



TD-824i
Digital Hybrid Communication System
Features and Services Description





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1A2 Emulation / Privacy Release

Description

This feature allows station users to join a conversation in progress with outside lines and other station users. A station user must have a class of service option enabled in order to join a call in progress. You may temporarily invoke privacy to reject others attempts to join your conversation, if desired, through the use of a privacy release key. This feature may be activated on all lines, or only specific lines as required.

Conditions

Both stations and lines can be specified as to whether or nor access is allowed.

A privacy key may be programmed on the telephone set to temporary disable access from other station users. This privacy can be invoked on a per call basis.

Programming

1A2 Emulation is enabled or disabled in accordance with the following table:

29-TK-06	78-ST-03	Status
0	N/A	Emulation Access Denied
1	0	Emulation Access Denied
1	1	Emulation Access Enabled with tone
1	2	Emulation Access Enabled without tone

Form 07 is where you can program 1A2 Privacy Key. When this key is pressed, other station users cannot enter the conversation. The feature code is FN:24.

Operation

To join in on a conversation:

1. Dial desired party and hear busy tone
2. Press desired [CO] line key. Your telephone set will be connected to the call in progress on that line.

To invoke privacy:

1. If you are on a conversation and you would like the conversation to remain private, press the privacy key. The privacy key will light indicating the call's status as private.

Note: In system programming individual lines may or may not be permitted 1A2 Emulation. Also, individual stations may be allowed the ability to invoke the feature by pressing the line and entering into the conversation. Certain station users may elect to invoke call privacy by pressing the privacy key.

Advisory Messages

Description

Up to nine system advisory messages can be used on the system. These nine messages are pre-programmed into the system. The nine pre-programmed messages may be edited on an individual telephone to include numeric information as to the status of the telephone set user, such as the time or date when the user will return. The nine pre-programmed messages are as follows:

0 - On Vacation	1 - Will Be Back	2 - At Lunch
3 - In a Meeting	4 - Call	5 - Leave Voice Mail
6 - Call Stn	7 - Gone for the day	8 - Out of town
9 - Blank		

Message #9 will appear as a blank message to anyone who accesses the message. It is reserved for future use.

Conditions

Messages can be placed on any telephone set and may be read by any display telephone set.

Programming

None

Operation

Setting up a message:

1. Press **[PGM],[MSG]** . LCD will display:
Message Select
0 to 9 or Cancel
2. Enter the number of the message that you want to display (See list below).

Note: You may scroll forward through the messages by pressing **[VOL↑]** or scroll backwards through the messages by pressing **[VOL↓]**.

3. If appropriate, enter the time or date that you expect to return. Press * to enter a colon (:) or # to enter a backslash.
4. Press **[SAVE]**
5. Your LCD will display your selected message. Any station that calls your station will have the message echoed to its display.

Turn off a message:

1. Press **[PGM], [MSG]**. LCD will display:
Message Select
0 to 9 or Cancel
2. Press **[SPK]**. The message will clear from your display.

Answer Supervision

Description

The TD-Series Digital Telephone System is equipped to provide answer supervision in applications where it is provided by the telephone company as a polarity reversal. When active, answer supervision provides accurate timing information for the preparation of SMDR records within the system.

Conditions

Answer Supervision will operate only if it is being provided by the local telephone company.

Programming

Form 14-01 (Recording Start Time) should be set to [0] in order to allow the system to accurately expect answer supervision, if available. If answer supervision is not provided by the local telephone company, this parameter should be set to a time that is representative for a call to be placed. For more information, please see Station Message Detail Recording, page 164 of this document.

Form 14-08 (Detect Polarity Reversal) must be set to [0], enable, in order to recognize answer supervision by polarity reversal.

Operation

Operation of Answer Supervision is automatic.

Attendant Overflow

Description

The TD-Series Digital Telephone System lets you designate one station as a main answering position or attendant console for incoming CO calls. If that station is busy, the system can select another station which may act as a backup answering position. The system allows up to 15 backup positions behind each attendant, for a possible total of 16 answering positions. There are three variations of Attendant Overflow.

Linear Ringing searches through the list of possible backup answering positions and will ring the first available station. Free stations will be searched in the order programmed on Form 01 (or 02 if Night Service).

Circular Ringing works like Linear Ringing except that it always begins its search immediately after the last station that was rung.

Hunting (Add-On) will ring the first available station. If the station does not answer within the time parameter specified on the system, the system will "add on" the next available station. This timer will repeat until the call is answered, abandoned or until every programmed available station is ringing.

Delayed Ring is popular with many Voice Mail applications. In this mode, you may assign one or more stations as primary answering positions. After a programmable period of time, the incoming call will be diverted over to a hunt group which can contain voice mail ports used to answer incoming calls.

Automated Attendant functions may also be used as a means of Attendant Overflow. For more information, please see Appendix A - DISA Detailed Explanation in this manual.

Conditions

The CO line must be programmed for Linear ringing if the Linear Overflow method of operation is preferred.

The CO line must be programmed for Hunt if the timed "add on" method of operation is desired. Ringing Type is programmed on Form 35-LINE-07 for Day Service and Form 35-LINE-08 for Night Service.

Stations will be selected in the order they are programmed on the incoming ringing assignment forms (Form 01-[CO]-[station] and Form 02-[CO]-[station]).

Programming

Day Ringing Assignment, Form 01-[CO]-[station] must be programmed for each CO line in the system. Up to sixteen stations may be programmed for each line on the TD-Series. Lines programmed for Linear Overflow or Hunt will search this form in the order that stations are programmed. The system will ring the first available station in this group. This form controls ringing assignments during day service only.

Night Ringing Assignment, Form 02-[CO]-[station] is as listed above for Form 01, but determines the stations that will ring when the system is in Night Service.

Hunt Time Assignment, Form 05-08-01 sets the interval for adding stations to the ringing sequence in a no answer condition if Hunt is selected. Every time a station begins ringing, this timer will begin. If it expires without the call having been answered, the next available station in the group defined on Form 01-[CO]-[station] or Form 02-[CO]-[station], whichever is applicable, will be added to the ringing sequence. Valid settings for this option are:

Hunt Time Assignment, Form 05-08-01		0=Disabled	1=2 seconds
2=4 seconds	3=6 seconds	4=8 seconds	5=15 seconds
6=30 seconds	7=60 seconds	8=120 seconds	9=4 seconds

Note: If Form 05-08-01 is set at 0 (disabled), CO line hunting will only occur on busy stations. The first free station will be rung and the call will not add stations to the ringing sequence in a no-answer condition.

Delayed Ring Groups- Program the primary answer stations in Forms 1 and 2 as described above. Use the Forms below to invoke the Delayed Ring Timer and to divert incoming calls over to certain hunt groups.

Delayed Ring Group Timer- Form 29-TK-07 is used for enabling the Delayed Ring Group Timer.

Delayed Ring Group Timer, Form 29-TK-07		0=Disabled	1=8 seconds
2=16 seconds	3=24 seconds	4=32 seconds	5=40 seconds
6=48 seconds	7=56 seconds	8=64 seconds	9=72 seconds

For each line in the system, you may set up a timer that sends the call over to a hunt group when it expires.

Delayed Ring Hunt Group - Form 29-TK-08 is used for assigning the hunt group number

Hunt Group Assignment, Form 29-TK-08		0= Hunt Group 1	1= Hunt Group 2
2= Hunt Group 3	3= Hunt Group 4	4= Hunt Group 5	5= Hunt Group 6
6= Hunt Group 7	7= Hunt Group 8	8= Hunt Group 9	9= Hunt Group 10

After the delayed ring group timer expires from the primary station group, the system will select the hunt group and members assigned in this form.

Note: The hunt group members are assigned in Form 68 for day and 69 for night. The pilot hunt group numbers are assigned in Form 67, along with the ring type for the members i.e. Common, linear and circular.

CO Line Assignment Day Ringing Method, Form 35-[CO]-07 determines whether hunting or linear operation will occur during day service. The options for Form 35-[CO]-07 are:

CO Line Day Ringing Method, Form 35-[CO]-07		0=Common Audible
1=Linear	2=Circular	3=Hunt

CO Line Assignment Night Ringing Method, Form 35-[CO]-08 determines whether hunting or linear operation will occur during night service. The options for 35-[CO]-08 are:

CO Line Night Ringing Method, Form 35-[CO]-08		0=Common Audible
1=Linear	2=Circular	3=Hunt

Operation

Linear:

On an incoming call the first available station according to Form 01 or Form 02 will be rung.

Circular:

On an incoming call the first available station according to Form 01 or 02 and after the last location rung will be rung. If the last entry in Form 01 or Form 02 is reached, the system will "wrap around" and begin searching at the beginning of Form 01 or Form 02.

Hunt:

1. On an incoming call, the first available station (according to Form 01-[CO]-[station] or Form 02-[CO]-[station]) will be rung.
2. If there is no answer within the time period determined by Form 05-08-01, the system will check the applicable form (Form 01 or Form 02) and add the next programmed station to the ringing sequence. This step will repeat until the call is answered, abandoned or all available stations on the applicable form (Form 01 or Form 02) are ringing.

Auto Answer

Description

Auto Answer allows a speaker phone equipped station to answer all intercom calls automatically. After Auto Answer is activated on a station, all intercom calls will be placed on the speaker phone as soon as the calling party dials the Auto Answer extension. The speaker phone equipped station can carry on a conversation without touching the telephone. When the originating caller hangs up, the Auto Answer set will revert to an idle state. **Auto Answer applies only to intercom calls. Outside callers must always be answered by the station.**

Conditions

Auto Answer can only work on all TransTel digital telephone sets.

Auto Answer capability is active whether the system is programmed for Voice Signaling or Ring Signaling.

For security purposes, CO calls will ring and must be answered manually.

Programming

Form 46-Station-03 controls individual stations' utilization of Auto Answer. There are 3 possible settings.

Form 46-STN-03 Auto Answer Flag	0= Auto Answer /Manual Toggle
1=Auto Answer Enabled / MIC Light Lit	2=Auto Answer Enabled / MIC Light Off

Operation

If set for manual operation, press the **[MIC/AT]** key. When the key is lit, auto answer is enabled. To enable and disable, just press the key. The led will light showing auto answer active or be out indicating auto answer is disabled. Even if auto answer is disabled, DK1-D and DK1-S models still allow you to place outside calls and internal calls in the handsfree mode.

Note: Models DK1-D- Digital display with speakerphone, DK1-S- Digital Speakerphone have auto answer capability and handsfree speakerphones on outside calls. Model DK1-B has auto answer on intercom but no speakerphone on outside calls.

Auto Hold

Description

Auto Hold allows a station user to automatically place a caller on hold while performing another function. Its most common use is when transferring a call. Any use of a programmed DSS station key while on a conversation will automatically place the caller on hold.

Conditions

This feature is only available from TransTel Digital Telephone Sets.

Note: System function is the same as if the station user pressed the [HOLD] key prior to pressing a DSS key.

Programming

None

Operation

1. Station user is involved in a conversation.
2. Station user presses any programmed DSS key.
3. Conversing party is automatically placed on hold.

Automatic Line Search

Description

Automatic Line Search, Form 05-03-02 permits Speed Dial, Last Number Redial and Saved Number Redial to search for an available CO line. If this function is enabled, Speed Dial Numbers need not have a CO line number specified for an outgoing call. If an outgoing line is specified and that line is busy, the TD-824i digital system will search the originating station's Dial 9 Group for an available outgoing line and seize it to place the call.

If Last Number Redial or Saved Number Redial is used, the system will attempt to access the CO line on which the call was originally placed. If Auto Line Search is enabled and the original line is busy, the system will search for another line in the outgoing group.

If Automatic Line Search is disabled, Speed Dial, Last Number Redial and Saved Number Redial will only access the line originally designated. If it is busy, the function will be disallowed.

Conditions

If System Speed Dial does not specify a CO line, it will access the individual user's Dial 9 Group. This parameter has no effect on such System Speed Dial calls.

Programming

Form 05-03-02, Automatic Line Search must be enabled to allow line searching. Valid parameters are listed below:

Automatic Line Search, Form 05-03-02	
0=Auto Search Enabled	1=Auto Search Disabled

Operation

Operation is automatic.

Automatic Last Number Redial

Description

Automatic Last Number Redial permits a station user to periodically redial the last number dialed. It utilizes the Last Number that was dialed from the telephone, like Last Number Redial, but it will repeatedly attempt to dial the number, like Saved Number Redial. Once invoked, it will automatically call the Last Number Dialed a pre-determined number of times. See also, Saved Number Redial, page 148 of this document.

Conditions

Automatic Last Number Redial is not available to Single Line Telephone sets. A station must have a [SPD] dial key and a [Redial] key in order to access this function.

Programming

Form 05-02-03, Auto Redial Ring Time determines the amount of time the telephone will remain off hook, waiting for an answer. Please note that if the called telephone number answers during this time period, the call will still be abandoned if no action is taken by the station user. The valid parameters for this options are listed below:

Note: The timer starts upon line seizure, before digits are out pulsed. If Pulse signaling is used, 05-02-03 must contain a value that allows for the slower pulse dialing. For example, if pulse dialing requires 7 seconds and Wait for Answer is set for 10 seconds, less than 3 seconds will remain for the call to ring and be answered. In all likelihood the call will never be completed.

Auto Redial Wait for Answer Timer Form 05-02-03			
			1=10 seconds
2=20 seconds	3=30 seconds	4=40 seconds	5=50 seconds
6=60 seconds	7=70 seconds	8=80 seconds	9=90 seconds

Form 05-05-07, Auto Redial Attempts controls the amount of times that Saved Number Redial will Auto dial a Saved Number before abandoning any further attempts. Valid settings are listed below:

Auto Redial Attempts Form 05-05-07			
		0=No Attempts	1=3 Attempts
2=6 Attempts	3=10 Attempts	4=20 Attempts	5=30 Attempts
6=40 Attempts	7=50 Attempts	8=60 Attempts	9=70 Attempts

Form 05-05-08, Auto Redial On Hook Timer programs the idle interval between call attempts. The valid options for this parameter are listed below:

Auto Dial On Hook Timer Form 05-05-08			
		0=10 seconds	1=20 seconds
2=30 seconds	3=40 seconds	4=50 seconds	5=60 seconds
6=70 seconds	7=80 seconds	8=90 seconds	9=100 seconds

Operation

1. Make an outgoing telephone call.
2. Hang Up.
3. Press [SPD]. Press [Redial]
4. The telephone system will automatically seize an outgoing CO line and redial the number that was dialed in step 1 above.

The Auto Redial portion of the function is canceled if any station user action is taken. Pressing the [MIC/AT] button or lifting the handset while a call is in progress will cancel the off hook timer and the call will remain in place. Pressing the [SPK] button while the call is in progress will abort the Auto Redial function. Placing another call during the On Hook timer (while the telephone is idle) will not abort the Auto Redial function. It will resume after you have returned the telephone to idle.

Automatic Transfer

Description

Automatic transfer allows station users the ability to transfer calls to other stations simply by pressing the DSS key of the desired station and hanging up. This is a programmable option.

Conditions

This option applies only to TD-824i Digital telephone sets.

Programming

Set 05-12-01 to a 0. Telephones must press transfer to complete a call.

Set 05-12-01 to a 1. Telephones can press DSS and then hang up to complete a call.

Automatic Volume Increase

Description

Automatic Volume Increase is an option that is available through telephone set programming. It is independently assigned per station.

Automatic Volume Increase will cause the volume of a ringing station to increase as the call continues to ring. The ringing volume will increase approximately every two ring cycles.

Conditions

This option applies only to TD-824i Digital telephone sets.

Programming

Selection of Automatic Volume Increase is also programmable from each telephone set.

1. Press [PRG].
2. Press 6.
3. Press 4. LCD sets will display Volume Up Gradually ->
4. Press [SAVE]. Automatic Volume Increase will be active on the set.

To remove this option, the same procedure as above should be followed, except that the LCD will display - >**CANCEL** on step 3.

For more information please see Volume Setup in this manual.

Operation

Operation is automatic.

Automatic Wake Up

Description

TD-824i Digital telephone systems are equipped with the ability to provide Automatic Wake Up Call service to stations within the system. Using Automatic Wake up service, a station can be set to ring at a pre-programmed time. When the station answers, the system will either connect them to the background music source, or to the Voice Service Unit channel dedicated to Wake Up service.

Conditions

Only one wake up call can be programmed on a telephone at a time.

Wake up calls are removed from the system when the station answers.

LCD equipped digital telephone sets may also access this feature via the Feature Selection from Menu capability. See Feature Selection from Menu, page **Error! Bookmark not defined.** of this document.

Programming

Form 05-05-01, Automatic Wake Up Call Signaling determines the audio used on Automatic Wake Up Calls. Valid selections are:

Automatic Wake Up Signaling, (05-05-01)	0=VSU Channel	1=Background Music
--	---------------	--------------------

Voice Service Unit Assignment, Form 19 must have one of its eight possible channels programmed as type 14, Automatic Wake up service in order to provide a recorded wake up message. See also, Voice Service Unit on page 189 of this document.

Operation

To set a Wake Up call from a Digital Console station:

1. Press [REMIND]. The following is displayed.
Sys Reminder *
OR Dial Station #
Enter the desired station number.
Alarm Assign
XXX YY:YY ZZ

xxx= Station Number YY:YY Wake Up Time in 24 hour format ZZ= Duration
4. Enter the duration as 99 (indicates a self cancelling alarm).
5. Press [SAVE].

To cancel a Wake Up call from a Digital station defined as a console on Form 04.

1. Press [REDIAL].
2. Enter the station number.
3. The Display will show any outstanding wake up calls that are activated.
4. Enter 00 00 00
6. Press [SAVE].
7. Press [SPK].

To set a Wake Up call from a Digital station not defined as a console on Form 04, (see Console Assignment, page 53 of this document):

1. Press [REMIND]. The following is displayed.
User Alarm
YY:YY ZZ
YY:YY Wake Up Time in 24 hour format ZZ= Duration
2. Enter the wake up time in 24 hour format (00:00 - 23:59).
3. Enter the duration as 99 (indicates a self cancelling alarm).
4. Press [SAVE].

To cancel a Wake Up call from a Digital (non console)station:

1. Press [REMIND].
2. Enter 00 00 00
3. Press [SAVE].

To program a Wake-Up call from a single line station:

1. Lift Handset.
2. Dial [7],[0],[0].
3. Dial the Time that you wish the wake up call to notify you (24 hour format 00:00-23:59). Must be four digits.
4. Enter [9],[9], to indicate a Wake-Up call.
5. Hang up. The wake-up call is set.

To cancel a Wake-Up call before it rings from a single line station:

1. Lift Handset.
2. Dial [7],[0],[0].
3. Dial [0],[0],[0],[0],[0],[0].
4. Hang up. The wake-up call is canceled

Automatic Wake Up calls will automatically cancel when the call is answered.

At the Programmed Wake Up Call time, the station will ring. Upon answer, the station will be connected to either the Voice Service Unit channel programmed or to the system background music source.

If a Wake Up call is not answered, the system will ring the telephone for a period of one minute. If the call is not answered after one minute of ringing, the system will re-ring the station in three minutes. This will continue until the call is answered. If an operator station is programmed with a Wake Up/Remind key, an unanswered Wake Up at any station will cause the Message Key to flash.

The operator can lift the handset and press [MSG] to immediately recall the station

Background Music

Description

Background Music allows TD-824i digital telephone set users to listen to either the internal music synthesizer or an external music source over the built in speaker.

Conditions

The telephone set must be a TD-824i digital telephone.

Background music will be deactivated when the speaker phone is accessed or when the station goes off hook or an incoming call rings the station.

If background music is activated, it will return to operation when the telephone becomes idle again.

Programming

TD-824i Form 05-08-08, Music Source Selection is used to select the music source.

The choices allow the use of the internal system music synthesizer or External Music Source.

05-08-08	Background Music Source	Music On Hold Source
0	Internal Source	Internal Source
1	External Source	External Source

Operation

While the telephone is in an idle state, press the [#] key on the keypad. Background music (if present on the system) will be heard. The [SPK] key will illuminate.

To remove background music from a telephone set, press [#]. The [SPK] key will extinguish and Background Music will cease.

Behind PABX Operation

Description

TD-824i digital telephone systems can operate as "Behind PABX" or Centrex Operation. In this mode, the system makes allowances for connection to other than a normal Central Office Line. The primary differences have to do with the operation of Station Message Detail Recording (SMDR) and Toll Control. See Station Message Detail Recording, page 164 of this document and Toll Control, page 174 of this document.

Conditions

Lines programmed as PABX lines will be treated differently for purposes of Toll Control. If, when on a line programmed as PABX, the digit programmed in Form 05-03-04 is not dialed as the first digit, an inside PABX call is assumed and no Toll Restriction is applied.

Programming

PABX (Centrex) Outgoing Code, Form 05-03-04 must be programmed to correspond to the access code used to access a CO line on the PABX., i.e., if [9] is used to access a CO line on the PABX, [9] should be programmed as the PABX (Centrex) Outgoing Code on Form 05-03-04. The valid parameters are listed below:

PABX Outgoing Code, (Form 05-03-04)						0=0	1=1
2=2	3=3	4=4	5=5	6=6	7=7	8=8	9=9

CO Line Type, Form 35-[CO]-01 must be set for PABX operation for the system to recognize operation behind PABX. Valid parameters are:

CO Line Type, (Form 35-[CO]-01)	0=CO Line	1=PABX Line

Note: It is not necessary to program lines as PABX for them to operate behind PABX systems. Behind PABX operation is a convenience that provides the ability to continue to effectively track Toll Control without the need to assess the impact of a PABX access code.

Should an installation occur where there is no need for Toll Control, it may be easier for installation personnel to ignore the behind PABX programming of the system.

Operation

Behind PABX Operation is fully automatic.

Busy Remind Tone Interval / Camp On Tone

Description

Busy Remind/Camp On Tone Interval determines the timing interval for muted ring signals when a call is camped-on to a busy station. See also Camp-On, page 41 of this document.

Conditions

None.

The volume level of the repeated tone is adjustable on a per telephone basis. See Volume Adjustment.

Programming

Busy Remind/Camp On Tone Interval is programmed on Form 05-01-05. Valid parameters are listed below:

Busy Remind Tone Interval (Form 05-01-05)		0=Disabled	1=2 seconds
2=4 seconds	3=6 seconds	4=8 seconds	5=15 seconds
6=30 seconds	7=60 seconds	8=120 seconds	9=254 seconds

Operation

See Camp-On, page 41 of this document.

Busy Out CO Line

Description

Form 37-[CO] allows a system administrator or service personnel to remove a CO line from service. This allows service personnel or system administrator to take a non-functioning line out of operation with the least possible disruption of service. Normally the CO line when busied out will illuminate the LED on any line key appearances, but the ability also exists to remove the line without illuminating the LED. Also, it is possible to busy out a CO line for outgoing calls, but keep them available for incoming calls.

Conditions

Anyone wishing to busy out a line must have access to system programming.

Programming

A station must have access to system programming in order to Busy Out or Return a CO line to service.

1. Press [PRG]. Press [2].
2. Enter Password (if programmed).
3. Press [SAVE].
4. Enter [3][7]. (Access form 37, BUSY OUT CO LINE).
5. Enter the CO line that you wish to affect (Two digits, 01 - 08).
6. Press [SAVE].
7. Enter the appropriate code. Codes and results are listed below:

0=Normal Operation	1=Busy Out Outgoing - No LED
2=Busy Out Both way - No LED	3=Busy Out Both way - LED lit (red).

8. Press [SAVE]. [SPK], [SAVE]

Operation

When a CO line is busied out, any attempts to access the line will result in a busy tone, as if the line was in use. LCD telephone sets will see "Access Denied" in the telephone display when access is attempted.

Call Duration Limit

Description

This feature allows the TD-824i digital telephone system to limit the length of telephone calls. This feature is programmable on a per station basis. A station with Call Duration Limit programmed will hear a warning tone 10 seconds prior to duration expiration. The action taken by the system will be determined by the type of duration limit action that has been programmed in form 05-04-03.

Conditions

1. The call duration timer is programmable on a per station basis and is programmable in one minute increments from 1 minute to 9 minutes [1-9] (Form 40-[station]-03). It may also be disabled so that there is no time limit on call by entering [0] in Form 40-[station]-03.
2. The timer is invoked per station.

Programming

Form 05-04-03, Call Duration Limit Type determines the type of limiting notification given.

A setting of 0 or 5 provides a continuous busy tone to the limited station at the timeout period. A communications path still remains between the internal station and the outside CO line

A setting of 1 or 6 (Form 05-04-03) provides a 1 second warning tone at each duration limit interval. The call is left intact at all times.

A setting of 2 or 7 (Form 05-04-03) provides a 1 second warning tone 10 seconds prior to duration limit timeout. At 5 seconds before timeout, continuous busy tone is provided to the internal station. At timeout, the call is disconnected.

Settings of 0, 1 and 2 apply only to outgoing calls. Settings of 5, 6 and 7 apply to incoming and outgoing calls.

Form 40-[station]-03, Call Limit Duration determines the allowed timeout period. If set to 0, Call Duration Limit is disabled. If set to 1-9, call duration limit is from 1 to 9 minutes, corresponding to the entry setting.

Operation

If a station is subject to the Call Duration Limit, when the allotted time (as per Form 40-[station]-03) has expired, the action taken will be determined by the value set in Form 05-04-03 (Call Duration Limit Type).

Call Duration Timer

Description

Call duration timer is an automatic function that is available to all users equipped with LCD digital telephone sets. All outgoing calls are automatically timed as soon as the trunk is accessed for an outgoing call. The telephone set will display the actual time since connection. The timer continues to operate even if the call is held or transferred. In the case of a transfer, the destination party's telephone set will show the total call time, not the time since transfer.

Conditions

None

Programming

None

Operation

Automatic

Caller ID

Description

A display of the calling party will be shown on the LCD of the Digital phone when a call is answered by a ringing phone, or when a call is transferred to the Digital phone. Both the name and number can be displayed on incoming caller id calls. Name and number on incoming calls are available on both the DK2 and DK1 series LCD model telephone sets.

Conditions

Incoming calls answered by the phone and calls that have been transferred to the Phone will be displayed and saved under the CID record key. The calls may be reviewed by using the VOL Up/Down key and deleted by using the TSF key.

A maximum of 2 memory blocks are permitted per station.

If assigning a single memory block to a station, you must assign it in the first entry position and leave the second position to 00.

Programming

Form 07 must have a FN-32 "Caller ID key" programmed for the telephone.

Form 05-13-03 to set the size of each block of memory ('0' 10 CID records per block, '1' 20 CID records per block, '2' for 30 CID records per block, and '3' for 40 records per block.

Form 05-13-05 Controls the display that will be shown on an incoming call with Caller ID.

A setting of 0 will cause the display to show only the telephone number of the caller in the lower portion of the display.

A setting of 1 will show only the name on the lower portion of the display.

A setting of 5 will show the name in the upper portion of the display and the number of the caller in the lower portion of the display.

Note: When using the name and number option, all calls arriving to phones programmed to ring will receive the name using the full 16 characters on the top portion of the display. Upon answer, the timer will occupy the last five characters and the name will be truncated accordingly.

Form 83-stn to set blocks of memory for CID records on a per station basis. After entering program 83 the following is displayed.

CID Table Assign

ST: _ _ _

Enter the station number and press [SAVE]

83-111-01

01 02

In the above example station 111 has memory blocks 01 and 02 assigned to it's station. If 05-13-03 is set to a 0. then station 111 has 20 caller id records available to his station.

The memory blocks **MUST** be programmed in sequential order.

83-112-01

03 00

We have just assigned station 112 a single memory block. The next available memory block is 04.

Program **05-13-03**, the Individual CLI history buffers are assigned:

05-13-03	Memory Block Size	Max. Memory blocks
0	10 sets	24
1	20 sets	12
2	30 sets	8
3	40 sets	6

Each station can use up to 2 blocks.

The next assigned block must be null or continuous after the first assigned block number for each extension. That means if the first assigned block number is “n” then the next assigned block must be “0 = null” or “n+1”.

Example:

Mode 05-13-03=0

83-13-IP CLI-T 01 02

13: Station No. (2-4 digits)**01 02:** Station 13 can use block **01** and **02** for CLI history buffer and it could store 20 sets (=10 + 10).

Mode 05-13-03=1

83-15-IP CLI-T 04 00

15: Station No. (2-4 digits)
04 00: Station 15 can use block **04** (20 sets) for CLI history buffer. **00:** for no block.

Mode 05-13-03=3

83-18-IP CLI-T 03 00

18: Station No. (2-4 digits)
03 00: Station 18 can use block **03** for CLI history buffer and it could store 40 sets, **00:** for no block.

Form 05-13-05 defines whether the system will display the incoming name or number when new calls arrive to the system. 05-13-05=0 display number. 05-13-05=1 display name.

The following programming Forms are required to enable the Automatic Redial feature after viewing a CID record.

Caller ID and Redial Patterns

The bulk of programming necessary for addition of the Caller ID device is to implement Redial capabilities on identified calls. This is an issue that has kept most telephone manufacturers from incorporating redial on telephone systems equipped with Caller ID. Software shipped with the TD-Series properly addresses what we believe to be all the possible dialing situations in North America.

However, in order to properly program the Caller ID redial capabilities, you must understand what your local telephone company (telco) expects for each call that you dial.

The information (digits that must be dialed) will vary depending on your local telco's requirements. Unfortunately there is no "one size fits all" configuration that will work. Each system must be custom tailored to the particular dialing patterns at the site. The following section is designed to explain the possible variants you may encounter during installation.

U.S. Caller ID Overview

Caller ID is delivered to telephone lines in the U.S. containing 10 digits (conforming to the North American Numbering Plan) which consist of **NXX-NXX-XXXX**, where **N** is a digit from 2 through 9 and **X** is any digit from 0 through 9.

For reference through this section:

The **(NXX)-NXX-XXXX** of the number is referred to as the **Area Code**.

The **NXX-(NXX)-XXXX** is referred to as the **Office Code**.

The **NXX-NXX-(XXXX)** is referred to as the **Subscriber Number**.

This applies to both local and toll calls.

Caller ID delivers the entire NXX-NXX-XXXX to a Caller Id subscriber or it delivers a code indicating the unavailability of Caller ID information. Caller ID is never abbreviated to less than 10 digits.

Various North American Dialing sequences

1. Local Call (7 digit)

In most areas, local calls are a 7 digit number, which consist of the 7 right-most digits. The Area Code (the first NXX) is not used.

TransTel Communications, telephone number is Area Code 561, the Office Code is 747 and our Subscriber Number is 4466.

Another telephone user within our local dialing area will dial only 747-4466. This is the only dialing string the local telco will accept.

Example: If I receive a call from the business next door, my caller ID unit will display 561-555-3489. In order to redial the call, I must dial 555 + 3489. It will be necessary to program system to recognize that the 561-555 area code and office code combination is local and will disregard the area code and dial only the office code and subscriber number (555+3489).

