp lights.

(2) Depress the START button.

- Dial tone is heard.

(3) Dial the cancellation code.

- Dial tone is removed after the first digit is dialed.

- Dial tone is returned when dialing is finished.

(4) Dial the forwarding station number, or depress the appropriate DSS button.

- Dial tone is removed after the first digit is dialed.

- Confirmation tone is returned when dialing is finished.

(5) Depress the RELEASE button.

4. SYSTEM OPERATION

4.01 The Call Forwarding features are software implemented and the system responds similarly to each feature. Activation, cancellation, and call processing routines for an ECTS station are somewhat different than the routines for a non-
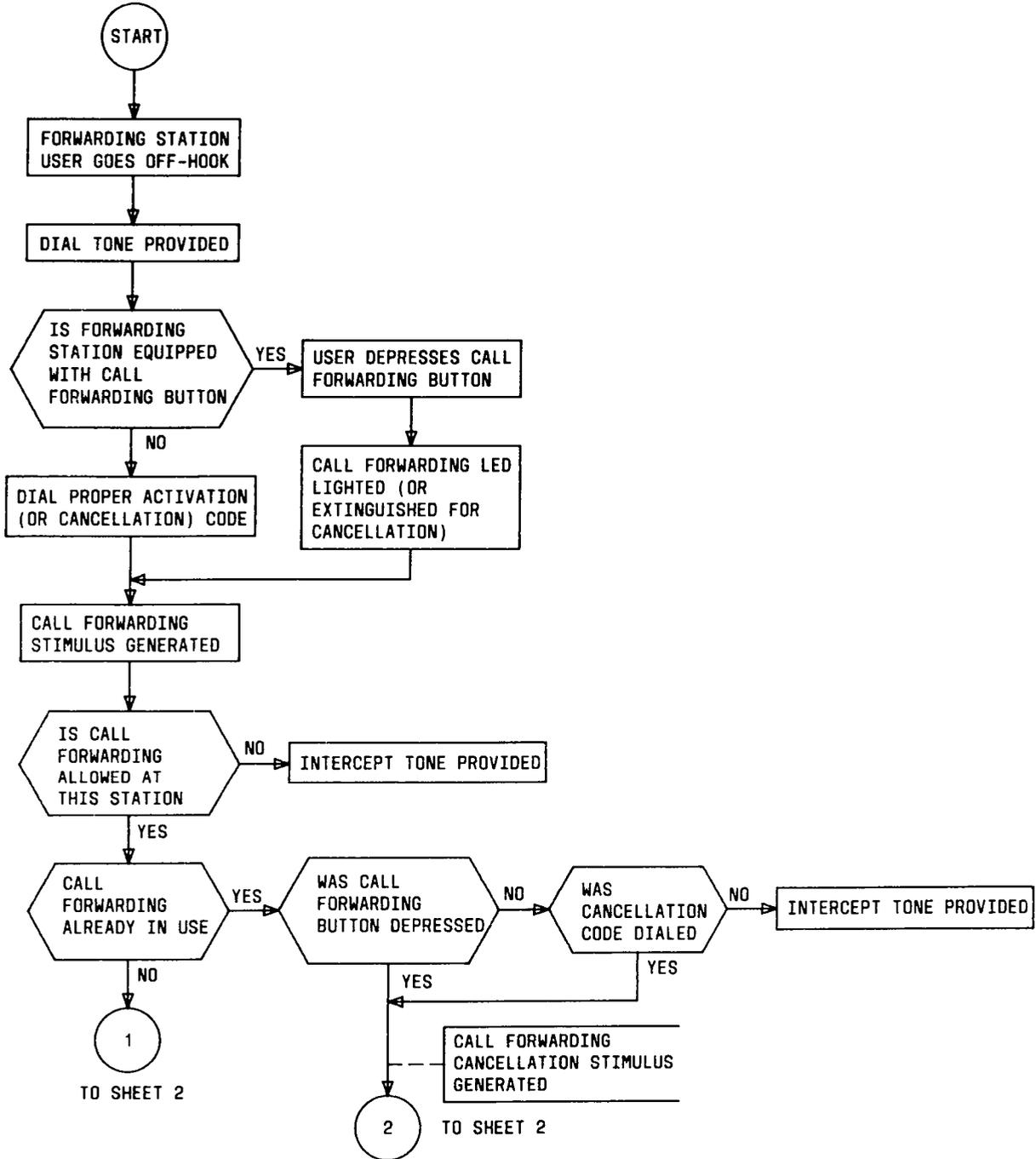
Fig. 2—Call Forwarding Feature Activation and Cancellation Flow Diagram (Sheet 1 of 2)

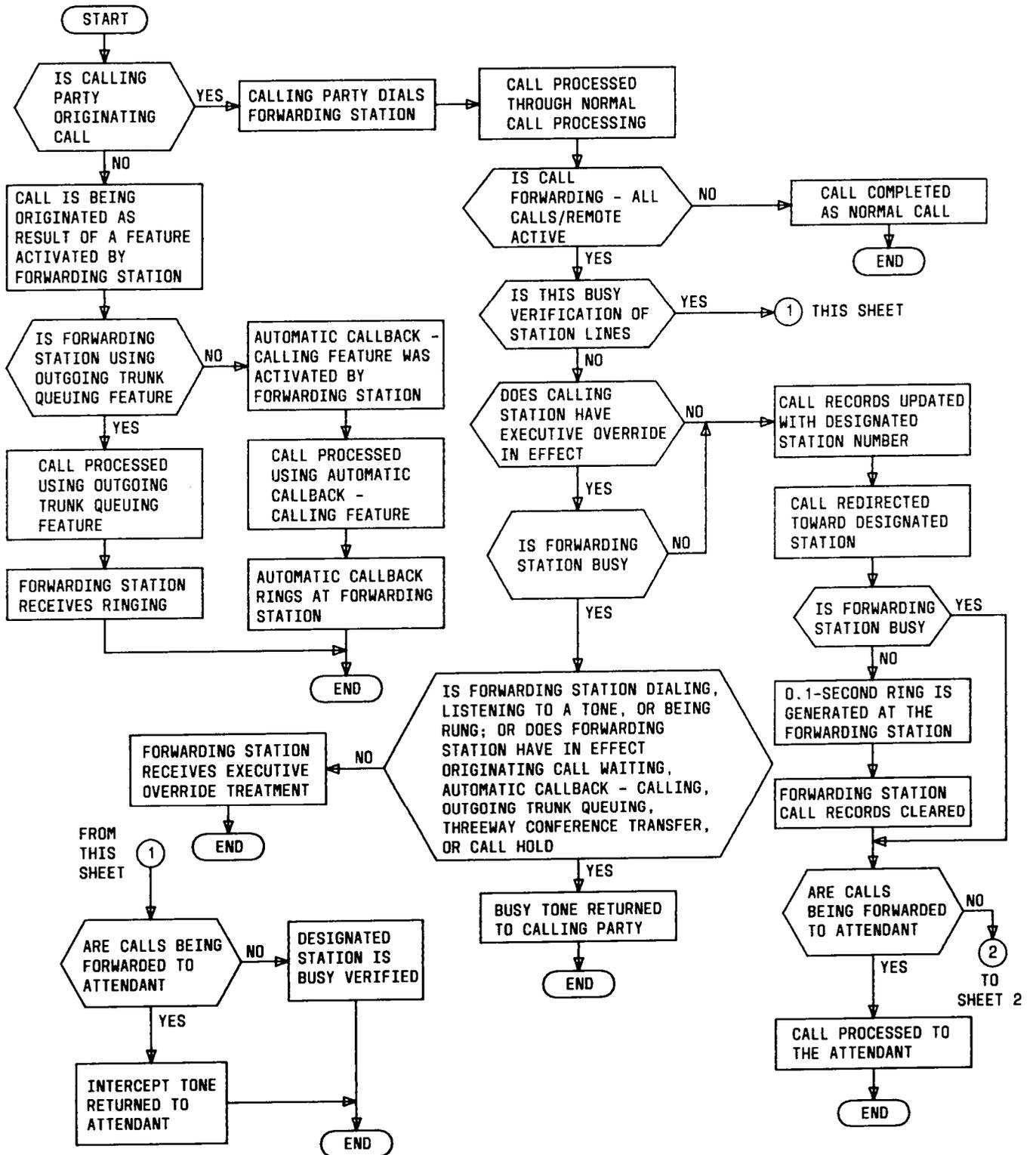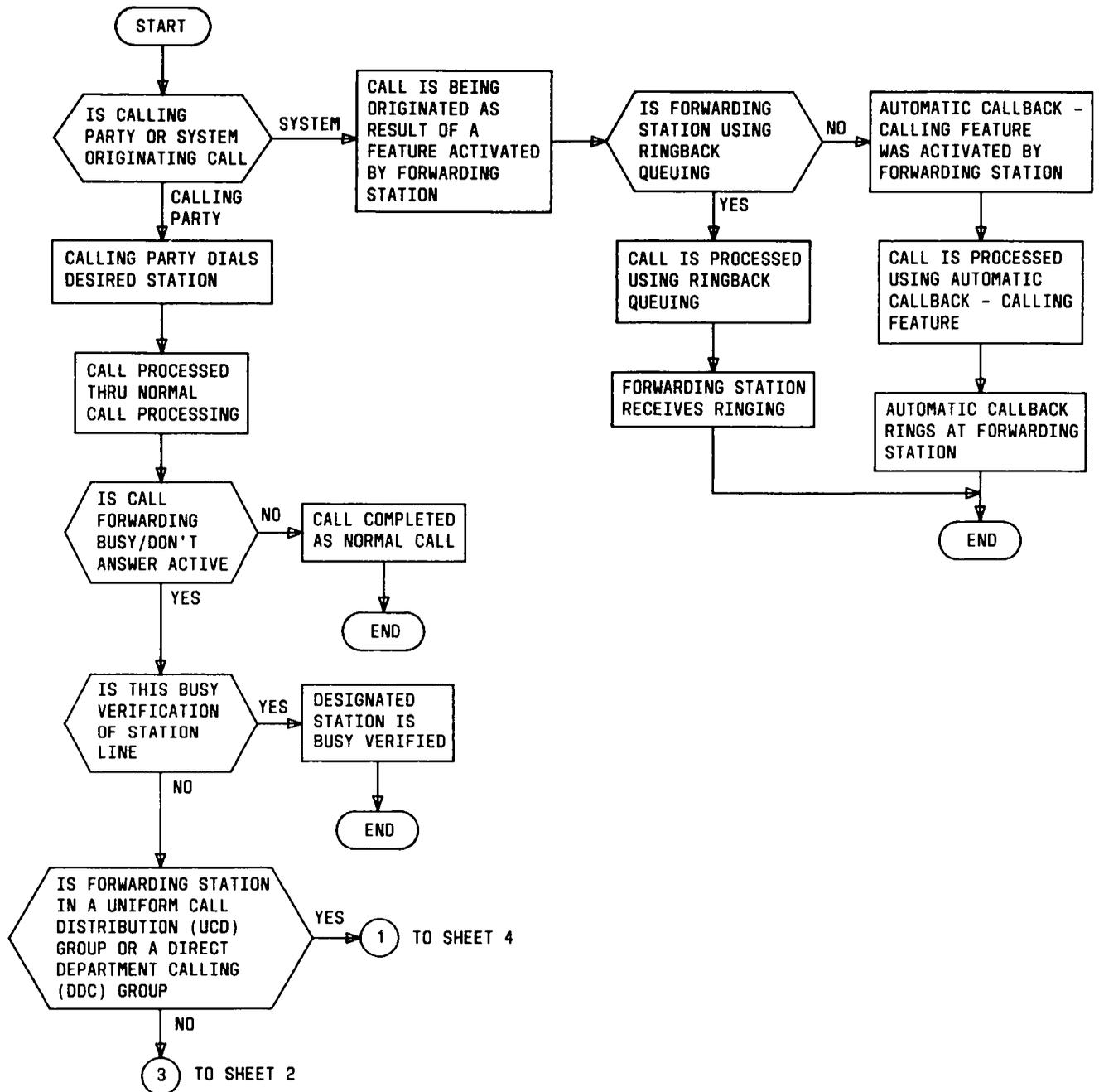**Fig. 3—▶Call Forwarding—All Calls/Remote Feature Flow Diagram◀ (Sheet 1 of 2)**