In order to make the TD-824i redial this number properly, set **Program 84-01-01 with a value of 561** (Home Area Code). You will also set **Program 86-555 to a value of 0**. This tells the system when it sees the area code of 561 AND the office code of 555, the redial function will be to dial only the office code and subscriber number (555+3489).

2. Local Toll (7 digit)

Some localities (a good example is the state of Maine, in the northeastern U.S.) allows 7 digit dialing to the entire state, even though some calls are billed at toll rates. So a caller ID report from a telephone in the state of Maine to another telephone in the state of Maine will show 207 234 5678. However if a caller ID machine is going to provide redial capabilities, it must remove the area code 207 and dial only 234 5678.

Example: If I receive a call from the company across the state, my caller ID unit will display 207-234-5678. In order to redial the call, I must dial 234 + 5678.

In this example, set **Program 84-01-01 with a value of 207** (Home Area Code). You will also set **Program 86-200 through 86-999 to a value of 0**. With this programming, whenever a number begins with the area code 207 the redial function will only dial the office code and subscriber number (7 digits).

Note: The default database already has 86-200 through 86-999 set to 0.

3. Local Call (10 digit)

Some larger cities in the United States have exhausted an entire area code. Miami, Florida is a good example of this. Instead of separating portions of Miami and assigning unique area codes to different geographic regions, the telco has instead introduced an "overlay" area code. There are two area codes that cover the same geographic area. In this situation, all local calls must dial *NXX-NXX-XXXX* for all local calls.

Example: I receive a call from the business next door. My caller ID unit displays 305-471-9091. To redial the number I dial 305 + 471 + 9091.

This situation requires that you set **Program 85-01-01** to a value of 305. The TD-824i supports up to a total of 5 "overlay" codes, so other overlay codes will be programmed on 85-02-01, 85-03-01, 85-04-01 and 85-05-01.

When calls are received from within your overlay area, the TD-824i will redial the call using all 10 digits received from the telephone company, Area Code – Office Code – Subscriber Number as listed in the example paragraph, above.

4. Local Toll (1 + 7 digit)

Within a large part of North America area codes cover a large amount of land. In these situations, a call within your own area code will require that you dial 1 + the rightmost 7 digits of the telephone number. So if we used this for calls within the 561 area code (our area code in Jupiter), other callers that are beyond the range of a local call would dial 1 + 747-4466 to call TransTel. In this situation the caller ID would have to strip off the area code.

This requires the use of some kind of table, because a basic caller ID box would not know which office codes within the 561 area code are local (7 digits only) and which are local toll (1 + 7 digits). In order to make this operate properly we must provide the caller ID box with a list of all office codes that are local or a list of all office codes that are not local. This allows the Caller ID box to determine which office codes need to be dialed with only 7 digits and which need to use 1 + 7 digits.

For Example: If I get a call from another caller within my area code, but not a local call, I will see a display on my Caller ID unit of 561-344-5678. To redial that call, we need to send the digits 1 + 344 + 5678

To make this example operate, set **Program 84-01-01 to the value 561** (home area code). Then, on **Program 86-nxx** you will enter the office codes that are in your area code and are reached by dialing 1+ 7 digits with a value of 1:

86-221 = 1	86-222 = 1	86-223 = 1	86-224 = 1	86-225 = 1	86-226=1
86-227 = 1	86-228 = 1	86-229 = 1	86-220 = 1		
86-321 = 1	86-344 = 1	86-348 = 1	86-349 = 1		
86-440 = 1	86-441 = 1	86-442 = 1	86-443 = 1	86-444 = 1	86-445 = 1

When these values are set as shown, each call received from 561-and any of the office codes will result in calls being redialed using 1+ Office Code + Subscriber Line. (1+221-1234, 1+222=1234...).

5. Local Toll (1 + 10 digit)

Some parts of the country require that in order to call a toll location within your own area code, you must dial 1 + Area Code + Office Code + subscriber number.

In this application, we have to have the telephone system “know” which office codes are local and which are not local within the area code. We have to know this in order to be able to properly return a call.

For example: If I receive a call at TransTel Communications and it has the Caller ID of 561-747-4567, and I want to return the call, I must dial only the Office Code and subscriber number. 747 is a local office code within the 561 Area Code. My telco provides me with a list of the office codes that are local and those that are toll calls within the 561 area code.

However, if I receive a call at TransTel Communications and it has the Caller ID of 561-994-2345, to redial it, I must dial 1 + 561 + 994 + 2345. It is not a local office code, but it is within the 561 area code.

Program 84-01-01 is set to 561. Office Codes within 561 that are not local calls and must be dialed using 1+Area Code + Office Code + Subscriber Line will need to have **Program 86-nxx programmed with the value 2:**

86-361 = 2	86-362 = 2	86-363 = 2	86-364 = 2	86-365 = 2	86-366 = 2
86-367 = 2	86-368 = 2	86-369 = 2	86-991 = 2	86-992 = 2	86-994 = 2

With this programming, all calls that Caller ID receives as 561-361-xxxx will be redialed using the digit string 1+561+361+xxxx. Every office code programmed with the value 2 will be dialed using this method.

6. Outside of Area Toll (1 + 10 digit)

This is the “rest of North America.” This accounts for calling outside of my home area code. It will always include 1 + Area Code + Office Code + subscriber number.

For example: If I receive a call from New York City, it will display 212-987-6543 on my Caller ID unit. If I want to return the call, I must dial 1 + 212 + 987 + 6543 to call the number.

This is the default dialing for any examples not covered above. If the area code does not appear in the Home Area Code Programming form (Program 84) and it also does not appear in the Overlay Area Code Table (Program 85) the call will be placed using 1+Area code + Office Code + Subscriber Number.

These are the potential dialing patterns that are in use in the United States, Canada and many other parts of North America. Obviously, they are not all in use at one place.

Some examples within the United States:

Miami, Florida uses patterns 3 and 6 as listed above.

West Palm Beach, Florida uses patterns 1, 5 and 6.

Call Forwarding

Description

This feature allows a station user to have calls that are directed to his station forwarded to a selected station number within the TD-824i telephone system or to an external number.

Conditions

There are four types of call forwarding:

1. Call Forwarding "All Calls" (ALWAYS).
2. Call Forwarding "BUSY."
3. Call Forwarding "BUSY/NO ANSWER."
4. Call Forwarding External Number

Programming

System Programming:

Form 05-01-08, Call Forward No Answer Timer determines the time the system will allow before forwarding an unanswered call. This location will accept an entry from 0 to 9. The settings and the corresponding timers are listed below:

Call Forward No Answer Time (05-01-08)		0=10 seconds	1=20 seconds
2=30 seconds	3=40 seconds	4=50 seconds	5=60 seconds
6=70 seconds	7=80 seconds	8=90 seconds	9=100 seconds

See Also, Flexible Key Group Assignment, page 96 of this document.

For Digital telephone sets to activate:

1. Press [PRG]
2. Press [CFWD]
3. If telephone set is equipped with LCD display, display will show:

100	1= ALL
2=BUSY	3=BSY/NOA

Note: If you are the Console Operator you have the ability to set call forwarding for other telephone users. You will be prompted to Enter Station Number before the above is displayed. Either enter your own station number or the number of another user as desired.

4. Station User dials 1-3 depending on type of forwarding desired. If equipped with LCD display, it will show:

100	Cfwd Busy
-----	-----------

5. Enter the call forward destination station or pilot hunt group.
6. If CFWD button is programmed, CFWD button will light and blink.
7. Display will show:

YYYY -> XXXX
Tue. Aug.06 01:06

YYYY= Your Extension Number

XXXX=Forwarding Destination

Lower portion of display will show current date and time.

This indicates that call forwarding is programmed and active on the telephone. If the telephone is programmed with a [CFWD] key, the key will flash.

To cancel call forwarding from a Digital telephone set
Repeat the above procedure but enter your OWN station number.
If telephone set is equipped with CFWD button:

Press [CFWD]. [CFWD] light will extinguish.

Note: A station with a [CFWD] button programmed does not need to program call forwarding for each activation. The [CFWD] button will invoke the last forwarding programmed into a telephone set. Once Call Forwarding is programmed on a set, it may be activated and de-activated by pressing the [CFWD] button. It only becomes necessary to re-program when the type of forwarding or the forwarding destination is to be changed.

To set Call Forward to an external number:

1. Press [PRG] then [CFWD]
2. Select 1 for ALL
3. Enter one of your personal speed dial keys on your telephone set.
4. The Call Forward Key will flash indicating your telephone is set. DXX will indicate which DSS Key is being used for forwarding.

To set Call Forwarding on Single Line Telephones:

1. Lift the handset.
2. Press [7],[0],[1],[1] for All Calls
OR
Press [7],[0],[1],[2] for Busy
OR
Press [7],[0],[1],[3] for Busy/No Answer.
3. Dial the forwarding destination station. You will hear a confirmation tone.
4. Hang up.

To cancel Call Forwarding from a Single Line Telephone Set

1. Lift the handset.
2. Press [7],[0],[1],[1]
3. Dial your own station number.
4. Hang Up.

Operation

Calls will be forwarded under the conditions selected above.

Call Forward Busy to a Pre-Assigned Hunting Group

Description

This feature allows individual telephones to have a “default” overflow answering position when the station is busy.

Normally, calls that are transferred to a station when the station is busy are camped-on to the station. The station is given an audible alert that a call is waiting. When enabled, this option causes the transferred call to immediately forward to the programmed hunting group. In most applications the hunting group will be either a voice mail or a message center.

Conditions

When this option is enabled, calls cannot be camped-on to a busy station.

This option is mutually exclusive with OHCA (Off Hook Call Announce), Override (Barge-In) and Conversation Monitor.

Operation

When a station user calls a station with this option enabled and that station is also busy, the call will immediately be forwarded to the hunt group programmed in Form 78-st-04.

Programming

Form 78-st-04. Call Forward Busy to a Pre-Assigned Hunting Group	
0 = Disabled	1-9 = Forward to Hunt Group 1-9

Call Forward No Answer to a Pre-Assigned Hunting Group

Description

This feature allows individual telephones to have a “default” overflow answering position when the station does not answer.

Normally, when a transferred call does not answer, the call will return to the station that transferred the call. In many cases the station user wants his unanswered calls to be routed to an alternate answering position, usually a voice mail.

Conditions

When enabled, both intercom calls (station to station) and transferred calls to a station which does not answer will be forwarded to the hunt group specified on Form 46-st-07.

Operation

Operation is automatic. However, if a station user programs individual call forwarding on his telephone, it will override this option and the station user’s forwarding will take precedence. When call forwarding is removed from the station, this feature will once again be operative.

Programming

Form 46-st-07. Call Forward No-Answer to a Pre-Assigned Hunting Group	
0 = Disabled	1-9 = Forward to Hunt Group 1-9

Call Pickup

Description

Call Pickup allows a station user to answer a call ringing (or voice announce) at another station. The system allows these assignments to be set up independently for day service and night service.

Conditions

There are four different types of pickup that can be accomplished. They are:

1. Station Group
2. Stations
3. Department (Your own group)
2. Incoming Lines

Programming

Control of individual trunks is through Form 35-[CO]-05. Settings are as follows:

Setting	Day Service	Night Service
0	Disabled	Disabled
1	Disabled	Enabled
2	Enabled	Disabled
3	Enabled	Enabled

Form 41-[station]-01, Station Group Assignment determines the group that can be picked up by the station group option.

See Also, Flexible Key Group Assignment, page 96 of this document.

Operation

From TD-824i digital telephone sets:

1. Lift Handset or press [SPK] key.
2. Press [PICKUP] key or [*] key on keypad.
3. If the telephone is equipped with LCD, the display will show:

Pickup _

4. User presses:
Extension number to select a specific station.
[9] To pickup a call in all groups (oldest ringing call)
[0] To answer a ringing set within your own group.
[*][8] Plus a group number (1-8) to selectively pick up a call from group.
[1][*] To retrieve the oldest call, regardless of origin (includes recalls, trunk calls, etc).

Call Split

Description

Call Split/Swap allows you to quickly alternate between two different calls in the system.

Conditions

A conference must be established containing yourself and two other parties.

Programming

It is necessary to program a DSS key as a [SPLIT/SWAP] key. This is available on Form 07, Flexible Key Group Assignment. Function 26. For programming information regarding Form 07, please see page 96 of this document.

Set Form 44-STN-03 to a 0 in order to enable the Call Split Option for each station as required.

Note: If your station does not have a pre-programmed [SPLIT/SWAP] button you should substitute [SPD], [#] in its place.

Operation

1. Establish the first call (either intercom or external CO call).
2. Press **[HOLD]**. The first call is on Hold.
3. Establish the second call (either intercom or external CO call).
4. Press **[SPLIT/SWAP]**. The second caller is on Hold. You are connected to the first caller.
5. You may continue to alternate between the two callers as many times as you wish. Each time you wish to alternate, press **[SPLIT/SWAP]**.

Note: If your station is equipped with LCD display, after you have completed step 4, the connected party will be shown in the top half of the LCD display. As you **[SPLIT/SWAP]** between the two parties, their positions on the LCD will change, so that you always know which party is connected to your station.

Call Transfer

Description

Call Transfer is used to transfer a CO call or an intercom call from one station to another. When a CO call is transferred, the outside caller will hear music on hold (if equipped) during a screened transfer. If the call is transferred via unscreened transfer, the caller may hear either music on hold or ring back tone, depending on system programming.

Conditions

There are two types of transfer:

1. Screened Transfer.
2. Unscreened Transfer.

Programming

Form 05-02-04, Single Line Telephone Release Time (default setting 5=800 milliseconds) defines the maximum hook flash interval that is allowable for the system to recognize as a FLASH command. Any hook flash (open loop) condition that exceeds this time parameter is considered as a disconnect. A hook flash that does not exceed this time but exceeds the time parameter defined in Form 05-02-06 is considered a FLASH. The possible settings are listed in the table below (ms=milliseconds):

Single Line Telephone Release Time (0-9)		0=104 ms	1=208 ms
2=304 ms.	3=400 ms	4=608 ms	5=800 ms
6=1008 ms	7=1200 ms	8=1408 ms	9=1600 ms

Form 05-02-06, Single Line Telephone Hold Signal (default setting 1=100 ms) determines the minimum open loop (hook flash) condition that the system will recognize as a FLASH. Any hook flash that does not exceed this minimum timer will be ignored by the telephone system. Any hook flash that exceeds this time will be determined to be a FLASH if it does not exceed the timer set on Form 05-02-04 or will be determined to be a disconnect if its length exceeds the timer set on Form 05-02-04. The table of valid entries is listed below (ms=milliseconds):

Single Line Telephone Hold Signal (0-9)		0=64 ms	1=80 ms
2=104	3=200	4=304	5=400
6=512	7=600	8=704	9=800

Form 05-06-07, Affirmative Single Line Telephone Hook switch Flash Capability (default setting 0=FLASH) determines the actual procedure required in order to place a call on hold. The settings and resulting actions required are listed in the table below:

05-06-07	Action required to hold a call.
0	Flash
1	Flash, [7]

Form 05-11-03, Ringback Tone/Music On Hold Select determines what an outside caller will hear when a call is transferred via unscreened transfer. Valid settings are:

Form 05-11-03, Ringback Tone/Music On Hold Select	
0=Transferred Calls Hear Ringback	1=Transferred Calls hear Music On Hold

Form 05-12-01, Use Transfer Key to complete a call or just hang up. Valid settings are:

Form 05-12-01, Transfer Method for completing call	
0=Transfer calls requires transfer key	1=Transfer Calls by hanging up

Operation

From digital telephone sets while on a call:

Screened Transfer:

1. Press [DSS] key.
2. If there is no DSS key for the station, place the call on [HOLD] and dial the desired station number.
3. When the called station answers, announce the call and press [TRF/FL].
4. Note: You may simply hang up and transfer the call if form 05-12-01 is set to a one.

Unscreened Transfer:

1. Press [DSS] key.
2. If there is no DSS key for the station, place the call on [HOLD] and dial the desired station number.
3. Press [TRF/FL] and then hang up.

Note: You may simply hang up and transfer the call if form 05-12-01 is set to a one.

Optional Operation:

Stations equipped with LCD may utilize the dial by name feature for the purpose of call transfer.

From Single Line Telephone Sets *while on a call:*

Screened Transfer:

1. Flash (press) hook switch to place existing call on hold.
2. Dial station number of transfer destination.
3. When transfer destination answers, announce call and hang up.

Unscreened Transfer:

1. Flash (press) hook switch to place existing call on hold.
2. Dial station number of transfer destination.
3. Hang up.

Note: Actual procedures for placing a call on hold are defined by Form 05-06-07. The options are listed under the Programming section of this description above and may modify the procedures listed to transfer a call. It may be necessary to dial [7] after pressing the hook flash in order to place a caller on hold prior to transfer. Please consult system programming to determine if it is applicable for your system. .

Calling Proof

Description

Calling Proof Capability is available to prevent circumvention of toll control by single line telephones (Form 05-07-02) and certain TD-824i digital telephone sets (Form 05-07-05). These options are for use mainly in situations where local dial tone is not immediately given by the telephone company. In situations where dial tone is slow upon CO line seizure, it is possible that DTMF equipped single line telephones may dial a valid digit before the central office has returned dial tone. The system will disregard any digits dialed before dial tone is recognized and begin digit monitoring only after dial tone has been recognized.

For TransTel digital telephone sets, DTMF signaling is not done at the keyset. All DTMF is created by the DTMF generator in the common control cabinet. However, the proliferation of add-on after-market dialers that utilize acoustic coupling to dial stored digits has made this option a necessity for electronic sets as well. The operation for electronic sets is exactly the opposite of that for single line telephones, since a DTMF receiver is not normally attached for Superkey sets. The possibility exists that a call could be placed via an external DTMF dialer that is in violation of the station's toll classification. If Form 05-07-05 is enabled, the system will utilize DTMF receivers on the system just as if it were a single line telephone. If enabled, any DTMF digit detected from the telephone handset will cause the telephone set to be disconnected from the CO line.

Conditions

Conditions are as described above.

Programming

Single Line Telephone Calling Proof Capability, Form 05-07-02 controls Calling proof capability and its application to single line telephones. Valid settings are:

SLT Calling Proof, (Form 05-07-02)	0=Disabled	1=Enabled
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Digital Telephone Calling Proof Capability, Form 05-07-05 controls the calling proof option for digital telephone sets. Valid settings are:

Digital Telephone Calling Proof (Form 05-07-05)	0=Disabled (External Dialer Allowed)	1=Enabled (No External Dialer)
--	---	-----------------------------------

Operation

Operation is automatic. If calling proof is enabled and illegal digits are detected, the call will be terminated immediately.

Camp On

Description

Camp On allows a station to transfer a call to a busy station. The busy station will receive the transferred call when it hangs up from the previous call.

Conditions

1. When a call is Camped-on to a busy station, it is placed into EXCLUSIVE HOLD mode for that station.
2. The Camped-on station will hear a short tone to provide notification that a call is Camped-on to that station. The volume level of the camp on tone is programmable on a station by station basis.
3. If a call is not answered within the time programmed for Form 05-06-01, Transfer Recall Time (Busy), the transferred call will recall the station that originated the transfer. The parameters allow a range of options from 5 seconds to 70 seconds or the recall function can be disabled.
4. The camp on tone is ALSO heard when assigned ringing stations are busy and new calls come in to the system.

Programming

Form 05-06-01, Transfer Recall Time (Busy) controls the time that a call will remain camped on to a busy station. Default setting is 4=30 seconds. The range of settings are listed below:

Transfer Recall Timer (Busy)		0=5 seconds	1=10 seconds
2=15 seconds	3=20 seconds	4=30 seconds	5=40 seconds
6=60 seconds	7=90 seconds	8=120 seconds	9=No Recall

Form 05-01-05, Busy Remind/Camp On Tone Interval determines how often the reminder tone will be heard while a call is camped on to a station. Valid settings for this option are:

Busy Remind/Camp On Tone Interval (Form 05-01-05)		0=disabled	1=2 seconds
2=4 seconds	3=6 seconds	4=8 seconds	5=15 seconds
6=30 seconds	7=60 seconds	8=120 seconds	9=254 seconds

Single Line Telephone (SLT) Camp On Tone, Form 05-08-03 determines whether a single line telephone user will receive an audible reminder of a camped on call. If this option is enabled, the SLT user will hear a periodic beep in the handset receiver of the telephone set to indicate that a call is camped-on. The valid settings for this option are:

Single Line Telephone Camp On Tone, (Form 05-08-03)	
0=Camp On Tone Disabled	1 through 9=Camp On Tone Interval

The interval between tones will be the Busy Remind/Camp On Tone (05-01-05) Interval (t) x by the setting in this parameter.

0 = Disable **1 = t x 1** **2 = t x 2** **9 = t x 9**

Operation

From digital telephone sets:

1. Place outside caller on Hold
2. If equipped with DSS, press [DSS] key or dial station number. Busy tone will be heard.
3. Press [TRF/FL] key.
4. Hang up. Outside caller is placed on exclusive hold for busy station.

From Single Line Telephone Sets:

1. Press Hook switch to place outside caller on Hold.
2. Dial station number where call is to be transferred. Busy tone will be heard.
3. Hang up. Outside caller is placed on exclusive hold for busy station.

Chain Dialing

Description

Chain Dialing permits a station to sequentially dial more than one speed dial number. Chain dialing can be any combination of manually dialed digits and speed dial numbers.

Conditions

1. Digits may be manually dialed before, after or between speed dial numbers.
2. Total digits dialed including speed dial cannot exceed 56 digits.
3. On Pulse dialing CO lines, if DTMF conversion has been selected in a speed dial digit string, all digits, including additional speed dial entries dialed after DTMF conversion will be DTMF.
4. Chain Dialing is not available to single line telephone sets.

Programming

None

Operation

1. Press [SPD]. Enter speed dial entry number (i.e. 00-09 or 100-999) or press programmed DSS key.
2. Manually dial digits.
3. Press [SPD]. Enter speed dial entry number (i.e. 00-09 or 100-999) or press programmed DSS key.

The steps listed above can be performed in any order. Any step(s) may be repeated or deleted as necessary, as long as the total digits dialed does not exceed 56.

Note: If manually dialed digits are entered first, a CO line must be selected prior to dialing.

Class of Service

Description

Station Class Of Service determines the characteristics of a telephone set. Each station within the TD Series system has it's own unique Class Of Service indicators. Class of Service Information is stored on Forms 40, 41, 44, 45, 46 and 50. Information on most options in Class Of Service programming is listed throughout this Features and Services Description.

Conditions

None.

Programming

See various Class Of Service Options listed throughout this Features and Services Description, the TD-824i and TD-1648i Programming Forms and Programming Manual.

Operation

Not Applicable.

CO Break Disconnect Timer

Description

CO Break Disconnect Timer allows the system to drop calls on hold that have been abandoned as well as calls in process by the Voice Service Unit. It will also drop CO lines where outside parties abandon any external Auto Attendant or Voice Mail System that has been classified as Voice Mail port by system database programming.

Conditions

CO Break Disconnect Timer should only be activated on systems where the telephone lines are actually receiving disconnect supervision or "open loop" conditions from the telephone company when calls are disconnected.

CO Break Disconnect Timer will not disconnect normal stations when an outside caller hangs up.

Programming

Form 05-09-03 Controls the activation and sensitivity of the timer. For most US Electronic Central Offices, a setting of 4 or 5 should be adequate. If abandoned calls are not promptly disconnected, this timer should be increased. If calls are getting cut off for no apparent reason, this timer should be reduced or disabled. Valid settings are:

CO Break Disconnect Timer Form 05-09-03		0=Disabled	1=80 milliseconds
2=160milliseconds	3=240 milliseconds	4=320 milliseconds	5=400 milliseconds
6=480 milliseconds	7=560 milliseconds	8=640 milliseconds	9=720 milliseconds

Operation

When enabled, a call on hold that is abandoned by the outside caller should cause the TD system to disconnect the outside line. Abandoned unsupervised conference, DISA calls, and Voice Mail calls will also be disconnected when a disconnect indication is received from the telephone company central office.

Note: Many telephone company Central offices do not provide immediate disconnect supervision when calls are abandoned. In many cases this may take as long as 10-20 seconds after the outside caller has hung up. Not all telephone company Central Offices supply disconnect supervision.

CO Line Hunting

Description

CO Line Hunting provides the ability to route calls to a main answering position and provide an overflow capability so that backup answering stations can be automatically added as necessary. In a busy condition, an incoming CO line programmed for hunting will ring the first available station. If that station does not answer, the system will add stations to the ringing sequence, one at a time until the call is either answered, abandoned or until all stations (up to 16) in the ringing assignment are added to the ringing sequence.

See also, Flexible Ringing Assignment, page 97 in this document.

Conditions

The CO line must be programmed for hunting to be operative.

Stations will be added to the ringing sequence in the order that they are programmed on the incoming ringing assignment forms (Form 01-[CO]-[station] and Form 02-[CO]-[station]).

Interactions and Related programming

There is a relationship between Hunt Time Assignment Form 05-08-01 and the Busy Remind/Camp On Timer 05-01-05. Note the behavior of the HUNT feature in a busy condition. The system will seek to ring the first station programmed in Form 01. If that station is busy, the hunt timer will begin and when it expires, the next station in Form 01 will ring. If the second station is busy, the will immediately advance to the next station.

An example would illustrate the relationship between the two timers.

Station 11 and 12 are programmed to ring in Form 01.

The HUNT Timer 05-08-01 is set for 15 seconds.

The Busy Remind/Camp On Timers 05-01-05 is set for 4 seconds.

When an incoming call arrives into the system and station 11 is busy, the HUNT timer is activated and the system will attempt to ring station 11 for a period of 15 seconds. During this time, a camp on indication both visual and audible will appear at station 11. This gives them the opportunity of placing an existing call on hold and answering the new call. A repeated camp on indication will appear every 4 seconds. After 15 seconds the call will attempt to ring station 12.

Note: If the Busy Remind/Camp on parameter is set to 0, station will receive NO indication other than a blinking CO line that a new call is arriving.

Programming

Day Ringing Assignment, Form 01-[CO]-[station] must be programmed for each CO line in the system. Up to sixteen stations may be programmed for each line. Lines programmed to hunt will search this form in the order that stations are programmed. The system will ring the first available station in this group. If that station does not answer the call within the time period specified on Form 05-08-01, the system will add the next available station (in the order programmed on Form 01-[CO]-[station]) to the ringing sequence. This action will repeat until all available stations are in the ringing sequence, the call is answered or the call is abandoned. This form controls ringing assignments during day service only.

Night Ringing Assignment, Form 02-[CO]-[station] must be programmed for each CO line in the system if night service is to be used within the system.. Up to sixteen stations may be programmed for each line. Lines programmed to hunt will search this form in the order that stations are programmed. The system will ring the first available station in this group. If that station does not answer the call within the time period specified on Form 05-08-01, the system will add the next available station (in the order programmed on Form 02-[CO]-[station]) to the ringing sequence. This action will repeat until all available stations are in the ringing sequence, the call is answered or the call is abandoned. This form controls ringing assignments during night service only.

Hunt Time Assignment, Form 05-08-01 sets the interval for adding stations to the ringing sequence in a no answer condition. Every time a station begins ringing, this timer will begin. If it expires without the call having been answered, the next available station in the group defined on Form 01-[CO]-[station] or Form

02-[CO]-[station], whichever is applicable, will be added to the ringing sequence. Valid settings for this option are:

Hunt Time Assignment, (Form 05-08-01)		0=Disabled	1=2 seconds
2=4 seconds	3=6 seconds	4=8 seconds	5=15 seconds
6=30 seconds	7=60 seconds	8=120 seconds	9=254 seconds

Note: If Form 05-08-01 is set at 0 (disabled), the hunting feature will be disabled for all call types, regardless of whether or not the stations are busy or idle.

CO Line Assignment Day Ringing Method, Form 35-[CO]-07 determines whether hunting will occur during day service. The options for 35-[CO]-07 are:

CO Line Day Ringing Method, (Form 35-[CO]-07)		0=Common Audible
1=Linear	2=Circular	3=HUNT

CO Line Assignment Night Ringing Method, Form 35-[CO]-08 determines whether hunting will occur during night service. The options for 35-[CO]-08 are:

CO Line Night Ringing Method, (Form 35-[CO]-08)		0=Common Audible
1=Linear	2=Circular	3=HUNT

Note: For a description of Common, Linear, Circular, and Hunt, see CO Line Ringing Types, page 49 of this document.

Operation

1. On an incoming call, the first available station (according to Form 01-[CO]-[station] or Form 02-[CO]-[station]) will be rung.
2. If there is no answer within the time period determined by Form 05-08-01, the system will check the applicable form (Form 01 or Form 02) and add the next programmed station to the ringing sequence. This step will repeat until the call is answered, abandoned or all available stations on the applicable form (Form 01 or Form 02) are ringing.

CO Line Programming

Description

Central Office Line Programming provides the ability to effectively interface between the station users and the outside telephone lines. Most programming of the Central Office lines is done on Form 35 of the TD Series Digital telephone system. Each CO line has an identical portion of Form 35 so that all parameters may be tailored to the individual line.

Conditions

There are a maximum of eight (8) conventional CO lines on the TD **824** system or 4 conventional CO lines and 3 ISDN links for a total of 10 lines.

Programming

Line Specifications are determined on Form 35. Each CO line has the same group of parameters available.

Form 35-[CO]-01, Line Type tells the system whether the outside line is connected to a Central Office or if it is connected to a PABX system or CENTREX. Valid settings are:

Line Type, (35-[CO]-01)	0=Central Office	1=PABX
--------------------------------	------------------	--------

This option works in conjunction with Toll control through Form 05-03-04. If this option is set to 1 (PABX), a call that does not begin with the code programmed on Form 05-03-04 (PABX [CENTREX] Outgoing Access Code) will be considered a PABX internal call and will not be subject to toll control. For more information on Form 05-03-04, please see Toll Control, page 174 of this document.

Form 35-[CO]-02, Dialing Type determines the outpulse method used for placing calls. The options are for either pulse or DTMF dialing. Valid settings are:

Dialing Type, (35-[CO]-02)	0=Pulse	1=DTMF
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Note: On systems where DTMF single line telephones are connected and the Central office is capable of detecting DTMF digits, Dialing type must always be set to DTMF. The use of pulse dialing on a line with DTMF sensitivity in conjunction with DTMF single line telephones will provide unreliable dialing, since the central office will detect both the DTMF digits dialed directly by the station and the pulses dialed by the telephone system.

Form 35-[CO]-03, External Call Forwarding controls the destination that will be used for external call forwarding for the line listed in the [CO] section of 35-[CO]-03. The available options are:

External Call Forwarding, (35-[CO]-03)		0=No Call Forwarding
1=Forward to Speed Dial 101	2=FWD to SPD Dial 102	3=FWD to SPD Dial 103
4=FWD to SPD Dial 104	5=FWD to SPD Dial 105	6=FWD to SPD Dial 106
7=FWD to SPD Dial 107	8=FWD to SPD Dial 108	

Note: Form 35-[CO]-03 has no effect unless Form 35-[CO]-04 is programmed with External Call Forwarding during either day or night service (or both).