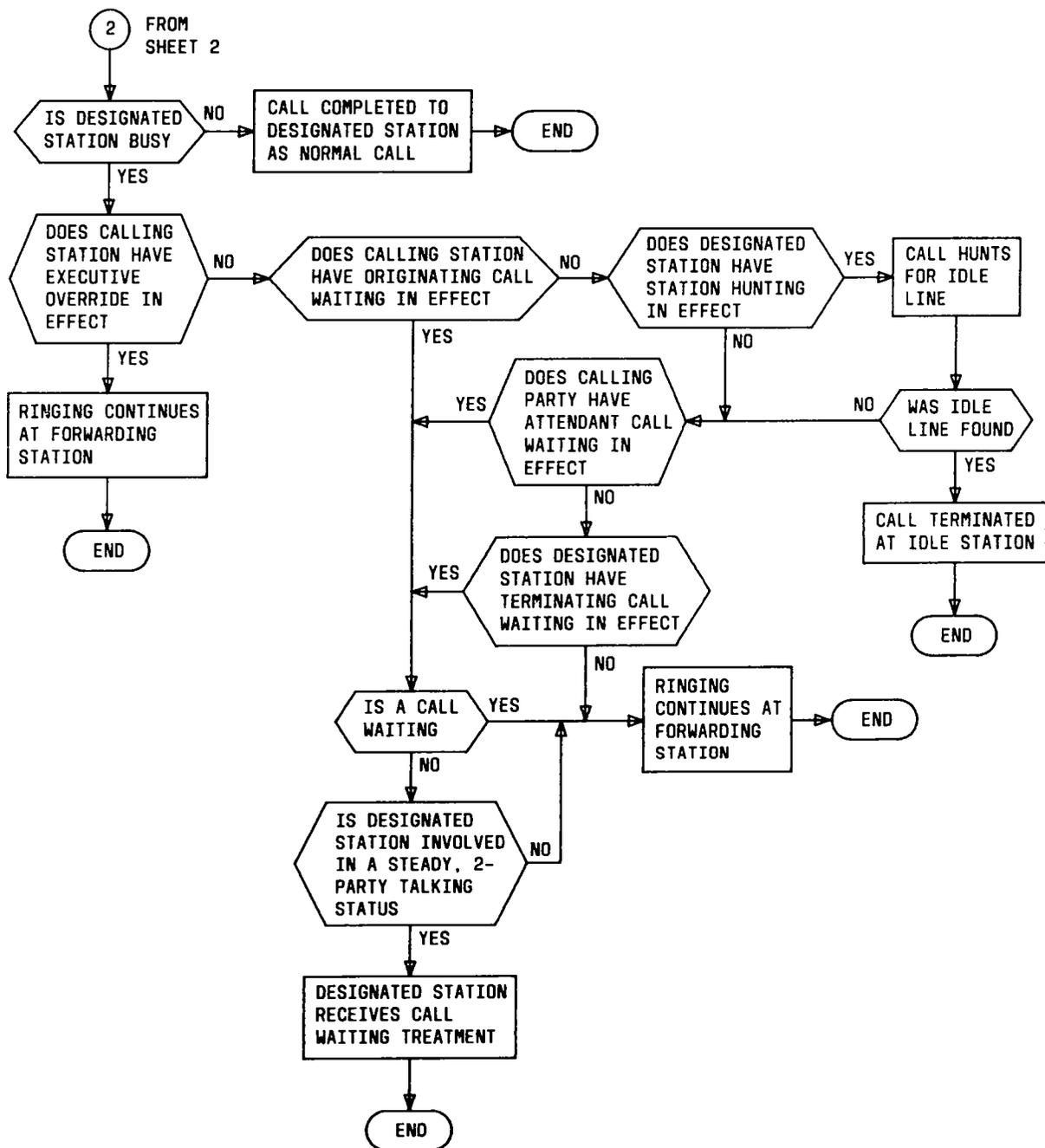Fig. 4—Call Forwarding—Busy and Don't Answer Feature Flow Diagram (Sheet 1 of 4)