Form 05-01-04 Delayed DISA Access Timer affects the operation of CO lines that are configured for either DISA operation **OR** External Call Forwarding. The system will not commence operation of External Call Forwarding until 05-01-04 expires. Valid settings for 05-01-04 are as follows:

05-01-04 - Delayed DISA Access Time		0=1 second	1=3 seconds
2=5 seconds	3=7 seconds	4=9 seconds	5=16 seconds
6=31 seconds	7=61 seconds	8=121 seconds	9=255 seconds

Form 35-[CO]-04 Determines whether the CO line will be considered as a normal line, a DISA line, or if the line should be Externally Call Forwarded. This also takes into account the ability to change the line's status between Day Service and Night Service. For more information on Day Service and Night Service, see pages 56 and 125 of this document. Valid settings for this option are:

Line Status - DISA / External Call Forward / Normal, (35-[CO]-04)		
Value	Day Service Status	Night Service Status
0	Normal	Normal
1	Normal	DISA
2	DISA	Normal
3	DISA	DISA
4	Normal	External Call Forward
5	External Call Forward	Normal
6	External Call Forward	External Call Forward
7	DISA	External Call Forward
8	External Call Forward	DISA

Form 35-[CO]-05, Pickup Status, determines whether stations that do not ring have the capability to answer incoming calls on this line. The options include the capability for the status to be changed depending on Day or Night Service operation. Disabled means that non-ringing stations may not answer a call. Enabled means the non-ringing stations may answer the call. Valid settings are:

Line Pickup Status - Day / Night, (35-[CO]-05)		
Value	Day Service	Night Service
0	Disable	Disable
1	Disable	Enable
2	Enable	Disable
3	Enable	Enable

Form 35-[CO]-06, Loud Bell Assignment determines if the CO line will activate a loud bell relay upon incoming calls and if so, which of two relays will be activated. Valid options are:

Loud Bell Assignment, (35-[CO]-06)	0=No Loud Bell Operation
1=Relay #1	2=Relay #2

Note: In order for this option to be operational, Form 06, Relay Assignment must have the relay assigned on Form (35-[CO]-06) programmed as type 04 (CO Line Loud Bell). For more information on Relay Assignment, please see page 142 of this document.

Form 35-[CO]-07, Inward Line Ringing Type - Day Service and Form 35-[CO]-08, Inward Line Ringing Type - Night Service determine the type of ringing to be used on incoming telephone calls. The valid Options are:

Day Service (35-[CO]-07) - Inward Line Ringing Type -Night Service (35-[CO]-08)	
0=Common Audible	1=Linear
2=Circular	3=Hunt

Note: For a complete explanation of the different types of ringing, see CO Line Ringing Types on page 49 of this document.

Operation
None.

CO Line Ringing Types

Description

The TD Series Digital telephone system has the ability to define the type of notification used for incoming telephone calls.

The system supports Loud Bells. For more information on Loud Bells, please see CO Line Programming, page 47 and Relay Assignment, page 142 of this document. CO Line Ringing Types are supported on a per line basis, so the system can be tailored to the user's individual needs.

Common Audible Ringing causes all idle telephone sets programmed on Form 01-[CO]-[station] (Ringing Assignment - Day Service) or Form 02-[CO]-[station] (Ringing Assignment - Night Service) to ring when an incoming call is present.

Linear Ringing will always attempt to ring the first station (only) programmed on Form 01 or Form 02. If that station is unavailable, the system will attempt to ring the second station programmed. The system will search for and ring the first free station it locates. All searching is done in the order programmed on Form 01 if in Day Service or Form 02 if in Night Service.

Circular Ringing works like Linear Ringing except that it always begins its search immediately after the last station that was rung.

Hunting. See CO Line Hunting on page 45 of this document.

Private Line -This is for an incoming private line. The station that owns this private line can set call forward (All, Busy, No Answer) for this private line to the Voice Mail Port (See Program **43- ST-02**).

Conditions

None.

Programming

Form 35-[CO]-07, Inward Line Ringing Type - Day Service and Form 35-[CO]-08, Inward Line Ringing Type - Night Service determine the type of ringing to be used on incoming telephone calls. The valid Options are:

35-xx-07 - Day Ring Type
0=Common Audible
1=Linear
2=Circular
3=Hunt
4=Private Line This is for an incoming private line. The station that owns this private line can set call forward (All, Busy, No Answer) for this private line to the Voice Mail Port (See Program 43- ST-02).

Operation

Operation begins on detection of an incoming call. Operation is automatic.

Conference

Description

Conference allows a station user to converse with two or more other parties at the same time. Up to a total of five parties may be involved in any conference. This can consist of any combination of internal stations and external lines. The total capacity is a single conference up to 15 parties or 3 conferences of up to 5 parties each.

See also, Unsupervised Conference, page 179 of this document.

Conditions

A station can set up a conference if enabled in its Class of Service.

Privacy Release can also be used to allow additional internal parties to join the conference.

Programming

None.

Operation

From DK1 digital telephone sets:

Station Controlled Conference

To establish a conference:

1. Establish first telephone call (either CO or intercom call).
2. Press **[HOLD]**. The first caller is on system hold.
3. Establish second call (either CO or intercom call).
4. Press **[DND/CN]**.
5. The first and second caller are now in conference with you.
6. Steps 2 through 5 may be repeated to a maximum of fifteen other parties in the conference.

Unsupervised Line Conference

1. You have established a conference via the station controlled conference above.
2. The conference consists of two or more outside CO lines and no other internal stations.
3. Press **[DND/CN]** and hang up the telephone.
4. Your station is returned to idle and the outside lines are connected together. The outside line LED's will be lit steady, indicating they are still in conference.

Note: Remaining members are granted up to 4 additional minutes of time to converse in an unsupervised conference. A warning tone is provided 10 seconds prior to the expiration of the conference period. Any conference member may press a digit on their telephone 0 - 9 to extend the time period up to an additional 4 minutes.

Rejoining an unsupervised conference:

1. Press **[SPK]** button or lift the handset.
2. Press **[DND/CN]**. You will be readmitted to the conference.

To exit and terminate a conference:

1. During the conference, simply hang up the telephone set. All parties will be terminated.

To remove a party from a conference call:

1. During the conference, press the CO line of the party you would like to remove.
2. You will be connected to this line and removed from the conference. Other parties will continue in the conference.
3. Disconnect the desired party by hanging up.
4. To return to the original conference, press **[SPK]** or lift the handset followed by **[DND/CN]**.

To confer with members privately in a conference call:

For a 3 party conference (i.e yourself and 2 CO lines):

1. During the conference, press the CO line you wish to confer with. The other party goes on hold.
2. To alternate to the other party, press hold followed by the appropriate CO line key.
3. To re-establish the conference, simply press the **[DND/CN]** key.

For conferences with 4 parties or more (including yourself):

1. During the conference, press the CO line you wish to confer with. The other parties will continue in conference.
2. You may alternate freely and privately between conference members by pressing their associated CO line or station key.
3. To rejoin the conference, simply press the **[DND/CN]** key.

NOTE:

1. A CFC conference card is needed for this feature to operate in the TD-824i.
2. **TD-824i:** In order to extend time on an unsupervised conference, the TD-824i must be equipped with a Voice Service Unit (TD-VSC).
3. **TD-1648i:** In order to extend time on an unsupervised conference, the TD-1648i must be equipped with a VMU card.

Console

Description

Consoles are regular stations within the system that have been designated by system programming as locations for recalls and dial 0 calls. In some installations, consoles may be the only stations designated for access to system programming. Consoles are the only stations allowed to perform programming of System Speed Dial numbers.

Conditions

A station must be programmed as a console on Form 04-[group]-[station], Console Assignment, see Console Assignment, page 53 of this document.

Programming

See Console Assignment, page 53 of this document.

Operation

Operation is automatic.

Console Assignment

Description

Console Assignment allows selected stations to be designated as consoles (operators). A station that has been assigned as a console will be accessible by dialing [0] or [9] (depending on System Programming, see Form 05-06-05, Operator Code). Up to four stations may be designated as consoles in any console group assignment. Up to eight console groups may be assigned within the system.

Conditions

Calls to an operator [0] will always search the console assignment in linear order. The first free station in the console assignment group will be rung. The system will search for a free station in the order that stations are programmed on the console assignment form.

Programming

Console Assignment is programmed on Form 04-[group]-[station]. Up to four stations may be programmed for each group. The first station programmed in the group is considered the prime console. Up to eight groups may be programmed in the system.

Station Group Assignment, Form 41-[station]-01 determines which console group a station will access when [0] is dialed. A station with 41-[station]-01 programmed as [1] will access group 1. If 41-[station]-01 is programmed as [2], a station will access group 2 when the operator is dialed, etc.

Operator Code, Form 05-06-05 determines the number dialed to reach the system operator. If 05-06-05 is set to 0, stations will dial 0 for the operator and 9 for outside line access. If 05-06-05 is programmed as 1, stations will dial 9 for the operator and 0 for outside line access.

Operation

A station user dials [0] (or [9], depending on the setting of Form 05-06-05, Operator Code). The system will search the corresponding console group and ring the first free console.

Conversation Monitor

Description

Conversation Monitor allows a station to listen to the conversation of another station. Conversation monitor works in a manner similar to Override, except that there is no indication given to the station being monitored.

Conditions

The station invoking the monitor must have a monitor class that is greater than the station to be monitored. If the call is between two internal stations, the station invoking the monitor must have a monitor class that is greater than both stations in the conversation.

The monitor path is a one way audio path.

Programming

Form 40-STN-02, (Monitor Level) of the station to monitor must be set at a level (from 1-9) that is higher than the station(s) that it is to monitor.

Form 40-STN-02, (Monitor Level) of the station to be monitored must be set at a level that is lower (0-8) than any stations that are allowed to monitor.

A station that has Form 40-STN-02 set to [0] (Default) will be incapable of monitoring any other station.

Operation

1. Dial the station number to be monitored. You will hear busy tone.
2. Dial [#] or press [MONITOR] (if equipped).
3. If allowed, you will be placed in the monitor mode
4. You will remain in the monitor mode until you hang up or until the station that you are monitoring hangs up.

Date and Time Setting

Description

For the purposes of Station Message Detail Recording and for digital telephone sets equipped with Liquid Crystal Displays, Time of Day, Day of Week, Date, Month, and Year are stored by the system. A built in battery provides battery backup for this information as well as system database backup. In the event of a power failure, the battery cell will keep all information and continue to operate the real time clock for a minimum of 1200 hours.

Conditions

None.

Programming

Initial programming of time, day and date information may be programmed on Form 11. The format of this entry is as follows:

MM DD YY
hh mm d

MM=Month (01-12)
hh=hour (00-23)

DD=Day of Month (01-31)
mm=minutes (00-59)

YY=Year (00-99)
d=day of week

Note: Day of week schedule: 1=Monday 2=Tuesday 3=Wednesday 4=Thursday
5=Friday 6=Saturday 7=Sunday

The operator console also has the option of programming the same information without the requirement to enter system programming. The procedure follows:

1. Operator idle. Press [PRG].Press [HOLD].
2. Press 7
3. Press [SAVE].
4. Enter information in format listed above.
5. Press [SAVE].
6. Lift and replace the telephone handset.

Operation

None.

Day Service

Description

The TD-824i System offers both day service and night service operation. The primary purpose of Day and Night Service is to define where incoming calls are routed during normal business hours and where to route them when the office is closed. During the day mode you may want calls answered by a live person. You may opt for Voice Mail at night. The TD-824i System offers two methods for placing your system in the night mode.

Conditions

Items under control of Day and Night Service are:

1. Flexible CO Incoming Line Assignment and Flexible Ringing Assignment.
2. Toll Restriction Plan
3. DISA
4. External Call Forwarding

Day/Night Service switching can be manual or automatic.

If Day/Night Service is automatic, the Day Service/Night Service intervals are programmable.

A System in automatic switching mode can be changed to manual mode for special circumstances and then returned to automatic operation when desired.

Information regarding the actual day of the week and time of day is kept by the system real time clock located on the TD-MS-C card. Initial setting of the real time clock is done on Form 11 and includes day of week, date, month, year as well as hour and minutes. The system real time clock is provided with a battery backup and will keep the clock accurate for a minimum of 48 hours in the event of a power failure.

Programming

Flexible CO Line Ring Assignment, Form 01-[CO line]-[stations] and Form 02 - [CO line]-[station] (see page 95 of this document).

Toll Plan, (see page 174 of this document).

DISA (see page 67 of this document).

External Call Forward (see page 89 of this document).

Form 20-[DAY], Define Day Time Schedule. This form defines the day service interval for each day of the week. The night interval is any time not included in the day service interval. There is a separate definition for each [DAY] of the week. The [DAY] field of the programming information is a two digit code that defines each day of the week according to the table below:

Form 20- [DAY] Definitions		20-00=Sunday
20-01=Monday	20-02=Tuesday	20-03=Wednesday
20-04=Thursday	20-05=Friday	20-06=Saturday

Each section of Form 20-[DAY] should be programmed with the following information:

Hh mm HH MM

where:

hh mm = Day Service Start Time by hour and minute.

HH MM=Day Service End Time by hour and minute.

All time must be entered in 2400 (military) format.

Hours from Midnight to 11:59 AM must be entered as 00 00 to 11 59.

Hours from Noon to 1159 PM must be entered as 12 00 to 23 59.

Night Service will be in operation during any time period not defined between a Day service end time and the next day's Day Service Start Time.

Stations with control of Night Service should have a pushbutton programmed for Day/Night Service indication and switching.

Operation

Manual Operation- In the manual mode of operation a Night key is programmed on your telephone set. To turn Night Service on and off, simply press the key. If your company has flexible hours of operation, this method may be appropriate for you.

Automatic Operation- If your business operating hours are well defined, you may elect for the system to automatically place itself in the night and day mode at the times you define. A programmable schedule provides for times to be determined for each day of the week. Automatic Operation requires system program number 20 to be set up which defines the day and night periods.

Manually Switching Between Day and Night Service:

1. Press **[NIGHT]**. The system will toggle between Day Service and Night Service with each press of the button. The Night LED will flash and NIGHT will be displayed in the upper right corner of LCD Telephones.

System Console Operators may select whether the TD-824i system provides automatic Day-Night Service Switching or manual switching.

Selecting Manual or Automatic Switching:

1. Press **[PGM]**, **[NIGHT]** or **[PGM]**, **[TSF]**. LCD display will depend on the mode that is currently in operation on the system. Display will be one of the following:

Day Status

If the system is presently in Day Service with Day/Night Switching set to manual.

DAY TIME hhmm

hh:mm To hh:mm

If the system is in Automatic Day/Night Switching Mode.

Night Status

If the system is in Night Service with manual switching.

Night Transfer

Auto

or

Night Transfer

Manual

If you are in the process of changing the switching type.

2. Press **[*]** to toggle between the switching modes, either Automatic or Manual.

Note: This setting does not switch the system between Night And Day service unless you change from manual to automatic switching and the time period dictates that the mode is opposite of what is presently operational. In other words, if you are in Day Service mode with manual switching and you change to Automatic Switching, if the system is programmed for Night Service to be active at that time, the system will switch into Night Service. Only Telephone Sets programmed as the Console Operator can switch between automatic and manual modes of operation.

Also note that when a change occurs between Night Service and Day service, the LCD will not update and discontinue the NIGHT indication until the station has been cycled off hook and on hook

Delayed Ring Groups

Description

Delayed Ring Group Option is popular with many Voice Mail applications. In this mode, you may assign one or more stations as primary answering positions. After a programmable period of time, the incoming call will be diverted over to a pilot hunt group that could contain voice mail ports used to answer incoming calls.

Conditions

None.

Programming

Delayed Ring Groups - Program the primary answer stations in Forms 01 and 02 as described in Incoming Ring Assignment on page . Use the Forms below to invoke the Delayed Ring Timer and to divert incoming calls over to certain hunt groups.

Delayed Ring Group Timer- Form 29-TK-07 is used for enabling the Delayed Ring Group Timer.

Delayed Ring Group Timer, Form 29-TK-07		0=Disabled	1=8 seconds
2=16 seconds	3=24 seconds	4=32 seconds	5=40 seconds
6=48 seconds	7=56 seconds	8=64 seconds	9=72 seconds

For each line in the system, you may set up a timer the sends the call over to a hunt group when it expires.

Delayed Ring Hunt Group - Form 29-TK-08 is used for assigning the hunt group number

Hunt Group Assignment, Form 29-TK-08		0= Hunt Group 1	1= Hunt Group 2
2= Hunt Group 3	3= Hunt Group 4	4= Hunt Group 5	5= Hunt Group 6
6= Hunt Group 7	7= Hunt Group 8	8= Hunt Group 9	9= Hunt Group 10

Operation:

After the delayed ring group timer expires from the primary station group, the system will select the hunt group and members assigned in this form.

Note: The hunt group members are assigned in Form 68 for day and 69 for night. The pilot hunt group numbers are assigned in Form 67, along with the ring type for the members i.e. Common, linear and circular. It is recommended not to use Common Audible as the type for Voice Mail Applications as this will send ringing to all members in the hunt group at the same time, causing the Voice Mail ports to answer at the same time on more than one port.

Dial By Name

Description

Digital telephones equipped with LCD displays may have the ability to dial internal stations and system speed dial numbers by name. In this situation, the numeric keypad will also allow alphabet characters to be entered from the set.

Conditions

Dial by name is only available to digital telephone sets equipped with LCD displays and programmed with a [DIR] Directory key, see Flexible Key Group Assignment, page 96 of this document.

Dial by name is available for system speed dial, and internal (intercom) calling.

Programming

Form 05-05-05 Assigns the dial by name feature.

This parameter enables the naming feature for trunks, extensions and speed dials.

Features \ Values	0	1	2	3	5	7
Display Name instead of number for Extension		V		V	V	V
Directory Dial for Speed Dial			V	V		V
Directory Dial for Extension					V	V

V: The feature is enabled.

Note 1: When any of the above features are enabled, the total number of speed dial sets will be reduced by 300. See Form 05-04-06.

Note 2: For setting the name for Extensions/Speed dial/Trunk, Please refer to the programming forms 43 / 09 /35.

Note 3: For setting "Directory Dial" key, Please refer to Form 07.

If Dial by name is enabled, the parameters listed for Form 01-04-06 are listed below. If Dial by name is not programmed, this table is not valid. For more information regarding System Speed Dial, please see Speed Dial (System), page 161 of this document.

Speed Dial Distribution Form 01-04-06		
Setting	Number of System Speed Dial	Number of Personal Speed Dial
0	100 Locations (100-199)	200 Locations
1	200 Locations (100-299)	100 Locations
2	300 Locations (100-399)	00 Locations

Programming names for intercom stations:

Programming of names associated with internal stations is on Form 43, Port Assignments of the system programming forms. Select the STN number that you wish to program, press [CHanG]e (MIC/AT).

During name entry, the numeric keypad keys will operate as alphabetical character keys. Each key will enter the letters that appear on the key caps. The following table illustrates the entries that each key can make.

Key 1 = Q - Z - (Blank Space) - 1	Key 2 = A - B - C - 2
Key 3 = D - E - F - 3	Key 4 = G - H - I - 4
Key 5 = J - K - L - 5	Key 6 = M - N - O - 6
Key 7 = P - R - S - 7	Key 8 = T - U - V - 8
Key 9 = W - X - Y - 9	Key 0 = . : & 0
Key * = - / ! *	Key # = () \$ #
VOL Down = Backspace	VOL Up = Forward

Each character is indicated in order. For instance, pressing 2 will display A. Pressing it again will display B. Pressing it a third time will display C. Pressing it for the fourth time will display 2. The character that is being programmed will be underscored. Movement from character to character (left to right) is through the use of the [Vol Up] and [Vol Down] keys.

When the name is acceptable, press [SAVE] to store the name in system memory. After pressing [SAVE] the software will advance to the next station/port number. To toggle the display from Name Programming and Station Programming simply press the [MIC/AT] key.

Programming a System Speed Dial Number and a Name To Be Associated:

Form 09, System Speed Dial Assignment allows programming of speed dial entries and the names to be associated with them. Each entry has a location for both the number to be stored and the name to be stored. In order to program a number for the system speed dial location:

1. Enter Programming Form 09.
2. Dial the speed dial (bin) location where the number is to be stored.
3. Enter the number to be stored. Press [SAVE]. The system will advance to the next speed dial (bin) location.

To program a name for the location just programmed:

1. Press [DSS1]. Press [MIC/AT], twice, until the letter [N] appears in the far right location on the upper line of the LCD display.
2. You may then enter the name that you wish to store against the location by using the keys as listed above.
3. When the entry is satisfactory, press [SAVE].

Note: To change between the name and the number toggle the [MIC/AT] key.

Note: System speed dial entries and names may also be programmed from the system console. The programming procedures are listed under the operation section, below.

Operation

Programming a name to be associated with a System Speed Dial Number (System Console Only):

1. Press [PRG] [SPD].

LCD display will show:

System Spd : 7 User Speed : 8 #

2. Press [7].
3. Enter the Speed Dial location to be programmed (three digits). Press [SAVE].
4. Enter the number to be stored. Press [SAVE]. Press [DSS1].
5. Press [MIC/AT] twice. LCD display will show [N] in upper right corner of display.
6. Enter the name desired by utilizing the keys listed under programming, above.
7. When the name has been entered satisfactorily, press [SAVE].
8. Press [SPK] then [SAVE] to exit programming of System Speed Dial.

Note: To change between the name and the number toggle the [MIC/AT] key.

To Dial By Name:

1. Press [DIR] key. LCD will display the following if only Speed Dial by name is enabled in Form 05-05-05:

Enter Letter

If Speed Dial by name and Intercom Dial by name are both enabled, the display will indicate:

1= Intercom
2= Speed Dial

2. Use the numeric keypad as listed above in the Programming section to enter the first letter of the name that you wish to access. When you have entered the first letter, press [Vol ↑]. The display will show you the first name that matches the display. When you find the name you want, press [SPK] or lift the Handset. The call will be dialed.
3. If no entries in the directory match your selection, the LCD will display:

NO ENTRIES
TRY AGAIN

You will return to the display listed in step 2 above if you press any keypad button. If you do not wish to re-enter another name, you may press [SPK] to return to an idle telephone condition.

Dial 87 Group

Description

A station may elect to access a member of an alternate group of CO lines by dialing 87 rather than the selection of a line pushbutton or the dial 9 group. The TD-824i digital telephone system supports up to eight groups of separately assigned outside lines. This allows departments to access lines reserved for their use. See also, Dial 9 Group, page 63 of this document.

Conditions

For features such as Last Number Redial, and Saved Number Redial, the TD Series telephone system will select from the Dial 87 CO Line group if the call originated through the use of the 87 access code.

Programming

Form 05-12-06, Outbound CO Hunt Type determines the selection method for CO lines. A setting of 0 will provide linear hunting (always begins at the first line programmed in the group). A setting of 1 will provide circular hunting (begins searching at the next CO line in the group). This provides a more even distribution of outbound calls over a group of CO lines.

Form 36-[group]-[CO Line], Alternate CO Line Group Assignment assigns specific CO lines to individual CO Line groups. Up to eight CO line groups may be programmed on a TD Series digital telephone system. Each group may contain up to eight CO lines on the TD-824i. The TD-1648 may contain up to 16 CO lines in a group.

Note: CO lines may appear in any and/or all CO line groups.

Form 46-[station]-01. Alternate CO line group assigns one of the eight CO line groups programmed on Form 36 to an individual station.

Operation

1. Lift handset or press [SPK] button (Optional).
2. Dial 87. Station will be connected to the first CO line in the Dial 87 group to which it is assigned. If all lines in a group are in use, the station user will hear busy tone.

Dial 9 Group

Description

A station may elect to access a member of a group of CO lines by dialing 9 (or [0], depending on Form 05-06-05, Operator Access Code) rather than the selection of a specific line pushbutton. The telephone system supports up to eight groups of separately assignable outside lines. This allows departments to access lines reserved for their use.

Conditions

For features such as Last Number Redial, and Saved Number Redial, the TD-824i digital telephone system will select from the Dial 9 CO Line group if the line originally used for the call is busy.

Programming

Form 05-04-02, Dial 9 CO Line Group Access must be enabled in order for this to be available on the system. The valid options for this are 0=No Dial 9 capability, 1=Dial 9 capability is enabled.

Note: The status of Form 05-04-02 controls only the ability to dial 9 (or [0], see Form 05-06-05, listed below). CO line groups (Form 36-[group]-[CO]) should still be programmed in order to provide DSS key access for outgoing calls, Saved Number Redial, Speed Dial and Last Number Redial see also DSS Access to Other CO Lines on page 84 of this document.

Form 05-06-05, Operator Code determines whether the access code for outside trunk groups is 9 or 0. Valid settings are 0=[(9=Line Group access) (0=System Operator)] and 1=[(0=Line Group access) (9=System Operator)].

Note: CO lines may appear in any and/or all CO line groups.

Form 41-[station]-04. Dial 9 CO line group assigns one of the eight CO line groups programmed on Form 41 to an individual station.

Operation

1. Lift handset or press [SPK] button (optional for digital telephone sets).
2. Dial 9. Station will be connected to the first CO line in the Dial 9 group to which it is assigned. If all lines in a group are in use, the station user will hear busy tone.

Dial Pulse to DTMF Conversion

Description

In some installations where the serving Central Office is Dial Pulse, it may be necessary to provide end-to-end DTMF signaling after the initial pulse dialing instructions are sent to the Central office. This may occur due to the need to access external voice mail, banking services, or other services requiring DTMF signaling. In those instances it is not desirable to send both Dial pulse and DTMF tones over the circuit. Dial Pulse to DTMF conversion simply deactivates the conversion process, so that dial pulse conversion is removed from the CO line.

Conversion will only work on CO lines that are defined as Pulse dialing in the Line Specifications, Form 35. Once pulse dialing has been disabled, it cannot be re-enabled for the duration of the telephone call.

Conditions

Conversion of dialing signals to DTMF can occur during manual dialing and it may also be programmed as a part of a speed dialing string. This feature does not apply to Central Office lines programmed on Form 35-[CO]-02 for default output of DTMF.

Programming

1. TD Series digital telephone systems allow control of the Make/Break Ratio through Form 05-03-01 and is selectable as either 0=33/67 or 1=40/60.
2. The default dialing mode (DTMF or pulse) is programmable on a per trunk basis through Form 35-[CO]-02 and is selectable as either 0=Pulse or 1=DTMF.
3. The DTMF tone duration time is programmable for the telephone system on Form 05-01-07. Acceptable entries are listed in the table below:

DTMF Generation Time (05-01-07)		0=48 milliseconds	1=64 milliseconds
2=80 milliseconds	3=100 milliseconds	4=114 milliseconds	5=132 milliseconds
6=156 milliseconds	7=164 milliseconds	8=180 milliseconds	9=196 milliseconds

Operation

For manual dialing:

1. Access a CO line.
2. Dial normally.
3. At the point where DTMF is required, press [MSG].
4. All digits dialed after step 3 will be DTMF.

For speed dialing:

1. Program the speed dial number normally.
2. At the point where DTMF is required, press [MSG].
3. Continue dialing digits to be stored.
See also, Speed Dialing. Page 161.

Dial Tone Detector

Description

Dial Tone Detection on the Superkey system is programmable to meet most installation requirements. Under most conditions, dial tone detection is desirable to provide system supervision of speed call, last number redial and saved number redial. With the dial tone detector enabled, the system will normally wait for Central Office Dial tone before outpulsing digits. In some cases, where dial tone is either not provided, or not at consistent volume level or frequency levels, the dial tone detector may cause unnecessary delays in dialing. In those situations, it may be desirable to disable the dial tone detector and utilize the time controlled pause character for speed dial entries.

Conditions

None.

Programming

Dial Tone Detector is programmed on Form 05-05-06. The valid settings for Dial Tone Detector are:

Dial Tone Detector, (Form 05-05-06)	0=Enabled	1=Disabled
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Operation

Operation is automatic.

Note: If your local telephone company is using a new technology Digital Central office, you may safely disable the dial tone detector. The dial tone detector is primarily used in areas served by older "Stepper" or electro-mechanical "crossbar" central offices, where dial tone may be subject to delay, due to lack of telephone company resources.

Direct In Line

Description

Direct In Lines are CO lines that ring at a station other than the designated system operator. Depending on system programming, direct in lines may or may not appear on one or more telephones within the system.

Conditions

Direct In Lines may be designated during day service, night service, or during both periods.

Programming

Incoming Ringing:

Form 01-[CO line], Day Ringing Assignment provides the capability to program up to 16 stations to ring for each incoming CO line. This form controls ringing during the day service interval of operation. For a direct in line, only the individual station that is to ring should be programmed.

Form 02-[CO line], Night Ringing Assignment provides the capability to program up to 16 stations to ring for each incoming CO line. This form controls ringing during the night service interval of operation. For a direct in line, only the individual station that is to ring should be programmed.

Form 35-[CO line]-07 Determines the type of ringing pattern to use on each trunk during day service. For direct in lines, this parameter should be set to [0], Common Audible.

Form 35-[CO line]-08 Determines the type of ringing pattern to use on each trunk during night service. For direct in lines, this parameter should be set to [0], Common Audible.

It may be required in some cases to have a DSS appearance of the CO line on one station only. If this is the case, the station where the line is to appear should have its own Flexible Key Group Assignment (Form 07) created. There are eight available Key Group Assignments within the TD-824i system. The CO line should not appear in any other assigned Key Group Assignment. The key group should be assigned to the station on Form 41 (Station Specifications).

Direct Inward System Access (DISA)

Description

DISA provides outside callers with the ability to directly dial extensions within the telephone system or access specialized telephone lines and make outgoing calls without attendant intervention. Maintenance personnel may use the DISA feature to make program changes from a remote location such as their service center. DISA callers may access speed dial, "dial 9" CO line groups, individual CO lines, system operator and may also invoke the monitor feature for specific stations or either of the two door phones. There are a number of timers associated with DISA to provide the most effective service for calling parties.

DISA calls to internal stations are programmable for full supervision during every phase of the call. If an inbound DISA caller fails to dial any digits, insufficient digits or invalid digits, the caller will be routed to an Attendant Operator. Once the digits are verified to be a valid station number, the call proceeds to the station. At this point, there is an option to forward the call to the operator if the station is busy, does not answer, if the station is either busy or doesn't answer, or to not forward to the operator at all. This function is controlled by Form 46-STN-04 (DISA Recall Capability to Operator), as described below. If the dialed station is programmed to recall to the operator, the software will activate both a counter and timer as defined in Form 05-08-06 (DISA No Answer Recall Timer). If no recall to the operator is set, the call will queue for the period of time as defined for this timer, and will cycle through the counter as depicted in the DISA flow chart in Appendix A of this document.