Fig. 4—Call Forwarding—Busy and Don't Answer Feature Flow Diagram (Sheet 3 of 4)

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                          ┌─────────┐
                          │  START  │
                          └─────────┘
                               │
                               ▼
                  ╱────────────────────╲        ┌──────────────────┐        ╱──────────────────╲        ┌──────────────────┐
                 ╱   IS CALLING         ╲       │ CALL IS BEING    │       ╱  IS FORWARDING     ╲   NO  │ AUTOMATIC        │
                ╱    PARTY OR SYSTEM     ╲SYSTEM│ ORIGINATED AS    │      ╱   STATION USING      ╲─────▶│ CALLBACK - CALLING│
                ╲    ORIGINATING         ╱─────▶│ RESULT OF A FEATURE├───▶╲   RINGBACK          ╱      │ FEATURE WAS      │
                 ╲   CALL                ╱      │ ACTIVATED BY     │       ╲  QUEUING           ╱       │ ACTIVATED BY     │
                  ╲────────────────────╱       │ FORWARDING STATION│       ╲─────────────────╱        │ FORWARDING STATION│
                         │ CALLING PARTY        └──────────────────┘            │ YES                  └──────────────────┘
                         ▼                                                      ▼                              │
              ┌────────────────────┐       ┌──────────────────┐      ┌──────────────────┐                    ▼
              │ CALLING PARTY DIALS│       │ CALL PROCESSED   │      │ CALL IS PROCESSED│          ┌──────────────────┐
              │ FORWARDING STATION │──────▶│ THROUGH NORMAL   │      │ USING RINGBACK   │          │ CALL IS PROCESSED│
              └────────────────────┘       │ CALL PROCESSING  │      │ QUEUING          │          │ USING AUTOMATIC  │
                                           └──────────────────┘      └──────────────────┘          │ CALLBACK - CALLING│
                  ╱──────────────╲              │                         │                        │ FEATURE          │
         YES   ╱  IS THIS BUSY    ╲   YES  ╱────────────────╲             │                        └──────────────────┘
        ◀─────╱   VERIFICATION     ╲◀─────╱  IS CALL FORWARDING-╲         │                              │
              ╲   OF STATION       ╱      ╲  DON'T ANSWER ACTIVE ╱        │                              ▼
               ╲  LINES           ╱        ╲─────────────────╱           │                   ┌──────────────────┐
                ╲──────────────╱                │ NO                     ▼                   │ AUTOMATIC CALLBACK│
    │                 │ NO               ┌──────────────────┐   ┌──────────────────┐         │ RINGS AT FORWARDING│
    ▼          │                         │ CALL IS COMPLETED│   │ FORWARDING STATION│        │ STATION          │
┌──────────┐   │                         │ AS NORMAL CALL   │   │ RECEIVES RINGING │         └──────────────────┘
│DESIGNATED│   │                         └──────────────────┘   └──────────────────┘                │
│STATION IS│   │                              │                      │                              │
│BUSY VERIFIED│ │                              ▼                      └──────────┐                   │
└──────────┘   │                         ┌─────────┐                             ▼                   ▼
    │          │                         │   END   │                   ┌──────────────────┐
    ▼          │                         └─────────┘                   │ CALLING PARTY    │
┌─────────┐    │                                                       │ RECEIVES         │
│   END   │    │       ╱──────────────╲  YES  ╱────────────────╲  NO   │ BUSY TONE        │
└─────────┘    │      ╱ IS FORWARDING  ╲─────▶╱ DOES CALLING PARTY HAVE╲────────────────▶└──────────────────┘
               └─────▶╲ STATION BUSY   ╱      ╲ EXECUTIVE OVERRIDE      ╱                      │
                       ╲──────────────╱        ╲ FEATURE IN EFFECT     ╱                       ▼
                         │ NO                    ╲─────────────────────╱                  ┌─────────┐
                         ▼                          │ YES                                 │   END   │
              ┌────────────────────┐                ▼                                     └─────────┘
              │ RINGING APPLIED TO │        ╱──────────────────────╲
              │ FORWARDING STATION │       ╱ IS FORWARDING STATION   ╲
              │ FOR PRESET TIME    │      ╱  DIALING, LISTENING TO    ╲
              └────────────────────┘      │  TONE, OR BEING RUNG; OR   │
                         │                │  DOES FORWARDING STATION   │
                         │                │  HAVE IN EFFECT CALL       │ YES
                         │                │  WAITING - ORIGINATING,    │────────▶
                         │                │  AUTOMATIC CALLBACK -       │
                         │                │  CALLING, RINGBACK         │
                         │                │  QUEUING, THREE-WAY        │
                         │                │  CONFERENCE TRANSFER,      │
                         │                ╲  OR CALL HOLD             ╱
                         │                 ╲────────────────────────╱
                         │                        │ NO
                         │                        ▼
                         │           ┌──────────────────────────────────────┐
                         │           │ FORWARDING STATION PARTICIPATING       │
                         │           │ IN A 2-PARTY TALK STATE AND RECEIVES   │
                         │           │ EXECUTIVE OVERRIDE TREATMENT           │
                         │           └──────────────────────────────────────┘
                         │                                  │
                         ▼                                  │
              ╱────────────────────╲  YES  ┌──────────────────┐
             ╱ DOES FORWARDING STATION╲────▶│ CALL COMPLETED   │─────────────▶
             ╲ ANSWER IN PRESET TIME  ╱     │ AS NORMAL CALL   │          ┌─────────┐
              ╲ PERIOD               ╱      └──────────────────┘          │   END   │
               ╲───────────────────╱                                     └─────────┘
                   │ NO
                   ▼
         ╱──────────────────╲  NO   ╱────────────────╲  YES   ╭───╮ TO
        ╱ ARE CALLS FORWARDED ╲─────▶╱ IS DESIGNATED   ╲──────▶│ 1 │ SHEET 2
        ╲ TO ATTENDANT        ╱      ╲ STATION BUSY    ╱       ╰───╯
         ╲──────────────────╱         ╲──────────────╱
              │ YES                       │ NO
              ▼                           ▼
     ┌──────────────┐  ┌─────────┐  ┌──────────────────┐  ┌─────────┐
     │ CALL PROCESSED│─▶│   END   │  │ CALL COMPLETED TO│─▶│   END   │
     │ TO ATTENDANT  │  └─────────┘  │ DESIGNATED STATION│ └─────────┘
     └──────────────┘               │ AS NORMAL CALL   │
                                    └──────────────────┘
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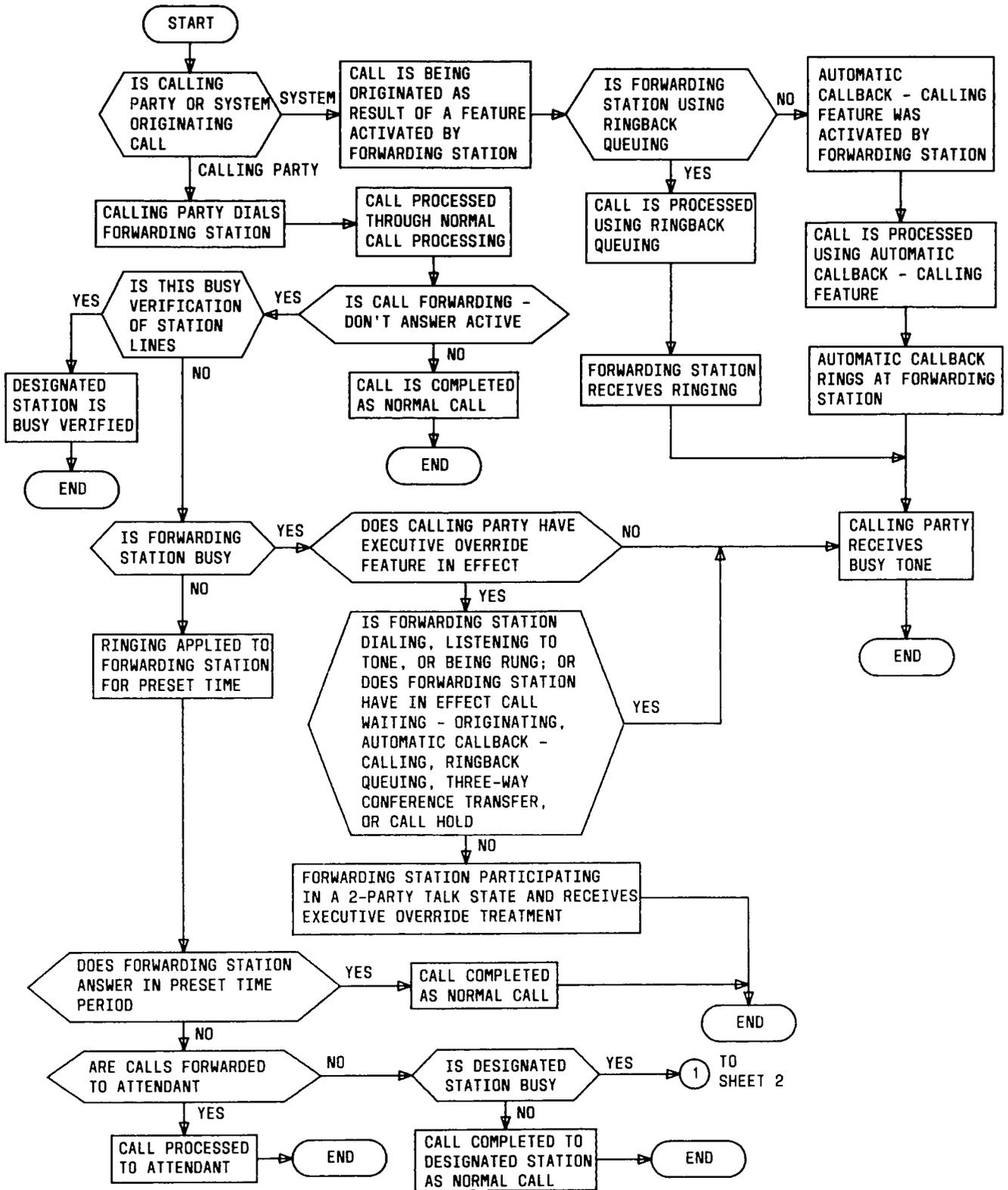
Fig. 5—Call Forwarding—Don't Answer Feature Flow Diagram (Sheet 1 of 2)