Conditions

In order to use DISA, the outside party must be calling from a DTMF telephone.

DISA must be active on the TD-824i digital Telephone System.

When using DISA to access another outside, call duration is limited to six (6) minutes. Warning tone will notify user of timeout ten seconds prior to system disconnect. User can press a numeric (0-9) DTMF digit to extend the timer in six minute increments or do nothing and allow system disconnect. DISA calls made to internal stations are not limited in duration.

Dialing [*] at any point in the DISA call causes immediate disconnect.

DISA and External Call Forwarding on a CO line are mutually exclusive.

If DISA callers fail to enter any digits, they will be transferred to the operator after 15 seconds.

If a DISA caller dials insufficient digits the call will be transferred to the operator 7 seconds after the last entered digit.

Programming

Form 35-[CO]-04, CO Line Specifications. DISA must be enabled during the time period to be utilized. DISA may be enabled during day service only, night service only, both day and night service, or DISA may be disabled at all times. The table below shows the valid settings and the resulting status for the CO line:

35-[CO]-04	Day Status	Night Status
0	Disabled	Disabled
1	Disabled	DISA Enabled
2	DISA Enabled	Disabled
3	DISA Enabled	DISA Enabled
4	Disable	ECF Enabled
5	ECF Enabled	Disabled
6	ECF Enabled	ECF Enabled
7	DISA Enabled	ECF Enabled
8	ECF Enabled	DISA Enabled

Form 05-01-04, Delay DISA Access determines how long the incoming CO line will ring before it is answered by DISA. The parameters are listed below:

Delayed DISA Access Form 05-01-04		0=1 second	1=3 seconds
2=5 seconds	3=7 seconds	4=9 seconds	5=16 seconds
6=31 seconds	7=61 seconds	8=121 seconds	9=255 seconds

DISA Recall No Digits Dialed, Form 05-07-04 determines the recall path, if any for a DISA call when an incoming caller does not dial digits. If No Recall is selected on Form 05-07-04, the call will be disconnected when the No Digits Dialed Timer (Form 05-08-07) expires. The valid options are:

05-07- 04 - DISA Operator Recall Capability (No Digits Dialed)			
Setting	Situation		
	No dialing after the first voice announcement from the VSU.	The VSU has announced that the called station is busy or no answer	The VSU has already announced the invalid number or a dialed number that has not been received completely.
0=	*	*	*
1=	T	*	*
2=	*	T	*
3=	T	T	*
4=	*	*	T
5=	T	*	T
6=	*	T	T
7=	T	T	T
Note	“*” = Transfer the incoming call to console “T”=System will announce VSU function 06 (if programmed) to the incoming call if no digits dialed timer has expired. System releases call (hangs up).	“*”=See Form 46-ST-04 “T”=See Form 46-ST-04. If 46-ST-04 is no recall to operator, VSU function 06 will be played to the caller (if programmed). System will release call (hang up).	“*”= System will transfer incoming caller to system operator if 05-08-07 has expired. “T”=System will play VSU function 06 (if programmed) to the caller if 05-08-07 has expired. System will release the call (hang up).

DISA Transfer Group , Form 05-08-04 determines the routing for a DISA call that reaches a non-answering station. With this option, the DISA call can be sent to the console assignment group of either the CO line or the console assignment of the unanswered station. Valid settings are:

DISA Transfer Group Form 05-08-04
0=Recall to Console Group of the Unanswered Station
1=Recall to Console Group of the CO line group

DISA Transfer Timer, Form 05-08-06, in conjunction with the counters as shown on the DISA flow chart, determines the length of time that the system software will attempt to ring the station user. Valid settings for this option are as follows:

DISA Transfer Time (No Answer) (Form 05-08-06)		0=8 seconds	1=16 seconds
2=24 seconds	3=32 seconds	4=40 seconds	5=48 seconds
6=56 seconds	7=64 seconds	8=72 seconds	9=80 seconds

DISA Transfer Time (No Digits Dialed), Form 05-08-07 determines how long the system will wait for digits to be dialed after a recording has been played. In systems without a Voice Service unit, this determines the total time the system will wait for digits to be dialed before it is referred to Form 05-07-04 for further action. Valid settings are:

DISA Transfer Time (No Digits Dialed) (Form 05-08-07)		0=No expiration timer invoked	1=1 second
2=2 seconds	3=3 seconds	4=4 seconds	5=5 seconds
6=6 seconds	7=7 seconds	8=8 seconds	9=9 seconds

Form 05-11-04, DISA Queue Immediate Answer provides control to determine if the caller will be queued until the VSU is available (used for most automated attendant applications) or if the caller will be answered as soon as the DISA delay answer time expires (used for most applications where a VSU is not installed). If queuing is not selected and a VSU is present, if the DISA delay timer expires and the VSU is not available, the outside caller will be connected to system dial tone. Valid settings are:

DISA Queue Immediate Answer, Form 05-11-04
0=Immediate Answer (User will hear dial tone if VSU is not available or absent).
1=Queue call until VSU is available

DISA Transfer Count (Console Busy/No Answer) Form 05-11-06 determines the number of times that the system will cause the caller to cycle through the Voice Service Unit messaging cycle as depicted in Appendix A of this document. Valid settings for this option are:

DISA Transfer Count (05-11-06)		0=2 times	1=3 times
2=4 times	3=5 times	4=6 times	5=7 times
6=8 times	7=9 times	8=10 times	9=infinite times

DISA Recall on No Answer/Busy (Form 46-Station-04) determines the disposition of a DISA call when the called station is either Busy or does not answer. Valid settings for this options are:

DISA Recall-No Answer/Busy (46-ST-04)		0=No Recall
1= Recall on No Answer	2=Recall on Busy	3=Recall No Answer/Busy
5= Recall on No Answer and discontinue ringing the called station		
6=Recall on busy and discontinue Busy Remind (Camp On) Tone		
7=Recall on No Answer/Busy and discontinue notification as per 5 and 6 above.		

Using DISA to reach an operator or internal station:

1. Outside user calls DISA telephone line.
2. TD-824i digital telephone system answers and provides Superkey intercom dial tone.
3. Outside user dials 0 for operator or internal station number.
4. Internal station number is rung if available or returns BUSY tone to outside caller.
5. If internal station answers, call proceeds normally.
6. If internal station is BUSY, outside caller can dial [#] to receive new intercom dial tone or [*] to disconnect from the system.

Using DISA to dial Speed call number:

1. Outside user calls DISA telephone line.
2. TD-824i digital telephone system answers and provides Superkey intercom dial tone.
3. Outside user dials [#]+ [SPEED DIAL CODE]+[DISA PASSWORD].
4. If the DISA Password entered by the outside user is correct, the system will access the outside line or line group and dial the speed dial number stored in the speed dial location entered. The call is then dialed out.
5. If a busy condition or no answer is encountered, the DISA user can dial [#] to receive new CO dial tone or [*] to disconnect from the system.

Using DISA to access a dial 9 CO line group:

1. Outside user calls DISA telephone line.
2. TD-824i digital telephone system answers and provides Superkey intercom dial tone.
3. Outside user dials 9 + DISA password. If correct, the system will connect outside caller to CO line and allow outside user to dial out.
4. If a busy condition or no answer is encountered, the DISA user can dial [#] to receive new CO dial tone or [*] to disconnect from the system.

Using DISA to access a specific outside line:

1. Outside user calls DISA telephone line.
2. TD-824i digital telephone system answers and provides Superkey intercom dial tone.
3. Outside user dials 80X (1-8) + DISA password. If correct, the system will connect outside caller to CO line and allow outside user to dial out.
4. If a busy condition or no answer is encountered, the DISA user can dial [#] to receive new CO dial tone or [*] to disconnect from the system.

Using DISA for remote programming:**Outside user calls DISA telephone line.**

TD-824i digital telephone system answers and provides Superkey intercom dial tone.

Outside user dials #0 + Program password. If correct, the system will connect modem tone to the caller, indicating the system is prepared for a program session.

Using DISA for remote station monitoring:

1. Outside user calls DISA telephone line.
2. TD-824i digital telephone system answers and provides Superkey intercom dial tone.
3. Outside user dials 87 + Monitor password +station number. If correct, the system will connect the DISA caller to the called station provided the called station is equipped with a speakerphone. The monitored station has no indication that it is being monitored. NOTE that this connection is a two way talk path.

Using DISA for remote Door Phone monitoring:

1. Outside user calls DISA telephone line.
2. TD-824i digital telephone system answers and provides Superkey intercom dial tone.
3. Outside user dials 88 for door phone 1 or 89 for door phone 2 + Monitor password. If correct, the system will connect the DISA caller to the called door phone. NOTE that this connection is a two way talk path.

See also CO Line programming on page 47 of this document.

See also Passwords on page 135 of this document. DISA Password. Default is 3472 (DISA on keypad). Monitor password is 13-04.

See also DISA Special Function Access, page 75 of this document.

See also Appendix A - DISA Detailed Description in this document.

Direct Station Selection (DSS)

Description

TD Series digital telephone systems and the multi line telephones are based on fully programmable keys. In most applications, some or all of the field of keys will be utilized as direct station selection buttons. Due to the fully programmable nature of TransTel digital telephones, otherwise unused keys on the telephone sets may also be used as DSS keys.

Direct Station Selection (DSS) permits telephone sets to directly call selected stations by a single keystroke. In addition, a visual indicator is provided as to the status of selected telephone stations through the illumination of the push buttons to indicate off hook or do-not-disturb conditions.

Pressing a DSS key replaces the need to manually dial a station number in the system.

Conditions

1. DSS and busy indication are only provided to digital telephone sets with buttons programmed as DSS keys.
1. On off hook station or a station in Do Not Disturb is indicated by illumination of the corresponding pushbutton.
2. If a station is transferring a call, pressing a DSS button automatically places the initial call on hold.

Programming

Form 07-[group]-[key] allows programming of each of the DSS keys on a digital telephone set. The system supports up to eight groups of keys. Any group of keys may be assigned to any number of telephone sets.

Each key may be programmed as a CO line, a Direct Station Selection key, or a special function key.

The valid settings are listed below:

Feature Key	Feature Number
TK: xx	CO Lines 01 - 16
XXXX	Any Valid Station Number
0000	Null Key
1A2 Emulation Privacy	24
Account Code Forced	09
Alarm Assign	47
Caller ID History Key	32
Call Forward	53
Call Pickup Own Group	35
Call Pickup All Groups	36
Call Pickup Group	37
Call Pickup Group 1	38
Call Pickup Group 2	39
Call Pickup Group 3	40
Call Pickup Group 4	41
Call Pickup Group 5	42
Call Pickup Group 6	43
Call Pickup Group 7	44
Call Pickup Group 8	45
Date / Time Set up (Console)	50
Do Not Disturb/Conference	02
Directory Key	62
Day/Night Key	52
Door Phone	60
Hotel/Motel	59
Lock/Unlock Station	14
Lock Override (One Call)	16
Message Waiting / P/T	03
Microphone / Auto Answer	04

Paging All Internal	20
Paging All External	21
Paging All Internal/External	22
Paging External 1	33
Paging Internal Zone	23
Paging Internal Zone 5	28
Paging Internal Zone 6	29
Paging Internal Zone 7	30
Paging Internal Zone 8	31
Page Meet Me	56
Program Key	01
One Touch Speed Dial Key	00
Redial	07
Save	06
Shift Key	57
Speed Dial	05
Split/Swap Key	26
Voice Mail Transfer Key	25
Voice Mail Answer Machine Emulation	27
Voice Mail Live Call Recording	34
Volume Level Setup	10

Operation

Direct Station Selection:

Press the programmed pushbutton assigned to a station. The station rings or returns busy, depending on its status.

Operation of keys other than station DSS keys, see Direct CO Line Select and Feature Function Keys.

DISA Queue Immediate Answer

Description

DISA can be implemented for a variety of reasons within a system. In some applications it will be used with a Voice Service Unit (VSU) as an automated attendant for outside callers. In others, it may be used as a "back door" for employees of a company to allow them to dial into the system and get to their desired location without operator intervention. Depending on the particular application, DISA Queue Immediate Answer will provide proper control over the call.

In applications where the system is being used as an automated attendant, it is desirable to not answer an outside call until there is a recording available to play for the outside caller. For applications where callers are not dependant upon the Voice Service Unit for dialing instructions, it is desirable to answer the call as soon as possible. DISA Queue Immediate Answer provides control of the answering protocol of the system to suit the customer's individual needs.

Conditions

DISA must be operative on the system.

Programming

See also Direct Inward System Access, page 67 of this document.

See also Voice Service Unit, page 189 of this document.

DISA Single Digit Dialing

Description

DISA Single Digit Dialing is an option that allows incoming callers to dial single digits to reach selected stations within the system or selected hunt groups. This reduces the need for complicated dialing instructions when a Voice Service Unit is used. Single Digit dialing allows selection of 5 individual stations that may be dialed by entering the digits [1] through [5]. Users who are familiar with the system may bypass the single digit dialing mode and dial other stations by dialing [6] + the station number of the station they wish to call. For more information, also see Single Digit Dialing, page 152 of this document.

DISA Single Digit Dialing must be programmed on the system.

Programming

The CO line must be programmed for DISA operation. For more information on programming DISA, see Direct Inward System Access (DISA) on page 67 of this document.

Form 05-11-08 determines if DISA Single Digit Dialing is enabled on the system and if enabled, which Single Digit Dialing Table will be used when a DISA call is active. Valid settings are listed in the following table:

05-11-08 - DISA Single Digit Dialing	
This feature allows a DISA caller to dial stations by 1 digit (1-5) using the settings in Form 10-gp-IP to set which station will be dialed by each digit	
	0=No Single Digit Dialing
1=Single Digit Group 1	2=Single Digit Group 2
3=Single Digit Group 3	4=Single Digit Group 4
5=Single Digit Group 5	6=Single Digit Group 6
7=Single Digit Group 7	8=Single Digit Group 8

Form 05-11-08 determines if DISA Single Digit Dialing is enabled on the system

Form 10 Assigns the stations that will be called under Single Digit Dialing. There are eight groups within the system. The one(s) used for DISA are assigned on Form 05-11-08 as defined above. For more information on Form 10 and Single Digit Dialing, see page 152 of this document.

Operation

When an incoming DISA call is answered by the system the VSU greeting message (if equipped) will be played. If the DISA line is programmed for Single Digit Dialing, the system will route the incoming caller when the first digit is entered by the caller. For more information on call flow, please see Appendix A of this document for flow charts that depict call flow under DISA.

DISA Special Function Access

Description

DISA (Direct Inward System Access) Special functions provide control over the special dialing characteristics normally reserved for DISA use. Available options control the special dialing capabilities of the DTMF digits [8], [9], [*], and [#]. These digits are normally used for specific DISA purposes within the Superkey system. It may be required to utilize these digits in conjunction with other peripheral equipment. In such conditions, the special operation of the digits may cause conflict with other peripheral equipment. This allows the special functions to be selectively disabled in system programming.

Conditions

DISA must be operative on the system. For more information on DISA, see page 67 of this document.

Programming

Form 05-11-05 provides the means to control the use of special digits. Available settings are:

0=Allow users to access DISA special functions by pressing [8],[9],[*],[#].

This is the normal setting as described on page 67, Direct Inward System Access in this document and is the default setting.

1=Allow users to access DISA special functions by pressing [*],[#].

Disallow users to access DISA special functions by pressing [8],[9].

(This setting allows DISA callers the ability to access new dial tone [#] and to allow immediate disconnect of DISA calling [*]). Outside CO access is prohibited on this setting, other than CO access through the use of Speed Calling [#]+[Toll Password]+ Speed Call Entry)

2=Allow users to access the DISA special functions by pressing [8],[9].

Disallow users to access the DISA special functions by pressing [*],[#].

(This setting allows access to outside CO lines, but does not recognize [*] and [#] as special characters. This setting may be beneficial if callers to the system access voice mail via DISA, where [*] or [#] may be control codes for voice mail equipment. A setting of 0 or 1 will cause a disconnect from the DISA circuit when the [*] digit is dialed).

3=Disallow users to access the DISA special functions by pressing [8],[9],[*],[#].

(This setting will only allow DISA callers to utilize inward dialing capabilities to access stations within the system. This provides an extra measure of security to prevent possible toll fraud. The digits [8], [9], [*] and [#] will act only within the internal dialing plan of the system and will not provide users with the ability to access any outside lines. They will also have no supervisory control of their own call, other than DISA to station dialing).

Operation

Operation is dependent upon the programming listed above.

Distinctive Ringing

Description

Through the use of separate, identifiable ringing patterns, station users can determine the type of call ringing at their telephone set. Separate ringing cadences are provided for Intercom calls, CO Line Incoming calls and HOLD recall.

Conditions

The ringing cadence is determined by the type of call.

Programming

None

Operation

None

Do Not Disturb

Description

Do Not Disturb makes a telephone unavailable for intercom calls and incoming CO telephone calls.

Conditions

1. In order to utilize Do Not Disturb, a digital set must have the [DND/CN] pushbutton programmed on the telephone set.
2. A station with Do Not disturb invoked will appear on all busy lamp indications as if it is off hook.
3. While a station user is in Do Not Disturb, the [DND/CN] button on the telephone set will flash. (TransTel digital telephone sets).
4. Any intercom call to a Do Not Disturb station will receive a different cadence from a normal busy cadence. This is in order to advise the calling station that the called station is not actually busy, but has Do Not Disturb invoked. Digital telephone sets equipped with an LCD display will also receive a message on the LCD indicating that the called station is in Do Not Disturb mode.
5. If a station is programmed as a ringing station for Door Phones, the station will not ring when the door phone button is activated.

Programming

None

Operation

1. From a digital telephone set:
2. Press [DND/CN] to invoke Do Not Disturb. The [DND/CN] pushbutton will light.
3. Press [DND/CN] to remove Do Not Disturb. The [DND/CN] pushbutton will extinguish.

From a single line telephone:

To activate:

1. Lift Handset.
2. Dial [7],[0],[5],[1] to activate Do Not Disturb.
3. Hang up telephone.

To cancel:

1. Lift Handset.
2. Dial [7],[0],[5],[2] to cancel Do Not Disturb.
3. Hang up Telephone.

Do Not Disturb Override

Description

This feature allows a station to ring a telephone set that is in the Do Not Disturb mode.

Conditions

The station performing the override must have the capability programmed in its Class Of Service.

Programming

Form 40-[station]-01, Override Level. This parameter determines the override capabilities of a station. A Station with an assigned number can override a station with an equal or lower override level number.

Operation

1. A user calls a station with Do Not Disturb invoked. The user hears Do Not Disturb tone cadence (special busy).
2. The user dials [0].
3. If the system is programmed for Voice announce intercom, the station in Do Not Disturb will hear a short tone and then the user will be able to make a voice announcement. If the system is programmed for handset to handset intercom, the station in Do Not Disturb will ring.

Note: This feature is controlled by the same parameters as Barge-In.

Door Phone Interface

Description

The door phone interface allows connection of a door phone unit to the TD Series digital telephone system. Each Single Line Station Card will accommodate (1) door phone interface. An alternative to the traditional Door Phone interface is the Access Control Phone that attaches to a digital station port. For more than one Doorphone and additional information see Access Control Phone.

Conditions

Requires connection to door phone(s) to become operable.

Programming

Form 03- Doorphone Station ring assignment
 Form 05-03-08- Doorphone Ring Pattern
 Form 05-11-07- Doorphone Ring Time Duration
 Form 05-12-04- Door Phone Relay Activation Timer
 Form 46-ST-06- Station unlock access
 Form 06-01-fn- Relay Assignment for Doorphone

Ring Stations- Form 03-[Door phone #]-[station(s)], Door Ring Assignment must be programmed to select the stations that will ring when the door phone pushbutton is pressed. The door phone can have up to eight stations assigned to ring when the door phone pushbutton is pressed.

Ring Pattern- Form 05-03-08 parameter allows for different ring patterns for assigned ringing stations when the doorphone is activated.

05-03-08 -Doorphone Ringing Frequency.		
This parameter allows for different ring patterns for the Door Phone		
0= continuous ringing	1~8 = ring frequency of the DK telephone	9= Background Music

Ring Duration- The length of the ringing signal for Door Phone notification is programmable. Form 05-11-07 provides control of the length of time. Default is 10 seconds. Valid settings are:

05-11-07 - Door Phone Ring Timer				
This parameter sets the time that Door Phone ring assigned stations will ring for when the Door Phone button is pressed.				
0=5 seconds	1=10 seconds	2=15 seconds	3=20 seconds	4=25 seconds
5=30 seconds	6=35 seconds	7=40 seconds	8=45 seconds	9=50 seconds

Relay Activation- If it is necessary to control a latch release or other switching device in conjunction with a door phone, Form 06-[Relay#], Relay Assignment must be set to 02 to be associated with door phone. The TD-MSC card has 1 dry contact relay.

No voltage is provided by the system, the installer will have to provide their own source to suit the application. Only use the relays to switch 24V. They are only designed for low voltage control circuits. All Relays are Normally Open contacts and will close on activation of the function for which they have been programmed.

Assign the required Relays one of the following functions.

Valid Settings (06-01)	
00=Non-Operational (Default)	04=CO Line Loud Bell
01=Music On Hold	05=Station Loud Bell
02=Door Latch Release	06=System Alarm

Door Unlock Relay Activation Time- Form 05-12-04

05-12-04 – Door Relay Activation Timer

This parameter sets the time that the door unlock relay will remain activated after the Door Unlock function is activated by the user. The Door unlock relay is programmed in Form 06

0=1 second	1=2 seconds	2=3 seconds	3=4 seconds	4=5 seconds
5=6 seconds	6=7 seconds	7=8 seconds	8=9 seconds	9=10 seconds

Door Unlock Access-Form 46-ST-06 defines whether or not a station user has the authority to use the unlock feature.

Feature	0	1	2	3	4	5	6	7
Door Unlock	D	A	D	A	D	A	D	A
Do Not Disturb	D	D	A	A	D	D	A	A
Call Forward	D	D	D	D	A	A	A	A

D= Disallow A=Allow

Operation

See Door Phone, Page 81 of this document.

Door Phone

Description

Optional device that connects to TD Series telephone system. Provides the ability to call pre-programmed stations. The door phone functions as a doorbell and intercom. Allows station users to carry on a conversation with anyone located near the door phone. Common uses include installations on shipping docks and security doors.

Conditions

One door phone is supported and may be installed per system.

Up to eight (8) stations can be programmed to ring in response to each door phone button.

All telephones in the system can call door phones.

Programming

Form 03-01-[station(s)], Door Ring Assignment assigns stations to ring (up to eight stations) when door phone #1 button is pressed.

Form 05-03-08- Doorphone Ring Pattern

Form 05-11-07- Doorphone Ring Time Duration

Form 05-12-04- Door Phone Relay Activation Timer

Form 46-ST-06- Station unlock access

Form 06-01-fn- Relay Assignment for Doorphone

Ring Pattern- Form 05-03-08 parameter allows for different ring patterns for assigned ringing stations when the doorphone is activated.

05-03-08 -Doorphone Ringing Frequency.		
This parameter allows for different ring patterns for the Door Phone		
0= continuous ringing	1~8 = ring frequency of the DK telephone	9= Background Music

Ring Duration- The length of the ringing signal for Door Phone notification is programmable. Form 05-11-07 provides control of the length of time. Default is 10 seconds. Valid settings are:

05-11-07 - Door Phone Ring Timer				
This parameter sets the time that Door Phone ring assigned stations will ring for when the Door Phone button is pressed.				
0=5 seconds	1=10 seconds	2=15 seconds	3=20 seconds	4=25 seconds
5=30 seconds	6=35 seconds	7=40 seconds	8=45 seconds	9=50 seconds

Relay Activation- If it is necessary to control a latch release or other switching device in conjunction with a door phone, Form 06-[Relay#], Relay Assignment must be set to 02 to be associated with door phone. The TD-MSC card has 1 dry contact relay.

No voltage is provided by the system, the installer will have to provide their own source to suit the application. Only use the relays to switch 24V. They are only designed for low voltage control circuits. All Relays are Normally Open contacts and will close on activation of the function for which they have been programmed.

Assign the required Relays one of the following functions.

Valid Settings (06-01)	
00=Non-Operational (Default)	04=CO Line Loud Bell
01=Music On Hold	05=Station Loud Bell
02=Door Latch Release	06=System Alarm

Door Unlock Relay Activation Time- Form 05-12-04

This parameter sets the time that the door unlock relay will remain activated after the Door Unlock function is activated by the user. The Door unlock relay is programmed in Mode 06.

05-12-04 – Door Relay Activation Timer				
This parameter sets the time that the door unlock relay will remain activated after the Door Unlock function is activated by the user. The Door unlock relay is programmed in Form 06				
0=1 second	1=2 seconds	2=3 seconds	3=4 seconds	4=5 seconds
5=6 seconds	6=7 seconds	7=8 seconds	8=9 seconds	9=10 seconds

Door Unlock Access-Form 46-ST-06 defines whether or not a station user has the authority to use the unlock feature.

Feature	0	1	2	3	4	5	6	7
Door Unlock	D	A	D	A	D	A	D	A
Do Not Disturb	D	D	A	A	D	D	A	A
Call Forward	D	D	D	D	A	A	A	A

D= Disallow A=Allow

Operation

To place a call from a door phone.

1. Press door phone button. Pre-programmed stations ring.
2. Ringing stations may answer the door phone by going off hook. Non ringing stations must answer the door phone by dialing 88.
3. Door phone acts as speaker phone for duration of call. Door phone is under control of answering station.

To call door phone from any station.

1. Station user goes off hook or activates speaker phone (if equipped).
2. Station user dials 88 to reach door phone.

See also, Door Phone Controlled Switch, page 83 of this document.

Door Phone Controlled Switch

Description

If required, the TransTel digital telephone system can be configured to provide control of a door latching device in conjunction with door phones. During conversation with a door phone, a user can dial 0 to activate the door relay. Applications include limited access (secure) doors.

Conditions

Station user must be in conversation with the associated door phone.

Door phone controlled switch must be programmed and associated with a door phone.

Programming

Form 06-[relay] must be programmed to associate a relay with the door phone to be activated. See also, Relay Assignment, page 142 of this document.

Operation

While in conversation with a door phone, press [0]. The associated door phone relay will activate for a programmable period of time (05-12-04) seconds

DSS Access to Other CO Lines

Description

DSS Access to other lines determines if stations will have the ability to access CO lines that are not specifically assigned to a station through the dial 9 CO line group or the Dial 87 group. This applies only to outgoing access. If this option is enabled, a station may access a CO line that is not assigned to the station's dial 9 CO line group or dial 87 CO line group by pressing the CO line pushbutton on the telephone set.

Incoming access is not controlled by this option.

Conditions

If enabled, a station may access any CO line in the station's dial 9 CO line group by pressing the line key associated with the line. It may also access any line that appears on a line key on the station that is not in the CO line group.

If disabled, a station may access any CO line in the station's dial 9 CO line group by pressing the line key associated with the line. The station may not access a line that appears on the telephone set that is not in the station's dial 9 CO line group.

Programming

DSS Access to other CO lines, Form 05-08-02 controls whether a station may access CO lines positions that are not a member of the station's dial 9 CO line Group for outgoing calls. Valid settings are:

05-08-02 - Direct CO Access	
This feature enables or disables the ability of stations to use a DSS key to answer Ringing CO lines not in their own dial 9 group.	
0=Disable	1=Enable

CO Line Group Assignment, Form 36-[group]-[CO] is used to associate individual CO lines with a CO line group. There are eight available groups in the system. Each CO line can be a member of multiple groups. See also, Line Group Assignment, page 115 of this document.

Station Dial 9 CO Line Group, Form 41 -[station]-04 determines which CO Line group is assigned to an individual station. The entry in this field is one of the valid programmed groups from Form 36 -[group]-[CO]. A station will have access to every CO line programmed in the corresponding group from Form 36. See also, Line Group Assignment, page 115 of this document.

Form 05-04-02 , Dial 9 CO Line Group Access must be enabled in order for stations to be able to dial [9] to directly access the line group programmed on Form 41 -[station]-04. If this option is not enabled, stations will be able to access CO lines within their own dial 9 group by direct pushbutton (DSS) access or by direct CO line access code. The status of this option does not affect the operation of DSS Access to other CO lines, Form 05-08-02 .

Operation

If enabled, a station will have outgoing access to any CO lines that appear on that telephone set. A station user will be able to access any appearing line by pressing the line key (DSS) for that line.

TD-824i If enabled, a station will be able to access outgoing lines by dialing 80+ the line number (from 1 to 8). The station will be connected to the CO line if it is enabled, whether it is in that station's dial 9 group or not.

TD-1648i If enabled, a station will be able to access outgoing lines by dialing 8+ the two digit line number (from 01 to 16). The station will be connected to the CO line if it is enabled, whether it is in that station's dial 9 group or not.

If disabled, a station user will have outgoing access only to those CO lines that are contained in the station user's dial 9 CO line group.

DTMF Signaling

Description

DTMF (Dual Tone Multi-Frequency) dialing, is the default method of dialing digits. DTMF dialing has the advantage of placing calls more rapidly and more accurately than dial pulse (DP) signaling. TD-824i digital telephone systems are equipped to allow selection of the dialing type to be used for each individual CO or PABX line. In applications where some CO lines are dial pulse and others are DTMF, the system can be programmed to dial the correct type on each line.

In locations where Dial Pulse is the only method of dialing accepted by the CO lines, the TD-824i digital telephone system can dial digits using dial pulse and then change to DTMF signaling for subsequent digits. This is advantageous in any situation where the local CO lines require pulse signaling, but end-to-end signaling is required after the called party answers. Examples of this are remote voice mail, Interactive voice message services, automated banking systems, and alternative long distance carriers. See also Dial Pulse to DTMF conversion, page 64 of this document.

Conditions

DTMF is automatically generated when any TD-824i digital telephone set accesses a CO line that is defined as DTMF signaling on Form 35 -[CO]-02.

DTMF can be generated when a TD-824i digital telephone set is on a line defined as pulse dialing when the [Pulse to Tone] key has been pressed.

Single Line Telephones equipped for DTMF dialing will dial normally on CO lines defined on Form 46 [CO]-02 as DTMF.

Single Line Telephones equipped with Pulse dials will cause the system to perform pulse to tone conversion on CO lines defined as DTMF on Form 35 -[CO]-02.

Note: Single Line Telephones equipped for DTMF dialing that access CO lines programmed on Form 35 -[CO]-02 as Pulse lines will outpulse DTMF on the CO line. Pulse conversion provided by the TD-824i digital telephone system will also be outpulsed on the CO line. It is important that CO lines able to accept DTMF dialing be programmed as DTMF equipped. CO lines with DTMF sensitivity that are programmed for pulse dialing will provide unreliable dialing if used with DTMF single line telephones.

Programming

Form 35 -[CO]-02 must be programmed as [1] for each CO line able to accept DTMF signaling, in order to provide DTMF signaling as the default method of dialing.