9 for Maintenance and Administration Panel (MAAP) and Customer Administration Panel (CAP) procedures used to administer the Call Forwarding features. For Customer Administration System (CACS) procedures, see Section 554-191-169.

6. LIMITATIONS

6.01 The attendant can be the designated station in a call forwarding relationship, but not the forwarding station.

6.02 The designated station in an established call forwarding relationship cannot activate forwarding toward its own forwarding station (ie, the activation attempt will result in intercept tone). However, the designated station may use call forwarding—all calls override to call or transfer a call to the forwarding station.

6.03 If a station (A) has the Call Forwarding—All Calls feature active, another station (B) cannot activate forwarding toward station A (ie, the attempt will result in intercept tone).

6.04 If station A has the Call Forwarding—All Calls feature active and station B is the designated station, station B can forward its calls to another station (C). Calls to station A forward to station B (if idle), but will not forward a second time to station C.

6.05 If station A has Call Forwarding—Busy and Don't Answer or Call Forwarding—Don't Answer active and station B is the designated station, station C can activate Call Forwarding—All Calls and make station A the designated station. Calls to station C forward to station A (if idle), but will not forward a second time to station B.

6.06 Any number of forwarding stations may have the same designated station. However, if several stations forward calls at the same time, all but the first call to arrive will receive busy tone. This problem can be eliminated by making the attendant the designated station (the attendant console has the ability to queue incoming calls).

6.07 If the button symbol * or # is used in a call forwarding access code, rotary dial stations cannot activate the Call Forwarding features.

6.08 The attendant cannot use call forwarding—all calls override.

7. INTERACTIONS

7.01 The Call Forwarding features interact with several other features. Interactions among the Call Forwarding, Call Waiting, and Station Hunting features are particularly complex. To clarify this situation, Fig. 6 shows a feature precedence chart. The chart shows the order in which features, if provided, are used to establish a talking connection. If all attempts fail, busy tone is returned to the calling party.

7.02 *Automatic Callback Calling:* A forwarding station can use the Automatic Callback Calling feature; the automatic callback is not forwarded to the designated station. If a forwarding station has the Call Forwarding—All Calls feature active, the designated station can use call forwarding—all calls override, if available, to direct an automatic callback call to the forwarding station.

7.03 *Busy Verification of Station Lines:* If the attendant attempts to busy verify a busy or idle station with a Call Forwarding feature active, the call forwards to the designated station and the designated station is busy verified. If the attendant attempts to busy verify a busy or idle forwarding station which has its calls forwarded to the attendant, intercept tone is returned.

7.04 *Outgoing Trunk Queuing and Deluxe Queuing:* A station with a Call Forwarding feature active can use ringback queuing. The ringback will not forward to the designated station.

7.05 *Station Message Detail Recording:* The station number recorded and displayed in the called number field is the forwarding station in FP4 Issue 1, FP7, FP8, and FP12, prior to Issue 1. Otherwise, the number of the designated station appears in the called number field.

7.06 *Threeway Conference Transfer:* A station participating in a 3-way conference cannot activate a Call Forwarding feature (flashing the switchhook will disconnect one of the parties). However, a station (forwarding or designated) in an established call forwarding relationship can use the Threeway Conference Transfer feature. If call forwarding—all calls override is available, the designated station can use the Threeway Conference Transfer feature to transfer a call to, or establish a 3-way conference with the forwarding station. ◆With FPs 2, 3, 4, 5, 7, and 10, if a direct inward dialing or

dial repeating tie trunk call is transferred to a station (A) with Call Forwarding—Don't Answer or Call Forwarding—Busy and Don't Answer active and the party transferring the call goes on-hook after dialing station A's number, the forwarding station continues to ring and the call, if unanswered, will not forward.◀

7.07 *Executive Override:* An Executive Override call to a busy (2-party talking state) forwarding station with any Call Forwarding feature active will add-on to the connection. If the forwarding station has Call Forwarding—Don't Answer or Call Forwarding—Busy and Don't Answer active and the Executive Override call is not answered, the call forwards to the designated station (if idle). If the designated station is busy (2-party talking state), the forwarding station continues to ring and the call does not forward. If the designated station is off-hook and not in a 2-party talking state or is using the Originating Call Waiting, Automatic Callback Calling, Outgoing Trunk Queuing, Threeway Conference Transfer, or Call Hold feature, the calling party receives busy tone. The designated station can use Executive Override and call forwarding—all calls override (if provided) to call a busy forwarding station.

7.08 *Call Waiting:* The Call Forwarding features have precedence over the Attendant Call Waiting, Originating Call Waiting, and Terminating Call Waiting features (see Fig. 6). When these features interact, forwarding occurs before the call waits; the designated station receives the call waiting treatment. If the forwarding station has Call Forwarding—All Calls active and the designated station has a call waiting or is off-hook and not in a 2-party talking state, the calling party receives busy tone. If the forwarding station has Call Forwarding—Busy and Don't Answer, or Call Forwarding—Don't Answer active and the designated station has a call waiting or is off-hook and not in a 2-party talking state, the forwarding station rings beyond the don't answer interval and the call does not forward. ◀If Attendant Call Waiting is active and the attendant extends a call to a station with Call Forwarding—Busy and Don't Answer or Call Forwarding—Don't Answer active, the forwarding station rings beyond the don't answer interval and the call does not forward (if the call is not answered at the forwarding station and the designated station is busy).◀

7.09 *Restriction Features:* When activating Call Forwarding, a station with any of the fol-

lowing features active cannot be the designated station in a call forwarding relationship.

- Fully Restricted Station
- Inward Restriction
- Manual Terminating Line Service
- Termination Restriction
- Total Restriction
- Station-to-Station Restriction.

Entering the number of a station with any of these features active will result in intercept tone.

7.10 *Station Hunting:* A station in a hunt group is removed from the hunt group while it has Call Forwarding—All Calls active (see Fig. 7).
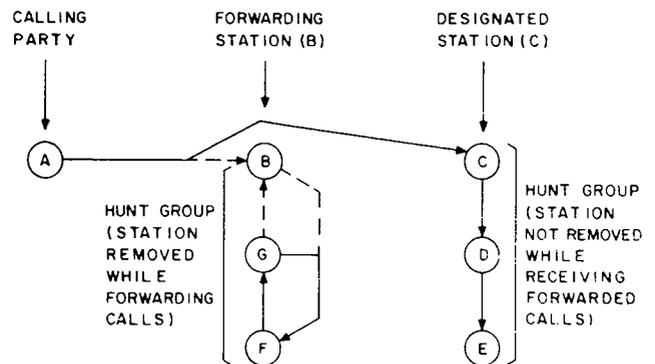

Fig. 7—Call Forwarding—Interaction With Hunt Groups

(a) *Call Forwarding—All Calls:* If a station (A) is in a hunt group and has the Call Forwarding—All Calls feature active, calls are processed as follows:

- A call to station A forwards as usual. If the designated station is busy and in a hunt group, the call hunts for an idle station according to the prearranged hunting pattern.
- If station A is reached via hunting, it is bypassed (whether busy or idle) and the call hunts for an idle station.

call completes to that station and will not forward even if the call is not answered. If all members of the group are busy, a call (other than attendant-originated) remains in the group queue for up to 7 seconds. If a group member becomes idle before the 7 seconds elapse, the call completes to the idle station. If all group members are still busy after the 7 seconds elapse, the call forwards to the designated station (if idle). If the designated station is busy and does not have a Call Forwarding feature active, the call remains in the group queue until a group member becomes idle, the designated station becomes idle, or the calling party goes on-hook. If the designated station has a Call Forwarding feature active, the call will forward a second time. An attendant-originated call to a UCD or DDC group with one of these Call Forwarding features active receives busy tone if all group members are busy. If the attendant uses Attendant Call Waiting to call a UCD or DDC group in which all the members are busy, the call waits on the controlling station.

8. RESTRICTION CAPABILITY

8.01 The Call Forwarding features cannot be restricted. However, a station with certain restrictions (see paragraph 7.09) cannot be the designated station in a call forwarding relationship.

INCORPORATION INTO SYSTEM

9. INSTALLATION/ADDITION/DELETION

9.01 The MAAP and CAP procedures used to administer the Call Forwarding features for the DIMENSION 100/400/PRELUDE* PBX are listed below and in Table A.

(a) **Procedure 29, Word 1:** This procedure is used to administer the first digit of a dial access code.

(b) **Procedure 29, Word 2:** This procedure is used to assign the feature access codes.

(c) **Procedure 00, Word 1:** This procedure is used to assign a station to a line class of service.

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(d) **Procedure 02, Word 3:** This procedure is used to assign a Call Forwarding feature to a line class of service.

(e) **Procedure 26, Word 1:** This procedure is used to administer the don't answer timing (interval).

(f) **Procedure 35, Word 5:** This procedure is used to assign a Call Forwarding feature to a Custom Calling feature button on an ECTS set.

9.02 The MAAP and CAP procedures used to administer the Call Forwarding features for the DIMENSION 400E/600/2000/Custom PBX are listed below and in Table A.

(a) **Procedure 350, Word 1:** This procedure is used to administer the first digit of a dial access code.

(b) **Procedure 350, Word 2:** This procedure is used to assign the feature access codes.

(c) **Procedure 000, Word 1:** This procedure is used to assign a station to a line class of service.

(d) **Procedure 010, Word 1:** This procedure is used to assign a Call Forwarding feature to a line class of service.

(e) **Procedure 010, Word 3:** This procedure is used to assign call forwarding outside (Call Forwarding)—All Calls—Remote) to a line class of service.

(f) **Procedure 200:** This procedure is used to administer the don't answer timing (interval).

(g) **Procedure 054, Word 2:** This procedure is used to assign a Call Forwarding feature to a Custom Calling feature button on an ECTS set.

10. HARDWARE REQUIREMENTS

10.01 No special hardware is required to implement the Call Forwarding features.