Form 05-01-07, DTMF Generation Time must be programmed to provide DTMF tone duration equal to or greater than the minimum time required by the local telephone company Central Office. Valid settings for Form 05-01-07 are listed below:

05-01-07. DTMF Generation Time:				
This parameter permits the selection of DTMF Generation output time. The generation time may need to be lengthened to access some Voice Mail or answering machines.				
0=48 ms.	1=64 ms.	2=80 ms.	3=100 ms.	4=114 ms.
5=132 ms.	6=156 ms.	7=164 ms.	8=180 ms.	9=196 ms.

Operation

On CO lines defined as DTMF (Form 35 -[CO]-02), operation is automatic.

On CO lines defined as Pulse (Form 35 -[CO]-02), conversion to DTMF signaling is activated by pressing the Pulse to Tone key from TD-824i digital telephone sets..

See also Dial Pulse to DTMF Conversion on page 64 of this document.

Environment Monitor

Description

Environment Monitor allows a TD-824i digital telephone to monitor the ambient room audio of another TD-824i digital telephone equipped with a speaker phone.

Conditions

In order to invoke an Environment Monitor, the station requesting the monitor must have a higher monitor classification than the station to be monitored.

It is suggested that this function be invoked on stations that are equipped with speaker phone capability.

It is not recommended that Environment Monitor be used on single line telephones.

A telephone set to be used as an Environment Monitor must be idle.

Programming

A station that is to perform monitoring must have Form 40-STN-02 set at a level (1-9) that is higher than the station it is to monitor.

Any station to be monitored must have Form 40-STN-02 set a level (0-8) that is lower than the station that will invoke the monitor.

Operation

1. Dial [7],[7],[4] Dial the station number to be monitored.
2. If the station is idle, you will be connected to the station. The monitored station's Microphone will be activated.
3. If the station goes off hook for any reason, the monitor will be terminated

Note: Environmental monitor is a one way audio path

Executive Override (Barge-In)

Description

This feature allows a station user to intrude into the conversation of another station and/or CO line.

Conditions

In order for a station to override a station in conversation with a CO line, it must have the same or higher override capability.

To override an intercom call, the overriding station must have an override level that is equal to or greater than BOTH stations in the conversation.

Programming

Form 40 -[station]-01, Override Level. This parameter determines the override capabilities of a station. A Station with an assigned number can override a station with the same or lower override level number.

Operation

1. A station user dials a busy extension (or presses [DSS] key) or CO line key.
2. Busy tone is returned.
3. To override, press [0].
4. If the override level of the station initiating the barge-in is the same or higher than both the station being overridden and the other conversing station, the barge-in is allowed (if both parties are internal).
5. An intrusion tone is sounded to notify the conversing parties of a pending override. If equipped the overridden party will show an indication that it is being overridden.
6. The overriding party is allowed into the conversation.

External Call Forwarding

Description

External Call Forwarding (ECF) allows an incoming CO line to be re-directed to another location through the use of another CO line. When a CO line senses incoming ringing, it answers the call and accesses another CO line. It then chooses a pre-programmed system speed dial number, dials the call and connects the two CO lines together.

Conditions

Externally Forwarded calls are subject to a call duration limit of 6 minutes. This limit may be extended by dialing any numeric DTMF digit when the expiration tone is heard (approximately 10 seconds before disconnect). This will extend the allowed duration by an additional 6 minutes.

A CO line must be available in order for an external call forward to occur.

The digit [*] can be dialed to immediately disconnect the call.

Programming

If a Voice Service Unit is present in the system, you may choose to program a message that will be played while a call is being externally forwarded. This informs the outside caller that the call is being re-routed. If the message is desired, Form 14 must have one channel programmed as a call forwarding message. For more information on this, see Voice Service Unit, page 189 of this document.

Form 46 -[CO]-03, External Call Forward Destination. In order for External Call Forwarding to operate, a speed dial number must be selected for ECF to utilize in the process of forwarding. Valid settings for this option are listed below:

ECF Destination Form 46 -[CO]-03	
0=No External Forwarding Applies	
1=ECF using Speed Dial 101	2=ECF using Speed Dial 102
3=ECF using Speed Dial 103	4=ECF using Speed Dial 104
5=ECF using Speed Dial 105	6=ECF using Speed Dial 106
7=ECF using Speed Dial 107	8=ECF using Speed Dial 108

Form 46 -[CO]-04, CO Line Specifications. ECF must be enabled during the time period to be utilized. ECF may be enabled during day service only, night service only, both day and night service, or ECF may be disabled at all times. The table below shows the valid settings and the resulting status for the CO line:

46-[CO]-04	Day Status	Night Status
0	Disabled	Disabled
1	Disabled	DISA Enabled
2	DISA Enabled	Disabled
3	DISA Enabled	DISA Enabled
4	Disable	ECF Enabled
5	ECF Enabled	Disabled
6	ECF Enabled	ECF Enabled
7	DISA Enabled	ECF Enabled
8	ECF Enabled	DISA Enabled

Form 01-01-04 Delayed DISA Answer Timer affects the operation of CO lines that are configured for either DISA operation **OR** External Call Forwarding. The system will not commence operation of External Call Forwarding until 01-01-04 expires. Valid settings for 01-01-04 are as follows:

01-01-04 - Delayed DISA Answer Time		0=1 second	1=3 seconds
2=5 seconds	3=7 seconds	4=9 seconds	5=16 seconds
6=31 seconds	7=61 seconds	8=121 seconds	9=255 seconds

Operation

Operation is automatic.

External Music Source Interface

Description

The external music source interface allows installation and maintenance personnel to connect audio devices to the telephone system for the purposes of providing music-on-hold and/or background music on electronic multi-line telephone sets. There are two independent music sources that can be used simultaneously on the TD-824i digital telephone system. The system allows selection of one source for Background Music and either source may be selected for Music-On-Hold.

Conditions

Music source(s) must have some form of volume control to adjust the level of the signal to the TD-824i digital telephone system. Input source voltage cannot exceed 1 Volt.

Programming

Selection of input music sources is found on form 05-08-08. The options are:

05-08-08 Background Music Source - Music On Hold Source
0 = Internal Source
1 = External Source

Operation

Press the pound key on your digital telephone set to activate background music.

External Paging Interface

Description

The External Paging Interface provides a method of connecting the TD-824i digital telephone system to a Public Address system. Access is gained to the paging interface via the use of a dial up code or by pressing a programmed external page button .

Conditions

The system supports one external paging output per system. Paging output is via two wire interface. Electrical specifications 600 Ω impedance output.

Programming

See programmable feature keys. Form 07. External Page key is FN:33. All Internal and External is FN:22.

Operation

Lift handset or Press [SPK]

Press # 3 or [Page] key if equipped.

Feature Selection From Help Menu

Description

LCD equipped TD-824i digital telephone sets may utilize certain features without a requirement for dedicated keys to be programmed. Within each Superkey system is a menu structure that allows an LCD station to program features as they are displayed on the features menu.

Conditions

This function applies only to LCD equipped sets.

Programming

None.

Operation

1. Press [PRG].
2. Press [0].
3. The features available in this menu are displayed on the LCD display. Each available feature is displayed for 2.5 seconds.
4. The display goes blank for approximately 500 milliseconds and the next feature is displayed for 2.5 seconds. This sequence repeats until all accessible features have been displayed.
5. At any time during the display, the [*] key may be pressed to scroll backward through the feature list. The [#] key may be pressed to scroll forward through the feature list. When the desired feature is displayed, a station user may press [0] to select the feature.
6. When [0] is pressed, programming or operation of the feature is as described within this document for the selected feature.

Flash To CO Line

Description

Flash allows a TD-824i digital telephone set user or a Single Line Telephone user to temporarily disconnect (open loop) from a CO line. Depending on the programmable duration of the disconnect period, the timer can provide new outside dial tone on conventional CO lines or special functions on systems connected behind PBX systems or connected to special telephone company circuits (i.e. Centrex).

Conditions

1. Flash time is programmable from 60 milliseconds to 1400 milliseconds (1.4 seconds).
2. Flash functioning can be stored as part of a speed dial number.
3. Depending on your type of CO line, you will either receive Centrex (or PABX) dial tone or new call dial tone from your telephone company central office.

Programming

Form 05-02-05 , Flash Timer must be set to the proper time to be compatible with the Central Office or PABX to which it is connected. Valid settings are listed in the table below:

Flash Timer 05-02-05 (0-9)		0=40 milliseconds	1=80 milliseconds
2=160 milliseconds	3=240 milliseconds	4=400 milliseconds	5=600 milliseconds
6=800 milliseconds	7=1000 milliseconds	8=1200 milliseconds	9=1400 milliseconds

Operation

TD-824i digital Telephone Set:

While on a call, press programmed [TRF/FL] key. New dial tone will be returned.

Single Line Telephone:

1. While on a call, press the hookswitch. Release the hookswitch.
2. Interrupted dial tone will be heard. Dial 800. The CO line will be flashed and you will be returned to the CO line.

Flexible CO Line Ring Assignment

Description

The TD-824i digital telephone system allows each incoming trunk to provide flexible ringing at up to sixteen individual telephone sets. This flexibility allows departmental lines to ring directly to the department required. Calls to a general number can alert the attendant and possibly other programmed stations. Calls to a separately published number can be directed to ring only in one department, if required. Stations in other departments or locations need not be alerted to incoming calls not requiring their attention.

For Delayed Ring see Delayed Ring Option in this document.

Conditions

Flexible CO Line Ring Assignment provides separate ringing assignments to be made for Day Service and for Night Service.

Ringing assignments can be set up to ring in a CIRCULAR, LINEAR, COMMON AUDIBLE or HUNT.

Programming

Form 01 -[CO line], Day Ringing Assignment provides the capability to program up to 16 stations to ring for each incoming CO line. This form controls ringing during the day service interval of operation.

Form 02-[CO line], Night Ringing Assignment provides the capability to program up to 16 stations to ring for each incoming CO line. This form controls ringing during the night service interval of operation.

Form 35-[CO line]-07 Determines the type of ringing pattern to use on each trunk during day service. The valid options are listed in the table below:

Day Service CO Line Ring Type Assignment Form 35-[CO line]-07			
0=Common Audible	1=Linear	2=Circular	3=Hunt

Form 35-[CO line]-08 Determines the type of ringing pattern to use on each trunk during night service. The valid options are listed in the table below:

Night Service CO Line Ring Type Assignment Form 35-[CO line]-08			
0=Common Audible	1=Linear	2=Circular	3=Hunt

Flexible Key Group Assignment

Description

Flexible Key Group Assignments allow the definition of up to eight different key layouts on TD-824i digital telephone sets. Due to the fact that most function keys (other than the numeric keypad) are programmable on the telephone sets, each related group of telephones (up to eight groups) has its own unique key layouts.

Conditions

Flexible Key Groups are only applicable to TD-824i digital telephone sets. Single line telephones are not subject to Flexible Key Group Assignment.

Programming

Flexible Key Group Assignment, Form 07-[group]-[key] provides the ability to place access to CO lines, intercom stations, speed dial numbers, and selected system functions according to a pattern. Up to eight patterns may be defined for use in the system. For all CO lines and intercom stations, the associated LED will show the status of the station or CO line. Please refer to the programming forms for detailed descriptions on programming of Flexible Key Assignments.

Each key may be programmed as a CO line, a Direct Station Selection key, or a special function key. The valid settings are listed below:

Form 07 - Key Assignment Parameters			
Description	Entry	Description	Entry
CO Lines 01-08	CO:XX	Any valid Station Number	XXXX
1A2 Emulation	FN:24	Message Waiting / P/T	FN:03
Account Code (Forced)	FN:09	Microphone / Auto Answer	FN:04
Alarm Assign (Wakeup)	FN:47	Paging All Internal	FN:20
Caller ID History	FN:32	Paging All External	FN:21
Call Forward	FN:53	Paging All Internal/External	FN:22
Call Pickup Own Group	FN:35	Paging External 1	FN:33
Call Pickup All Groups	FN:36	Paging Internal Zone	FN:23
Call Pickup Group	FN:37	Paging Internal Zone 5	FN:28
Call Pickup Group 1	FN:38	Paging Internal Zone 7	FN:30
Call Pickup Group 2	FN:39	Paging Internal Zone 8	FN:31
Call Pickup Group 3	FN:40	Page Meet Me	FN:56
Call Pickup Group 4	FN:41	Program Key	FN:01
Call Pickup Group 5	FN:42	One Touch Speed Dial Key	FN:00
Call Pickup Group 6	FN:43	Redial	FN:07
Call Pickup Group 7	FN:44	Reminder Key (Operator only)	FN:48
Call Pickup Group 8	FN:45	Save	FN:06
Date / Time Set up (Console)	FN:50	Shift Key	FN:57
Do Not Disturb/Conference	FN:02	Speed Dial	FN:05
Directory Key	FN:62	Split/Swap Key	FN:26
Day/Night Key	FN:52	Voice Mail Transfer Key	FN:25
Door Phone	FN:60	Voice Mail Answer Machine Emulation	FN:27
Headset Key	FN:29	Voice Mail Live Call Recording	FN:34
Hotel/Motel	FN:59	Volume Level Setup	FN:10
Lock/Unlock Station	FN:14		
Lock Override (One Call)	FN:16		

Flexible Ringing Assignment

Description

Flexible Ring Assignment allows assignment of the ringing pattern used on incoming calls. There are six variants of the ringing pattern.

- | | |
|------------------------|--|
| 1. COMMON AUDIBLE | Rings all stations in an assigned group. |
| 2. LINEAR. | Will ring the first available station in an assigned group. |
| 3. CIRCULAR | Rings the next available station in an assigned group. |
| 4. HUNT (Add On) | Timed add-on ringing. |
| 5. PRIVATE LINE | Similar to Common Audible, but will carry integration information to voice mail from the first station assigned to ring. |
| 6. Delayed Ring Option | Uses a special timer to add additional stations in a hunt group. |

COMMON AUDIBLE causes all telephone sets programmed on Form 01 (if the system is in Day Service) or Form 02 (if the system is in Night Service) to ring whenever a call is presented to the CO line.

LINEAR ringing causes the first programmed idle answering position to ring. This provides the capability to have a main attendant with a hierarchy of backup answering stations.

CIRCULAR Ringing Assignment is used to provide a "round robin" method of call assignment. Using Circular ringing causes calls to look for the next available station as programmed on Form 01 or Form 02 from the last station rung.

HUNT/Add On causes calls to be added from station to station on a timed basis. If the first station to be rung is busy or does not answer, the system will add on the next station in the programmed group when the Hunt timer expires. This procedure will continue until the call is answered, or the call is abandoned. The Hunt/Add On Timer can be found in Form 05-08-01 .

PRIVATE LINE causes all phones assigned in Form 01 or 02 to ring whenever a call is presented to the CO Line. The difference between this function and Common Audible, is that if the first assigned station is programmed for call forwarding, either by individual station forwarding or settings in Form 46-st-07 (call forward no-answer to hunt group) or Form 78-st-04 (call forward busy to hunt group), the system will send the Call Forwarding string for the station instead of the normal trunk ID code.

Conditions

Ring type can be individually programmed per trunk and has separate capabilities for Day Service and Night Service. See Flexible CO Line Ring Assignment, Page 95 of this document.

Programming

See Flexible CO Line Ring Assignment, Page 49 of this document.
See Delayed Ring Option in this document.

Operation

None.

Forced Account Code

Description

The use of forced account codes allows a station user to temporarily bypass the toll restrictions that are normally in effect on a telephone station. If a Forced Account Code is assigned to a station during system programming, it becomes the only code capable of bypassing that station's default toll restriction.

Conditions

1. **TD-824i** There are up to 31 Forced Account Codes in the system.
2. Codes are created during system programming.
3. When the Forced Account Code is dialed, the status of the originating station is upgraded to "Unrestricted" for the duration of the call.
4. Any call made using a forced account code will have the corresponding entry number (1-31) associated with the resulting call and printed on the SMDR record if SMDR is enabled. The actual forced account code will NOT be printed.
5. As soon as the line is disconnected, the telephone set will revert to its normal toll class.
6. A station with an assigned Forced Account Code cannot be used with a Traveling Class Of Service Code. For more information on Traveling Class Of Service see page 176 of this document.

Programming

Forced Account Codes are programmed on Form 17 -[code#], Forced Account Code. The forced account can be up to eight digits in length.

Form 40 -[station]-08, Station Class Of Service allows the station to be "dedicated" to one of the 48 forced account codes. If this parameter is set to a valid programmed code number (01-48) from Form 17 - [code#], the actual digit string programmed for that code number will be the only one that is capable of releasing toll restriction on that station. If Form 40-[station]-08 is programmed as 00, any valid code programmed on Form 17-[code#] will release toll restriction.

Operation

From a TD-824i digital telephone set:

1. Press [PRG], [4].
2. Enter Forced Account Code.
3. If the code entered is valid for that set, the station will be connected to the first free line in the Dial 9 group for that station. If Dial 9 grouping is not active on the system, the station user can press a CO key for access to a CO line.

Group Assignment

Description

Group Assignment is a Class Of Service Option that assigns a station to a specific group number for the purposes of identification of Zone Paging, Pick Up Group and Single Digit Dialing Group.

Conditions

None.

Programming

Form 41 -[station]-01, Group Assignment determines the group to which a station will belong. Valid parameters for this setting are groups 1 through 8. An entry from 1 to 8 are the only acceptable entries.

Operation

Paging - See Paging, page 133 of this document.

Pick Up Group - See Pick Up Groups, page 137 of this document.

Single Digit Dialing - See Single Digit Dialing, page 152 of this document.

Hands Free Answer back

Description

Hands free answer back allows a station user to reply to an intercom call without touching the telephone.

Conditions

1. The station must be a TD-824i digital telephone equipped with speaker phone capabilities.
2. The telephone set must have a [MIC/AT] button programmed.
3. The telephone set must be in the Auto Answer mode.

Programming

To activate:

Press [MIC/AT]. The [MIC/AT] pushbutton will illuminate. The set is now in Auto Answer.

To deactivate:

Press the [MIC/AT]. The [MIC/AT] pushbutton will extinguish. The set is no longer in Auto Answer.

Hands free answer back is unaffected by the status of Form 05-03-03, Intercom Call Signalling.

Form 46 -STN-03 (Auto Answer Flag) provides the ability to enable Auto Answer on stations so that the user isn't required to manually enable Auto Answer. There are several options available on a per station basis. They are:

46-ext-03 - Automatic Answer Capability (Digital Telephone Sets)	
This parameter if enabled will automatically switch on the microphone of the station if it receives an intercom call. This setting is independent of whether the system is set to voice or ring signaling for intercom calls.	
0 = No	1 = MIC permanently on
2 = MIC will switch on for Intercom calls	

Operation

Intercom tone burst is heard. The hands free mode is operational.

Headset Operation

Description

Headset Operation allows a station user to plug in an aftermarket headset to a DK1 or DK2 series phone and utilize the speaker key on the telephone as the hookswitch.

Conditions

Headset operation operates only on DK series sets with factory installed headset jacks.

Programming

Headset operation is enabled as a class of service option and is available only to those stations that have it enabled in their class of service. Form 44-st-05 enables or disables the operation.

An optional headset key may be programmed into the station user's key group. If programmed, the station user simply presses the Headset key to enable or disable headset mode. When enabled, the headset key will light on the telephone set as an indicator that the telephone is in headset mode.

Flexible Key Group programming is done on Form 07-gp. Headset key is FN:29.

Operation

With a headset installed on the telephone, the station user can dial [775] to enter (or exit) headset mode. If equipped with a headset key on the station user's flexible key group, the station user can also enter and exit headset mode by pressing the headset key. When in headset mode, the headset button will light, to indicate its operation.

When in the headset mode, the [SPK] button acts as the hookswitch.

Hold (Exclusive)

Description

Exclusive Hold allows a station equipped with a TD-824i digital telephone set to temporarily disconnect from a call without the call being terminated. The difference between Exclusive Hold and System Hold (see page 103 of this document) is that exclusive hold associates the held call with the station that placed the call on hold. When on exclusive hold, the held caller will hear silence, music from the internal system music synthesizer or audio from an external device (such as a radio). A call on exclusive hold cannot be readily retrieved by any other station. On all TD-824i digital telephone stations, a call on exclusive hold will appear to other stations as a busy line (steady illuminated red pushbutton).

Conditions

Exclusive Hold is available only from a TD-824i digital telephone set. It cannot be applied from a single line telephone.

Calls on Exclusive Hold may not be retrieved by a single line telephone.

Exclusive Hold can only be applied to outside CO line calls. It does not apply to intercom calls.

Calls placed on Exclusive Hold for a period exceeding the time limits set on Form 05-01-02, Exclusive Hold Recall Timer will re-ring the station where the call was placed on exclusive hold. If the station is busy or does not answer the recall within the time period defined on Form 05-01-03, Hold Recall Timeout, the call will then also ring the console.

Programming

Form 05-01-02, Exclusive Hold Recall Time determines how long a caller may be left on Exclusive Hold.

A call that is held for a time exceeding the Exclusive Hold Recall Time will recall to the station that placed the call on hold. Valid timing parameters are listed in the table below:

Exclusive Hold Recall Time 05-01-02		0=30 seconds	1=60 seconds
2=90 seconds	3=120 seconds	4=150 seconds	5=180 seconds
6=210 seconds	7=240 seconds	8=253 seconds	9=No Recall

Form 05-01-03, Hold Recall Timeout assigns the acceptable time limit for a held call to recall at the holding station only. When this timer is exceeded, the held call will also ring the console. The acceptable values are the same as those listed above for Form 05-01-02.

Form 05-12-03 Exclusive Hold Enable allows Exclusive Hold to be enabled or disabled on a system-wide basis. A setting of 0 (Default)=Enables Exclusive Hold for the system. A setting of 1=Disables Exclusive Hold for the system.

Note: The console that is rung when the Hold Recall Timeout expires will be selected from the assigned group (Form 04, Console Assignment) determined by the group assignment of the station on Form 41-[station]-01.

Operation

To place a call on Exclusive Hold:

A TD-824i digital telephone set places a call on Hold by pressing [HOLD],[HOLD]. The call is now on exclusive hold.

To retrieve a call on Exclusive Hold:

From the set that held the call:

Press the Flashing CO Line Key. The held party is reconnected to the station.

From another set:

1. Press the Red CO line key. Busy tone will be returned by the telephone set.
2. Press [HOLD]. The call is now connected to the station.

Hold (System)

Description

System Hold permits any station user to temporarily disconnect from a call without the call being terminated. Depending on system programming, the held caller will hear silence, Music from the internal system music synthesizer or audio from an external device (such as a radio). The difference between Exclusive Hold (see page 101 of this document) and System Hold is that a call placed on system hold can be retrieved by any station within the system. On TD-824i digital telephone stations, a held call will be indicated by a green flashing line pushbutton.

Conditions

Calls placed on System Hold for a period exceeding the time limits set on Form 05-01-01, Hold Recall Timer will re-ring the station where the call was placed on hold. If the station is busy or does not answer the recall within the time period defined on Form 05-01-03, Hold Recall Timeout, the call will then also ring the console.

Programming

Form 05-01-01, System Hold Recall Time determines how long a caller may be left on System Hold. A call that is held for a time exceeding the System Hold Recall Time will recall to the station that placed the call on hold. Valid timing parameters are listed in the table below:

System Hold Recall Time 05-01-01		0=30 seconds	1=60 seconds
2=90 seconds	3=120 seconds	4=150 seconds	5=180 seconds
6=210 seconds	7=240 seconds	8=253 seconds	9=No Recall

Form 05-01-03, Hold Recall Timeout assigns the acceptable time limit for a held call to recall at the holding station only. When this timer is exceeded, the held call will also ring the console. The acceptable values are the same as those listed above for Form 05-01-01 .

Note: The console that is rung when the Hold Recall Timer expires will be selected from the assigned group (Form 04, Console Assignment) determined by the group assignment of the station on Form 41-[station]-01.

Form 05-02-04, Single Line Telephone Release Time (default setting 5=800 milliseconds) defines the maximum hook flash interval that is allowable for the system to recognize as a FLASH command. The FLASH capability is required for a single line telephone to place a call on System Hold. Any hook flash (open loop) condition that exceeds this time parameter is considered as a disconnect. A hook flash that does not exceed this time but exceeds the time parameter defined in Form 05-02-06 is considered a FLASH. The possible settings are listed in the table below (ms=milliseconds):

Single Line Telephone Release Time (0-9)		0=64 ms	1=80 ms
2=104 ms.	3=200 ms	4=304 ms	5=400 ms
6=512 ms	7=600 ms	8=704 ms	9=800 ms

Form 05-02-06, Single Line Telephone Hold Signal (default setting 1=80 ms) determines the minimum open loop (hook flash) condition that the system will recognize as a FLASH. Any hook flash that does not exceed this minimum timer will be ignored by the TD-824i digital telephone system. Any hook flash that exceeds this time will be determined to be a FLASH if it does not exceed the timer set on Form 05-02-04 or will be determined to be a disconnect if its length exceeds the timer set on Form 05-02-04. The table of valid entries is listed below (ms=milliseconds):

Single Line Telephone Hold Signal (0-9)		0=104 ms	1=208 ms
2=304	3=400	4=608	5=800
6=1008	7=1200	8=1408	9=1600

Form 05-06-07, Affirmative Single Line Telephone Hook switch Flash Capability (default setting 0=FLASH) determines the actual procedure required in order for a Single Line Telephone to place a call on hold. The settings and resulting actions required are listed in the table below:

05-06-07	Action required to hold a call.
0	Flash
1	Flash, [7]
3	Flash, Alert Tone heard, [7]

Form 44-[station]-02, Station Hold Capability determines whether a station will have the ability to place a call on Hold. Valid settings for this parameter are:

Station Hold, (Form 44 -[station]-02)	0=Enabled	1=Disabled

Operation

Hold:

From TD-824i digital telephone set:

System Hold. Press [HOLD] pushbutton. Call is on system hold.

From single line telephone:

Press hook switch (or action defined on Form 05-06-07). Call is on system hold.

Retrieve from Hold:

From TD-824i digital telephone set:

If caller is on CO line appearing at the set. Press flashing line key.

If caller is on CO line not appearing at the set. Dial 8 + two digit line number (01-08).

If caller is an intercom call appearing on DSS keys. Press DSS key.

If caller is an intercom call not appearing on DSS keys. Dial extension number.

From a single line telephone set:

If caller is on CO line held by the single line set. Press hook switch [FLASH].

If caller is on CO line held by other station. Dial 8 + two digit line number (01-08).

If caller is an intercom call held at the single line set. Press hook switch [FLASH].

If caller is an intercom call held by another telephone, dial extension number of held call.

Hot Line

Description

Hot line provides the capability to route a station to any location, internal (via the intercom) or external (via speed dial) as soon as the station goes off hook.

Conditions

Hot line single line stations cannot initiate dialing to any location. They are immediately routed to the pre-determined location. On TD-824i digital telephone sets, the telephone may place other calls if the [SPKR] button is pressed first. If the handset is lifted on a TD-824i digital telephone set, it will be routed to the pre-determined location.

Hot line stations can receive calls normally.

Programming

Form 47-[station], Hot Line Assignment determines the routing for a station when it goes off hook. Valid settings for 47-[station] are, internal station extension numbers and external speed call numbers.

When programming Hot Line, to change from internal intercom to external speed dial, press the [MIC/AT] key. This pushbutton will toggle between internal dialing and external speed dial. The current status will be shown on the programming LCD display.

Operation

1. A station goes off hook.
2. The system will ring the associated internal station (if internal hot line).

OR

The system will select a CO line and outpulse the stored speed dial number (external speed dial).

Hunt Groups

Description

Hunt Groups allow the grouping of telephones into similar functions, such as departmental units, where it may be desirable to route a call to an available member of a group rather than looking for an individual station. Examples such as sales groups, order groups, accounts payable, etc., will provide a single access code (extension number) for easy access from either the Automated Attendant portion of a Voice Mail System or for quick processing of operator answered telephone calls.

You can select different Hunt Groups for a CO line for Day Service and Night Service.

Selection can be based on Linear Hunting, Circular Hunting or Common Audible.

Linear Hunting will always begin at the top of the Hunt Group form and route the call to the first available station in the group.

Circular Hunting will look for the first available station immediately after the position where the last call was routed.

Common Audible will ring all stations in the hunt group simultaneously.

Conditions

There are 10 available Hunt Groups on the system

Up to 5 stations may be programmed in a Hunt Group.

Hunt Group pilot numbers can be programmed into Single Digit Dialing locations on Form 10 .
Hunting can be Linear, Circular or Common Audible.

Pilot Hunt Group Numbers may NOT be included in incoming ring assignment. However, you may use the delayed ring option feature to send incoming calls to a pilot hunt group if the primary stations do not answer.

Programming

Form 67 -Group provides the ability to assign a pilot number to each Hunt Group. Each pilot number must be unique. The pilot number cannot be the same as an extension in the system. Each pilot number must conform to the system dialing plan, i.e., a system configured for two digit extension numbering must have a pilot number that is two digits in length and between the numbers 10 and 69. If a three digit numbering plan is used, the pilot number must be three digits in length. If a four digit numbering plan is used, the pilot number must be four digits in length.

Form 67 -Group also assigns the type of hunting that will be observed on the group. A setting of 0 will result in Common Audible ringing. 1 will result in linear hunting. A setting of 2 will result in circular hunting.

Form 68 provides capability for Day Hunt Groups.
Each Hunt Group can contain up to 5 stations.

Form 69 provides Night Hunt Groups. The parameters are otherwise the same as Form 68. With this option, you can change the applicable stations without changing your recorded messages on applicable voice service units.

Operation

Any station or DISA caller that dials the pilot number of a Hunt Group will be routed to the first available station within the Hunt Group. The station that is rung will depend on the type of hunting specified on Form 67 .

Calls placed to Hunt Groups appear to the caller as if an individual extension number has been dialed.

Intercom

Description

Intercom permits internal station to station calling. The TD-824i digital telephone system can be programmed to provide a default option for Voice announce calling or ringing at the called station. This can be toggled between modes (Voice - Ringing) by dialing [3] after the desired extension has been selected either by dialing the extension number or pressing the [DSS] key.

Note: Calls placed to a single line telephone cannot toggle between Voice and tone ringing on intercom calls.

Conditions

Intercom calls can be placed on Hold and transferred.

The TD-824i digital telephone system may be programmed to provide Voice Signaling or Ring Signaling as the default method of intercom contact for TD-824i digital telephone sets. Single line telephone sets are always notified via ring signaling.

If the system is programmed for Voice Signaling, the audio path is one way, into the station receiving the call, unless the party activates the microphone on the telephone set or the set is in the hands free answer back mode (see Hands Free Answer Back, page 100 of this document).

Form 45-STN-05 allows for blocking of intercom calls between stations of different groups.

Programming

Form 05-03-03, Intercom Call Signaling Type determines whether TD-824i digital telephone sets will be signaled by ringing or by voice announce. The method selected becomes the preferred method of intercom operation. The alternate method of signaling may be selected by dialing [3] after the extension number. Valid settings for this option are listed below:

Intercom Call Signaling Type 05-03-03	
0=Voice Signaling	1=Ring Signaling

Form 45-STN-05 Provides the ability to restrict intercom dialing between stations of different groups. If 45-STN-05 is set to 1 (Enable) a station cannot dial any station whose station group is different.

Form 41-STN-01 determines your station group. There are eight station groups per system.

Operation

Lift handset or press [SPK]. Dial extension number or Press [DSS] key. Depending on system programming, the called station will ring or tone burst (TD-824i digital telephone sets only) will indicate Voice Announce.

Station user can toggle between voice and ringing mode by dialing [3]. For example if the system is programmed for voice signaling intercom, dialing the station number + [3] will cause the called station to ring, rather than to commence voice announce. If the system is programmed for tone signaling (ringing), dialing the station number + [3] will cause the called station to enter the voice announce mode instead of the ringing mode.

Note: Voice mail ports that call a station will always cause TD-824i digital sets to ring.

Intercom Dialing Restriction

Description

Intercom Dialing (room to room) restriction is designed to prevent telephones from dialing another station extension. The major use for this option is for lodging applications, where single line telephones are used. This feature does not affect the operation of DSS keys nor does it affect single digit dialing.

Conditions

DSS Keys and single digit dialing are not affected.

Programming

Form 45-[station]-01 controls the operation of this function for each individual station. The valid options are:

Intercom Dialing Restriction (Form 45-[station]-01)	0=Not Restricted	1=Restricted
--	------------------	--------------

Operation

When enabled, a station is unable to dial any other station. Calls can still be placed to the operator [0], via DSS and single digit dialing or to other stations via DSS keys, if programmed.

Intercom Step Call

Description

Intercom Step Call on the TD-824i digital telephone system allows a station user to step from a busy station to the next station in the same station group. This is accomplished by dialing [4] while hearing a busy signal.

Conditions

The system will search by consecutive stations assigned to the same group as the original called station.

Programming

Intercom Step Call, Form 05-07-01 must be programmed to enable this option. Valid settings for Form 05-07-01 are listed below:

05-07-01 - Intercom Step Call	
If setting is enable, when calling an internal station which is busy or does not answer, pressing [4] will call the station on the next port which is in the same station group as the called station. If setting is disable then there will be no transfer.	
0=Disable	1=Enable on Busy
2=Enable on No Answer	3=Enable on Busy and No Answer

Stations to be assigned in a Step Call Group must be programmed on Station Specifications, Form 41-[station]-01 to a group. There are eight groups available in the system.

Operation

1. Station user dials an extension.
2. Extension is busy.
3. Caller dials [4]. System steps to the next station in the group.
4. If next station is free, it will ring. If it is busy, step 3 can be repeated.

Language Selection

Description

Station users may select a Language for the feature prompts that appear on their telephone.

Conditions

Applicable to telephones equipped with LCD displays.

Programming

None required

Operation

To select a Language Press [PRG] *.

0: English	5: Norwegian
1: Swedish	6: Espanol
2: Hungarian	7: Francais
3: Danish	8: Nederlands
4: Czech	9: Italian

After making the selection press [Save]. Your telephone is set for that Language.

Last Number Redial

Description

This feature allows a station user to press one key to redial the last number dialed from the telephone.

Conditions

The system will automatically attempt to access the same line that was used for the last dialing attempt. If that line is in use, the system will attempt to access another line in the station's dial 9 group.

If a different line is desired by the station user, the user can manually access an idle line key and then press the [REDIAL] key.

Programming

None.

Operation

1. Press [REDIAL].
2. If you are using a single line telephone or a TD-824i digital set without a [REDIAL] key, you may dial [7], [4].
3. The last number dialed from the telephone will be re-dialed. The system will attempt to access the same line previously used. If that line is busy, the system will attempt to access another line in the station's dial 9 group.

A station user may select a specific line for the Redial by pressing the pushbutton of the desired idle line prior to pressing the [REDIAL] pushbutton.

Note: Last Number Redial dials a number only once. Also available is Automatic Last Number Redial, which allows you to repeatedly dial the Last Number. See Automatic Last Number Redial, page 15 of this document.

Least Cost Routing

Description

Least Cost Routing (LCR) allows companies to route calls to alternate carriers to achieve the most economical cost for a particular call.

Conditions

LCR may be invoked on a per station basis. A station can be denied direct access to trunks and be forced to dial '9'. The digits dialed will be analyzed and a trunk group will be selected for the call. The digits dialed may be modified by deleting leading digits and substituting others in their place. For example 1-212-xxx-xxxx might be modified and 1010220+1-212-xxx-xxxx dialed in order to select a specific LD service. In the case of a Foreign Exchange line the 1-212 could be deleted, the FX line selected and the local call of XXX-XXXX be dialed to complete the call. The time of day and day of the week can be considered in selecting the most economical route/carrier.

Programming

Form 05-13-07 and 08 are used to mark days that carriers have special rates. The day of the week is entered as 1 to 7 for Monday to Sunday.

Form 75 is used to analyze the dialed digits and select a routing table for the call (Form76).

Form 76 provides 20 routing tables, each with 3 time periods. The routing tables can point the call to as many as 4 trunk groups in order and cause modification of the digits dialed as necessary.

Form 77 can provide up to 99 different modifications to be used by the Routing table.

Form 78-stn-01 is used to set a routing level for a station.

- 0 = Disable LCR
- 1 = Use only the first trunk group in LCR
- 2 = Use first or second trunk group in LCR
- 3 = Use first, second or third trunk group in LCR
- 4 = Use all 4 available trunk groups in LCR

Note: LCR will always use the highest priority (lowest numbered) trunk group when available.

Operation

Operation is automatic by dialing '9'. The call will not be out pulsed until enough digits have been dialed to enable LCR to make a route and modification decision.

Example: Using an OCC by dialing 1010220

In this example the use of 1010220 is advised during daytime hours because the rate is better than using the primary LD carrier. After hours the primary carrier has a rate which is better. In our example we will say that we have only one trk grp and all of our lines are local with a primary LD carrier of ATT

As a result of these factors we would like to route our calls to NY (212) area by 1010220 between 08:00 and 17:00 but use the primary carrier after 17:00 and before 08:00 in the morning.

The first thing we must do is to enter the digits we want LCR to act upon.

Form 75 will require an entry of 1212dddddd 01.

This entry shows the dialed digits and the 01 to the right points to routing table 01.

So any call that begins with 1+212 will be subject to routing table 01.

Form 76 is the routing table form. We can enter 3 time periods for each routing table.

Form 76-01-A represents the first of 3 time periods for routing table 01.

Form 76-01-B represents the second of 3 time periods for routing table 01.

Form 76-01-C represents the third of 3 time periods for routing table 01.

The data entered in Form 76 has 16 digits. They are as follows:

- 01-02 = Start time in hours and minutes. Our example=08
- 03-04 = Ending time in hours and minutes. Our example=17
- 05 = First choice Trunk group. Our example=1 for trk grp. >1'
- 06-07 = Modify Digits Table for first choice trk grp. Our example 01
- 08 = Second choice Trunk group. Our example needs no entry
- 09-10 = Modify Digits Table for second choice trk grp. Our example needs no entry
- 11 = Third choice Trunk group. Our example needs no entry
- 12-13 = Modify DigitsTable for third choice trk grp. Our example needs no entry
- 14 = Fourth choice Trunk group. Our example needs no entry
- 15-16 = Modify Digits Table for Fourth choice trk grp. Our example needs no entry

Form 76-01-A will require an entry that looks like this:

08 17 1 01 0 00 0 00 0 00

This tells LCR that in routing table 01, calls that use route table 01 from 8 AM (08) until 5PM (17) will use Trunk Group 1 (1) and modify digits table 01 (01). There are no other trunk groups available for this call, because all other entries are zeros.

Form 77 is the modify digits form and we need to make an entry here for Modify table 01.

Form 77-01 has 12 possible entries. The first two digits indicate how many leading digits should be deleted from the dialed number. The remaining digits are the actual digits (if any) which are to be inserted as a prefix.

In this example we do not want to delete any digits but we do want to insert 1010220. The entry would be like this:

- 01-02 = Digits to be deleted. Our example needs the entry of 00 (delete no digits)
- 03-12 = Digits to be inserted. Our example needs the entry of 1010220ddd.

The above entries take care of the day time routing. The following entries will allow for calls after 17:00 and 08:00.

Form 76-01-B allows for the second time period and will have the following entries:

17 08 1 02 0 00 0 00 0 00

This tells LCR that in routing table 01, calls that use route table 01 from 5 PM (17) until 8AM (08) will use Trunk Group 1 (1) and modify digits table 02 (02). There are no other trunk groups available for this call, because all other entries are zeros.

Form 77-02 (Modify Table 02) will contain the following

- 01-02 = Digits to be deleted. Our example needs the entry of 00 (delete no digits)
- 03-12 = Digits to be inserted. Our example needs dddddddddd (insert no digits)

The 5PM until 8AM example will select a trunk in group 01 and dial out exactly what the user dialed.

Station class of service >6', Form 78 must be considered for each extension to indicate the following.

78-stn-01

- 0 = Disable LCR
- 1 = Use only the first trunk group in LCR
- 2 = Use first or second trunk group in LCR
- 3 = Use first, second or third trunk group in LCR
- 4 = Use all 4 available trunk groups in LCR

78-stn-02

- 0 = User Must dial 9 resulting in LCR (LCR Required)
- 1 = User may select a trunk directly and bypass LCR

As can be seen, the use of the routing and modifying tables allows selection of a specific trunk group or deleting digits, and inserting digits.

Suppose we had an FX line to the 212 area and would like to use it for calls to 212. The routing table pointed to would contain the trunk group containing the FX line/lines and the modifying table could delete the 1212 and using the FX dial only the 7 digits needed to complete the call since the CO serving this FX is in the 212 area.

There is not as much programming as one would think since first of all, only the areas that the customer dials need to be considered and secondly the same routing and modifying tables would most likely be

Line Group Assignment

Description

Line Group Assignments, Form 36 -[group]-[line] groups the CO lines for use by stations. Up to eight groups may be programmed into the TD-824i digital telephone system. Each group may have up to eight CO lines (TD-824i) or sixteen (TD-1648i) CO lines in it. A CO line may appear in more than one CO line group.

Line groups are set up in order that different departments or tenants may have access to different CO lines. Groups set up on Form 36 are subject to assignment to individual stations through Form 41-[station]-04, Dial 9 Group.

Conditions

While Dial 9 grouping may be imposed on the system, it is possible that dialing 9 will have no effect on system operation. Control of dial 9 function is provided by Form 05-04-02, Dial 9 activation, which determines if pooled line access (dial 9) will occur and Form 05-06-05, Operator Code, which determines whether the outgoing line pooled access code will be [9] or [0].

Outbound CO lines will always be searched for access in the order in which they are programmed on the applicable group of Form 36 -[group].

Programming

Form 36 -[group]-[line] is programmed, where :

[group]=a CO line group from 01 to 08.

[line]= a CO line number from 01 to 08. Up to eight lines can be programmed in each [group].

Form 41-[station]-04 is programmed where:

[station]=the extension number of the station being programmed (and)

The data entered at this location is a number from 1 to 8 and corresponds to one of the eight [group] entries on Form 36.

TD-824i A CO line Group may contain up to eight CO lines.

TD-1648i A CO line Group may contain up to sixteen CO lines.

Operation

If Form 05-04-02, Dial 9 Activation is enabled and a CO line group has been programmed and assigned for use by a station:

1. Station goes off hook (this is optional for TD-824i digital telephone sets).
2. Station dials [9] (or [0] depending on status of Form 05-06-05).
3. Station is connected to an available outside CO Line.

Loud Bell

Description

The TD-824i digital telephone system provides a relay for various control functions. Two of these functions are Station Loud Bell and CO Line Loud Bell. The relay is found on the TD-MSC printed circuit card.

CO Line Loud Bell allows one or more CO lines to be directed to provide an interrupted relay closure when a CO line detects an incoming call. The relay closure may be used to provide signalling to an external tone ringer or it may be wired with external equipment so as to switch an AC or DC voltage to provide power to an external ringing device. See also Relay Assignment, page 142 of this document and CO Line Programming, page 47 of this document.

Station Loud Bell allows one or more stations to be directed to provide an interrupted relay closure when the system causes the station(s) to ring. The relay closure may be used to provide signalling to an external tone ringer or it may be wired with external equipment so as to switch an AC or DC voltage to provide power to an external ringing device. See also Relay Assignment, page 142 of this document.

Conditions

TD-824i One relay is provided per MSC card. Only one MSC Card can be installed in system.

Programming

Form 06, Relay Assignment provides the capability to program the relays for use as Station Loud Bells, CO Line Loud Bells, or other functions within the system. For more information, please see Relay Assignment, page 142 of this document.

Form 40-[station]-04 is programmed with the selected relay if that relay is to be used in conjunction with a Loud Bell for the station.

CO Line Loud Bell, Form 35-[CO]-06 provides the ability to assign individual trunks directly to CO Line Loud Bell relays. On this form, the options exist to assign the CO line to either one of the possible CO Night Bell Relays. See CO Line Programming, page 47 of this document.

Operation

Once programmed, operation is automatic.

Note: While CO Loud Bell and Station Loud Bell are mutually exclusive items on the relay assignment form, if a Station Loud Bell is programmed and the programmed station is one of the stations assigned in a CO Ringing Assignment Form (Form 01 - Day Service, Form 02 - Night Service), the bell will be activated any time that the programmed station rings, whether ringing is caused by an intercom call or an incoming CO call.

Macro Keys

Description

Macro Keys allow individual station users to "customize" the operation of their digital telephone sets. A station may have up to eight macro keys (keys 15 through 22) available on the telephone. A macro key may be programmed with up to five consecutive keystrokes and may include most special function keys.

Conditions

Macro keys are available only to TD-824i digital telephone sets.

Programming

None

Operation

To program a macro:

1. Press [PRG].
2. Press the key location where you wish to store a macro. (Key 15 through 22.)
3. Press the series of keys that you want to store (up to five keystrokes).
4. When you have the macro entered properly, press the key location again.
5. The macro is stored.

To play a macro:

Press the programmed macro key. The programmed macro will be played.

Note: Macro functions will not dial digits on a CO line. However, personal and/or system speed dial numbers may be activated via macro key operation which will dial DTMF on CO lines.

Manual Line

Description

Manual Line allows a station to go off hook and immediately ring a pre-determined location. This location is normally the system operator, but through the use of Console Assignment, Form 04 and Station Group, Form 41-[station]-01, the location can actually be any station within the system.

Stations other than system operator and external locations (via CO lines) may be selected by using the Hot Line function. For more information on HOT LINE, see page 105 of this document.

Conditions

Single Line telephones equipped as manual lines are not capable of dialing. Digital sets programmed as Manual Lines may place calls if allowed by directly pressing a CO line button or dialing via the hot dial pad function.

Programming

The station to be used as a manual line must have Form 44-[station]-04, Manual line enabled. Valid settings for this form are:

Manual Line, (Form 44-[station]-04)	0=Disable	1=Enable
--	-----------	----------

Form 04 - Console Assignment is used to determine the stations that are to be considered consoles.

Form 41-[station]-01 determines what group the manual line telephone will select when it goes off hook.

Operation

Any station programmed as a Manual Line will cause its pre-determined operator to ring whenever the station goes off hook.

Message Waiting

Description

Message waiting allows station users to leave notification that an attempt at contact has been made. On TD-824i digital telephone stations, the [MSG] pushbutton will flash to indicate a message is waiting on the telephone set. On TD-824i digital telephone stations equipped with LCD displays, the notified party can read the name of the user(s) that has left the message(s) on the telephone.

Single Line Telephones can be programmed to periodically ring (approximately every 5 minutes) when a message is left. If the called station answers during the ringing cycle (ringing cycle is approximately 30 seconds), it will either call the station that left the message or be routed to the Voice Service Unit, to inform the called party of the message waiting. The VSU will not store a message, it will only indicate to the station user that there is a message waiting. This is dependent upon system programming, Form 05-04-08.

Single Line Telephones also will hear interrupted dial tone whenever the handset is lifted and a message is waiting. This consists of 250 milliseconds of dial tone and 250 milliseconds of silence, repeated over and over. If not desired this option can be eliminated through programming of Form 05-03-07 (SLT Dial Tone Options).

Conditions

A maximum of five messages can be stored on a station. The tone available for single line telephone are programmable in accordance with Form 05-03-07.

Programming

Form 05-03-07, Single Line Telephone Dial Tone Options determines if the caller will hear interrupted dial tone when a message is waiting. Valid settings are:

Setting	ICM	DND	CFD	MSG
> 0	Steady	SP.	SP.	steady
> 1	int.	SP.	SP.	int.
> 2	steady	steady	steady	steady
3	int.	int.	int.	int.
> 4	Steady	SP.	SP.	int.
> 5	int.	SP.	SP.	Steady.
> 6	steady	steady	steady	int.
> 7	int.	int.	int.	Steady.

Single Line Telephone Message waiting type, Form 05-04-08 determines the method used to notify a single line telephone user of the type of message waiting notification to be used. The two types offer the options of ringing directly back to that station that left the message. Valid parameters for this are:

SLT MSG Waiting Type, (Form 05-04-08)		
0= No Message Waiting	1= Ring Originator	3= 250 msec. Ring burst

Form 46 -[station]-02, Message Waiting Level, determines the hierarchy of stations. A station may only activate message waiting on a station of the same or lower message waiting hierarchy. The valid settings are 0-9, where 0 indicates a station that is unable to leave a message. Level 9 provides the capability to leave a message to any station within the system.

Operation

From a TD-824i digital telephone set:

Place an intercom call. The target station is busy or does not answer.

1. Press [MSG] button.
2. Hang Up.
Note: If the station that sets the message is using the hands free mode, the telephone will automatically hang up as soon as the [MSG] button is pressed.
3. If the called station is a TD-824i digital telephone set, the [MSG] key will flash. If the digital set is equipped with LCD, the display will show that a message is waiting.
4. If the called station is a single line telephone, the telephone will ring periodically (approximately every 5 minutes). If the single line user answers during the ringing cycle, he will be routed either to the VSU or to the call originator (depending on system programming on form 05-04-08).

To answer a message waiting from a TD-824i digital telephone set:

1. Press the flashing [MSG] button. (if equipped with LCD, the display will show the originating party).
2. Lift the handset or press [SPK] to call the station that left the message or press [#] to cancel the message.

From a single line telephone set:

1. Place an intercom call. The target station is busy.
2. Press [6].
3. Hang Up.
4. If the called station is a TD-824i digital telephone set, the [MSG] key will flash. If the digital set is equipped with LCD, the display will show that a message is waiting.

Note: If the called station is a single line telephone, the telephone will ring periodically (approximately every 5 minutes). If the single line user answers during the ringing cycle, he will be routed either to the VSU or to the call originator (depending on system programming on form 05-04-08).

A single line telephone can also check messages by dialing 76 whenever the user hears message waiting dial tone. The originator of the message will be rung.

From a Voice Mail port:

To set a message waiting, dial 7071 + the extension number.
To cancel a message waiting, dial 7072 + the extension number.

Modem Dialing

Description

Modem dialing allows station users who have personal computers at their workplace to use popular contact manager software programs to access outside lines and dial telephone numbers. Once calls have been placed, users can pick the call up from their digital telephone set and free the modem up for other purposes such as surfing the Internet.

Conditions

Requires the installation of a TD-SLC card inside the digital telephone set. Modem dialing is available from the DK1-D and DK1-S digital telephones only. Contact management software must be configured to dial 9 followed by a pause before sending the digits over the outside line.

Programming

43-port-04 Associated Single Line Telephone must be set to 2 for the Digital phone.

43-port-02 Equipment Type must be set to 3 for the single line station

Operation

Dial the number using the modem.

You will see **Transfer Yes**

in the LCD of the Digital Phone.

After dialing the number, press F1 **Yes** to pick up the call on the Digital Phone.

Note: Proper wiring must be present as per the TD-824i Installation and Maintenance Manual.

Monitor

Description

Monitor allows certain stations the ability to listen into the conversation of other stations. Monitor capability is a hierarchical feature. Stations are assigned a Monitor Level from 0 to 9. Within that hierarchy, a station may monitor another station of lower monitor status. Monitor differs from override in that there is no intrusion tone given to a monitored party.

See also Override, page 132 of this document.

Conditions

The station being monitored must have a monitor level that is less than the station invoking the monitor. In the case of a monitor of an internal conversation, the monitor level of both parties in the conversation must be lower than the level of the monitoring station.

A station with a monitor level of 0 cannot monitor any other station.

Programming

Form 40-[station]-02, Monitor Level determines the hierarchy within the system. Valid settings for this option are from 0 to 9. A station with a monitor level of 0 cannot monitor any other stations.

Operation

1. A station user dials a busy extension (or presses a DSS key).
2. The user will hear a busy signal.
3. The station user dials [#].
4. The monitoring station enters the conversation in a listen only state. The monitor will remain in place until one of the parties hangs up.

Note: If a station with a lower Monitor level attempts to monitor a station with an equal or higher monitor level, the station will be returned a busy signal by the system. The monitor will not be allowed.

Music on Hold

Description

Music On Hold provides the capability to provide an audio source for callers on Hold. Music On Hold provides a reassurance to callers that they have not been disconnected. TD-824i digital telephone system provides connections to allow an external audio source to be connected or an internal music synthesizer to provide a "music box" effect.

Conditions

Music source can be internal (music synthesizer or quiet termination) or an external source (separate audio device). If no source is connected to the TD-824i digital telephone system while the system is programmed for the external music source, held callers will hear nothing (silence).

Programming

TD-824i Music source must be selected on Form 05-08-08. The options are:

05-08-08. Music source selection		
This parameter sets the Music Source for the Internal Background Music and CO Music on Hold.		
Set Data	B.G.M.	M.O.H.
0	Melody IC	Melody IC
1	External Source	Melody IC
2	Melody IC	External Source
3	External Source	External Source
4	Silence	SLT music port (Form 03-port-02 = 7)
5	Silence	SLT music port (Form 03-port-02 = 7)
6	Silence	DND tone

05-11-03 – Music On Hold/Ringback on Transfer

This parameter selects what the incoming caller will hear during Ring Transfer and Hold Recall conditions. The feature is designed for the U.S. to prevent the caller from hearing recognizing the TD-824i International Ring Back Tone and mistake it as a disconnect or busy signal and hanging up even though their call is still in progress.

0 = Ring Back Tone	1 = Music On Hold	2 = Silence
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To activate background music, press the pound key.

Mute

Description

Mute provides the ability to temporarily turn off the Microphone on Speakerphones, the transmitter on the telephone handset and the microphone of a headset, if the telephone is equipped with a headset.

Conditions

None.

Programming

None

Operation

To mute the microphone on a Speakerphone:

Press the [MIC/AT] button on the telephone. The LED on the [MIC/AT] button will flash.

To restore the microphone on a Speakerphone:

Press the [MIC/AT] button on the telephone. The LED on the [MIC/AT] button will light steady.

To mute the handset transmitter or the headset microphone:

While in the handset mode or the headset mode, press the [MIC/AT] button. The [MIC/AT] button will flash. The microphone is muted.

Restore the transmitter or the headset microphone:

While in the handset mode or the headset mode, press the [MIC/AT] button. The [MIC/AT] button will be extinguished. The microphone is operative.

Night Service

Description

TD-824i digital telephone system provide three distinct modes of operation. The three modes are Day Service, Lunch Service and Night Service. Each service provides separate operating characteristics.

Conditions

Items under control of Day and Night Service are:

1. Flexible CO Incoming Line Assignment and Flexible Ringing Assignment.
2. Toll Restriction Plan
3. DISA
4. External Call Forwarding
5. Hunt Groups

Night Service switching can be manual or automatic.

If Night Service is automatic, the Day Service/Night Service intervals are programmable.

A System in Automatic switching mode can be changed to manual mode for a special circumstances and then returned to Automatic operation when desired.

Information regarding the actual day of the week and time of day is kept by the system real time clock located on the main Key Service Unit. Initial setting of the real time clock is done on Form 11 and includes day of week, date, month, year as well as hour and minutes. The system real time clock is provided with a battery backup and will keep the clock accurate for a minimum of 1200 hours in the event of a power failure.

Programming

Flexible CO Line Ring Assignment, Form 01-[CO line]-[stations] (see page 49 of this document).

Toll Plan, (see page 174 of this document).

DISA (see page 67 of this document).

External Call Forward (see page 89 of this document).

Hunt Group (see page 106 of this document)

Form 20-[DAY], Define Day Time Schedule. This form defines the day service interval for each day of the week. The night interval is any time not included in the day service interval. There is a separate definition for each [DAY] of the week. The [DAY] field of the programming information is a two digit code that defines each day of the week according to the table below:

Form 20- [DAY] Definitions		20-00 = Sunday
20-01 = Monday	20-02 = Tuesday	20-03 = Wednesday
20-04 = Thursday	20-05 = Friday	20-06 = Saturday

The system is capable of switching automatically between day / lunch break / night settings using the time parameters set in this Mode. To change from manual to automatic night switching the console presses **[PRG] / [TRF/FL] / ***. Pressing * toggles between the 2 modes.

If a Function key has been set to function 52 then pressing this key will change from Day to night mode by one touch but will not change between Automatic and Manual switching.

Example

20-01 Day Time 08 30 17 00 12 30 13 30

On Monday the system will switch from nighttime to daytime start at 8:30 in the morning, will switch to lunchtime start at 12:30, switch back to daytime at 13:30 and switch to Nighttime at 17:00. To program no lunchtime leave the entries for items on 00.

Stations with control of Night Service should have a pushbutton programmed for Day/Night Service indication and switching.

Operation

Manual Operation- In the manual mode of operation a Night key is programmed on your telephone set. To turn Night Service on and off, simply press the key. If your company has flexible hours of operation, this method may be appropriate for you.

Automatic Operation- If your business operating hours are well defined, you may elect for the system to automatically place itself in the night and day mode at the times you define. A programmable schedule provides for times to be determined for each day of the week. Automatic Operation requires system program number 20 to be set up which defines the day and night periods.

Manually Switching Between Day and Night Service:

1. Press **[NIGHT]**. The system will toggle between Day Service and Night Service with each press of the button. The Night LED will flash and NIGHT will be displayed in the upper right corner of LCD Telephones.

System Console Operators may select whether the TD-824i system provides automatic Day-Night Service Switching or manual switching.

Selecting Manual or Automatic Switching:

1. Press **[PGM]**, **[NIGHT]** or **[PGM]**, **[TSF]**. LCD display will depend on the mode that is currently in operation on the system. Display will be one of the following:

Day Status If the system is presently in Day Service with Day/Night Switching set to manual.

DAY TIME hhmm If the system is in Automatic Day/Night
hh:mm To hh:mm Switching Mode.

Night Status If the system is in Night Service with
manual switching.

Night Transfer If you are in the process of changing the
Auto switching type.

or
Night Transfer
Manual

2. Press **[*]** to toggle between the switching modes, either Automatic or Manual.

Note: This setting does not switch the system between Night And Day service unless you change from manual to automatic switching and the time period dictates that the mode is opposite of what is presently operational. In other words, if you are in Day Service mode with manual switching and you change to Automatic Switching, if the system is programmed for Night Service to be active at that time, the system will switch into Night Service. Only Telephone Sets programmed as the Console Operator can switch between automatic and manual modes of operation.

Also note that when a change occurs between Night Service and Day service, the LCD will not update and discontinue the NIGHT indication until the station has been cycled off hook

Numbering Plan

Description

The TD-824i digital telephone system allows programming of stations using two digit station numbers, three digit station numbers, or four digit station numbers.

Note: The numbering plan described does not take into consideration the possibility of utilizing the Single Digit Dialing Option in the system. All stations must be assigned a station number of the digit length selected on Form 05-03-06. See also, Single Digit Dialing, page 152 of this document.

Conditions

If two digit numbering is selected, valid combinations for station numbering are 10-69.

If three digit numbering is selected, valid station numbers are 100-699.

If four digit numbering is selected, valid station numbers are 1000-6999

TD-824 System default database provides two digit station numbering.

Under default database: The first system station card is programmed 11-18

The second system station card is programmed 19-26.

The third system station card is programmed 27-34.

Programming

Form 05-03-06, Station Number Digit Length controls the digit length of stations. Valid settings for Form 05-03-06 are 2,3, or 4, which correspond to the actual digit length.

Form 43 allows reassignment of stations. Form 43-[port#]-01 shows the assigned station for each port. The form is used when it is desirable to reprogram the station number to something other than the default assignment.

If Single Digit Dialing is selected within the system, it is necessary to dial [6] + the actual station number to reach any station that is not a part of the station's single digit dialing plan. However, DSS calling is not affected. For more information, see Single Digit Dialing, page 152 of this document.

Operation

None.

Off Hook Call Announce

Description

Off Hook Call Announce (OHCA) allows a station to make an announcement to a busy station. The outside party does not hear the OHCA intrusion.

Conditions

Off Hook Call Announce will not operate on stations with Call Forward Busy programmed or with stations that have enabled Form 78-st-04, Call Forward Busy to a Hunting Group.

Programming

This option is controlled by Form 40-st-01. In order to OHCA another station the initiating station must of equal or higher numeric value.

Operation

A station calls a busy station and hears busy tone. The station initiating the OHCA presses [1]. A tone is heard by the initiating station and the receiving station.

The receiving station will hear the initiating station on the handset (or speaker, if the caller is on a speaker call).

The outside caller connected to the receiving station will not hear the intrusion.

For the receiving station to converse with the initiator, the outside call must be placed on hold.

Off Hook/Camp On Ringing

Description

Off hook/Camp On ringing will notify a station user of another call at the telephone set. This is particularly important to attendant answering positions. The ringing during an off hook ringing volume level is programmable on a per station basis and will not be the same ringing cadence as an incoming call on an idle telephone. It is designed and intended to provide a subtle reminder of another call coming into the system.

Conditions

Off hook/camp on ringing will be heard in the following conditions:

1. Another CO line has been Camped ON to a busy station.
2. A hold recall is recalling a busy station.
3. A new incoming call is arriving at a station programmed to ring and that station is busy.

Muted ringing will be heard under any of the above conditions whenever the handset is lifted (Digital set only). The volume of the muted ring level is programmable by each station user.

Single Line telephone sets are notified by tone signaling through the handset while off hook if Form 05-08-03 is programmed to a value other than 0=Disable (Default). Tone signaling of off hook single line telephone sets will be heard at the interval set on Form 05-08-03.

Voice Mail classed ports are exempt from receiving any kind of camp on or intrusion tone.

Programming

1. CO line must be programmed as Incoming Common Audible. Form 35-[CO]-07 (Day Service) or 35-[CO]-08 (Night Service). (CO=CO Line number).
2. Off Hook Ringing/Camp On Cycle time may be adjusted. (Form 05-01-05)
3. If single line telephones are to receive audible tone over the handset while busy, Form 05-08-03 should be programmed to 1 or higher to Enable. If no tone is desired, Form 05-08-03 should be programmed to 0=Disable.

Operation

Operation is automatic.

On Hook Dialing

Description

On Hook Dialing permits all TD-824i digital telephone sets to dial an intercom or external call without lifting the handset. The station user can make a call with the handset on hook. There is no need for the station user to lift the handset until the call is answered.

Conditions

This feature can only be accessed by a TD-824i digital telephone set.

Programming

Form 05-13-01 =1

Operation

To place an intercom call while telephone is on hook:

Press [DSS] key
OR
Dial station number.

To place a CO call while telephone is on hook:

Press [CO] key. Dial desired number.
OR
If Dial [9] is active, dial [9]. You will be connected to a CO line. Dial desired number.

Operator Code

Description

TD-824i digital telephone system allows selection of the digit required to access the system operator. The capability exists to access the operator by dialing [0] or [9], depending on system programming. This setting will also toggle the main trunk group selection access code.

Conditions

If the system is programmed for operator access by dialing [0], main trunk group access will be via the access code [9].

If the system is programmed for operator access by dialing [9], main trunk group access will be via the access code [0].

The "operator" is the first available station in the console group to which a station is assigned.

Programming

Operator Code, Form 05-06-05 determines whether the operator will be accessible by dialing [0] or [9]. Valid settings are:

Operator Code, (Form 05-06-05)	0=[0] for Operator [9] for Trunk Group	1=[9] for Operator [0] for Trunk Group
---------------------------------------	---	---

See also, Console Assignment, page 53 of this document.

Operation

A station that goes off hook and dials the valid operator code as per Form 05-06-05 will be routed to the first available station in his assigned console group.

Override

Description

Override allows certain stations the ability to intrude into the conversation of other stations. Override capability is a hierarchical feature. Stations are assigned an Override Level from 0 to 9. Within that hierarchy, a station may override another station of equal or lesser override status. Upon intrusion, an audible tone will be heard by all parties in the overridden conversation, to notify them that the conversation is about to be overridden.

See also, Monitor, page 122 of this document.

Conditions

The station being overridden must have an override level that is equal to or less than the station invoking the override.

A station with an override level of 0 cannot override any other stations.

Programming

Form 40-[station]-01, Override Level determines the hierarchy within the system. Valid settings for this option are from 0 to 9. A station with an override level of 0 cannot override any other stations.

Operation

1. A station user dials a busy extension (or presses a DSS key).
2. The user will hear a busy signal.
3. The station user dials [0].
4. An override tone will be given to the party being overridden. If equipped with LCD, the caller will receive a visual indication that he is being overridden.
5. A three-way conference is created. This conference will remain in place until one of the parties hangs up.

Note: If a station with a lower Override level attempts to override a station with a higher override level, the station will be returned a busy signal by the system. The override will not be allowed.

Paging

Description

This feature allows station users to provide audible notification through the telephones and if equipped, an external paging system(s).

Conditions

The TD-824i digital telephone system supports five paging methods:

1. Internal Zone (1-8).
2. All Internal Zones.
3. External Zone
4. All External Zones.
5. All Call.

A station in Do Not Disturb will not receive paging.

An attention tone will be heard prior to any page so that personnel are alerted to a forthcoming page.

Programming

Internal paging zones are assigned to individual stations as a function of Group Assignment, Form 41-[station]-01. Valid settings are 1 through 8 and correspond to system Pickup Groups. See also, Group Assignment, page 99 of this document.

Any stations to be exempt from receiving paging may be programmed on Form 40-[station]-06.

Programmable options for this function are:

Paging Exempt, (Form 40-[station]-06)	0=Receive Paging	1=Exempt From Page
--	------------------	--------------------

In order to control Access To Paging, Form 40-[station]-05 controls individual stations' access to system paging. Valid options for this setting are:

Access To Paging, (Form 40-[station]-05)	0=Access	1=No Access
---	----------	-------------

Operation

For all stations, paging can be accomplished by the following:

1. Lift the handset or press [SPK], dial [#] or press [PAGE] key if programmed.
2. Dial Paging Type:
 - A. For Internal Zone Paging Dial [2]+[1-8#] (Eight zones in system).
 - B. For All Internal Zones Dial [1].
 - C. For External Zone Page Dial [3] plus Zone (1-2).
 - D. All External Page Dial [9].
 - E. For All Internal Zones and External Dial [0].
3. Make paging announcement.
4. Hang up telephone.

Paging, Meet Me

Description

Meet Me Paging allows a paged party to reply to a paging announcement.

Conditions

Only one station can answer a page.

In order for a station to access meet me page, another station must be connected to a paging function.

Programming

None

Operation

Operation of Meet Me Paging is as follows:

1. Station accesses paging (any mode, see Paging, page 133 of this document) and remains off hook.
2. The station wishing to "meet" the paging party goes off hook (or presses [SPK]) and dials [#]+[*] or the Meet Me page key.
3. The originating station is removed from the page circuit and placed in conversation with the "meet" station. Conversation may now be carried on as if it were a normal intercom conversation.

Passwords

Description

The TD-824i digital telephone system provides password protection for system programming, DISA, a master Toll Override password and a DISA monitor password.

The programming password is blank in system default database.

DISA password is 3472 in system default database.

Toll Override Password is 8655 in system default database.

The DISA monitor password is blank in system default database.

If a password is entered in the system database, any future access to the system will require the entry of the password.

Conditions

None.

Programming

Form 13-01 is the System Programming password. By default it is set to dddddd, which is the symbol for "Don't care." any changes in the entry should be programmed with "Don't care" characters trailing the password. It may be changed to any numeric combination up to eight digits in length.

Form 13-02 is the DISA Access password. By default it is set to 3472dddd. Any changes in the entry should be programmed with "Don't care" characters trailing the password. It may be changed to any numeric combination up to eight digits in length.

Form 13-03 is the Toll Override password. By default it is set to 8655dddd. Any changes in the entry should be programmed with "Don't care" characters trailing the password. It may be changed to any numeric combination up to eight digits in length.

Form 13-04 is the password for DISA access to either of the two door phones or to monitor a station via DISA. By default it is programmed to "ddddd." In any situation, if DISA is activated on the system, this password should be programmed with some code. As with other passwords, it should have any un-programmed trailing digits programmed as "don't care" digits.

Form 13-05 is the password for ACP (Access Control Phone)

Note: "Don't Care" is programmed by pressing the [DND/CN] key.

Operation

For entry into system programming, the following steps apply:

1. From a TD-824i digital telephone set, press [PRG].
2. Press [2].
3. Enter Password (if programmed).
4. Press [SAVE].

For DISA Operation, see Direct Inward System Access, page 67 of this document.

For Toll Override operation, the following steps apply:

Stations that have no CO access (Class 8) may not utilize the toll override password.

1. Access a CO line (either by dialing 9 or by pressing a line key).
2. Press [PRG][ACCT].
3. Enter Toll Password.
4. Press [SAVE].
5. If the password is accepted, you will be released from any system toll control requirements. If an incorrect password is entered, the system will superimpose busy tone on the CO line and disable the keypad from dialing on the CO line.

Pause

Description

Pause is used to tell the TD-824i digital telephone system to wait between digits while dialing, using speed call. The most common uses of pause are while waiting for CO dial tone and while waiting for a dial up service to answer.

Conditions

If a pause is required that is longer than the length of time programmed for an individual pause, multiple pause entries may be placed in a dialing string to provide a longer pause time.

Programming

Form 05-01-06, Pause Time Duration defines the length of time that dialing is suspended when a pause command is encountered in a dialing string. The valid settings for this parameter are:

Pause Time Duration, Form 05-01-06			
		0=400 milliseconds	1=600 milliseconds
2=800 milliseconds	3=1000 milliseconds	4=1200 milliseconds	5=1400 milliseconds
6=1600 milliseconds	7=1800 milliseconds	8=2000 milliseconds	9=2200 milliseconds

When programming a speed dial number (either station or system), the hold button will enter a pause command. LCD telephone sets will display the pause as [P] in the dialed number display.

Note: Each pause programmed in a dialing string counts as one digit in the overall length of the stored number.

Operation

Operation is automatic.

Pick Up Groups

Description

Pickup groups provide the ability to answer a call ringing at another telephone within your own group by dialing an access code.

Conditions

The station you wish to pick up must be in your group in order to answer using the pickup group code.

Programming

Form 41-[station]-01, Group Assignment must be programmed to the same number for every station that is to be in the same group. There are 8 groups available in the system. The assignment of groups is arbitrary, but all members that wish to be in the same group must share the same group number.

Program a key on a telephone for Pickup Own Group. Function Code 35. Key group assignment is Program 7.

Operation

To pick up within your own group:

1. Lift Handset or Press [SPK] button (This step is optional).
2. Dial [*] [0] or press [PICKUP].
3. You are connected to the calling party.

Port Specifications

Description

Port Specifications, Form 43 of system programming contains information for the system administrator to observe about system configuration and operation. It provides both a method for checking and in some minor instances, changing the information and configuration of the system.

Conditions

The information contained on this form is not exhaustive of the system resources. There are some instances where the information shown is in error. However, this is usually due to changes made to the system while the system is operational.

Programming

Form 43 has only three active parameters. All others are reserved for future use. The format for Form 43 is 43-[port#]-xx, where:

TD-824 [port#] is the target port being examined. Port numbering is for stations only and follows this format:

- Ports 11-18 = the eight station ports on station card 1
- Ports 21-28 = the eight station ports on station card 2
- Ports 31-38 = the eight station ports on station card 3

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The information provided for each port is:

43-[port#]-01 = Station Number. This Form will show the existing station extension number. It may be changed to any valid system station extension number (10-69, 100-699, 1000-6999). The length of the station extension number is determined by the setting in Form 01-03-06, Station Number Digit Length. For more information, see Station Number Digit Length, page 166 of this document.

Form 43-[port#]-02 = Equipment Type. This parameter indicates the type of telephone set equipment that is detected by the TD-824i digital telephone system. The settings for this parameter are:

Equipment Type, (Form 43-[port#]-02)	0=No Equipment Detected
1=Digital Telephone without LCD (TD-DK1-S or B)	2=Digital Telephone with LCD (TD-DK1-D)
3= Dual Port Connection- Digital Telephone with Hybrid Card Installed	4=Single Line Telephone Set
5=Reserved	6=Reserved
7=Reserved.	8=Voice Mail Port
9=ISDN Device	D=Doorphone

It is possible in some instances due to cable length and other factors, that the system may report erroneous information on the equipment type. In those instances, the correct type of equipment should be entered on this form.

Operation

None.

Power Up Volume Adjust

Description

TD-824i digital Telephone Sets provide default levels for all digital sets for Ringing, Handset Volume, Speaker Volume, Frequency, Microphone Level, Camp On Tone Volume. The telephone sets also allow station users to program their own preferences to override the factory default settings. After a power failure or whenever a telephone set is disconnected from its cable, the telephone is restored to the factory default settings.

If Power Up Volume Adjust is enabled, the system will store and reinstate the user volume preferences instead of the power up default settings after a power failure or set disconnection and reconnection.

Conditions

None

Programming

None

Operation

Operation is automatic. If power up sequence is enabled, each electronic set will perform a power up adjustment. This may cause temporary changes in volume for ringing telephone calls or new calls that are answered during the power up test. The telephones are fully operable and the condition will cease when the power up sequence is completed. LCD sets will display a power up sequence that may overwrite incoming call information. This will cease as soon as the power up sequence has complete.

Prime Line Select

Description

Prime Line Select connects a TD-824i digital telephone set directly to an outside CO line when the handset goes off hook.

When Prime Line Select is active, an idle station will be connected directly to the first CO line in its Dial 9 group when the handset is lifted. When Prime Line Select is inactive, lifting the handset will return intercom dial tone. In either case, pressing the [SPK] key will return intercom dial tone.

Conditions

Prime Line Select works only in conjunction with TD-824i digital telephone sets.

Dial 9 Activation (Form 05-04-02) must be enabled on the System.

One or more CO lines must be programmed in the Dial 9 group that is assigned to a station.

Programming

Form 05-04-02 (Dial 9 Activation) must be programmed as 1 (Enable) in order for the system to allow a dial 9 group to be accessed.

Form 41-STN-04 (Station Dial 9 group) must be programmed to the appropriate CO line group for the station. Valid settings are 1 through 8 and correspond to the eight groups that may be programmed on Form 44.

Form 36-Group (CO Line Groups) must be programmed to have CO lines in any group that is assigned through Form 41-STN (Station Dial 9 Group) as listed above.

Operation

To activate or de-activate:

While the telephone is idle, Dial [7][7][1].

Prime Line Select will be toggled off if it was previously on. It will be toggled on if it was previously off.

Note: When Prime Line Select is operational, you may access intercom dial tone by pressing the [SPK] button before lifting the handset.

Prime Line Select is not active when your telephone is ringing.

If the system is powered down or turned off for any reason, the Prime Line Select Information will not be reinstated upon system power up.

Privacy Release / 1A2 Emulation

Description

This feature allows station users to join a conversation in progress with outside lines and other station users. A station user must have a class of service option enabled in order to join a call in progress. You may temporarily invoke privacy to reject others attempts to join your conversation, if desired, through the use of a privacy release key. This feature may be activated on all lines, or only specific lines as required.

Conditions

Both stations and lines can be specified as to whether or nor access is allowed. A privacy key may be programmed on the telephone set to temporary disable access from other station users. This privacy can be invoked on a per call basis.

Programming

1A2 Emulation is enabled or disabled in accordance with the following table:

29-TK-06	78-ST-03	Status
0	N/A	Emulation Access Denied
1	0	Emulation Access Denied
1	1	Emulation Access Enabled with tone
1	2	Emulation Access Enabled without tone

Form 07 is where you can program 1A2 Privacy Key. When this key is pressed, other station users cannot enter the conversation. The feature code is FN:24.

Operation

To join in on a conversation:

1. Dial desired party and hear busy tone
2. Press desired **[CO]** line key. Your telephone set will be connected to the call in progress on that line.

To invoke privacy:

1. If you are on a conversation and you would like the conversation to remain private, press the privacy key. The privacy key will light indicating the call's status as private.

Note: In system programming individual lines may or may not be permitted 1A2 Emulation. Also, individual stations may be allowed the ability to invoke the feature by pressing the line and entering into the conversation. Certain station users may elect to invoke call privacy by pressing the privacy key.

Relay Assignment

Description

Relay Assignment provides the capability to utilize the relay present on the MSC card of the TD-824i digital telephone system. The TD-824i has a total capacity of 1 relay

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The function of the relays is controlled on Form 06-[relay]. The possible assignments for the relay is listed in the Programming section of this page.

Conditions

TD-824i One relay is provided per MSC card.

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Each relay is a dry contact closure. No voltage is provided by the system, the installer will have to provide their own source to suit the application. Only use the relays to switch 24V. They are only designed for low voltage control circuits. All Relays are Normally Open contacts and will close on activation of the function for which they have been programmed.

Programming

Relay Assignment, Form 06-[relay] assigns each relay to its function. The entries for Form 06-[relay] are two digit entries. Valid assignments are:

Relay Assignment, (Form 06-[relay])		00=No Operation
01=Music On Hold	02=Door Open Relay	03=Line Loud Bell
04=Station Loud Bell	05=Station Loud Bell	06=System Reminder
10=All Zone Page	11=External Zone 1 Page	12=External Zone 2 Page

Operation

Music On Hold - Activates relay closure whenever a station or CO line is placed on Hold in the system.

Door Relay – The door relay activation time is controlled by Program 05-12-04.

Line Loud Bell - Provides an interrupted relay closure when a CO line that is programmed to ring a loud bell receives an incoming call. See CO line programming, page 47 of this document.

Station Loud Bell - Provides an interrupted relay closure when a station is called that has been programmed to activate a relay on Form 40-[station]-04.

Note: A station that is programmed to ring on incoming CO line calls that is also programmed to use the Station Loud Bell will cause the Loud Bell to ring any time the telephone rings.

System Reminder - Provides a continuous relay closure for the duration of any timed system reminder. See also, System Reminder on page 169 of this document.

Remote Programming Service - System to System

Description

TransTel dealers who have a system set up their office using TransTel digital display telephone sets may dial up a customer location that has a TD Series System and connect remotely. Once connected, programming changes can be made by the dealer through the digital telephone set as if they were on site at the customer premise.

Conditions

Remote programming requires a modem and analog port at both locations. This feature is only available for LCD phones. The LCD phone at the remote site must be kept idle during the remote programming.

Programming

None

Operation

Analog trunk

Both Sides need a TD-824i with MODEM connected to an analog port.

Method:

1. Use a CO line of the TD-824i to call your customer, also equipped with an TD-824i and a modem connected to an analog port.
2. Ask the remote site to press [PRG][*][Station number of MODEM port] and then hang up the handset.
3. Press [PRG][#][Station number of MODEM port] and then hang up the handset at the control site for handshaking.
4. After successful handshake, the LCD will display "Remote Pgm Ready" on both sites.
5. Press [PRG][2] the control site can enter the system programming of the remote site.
6. The LCD will display the same programming information for both sites.
7. After programming, press [SPK] to exit the programming and transfer the trunk to the original station and continue the conversation.

ISDN Trunk

Both Sides need TD-824 SIU ISDN Basic Rate Interface Cards.

Method:

1. Use ISDN of the TD-824 to call another ISDN line of TD-824 at the remote site.
2. Ask the remote site to press [PRG][*] and then hang up the handset.
3. Press [PRG][#] and then hang up the handset at the control site for handshaking.
4. After successful handshake, the LCD will display "Remote Pgm Ready" on both sites.
5. Press [PRG][2] on the control site to enter the system programming of the remote site.
6. The LCD will display the same programming information for both sites.

After programming, press [SPK] to exit the programming and continue the conversation.

Reset Data

Description

Reset Data, Form 25 allows all system data to be erased. It may also be used to provide less than a total system data reset. The system data may be reset, but the system speed call can be left intact if desired.

Conditions

A complete system reset should always be performed on a new system, prior to system programming.

Programming

Form 25 provides the ability to reset system data. This form should be used with care. It is capable of completely removing all system database information. There is no ability to restore a database within the system after it has been reset. Valid settings for Form 05 are:

System Data Reset, (Form 25)	1=Reset All Data except System Speed Call
2=Complete System Reset	3=Reset with Hold and Split Disabled
4= Reset with Barge In and Monitor disabled	

Note: If [3] is entered on Form 25, all system data will remain intact except that Form 25-[station]-01 will be set to [1] (Hold feature restricted) and 25-[station]-03 will be set to [1] (Call Split Feature restricted).

If [4] is entered on Form 25, all system data will remain intact except that Form 40-[station]-01 will be set to [0] (Barge In Disabled) and 40-[station]-02 will be set to [0] (Monitor Disabled).

Operation

Access to Form 25 is through normal system programming. See System Programming, page 168 of this document.

Ring On / Ring Off Timers

Description

The Ring On Timer, Form 05-02-07, determines the minimum amount of time that ringing voltage must be applied to a CO line for the TD-824i digital telephone system to identify a line as having an incoming call. Any ringing signal that does not meet or exceed the minimum time defined will be ignored. This is useful in applications where there is a significant amount of noise present on CO lines that could cause false ring signal.

The Ring Off Timer, Form 05-02-08, determines the maximum time that a CO line will ring without further ringing voltage from the Central Office.

The combination of these two timers provide the ability to "fine tune" the TD-824i digital telephone system to work with Central Offices of varying ringing cadences.

Conditions

None

Programming

Ring On Timer, Form 05-02-07, valid settings are listed below:

Ring On Timer, (Form 05-02-07)		0=160 milliseconds	1=200 milliseconds
2=280 milliseconds	3=400 milliseconds	4=480 milliseconds	5=600 milliseconds
6=680 milliseconds	7=800 milliseconds	8=880 milliseconds	9=1000 milliseconds

Ring Off Timer, Form 05-02-08 parameters are listed below:

Ring Off Timer, (Form 05-02-08)		0=2 seconds	1=2 seconds
2=2 seconds	3=3 seconds	4=4 seconds	5=5 seconds
6=6 seconds	7=7 seconds	8=8 seconds	9=9 seconds

Operation

Operation is automatic.

Ring Line Immediate Connect

Description

This function allows a station user to pick up the handset and be connected directly to a ringing line. If more than one line is ringing on the telephone set, the telephone set will be connected to the oldest call ringing.

Conditions

The incoming line must be programmed for ringing in order to be directly connected to the station.

Programming

Line ringing assignment. Form 01 and 02.

Operation

2. Station rings. Station user picks up handset.
3. Outside line is connected to station.
4. If telephone set is equipped with LCD, display will show name of CO line if programmed.

Room Monitor

Description

Room Monitor provides a method for any station to monitor a specific idle telephone location.

Conditions

The station to be monitored should be a TD-824i digital telephone equipped with speaker phone capability. Room monitor can be performed on a Single line telephone, but the audio quality will be much lower than from a TD-824i digital telephone set.

Programming

None Required.

Operation

From the telephone set that is to be monitored:

(If activating Room Monitor on a single line telephone, lift the handset, and then proceed).

Dial [7][7][0]. The LCD (if equipped) will display:

XX Room Monitor Mon May.03 12:59

XX= Station number. (The date is shown for illustration purposes only. The actual time and date will be posted on the LCD).

In order to remove a telephone from Room Monitor mode, lift the handset and replace it. Room monitor mode will be cancelled.

To monitor:

While a station is in Room Monitor Mode, any station within the system can monitor the ambient room sounds by dialing the station number that is in the monitor mode. The connection made is a two way connection to that station. It is not a silent monitor mode. You may mute your transmitter by pressing the [MIC/AT] key.

Any station that calls a station in the room monitor mode may terminate the monitor session by hanging up.

The station that is in Room Monitor mode will remain available for room monitor until it is removed from the Room Monitor mode.

Saved Number Redial

Description

Saved Number Redial permits a station user to store a number in memory for use at a later time. This function differs from Last Number Redial and Automatic Last Number Redial in the fact that it requires active user participation and that the stored number will remain available after other calls have been made.

This feature also allows a station user to repeatedly dial a number that is busy or does not answer. Once invoked, it will automatically call the Saved Number a pre-determined number of times.

Conditions

There are two methods of storing numbers for Saved Number Redial, Automatic and Manual.

Total stored digits cannot exceed 32.

Saved Number Redial is not available to single line telephone sets.

Programming

Form 05-02-03, Auto Redial Wait for Answer Time determines the amount of time that the telephone will remain off hook, waiting for an answer. It should be noted that should the called telephone number answer during this time period, the call will still be abandoned at the end of this time period if no action is taken by the station user. Action refers to lifting the handset and talking with the called party. The valid parameters for this options are listed below:

Auto Redial Wait for Answer Timer Form 05-02-03			1=10 seconds
2=20 seconds	3=30 seconds	4=40 seconds	5=50 seconds
6=60 seconds	7=70 seconds	8=80 seconds	9=90 seconds

Form 05-05-07, Auto Redial Attempts controls the amount of times that Saved Number Redial will Auto dial a Saved Number before abandoning any further attempts. Valid settings are listed below:

Auto Redial Attempts Form 05-05-07		0=No Attempts	1=3 Attempts
2=6 Attempts	3=10 Attempts	4=20 Attempts	5=30 Attempts
6=40 Attempts	7=50 Attempts	8=60 Attempts	9=70 Attempts

Form 05-05-08, Auto Redial On Hook Timer programs the idle interval between call attempts. The valid options for this parameter are listed below:

Auto Redial On Hook Timer Form 05-05-08		0=10 seconds	1=20 seconds
2=30 seconds	3=40 seconds	4=50 seconds	5=60 seconds
6=70 seconds	7=80 seconds	8=90 seconds	9=100 seconds

Operation

Saving a Number:

Automatic:

1. Dial a telephone number.
2. Any time prior to disconnection of the call, press [SAVE].
3. The system will store the saved number until it is overwritten by either another Automatic Entry, or a Manual entry.

Manual:

1. While on an outside call, press [SAVE].
2. Dial a telephone number (No DTMF tones will be heard).
3. The number will be saved until it is overwritten by either another Automatic Entry, or a Manual entry.

Auto Saved Number Redial :

While telephone is on idle, press [SAVE] pushbutton. The TD-824i digital Telephone system will access the line that was in use when the number was saved if it is available. If the line is not available, the system will access another line in the user's dial 9 group. The digits will be outputted by the TD-824i digital Telephone system.

The Auto Saved Number Redial portion of the function is canceled if any station user action is taken. Pressing the [MIC/AT] button or lifting the handset while a call is in progress will cancel the off hook timer and the call will remain in place. Pressing the [SPK] button while the call is in progress will abort the Auto Redial function. Placing another call during the On Hook timer (while the telephone is idle) will abort the Auto Redial function.

Note: Pressing the [SAVE] pushbutton while on any outside line will automatically overwrite any number stored in the Saved Number Redial memory.

Sensors

Description

System Sensors provide the ability to notify station users of activation of sensor circuits within the system.

The TD-824i supports one sensor per system.

The two types of alarms generated by activation of a sensor circuit are Latching and Non-Latching.

Latching alarms will be activated when the sensor condition changes and will remain activated until reset by access code or approximately 10 minute time out. During this time, selected stations in the system will receive ringing notification of alarm activation.

Non-Latching alarms will be activated when the sensor condition changes. If the sensor condition returns to the idle condition, the alarm will be removed. The only method of removing a non-latching alarm is to correct the condition that caused the alarm.

Conditions

The TD-824i system supports one sensor.

Sensor may be programmed to accept either an open or closed loop condition to invoke an alarm.

Programming

Form 39-[SENSOR]-01 selects the particular use for the sensor in the system:

Form 39-[SENSOR]-01		
0=Sensor Disabled	1= Latching Operation	2= Non-Latching Operation

Operation

Once installed, the activation of sensor circuit is controlled by the external equipment to which they are connected. Activation will cause selected telephones in the system to ring.

Latching Alarm - This alarm will ring all telephones for approximately 10 minutes, as soon as it is activated. The alarm may be silenced by dialing [7], [7], [7] from any telephone.

Non-Latching Alarm - This alarm is activated when the sensor changes from its programmed idle state. When it is activated, selected telephones in the system will ring. The alarm will stop when the sensor is returned to its normal idle state.

Shift Key Assignment

Description

The shift key allows you to use an alternate key map. It is used primarily when you have a use for more keys than your telephone is capable of displaying. This requires system programming to enable.

Conditions

There a total of 8 key groups in the system

Programming

Form 41-ST-03 Shift Key Assignment. Enter the key plan that will be effective when this station user presses the Shift Key. Valid entries are one through eight.

Operation

Press your SHIFT key (which has been programmed on one of the DSS buttons on your telephone. The SHIFT key will light. While you are in SHIFT key mode, your telephone will operate as if it is in the SHIFT key group. To return to your own group, press SHIFT key again and the SHIFT light will go out. You are now in your telephone's regular key group.

Single Digit Dialing

Description

TD-824i digital telephone systems have the capability to provide access to up to five stations by a single keystroke. Incoming DISA callers may also have access to this function. For more information on DISA Single Digit Dialing, please see page 74 of this document.

There are up to eight groups programmable on each Superkey system. With the group capability, single digit dialing can be set up for intra-department single digit access. Through the use of groups, any work group of up to five stations can be set up for single digit access.

Conditions

Only the digits [1]-[5] are allowed for single digit access.

Eight single digit groups are available per system.

If Single Digit Dialing is enabled on the system, eight groups of five stations may be accessed by a single digit dialing but only by Stations within the same group. Should a station user wish to dial a station that is not included in his Single Digit Dialing Assignment, but beginning with one of the single digits used in his group, the station user must dial [6] + the actual station number of the desired station. In other words, if the digit '1' was used as a single digit to call station 111, a station in the same group who wanted to dial station 112 or 113, etc. must dial '6' to defeat the single digit '1', otherwise they would get station 111 as soon as they dialed the first '1'.

For further information on system Numbering plans, see Numbering Plan, page 127 of this document.

Programming

Single Digit Dialing,

Form 05-04-07 controls system activation of single digit dialing. Valid settings are: '0' to disable the single digit feature and '1' to enable it.

Form 10-[group]-[station] is used to assign destination stations for each of the five available single digit positions in a group. Each location is assigned a station number, so that it can be reached by dialing the corresponding single digit. For example:

If the system is programmed: 10-01-01 = Station 121
 10-01-02 = Station 122
 10-01-03 = Station 117

A station that is assigned to group 01 will be able to call station 121 by dialing [1]. They will be able to dial station 122 by dialing [2]. They can call station 117 by dialing [3].

Form 41-stn-01 determines to which Intercom Single Digit Assignment Group (Form 10, above) an individual station belongs. The combination of this programming option and the Single Digit Assignment Groups allow the TD-824i digital Telephone System to provide up to eight different single digit dialing patterns. See also, Group Assignment, page 99 of this document.

Operation

1. Lift the handset (or press the [SPK] key).
2. Dial a single access digit ([1]-[5]).
3. The station programmed in the single digit assignment is called. Normal intercom calling rules apply. A busy station will return busy tone, a station in DND will return DND busy tone, etc.

Single Line Telephone Support

Description

All TD-824i digital Telephone Systems have the capability to operate in conjunction with non-proprietary, industry standard, single line telephone sets. Single line telephones and other analog devices may be connected and used for intercom, external calls, modems, etc.

Conditions

Three ways are provided for connecting analog devices to the TD-824i digital Telephone System.

1. A small PCB (DK1-SLC) can be installed in a digital telephone set providing a single line port.
2. A 8 port single line card (TD-SLC8) can be installed in the Key Service Unit, providing service for 8 analog devices.
3. A single line adapter (DK-SLD) is offered which connects to the KSU and provides 2 analog ports

Programming

Basic single line operation is automatic. However, there are several parameters that are under system control that may be modified to suit individual applications.

Single Line Telephone Dial Tone Timeout, Form 01-02-01, determines the length of time that a single-line telephone can receive dial tone before digits are dialed. If this timer expires, the station is returned busy tone and TD-824i digital telephone system resources are re-allocated for use by other stations. Valid settings for Form 05-02-01 are listed below:

SLT Dial Tone Timeout (05-02-01)		0=1 second	1=3 seconds
2=5 seconds	3=7 seconds	4=9 seconds	5=16 seconds
6=31 seconds	7=61 seconds	8=121 seconds	9=255 seconds

Single Line Telephone Inter-Digit Timeout, Form 05-02-02, determines the maximum allowable time between dialed digits on a call. This timer comes into effect after the first digit has been dialed. If the timer expires and all necessary digits have not been dialed yet, the system will return busy tone and release system resources for use by other stations. In the case of dialing '9', toll restriction must be considered, since a single line telephone produces its own DTMF and if the DTMF receiver is dismissed due to the inter-digit timer expiring, Toll restriction could be defeated. **See note below.** Valid settings for Form 05-02-02 are listed below:

SLT Inter-Digit Timeout (05-02-02)		0=1 second	1=3 seconds
2=5 seconds	3=7 seconds	4=9 seconds	5=16 seconds
6=31 seconds	7=61 seconds	8=121 seconds	9=255 seconds

Note: It is important to make certain that DTMF receivers are not removed from Single Line Telephone circuits while it is still possible to dial on CO lines. Failure to keep DTMF receivers on line while dialing is possible can result in toll fraud and abuse on your telephone lines. If you are in doubt of the proper timing parameters, contact an engineer from your local telephone company and determine your operating telephone company's timing parameters for First Digit Timer and Inter-digit Timer.

Single Line Telephone Release Time, Form 05-02-04, sets the timing parameter to indicate a disconnect by a single line telephone. Any open loop condition presented to the TD-824i digital Telephone System by a single line telephone that exceeds the timing parameter in Form 05-02-04 is treated as a disconnect (hang up). The parameters are controlled by the settings listed below:

SLT Release Time, (05-02-04)		0=40 milliseconds	1=80 milliseconds
2=120 milliseconds	3=400 milliseconds	4=600 milliseconds	5=800 milliseconds
6=1000 milliseconds	7=1200 milliseconds	8=1400 milliseconds	9=1600 milliseconds

Single Line Telephone Hold Signal, Form 05-02-06, sets the timing parameter for a station hook switch "FLASH." This signal is used by single line telephone to place calls on hold so that the single line

telephone can perform other functions. A hook switch flash that is less than the minimum setting programmed on Form 05-02-06 will be ignored. A hook switch flash that is equal to or greater than the setting, but less than the SLT Release time listed above will be considered by the TD-824i digital Telephone System as a hook switch flash. The valid timing parameters are:

SLT Hold Signal, (05-02-06)			
		0=80 milliseconds	1=100 milliseconds
2=200 milliseconds	3=300 milliseconds	4=400 milliseconds	5=500 milliseconds
6=600 milliseconds	7=700 milliseconds	8=800 milliseconds	9=900 milliseconds

Single Line Hold Function, Form 05-06-07, determines the action required in order to place a call on hold by a single line telephone set. The valid options are as follows:

Setting	Action Required
0	Press Hook switch (Flash)
1	Press Hook switch (Flash), Dial [7]
3	Press Hook switch (Flash), Confirmation Tone, Dial [7]

Single Line Telephone Busy Remind Tone or (Camp on Tone) , (Form 05-08-03), determines whether single line telephones in the system will receive Camp-On tone for calls camped-on to a busy station and if hold recalls will cause a camp-on tone to be heard. This option does not affect the function of camp-on or hold recall. It only determines whether audible tones will be used to remind single line users that the call is waiting. Valid settings are:

SLT Busy Remind Tone, (Form 05-08-03)	
0=Enable	1=Disable

Single Line Telephone Programming Digit, Form 05-08-05 sets the first number used in the programming of features on single line telephones. The list of valid entries is below:

SLT Programming Digit Form, (05-08-05)				
		0=Disabled	1=x	
2=2xx	3=3xx	4=4xx	5=5xx	
6=6xx	7=7xx	8=7xx	9=7xx	

Note: If Form 01-08-05 is set to 0 (Disabled), single line telephones will not have the ability to utilize any programmable features.

Form 43-port-02 provides for marking a single line port as a Voice Mail port by placing '8' in this position. Form 43-port-02 also provides for marking a single line port as the companion of a Key set by placing '3' for the port of the Key set.

The default value for a single line port is '4'.

Operation

Operation of Single Line Telephones is detailed in the Single Line Telephone User's Guide.

SMDR- Immediate Output

Description

Provides real time SMDR output for stations as they dial digits on an outside line. A call accounting system then has the ability to cost the call on a real time basis and send a command back to the KSU to cut the conversation for violation of the credit limit of the dialing station.

Conditions

None

Programming

05-13-02 Immediate SMDR output	
0 = Disable	1 = Enable

Operation

When enabled, a record will be generated when the station goes off-hook. Another record will be generated for each digit dialed on the CO trunk.

Upon termination of the call a complete SMDR record will be generated.

For most North American installations, this option will be set to 0=disabled (which is the default value).

Software Version Check

Description

Dealers will be required from time to time when calling TransTel technical support for assistance to provide us with certain information regarding the Version levels of software in the system.

Conditions

When calling technical support you must be at a digital display telephone equipped with an LCD.

Programming

Automatic Operation: While the telephone set is idle press [PRG] [1].

The following will be displayed:

Superkey TD824 U
V:G1-A01GE P: 31

The system type is displayed in the upper portion of the LCD.

The upper right identifies the status of the customer database.

U: means the system or personnel data is programmed with information set by users.

u: means the system is storing the data back to Flash memory in the background mode.

T: means the checksum of flash memory is not correct. It could be the situation that users has added one more card into the system. Enter system programming and SAVE the data back to the flash memory again can correct this fault.

S: signifies the system is in a default status.

The lower portion of the display identifies the current system software version. The right hand portion of the display identifies the port number from where you are viewing the information.

Press [Vol Up]. The display changes to: **SMDR unlocked**
V:G1-A01GE P: 31

This gives you the current status of the SMDR port.

Press [Vol Up] again **Line S.: 00000**
V:G1-Ao1GE P: 31

This is engineering code for Transtel purposes only.

Press [Vol Up] again. **Frm:0000Tim:001E**
BkE:0009BkS:0082

Frm: "Frame" error of the digital signal between the KSU and the digital phone. If this counter is running at a very fast rate, it indicates something wrong either on the cable, KSU hardware or digital telephone hardware.

Tim: "Timeout" of the digital signal transmission between the KSU and the digital phone. The system load will also effect this value. It is for our engineers to evaluate the system load.

BkE: The error "status" (not the counter) when system stores the data into the flash memory. It's for our engineers to observe the proceeding result of the flash memory. Users don't need to worry about this value because the system will repeat the entire procedure until the data is really stored into the flash memory.

BkS: The backup times of flash memory. It's for our engineer to evaluate and make some statistic on the "life" of the flash memory according to user operation

Speed Dialing One Touch Key Access

Description

Users may set up Speed Dial keys on their telephone sets and use them by pressing a single key. An outside line will be accessed and the stored number will be automatically dialed.

Conditions

The distribution of System and Personal Speed Dial numbers is defined in Form 05-04-06. This form defines the quantities available for both types.

If Dial By Name is enable in Form 05-05-05, it will reduce the quantity of total speed dial numbers available by 300.

All 20 DSS keys are available for this feature. The 20 personal Speed Dial numbers are shared between with original 10 dedicated to DSS 1 through 10 and the 10 numeric entries. If you use more than 10 DSS keys, they will be taken from the numeric bins.

Programming

Form 07 Key Assignment. The desired Speed Dial Key must be programmed for FN:00.

Operation

To Program your speed dial numbers:

Press [PRG] and the associated key. (The key must be set for FN:00 in From 07)

Enter the desired outside telephone number.

Press [Save], enter the next number associated with the next key if desired or press [SPK] to exit.

To Use:

Press the Speed Dial Key.

Speed Dial (Personal)

Description

Personal Speed Dialing capabilities may be assigned to TD-824i digital Telephone Sets and single line telephones. A TD-824i digital telephone set with personal speed dialing capabilities may have the ability to store speed dial numbers by either numeric, DSS or both methods. A single line telephone set may store speed dial numbers through the use of numeric speed dial. The two types are described below:

Numeric. A station with numeric storage capabilities can store 10 telephone numbers of up to 30 digits in length. These entries are unique to each station and are identified by the entry numbers 00 through 09.

DSS. A station with DSS storage capabilities can store 10 telephone numbers of up to 30 digits in length. As with the numeric entries, they are unique to each station. DSS speed dial numbers are associated with DSS key 1 through DSS key 10. Single Line Telephones cannot utilize DSS speed dialing entries.

If a station is assigned access to both types of personal speed dial, that station has access to a total of 20 personal speed dial locations. Both types of personal speed dial operate the same way. The only difference between the two is the method of activation.

Conditions

The total number of available personal speed dial numbers is determined through system programming.

- If in program **05-04-06**, the Individual Speed Dial Codes are assigned:
 - **500** sets, the maximum blocks in this program are **50** blocks.
 - **400** sets, the maximum blocks in this program are **40** blocks.
 - **300** sets, the maximum blocks in this program are **30** blocks.
- Each block has 10 sets of Individual Speed Dial.
- Each set has up to 30 digits.

Each Station can use up to 2 blocks (20 sets of Individual Speed Dial.)

Form 05-05-05 - Name Function

This parameter enables the naming feature for trunks, extensions and speed dials.

Features \ Values	0	1	2	3	5	7
Display Name instead of number for Extension		V		V	V	V
Directory Dial for Speed Dial			V	V		V
Directory Dial for Extension					V	V

V: The feature is enabled.

Note 1: When any of the above features are enabled the total number of speed dial sets will be reduced by 300. See Mode 05-04-06.

05-04-06 - Speed Dial Distribution

This parameter sets the number of speed dial numbers allocated to the system speed dial. Adding extra numbers to system Speed Dial reduces the number of personal Speed Dial numbers available to share between individual stations

Numbers after backslash indicate sets available with name feature enabled.

	System	Personal		System	Personal
0	100 Sets	500/200 Sets	3	400/300 Sets	200/000 Sets
1	200 Sets	400/100 Sets	4	500/300 Sets	100/000 Sets
2	300 Sets	300/000 Sets			

Programming

The assignment of personal speed dial numbers is determined by Form 05-04-06 See above table for distribution options.

Form 42-[station]-01, Numeric Speed Dial Assignment and Form 42[station]-02, DSS Speed Dial Assignment determine the speed dialing capabilities of each station. Speed dial assignment is performed in blocks of ten, numbered from 01 through system limits.

Note: While it is called personal speed dial, it is possible to assign the same personal block to more than one station. If this occurs, all stations sharing a block will have access to all programmed numbers within that block. Also, all stations sharing a block will have the capability to program speed dial entries within the block.

Example:

42-13-IP SPD-T
01 02

13: Station No. (2-4 digits)
01 02: Station 553 can use block **01** and **02** for Individual Speed Dial (20 sets)

42-15-IP SPD-T
04 00

15: Station No. (2-4 digits)
04 00: Station 105 can use block **04** (10 sets) for Individual Speed Dial (00-09), **00** : for no block.

42-18-IP SPD-T
00 03

18: Station No. (2-4 digits)
00 03: Station 550 can use block **03** for Individual Speed Dial (DSS 1-10)

Speed Dial by Numeric Keypad

1. Press **[SPD]**.
2. LCD Display (if equipped) will show: **Speed Code**
3. Press **[0]**, plus the personal location (0-9). The system will access the line programmed and dial the telephone number stored. If no line was selected when the number was programmed, the system will access the first available line in your Dial 9 group and dial the digits.

Speed Dial by DSS button

1. Press **[SPD]**.
2. LCD Display (if equipped) will show: **Speed Code**
3. Press one of the programmed **[DSS]** buttons (1-10).
4. The system will access the CO line stored with the speed dial number.

Note: You may bypass pressing **[SPD]** and only have to press the **[DSS]** key provided you dedicate the key to personal speed dial in system programming. Program 07, FN:00.

Programming

1. Press **[PGM]**. Press **[SPD]**.
2. LCD Display (if equipped) will show: **User Spd Select**
0 to 9, DSS 1-10
3. Enter the storage location by dialing through for numeric or by pressing button 1 through 10.
4. If you want your call to go out on a specific line, press the **[MIC]** and enter the line number. Press **[MIC]** again and enter the desired telephone number. If you want the call to go out on any available line, just enter the desired telephone number.

The LCD Display will show the type of Speed Dial you are storing by either Spd:Dxx if a DSS button (xx is the button number selected from 01-10) or Spd:Nxx if a numeric entry (xx is the keypad number 00-09).

If you selected a CO line, the display will show TK:xx (xx= the CO line that you selected 01-40) or if the Dial 9 group, TK:00.

1. Enter the actual telephone number that you want to store, (up to 30 digits, including PAUSES **[HOLD]**, FLASH **[TSF]**, or tone dialing conversion **[MSG]**).
2. Press **[SAVE]**.
3. If your telephone is equipped with an LCD Display it will show:
Set Ring Freq.
0

This is a function of Caller ID. The purpose is to give you the opportunity to identify specific numbers ringing your telephone with a unique ring. For example, if you store your home telephone number in personal speed dial and would like to have a unique ring whenever someone from home dials your telephone, select a frequency from 1 to 8. For normal ringing simply enter **[SAVE]** and do not enter a specific frequency.

Note: Personal Speed Dial is subject to any toll control assigned to your station.

Note: Special characters may be programmed in speed dial locations:

[HOLD]= A temporary pause in dialing

(See Form 05-01-06, Pause Time Duration for the parameters).

[TRF/FL]= A temporary loop disconnect.

(See Form 05-02-05, Keyphone Flash Time for the parameters).

[MSG] = Change signalling from pulse to DTMF

(Applicable only on CO lines programmed on Form 35-[CO]-02 as Pulse).

[MIC]=Allows selection of an individual CO line number. One press moves cursor to the CO line position. Another press returns you to speed dial programming.

[VOL↑]= Moves to the next personal speed dial number. (If both DSS and numeric entries are available, this key will cycle through all numeric and DSS keys. They are noted by the indication D or N in the upper portion of the LCD display next to the speed dial entry number).

[VOL↓]= Moves to the previous personal speed dial number. It operates similarly to the Volume Up key, listed above.

Flash, Pause, and Pulse to Tone conversion can be stored as part of a speed dial number. Each of these entries counts as a digit in the overall number of digits.

Speed Dial (System)

Description

System Speed Dial allows frequently dialed numbers to be stored within the system for easy access by station users. System numbers may be accessed by all stations in the system. Toll restriction may apply to none, some or all system speed dial numbers.

Conditions

Flash, Pause, and Pulse to Tone conversion can be stored as part of a speed dial number. Each of these entries counts as a digit in the overall number of digits.

A specific CO line may be selected as a part of the number stored and does not count as a digit to be stored. If a station user prefers to access a member of the dial 9 group, there is no need to program a CO line pushbutton.

Programming

Form 05-04-06 - Speed Dialing Distribution

This parameter sets the number of speed dial numbers allocated to the system speed dial. Adding extra numbers to system Speed Dial reduces the number of personal Speed Dial numbers available to share between individual stations.

0 = System 100 (100 to 199)	: Individual 500/200
1 = System 200 (100 to 299)	: Individual 400/100
2 = System 300 (100 to 399)	: Individual 300/000
3 = System 400/300 (100 to 499)	: Individual 200/000
4 = System 500/300 (100 to 599)	: Individual 100/000

Numbers after backslash indicate sets available with name feature enabled.

System Speed Dial can be programmed in two ways. Form 09-*nnn* (*nnn*=Speed Dial entry) can be programmed while in system programming or through the method listed below. If speed dial is programmed while in system programming, the first two steps, below may be omitted. System Speed Dial must be programmed from an attendant position.

1. Press [PRG]
2. Dial [SPD] followed by 7.
3. Enter speed dial location (100-599 for system speed dial).
4. If a specific CO line is desired press [MIC/AT] and enter the two digit CO line (01-08). If the dial 9 group is to be used, skip this step.
5. Dial the telephone number to be stored.
6. Press [SAVE].

Note: Special characters may be programmed in speed dial locations:

[HOLD]	= A temporary pause in dialing (See Form 05-01-06, Pause Time Duration for the parameters).
[SPK]	= A temporary loop disconnect. (See Form 05-02-05, Keyphone Flash Time for the parameters).
[MIC/AT]	= Change signalling from pulse to DTMF (Applicable only on CO lines programmed on Form 35-[CO]-02 as Pulse).
[REDIAL]	= Moves programming cursor to the left, useful when correcting mistakes.
[MSG]	= Moves programming cursor to the right.

Note: TD-824i digital telephone systems may be programmed to allow some system speed dial numbers to be exempt from toll control. See SPEED DIAL UNRESTRICTED, page 163 of this document.

Operation

Dial By Name (Directory) Access

Note: Dial By Name is only available to stations equipped with LCD Displays. **[DIR]** must be programmed on the system in order to utilize the Directory Function.

1. Press **[DIR]** button.
2. Press **[2]**.
3. Display Shows: **ENTER LETTER**
4. Press the button containing the first letter of the desired speed dial name. Continue to press the number until the desired letter appears in the lower left corner of the display. When the desired letter is shown in the display, press **[VOL Up]**.

Key 1= Q Z (Blank Space) 1	Key 2=A B C 2
Key 3=D E F 3	Key 4=G H I 4
Key 5=J K L 5	Key 6=M N O 6
Key 7=P R S 7	Key 8=T U V 8
Key 9=W X Y 9	Key 0= . : & 0
Key *= - / ! *	Key #=() \$ #
Redial= Backspace	MSG = Forward

5. The display will show the first name that matches. If that is not the name desired, press **[VOL]** again until the display shows the proper name. If the end of the list is reached, the system will begin again at the first name in the list.
6. If there is no match, the display will show:
**NO ENTRIES
TRY AGAIN.**
You may return to step 5 above and continue with a valid entry or lift the handset and return to an idle state.
7. When the desired name is found, you may lift the handset or press **[SPK]** and the call will be automatically placed.

Numeric (Bin) Access

1. Press **[SPD]** button.
LCD will display: **Speed Code**
2. Enter three digit speed dial entry.
3. The speaker will activate and the number will be dialed.
4. You may speak handsfree if equipped with a speakerphone or lift the handset when the other party answers.

Speed Dial (Unrestricted)

Description

Some applications may have need for the ability to have a block of numbers that are exempt from normal system toll restriction. In applications where the need exists, the TD-824i digital telephone system provides the ability to exempt any multiple of 10 system speed dial numbers from normal system toll checking. When a group of numbers is made exempt, any station in the system can dial them, regardless of the toll class of the station.

Conditions

Speed Dial is available only to TD-824i digital telephone sets.

Programming

Form 05-05-03, Speed Dial Unrestricted (Hundreds group) works in conjunction with Form 05-05-04, Speed Dial Unrestricted (Tens group) to determine the cutoff point below which toll checking does not occur. The valid parameters are listed below for Form 05-05-03 and Form 05-05-04.

Speed Dial Unrestrict (100s) Form 05-05-03		0=DISABLED	1=100
2=200	3=300	4=400	5=500
6=600	7=700	8=800	9=900

Speed Dial Unrestrict (10s) Form 05-05-04		0=00	1=10
2=20	3=30	4=40	5=50
6=60	7=70	8=80	9=90

For example: If 50 toll exempt speed dial numbers are needed.

Form 05-05-03 = 1

and

Form 05-05-04 = 5

All speed dial numbers from 100 to 150 will be exempt from toll checking.

Speed Dial entries are programmed by the system operator as described in SPEED DIAL (SYSTEM) on page 161 of this document.

Operation

Operation is defined by system parameters.

Station Message Detail Recording

Description

Station Message Detail Recording (SMDR) permits data about each telephone call to be sent to a printer or other device capable of interfacing with RS-232 data communications equipment.

Conditions

1. The information recorded for calls include:
2. Date of call.
3. Time of origination
4. Length of call.
5. Digits dialed (on outgoing calls)
6. Originating station (outgoing calls).
7. Destination station (incoming calls).
8. Account Code (if entered).
9. Line used.
10. Time To Answer (incoming calls)
11. Unanswered Calls
12. Stations disconnected due to invalid forced account codes.
13. Stations disconnected due to restriction (toll or station lock).
14. DISA calls.

As options, the system will report or ignore reporting of the following information:

1. Recording of incoming calls.
2. Recording of local calls.
3. Unanswered incoming calls.

Programming

SMDR Numbers Dialed Presenting Type, Form 05-07-06 may be used to allow some security to station users in protecting the numbers dialed. In some instances it may not be desirable to print out the entire telephone number dialed on a call. For accounting purposes, the entire telephone number is usually not required in order to accurately estimate a call's cost. Through the use of SMDR Numbers Dialed Presenting Type and other SMDR options listed below, dialed numbers can remain confidential while still allowing the system to provide usable calling records to management. The valid settings for Form 05-07-06 follow:

SMDR Numbers Dialed Presenting Type, (Form 05-07-06)		0=Print All Digits	1=Print only the first digit
2=Print the first two digits	3=Print the first three digits	4=Print the first four digits	5=Print the first five digits
6=Print the first six digits	7=Print the first seven digits	8=Print the first eight digits	9=Print the first nine digits

Form 14-01-[SMDR] contains parameters pertinent to Station Message Detail recording. There are seven control items on Form 14-01.

Form 14-01-[01] is Recording Start Time. This parameter determines the grace period before timing of an outgoing call actually begins. This timer begins as soon as the CO line is accessed and is put in place to allow for things such as a wait for dial tone, time to output digits and time for the outside party to answer. The valid parameters are listed in the table below:

Recording Start Time Form 14-01-01		0=Immediate Start	1=5 seconds
2=10 seconds	3=15 seconds	4=20 seconds	5=25 seconds
6=30 seconds	7=35 seconds	8=40 seconds	9=45 seconds

Form 14-01-02, Record Incoming Call determines whether SMDR will record incoming calls. In some applications it may not be necessary to provide this information. The table of valid entries is listed below:

SMDR Record Incoming Call Form 14-01-02	0=Enable	1=Disable
--	----------	-----------

Form 14-01-03, Record Local calls allows local calls to be recorded or ignored. The determination of a local call is made based on the number of digits dialed and is controlled by Form 01-03-08, Maximum Digit length for local call. The valid settings for Form 14-01-03 are listed below:

SMDR Record Local Call Form 14-01-03	0=Enable	1=Disable
---	----------	-----------

Form 14-01-04, SMDR Record Incoming Call No Answer determines whether calls that are unanswered are recorded in the system. If enabled, the system will indicate an unanswered call with the words "no answer" after the indication "INCOMING." The valid system parameters are:

SMDR Record Incoming Call (No Answer) Form 14-01-04	0=Enable	1=Disable
--	----------	-----------

Form 14-01-05, Print Header determines whether the system will print a header, which provides information about what each column of the SMDR record means. If enabled, it will print between every *nn* call. "*nn*" equals the value entered on Form 14-01-06 below. The settings for 14-01-05 are:

SMDR Print Header Form 14-01-05	0=Enable	1=Disable
--	----------	-----------

Form 14-01-06, Number of Records Between Titles sets the number of call records that will print before the system prints another header (if enabled on Form 14-01-05 above). If Form 14-01-05 is set to 1 (disabled), this parameter will have no effect on the printout. Call records will be printed continuously. If Form 14-01-06 is set to 00 or 01, the system will print a title and one call record. If Form 14-01-06 is set to any number between 02 and 99, the system will print a title and the number of call records entered (02-99) on Form 14-01-06.

Operation

Operation is automatic.

Station Number Digit Length

Description

Station Number Digit Length allows the system administrator to select the number of digits for extension numbering in the TD-824i digital Telephone System. Valid options are two digit numbering, three digit numbering, or four digit numbering. See also, Numbering Plan, page 127 of this document.

Conditions

If two digit numbering is selected, valid combinations for station numbering are 10-69.

If three digit numbering is selected, valid station numbers are 100-699.

If four digit numbering is selected, valid station numbers are 1000-6999

TD-824i

System default database provides two digit station numbering.

Under default database:

The first system station card is programmed 11-18

The second system station card is programmed 19-26.

The third system station card is programmed 27-34.

TD-1648i

TBD

Programming

Form 05-03-06, Station Number Digit Length controls the digit length of stations. Valid settings for Form 05-03-06 are 2, 3, or 4, which correspond to the actual digit length.

05-03-06 - Station Number Digit Length		
This assigns the number of digits used for the station numbering plan. 2, 3, or 4 digits may be used. In the TD-824i the system will set this parameter to 2 digits automatically at the time of system initialization		
2=2 digit length	3=3 digit length	4=4 digit length

Form 43 allows reassignment of stations. Form 43-[port#]-01 shows the assigned station for each port. The form is used when it is desirable to reprogram the station number to something other than the default assignment.

Form 43-port-01 – Station Extension Number
Any valid entry: 10-69 (2 digit) 100-699 (3 digit) 1000-6999 (4 digit)

Operation

None.

Station Security Code / Station

Description

This feature allows a station user to restrict his telephone by dialing a security code. This makes the station unusable for outside dialing. Outside lines can still be accessed, but unless the number dialed appears as an exception on Form 59, the CO line will be disconnected as soon as three digits are dialed on the CO line.

Conditions

Security codes must be three digits in length.

Intercom calls can still be placed and received.

Incoming telephone calls can still be received.

Station Security Code does not apply to single line telephone sets.

Telephone numbers entered on Form 62, Common Permitted Codes are allowed from locked telephones.

Programming

Form 07 may be programmed with a Station Lock Key- FN:14. Form 07 may also be programmed with a One Call Only Unlock Key- FN:16.

Note: The status of a station can be controlled from Form 40-[station]-07, Lock/Unlock by Security Code. However, if a station is initially programmed to be locked and has never had a security code programmed, it can only be unlocked by a system operator or by changing the information in 24-[station]-07.

Operation

To Lock Your Station:

1. Press **[PGM]**, **[LOCK]** if your station has a Lock button,
OR
Press **[PGM]**,**[9]** .
2. LCD (if equipped) will display: **Security Code**
3. Enter a three digit code.
4. Press **[SAVE]**. Press **[SPK]**. Your station is now locked. The LCD will display in the upper right hand corner: **Lock On**

Note: It is important that you remember the code used to lock your telephone. You must use it to unlock your telephone. If you forget, the telephone can only be unlocked by the attendant or through system programming.

To Unlock Your Station:

You may unlock your station by repeating the same steps that lock it.

Your display will show: **Lock Off**

To Temporarily Unlock Your Station:

1. Press **[PGM]**, **[#]** or **[Unlock One Call]** key.
2. LCD (if equipped) will display:
Security Code
3. Enter the three digit code used to lock the telephone set.
4. If the code matches the code used to lock the set, you will be connected to an outside line. You may place a call.
5. As soon as you disconnect from the outside line, the telephone set will revert back to its original locked status.

Note: When locking a station, any three digit code may be used. When unlocking a station, the code must be the same as the code that was used when the station was previously locked.

System Programming Access

Description

The TD-824i digital Telephone System provides the option to allow or disallow individual stations to have access to system database programming. This is controlled by Class Of Service Option programming. The security requirements of a particular installation will determine how this option is to be set.

Conditions

System programming may be subject to password protection. If a password is programmed on Form 13-01, it will be required in order to access system programming. Default value is no password.

Individual station access to system programming is controlled by Form 44-STN-06, Default Password (System Programming Access). Any station with this option set to 0 (Enable) will be allowed access to system programming.

Programming

Form 44-STN-06, Default Password (System Programming Access) controls which stations are allowed the ability to make changes to the system database. Stations may be allowed or disallowed on an individual basis. By default, all stations have access to system programming.

Default Password (System Programming Access) Form 44-STN-06	0=Enable	1=Disable
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Operation

From any TD-824i digital telephone set equipped with LCD display:

1. Press [PRG]. Press [2]. LCD will display:

PROGRAM SYSTEM: Password Please!

2. Enter Password if a password is programmed.
3. Press [SAVE]. If the password is correct the LCD will display:

PROGRAM MODE: __ (01-90)

4. Enter the two digit form number that you want to program. Press [SAVE].
5. The LCD display will prompt you for further information that you may need in order to program the requested form.

To Save Updated program information:

1. As soon as you have entered the information in a specific item or group of items, press [SAVE].
2. If you wish to continue in the form to the next programmable set of fields, you may do so.

See the programming manual for all available keys used to navigate during the programming process.

System Reminder- System Alarm

Description

System Reminder is a means to periodically provide an audible indication of up to 10 repetitive events. The length of the reminder periods can be from 1 minute up to 98 minutes. When a system reminder occurs, the background music source will be heard from all stations that are not made exempt from system reminder signaling. The most common uses of the system reminder are for work start times, work breaks, lunch periods, and end of work day indication.

Conditions

System reminder will be heard on all idle stations that are not exempt from signaling.

System reminder does not provide notification to single line telephones.

System Reminder will either play background music through the speaker of the digital telephone or provide a fast busy signal. This is defined by Form 44-ST-08 and is set for each individual station user.

Programming

System Reminder, Form 12-[event] is used to set daily repetitive events. Up to 10 events may be programmed on the system. Each event requires the entry of the system reminder start time in 24 hour format and the duration of the system reminder, in minutes. A representative example would look like:

12-01 Alarm 08 00 05

This example shows Reminder 01. It will begin at 8:00 AM and will be active for 05 minutes.

System Alarm Station, Form 44-[station]-01 determines whether a station will have the System Reminders broadcast over the speaker of the telephone. Valid settings are:

44-ext-01 – System Alarm Station	
If disabled, the station will not receive system alarm signals	
0=Enable	1=Disable

System Reminders may also be programmed from a system console.

1. Press [REMINDER]

Sys Reminder * Or Dial STN #

Press * for System Reminder

2. Enter the reminder number that you wish to program (0-9).

Alarm Clock Schedule: __

Enter the schedule you want to set. Enter 01 through 10.

3. LCD (if equipped) will display:

12-01 Alarm hh mm dd

Where 01= reminder number
hh=reminder hour mm=reminder minute
dd=length of reminder in minutes

6. Enter the time (24 hour format) and the duration (01-98) minutes.
7. Press [SAVE].

Each time [SAVE] is entered the system will automatically advance to the next schedule. To exit after saving press [SPK] followed by [SAVE]

Operation

Operation is automatic. Stations that are exempt from system reminders will not hear background music. Stations that are in use will not hear background music. Any station may terminate the reminder for the individual set by pressing the [SPK] key.

Tenant Service

Description

The TD-824i digital Telephone system allows two or more users (tenants) to share a single system.

Conditions

1. Each tenant can have dedicated lines for outgoing and incoming calls.
2. Each group can have its own dial 9 groups for outbound lines.
3. A maximum of eight internal paging groups are available.
4. Inter-tenant calling can be allowed or blocked on a station by station basis.

Programming

Form 05-08-02, Direct CO Access, determines if a station will have outgoing access to CO lines that are not in its Dial 9 Group. If 05-08-02 is set to 0 (Disable), stations will not be able to directly access CO lines that are not in that station's Dial 9 Group. If 05-08-02 is set to 1 (Enable), stations will be able to access lines outside of the CO group by pressing the DSS key associated with the line (if the CO line appears on the telephone) or by dialing 80 + line number (1-8) if the line does not appear on the telephone. This option applies to TD-824i digital telephone sets as well as single line telephone sets.

Note: This option only controls the ability to place an outgoing call. CO lines may be assigned to ring on stations that cannot access those lines for outgoing calls. Once answered, calls may be transferred throughout the system without regard for line grouping.

Form 45-[STN]-05, Inter-Group Blocking determines on a station by station basis if a station user may call a station in another group (tenant). If set to 0=Disable, a station will be able to dial any other station within the system. If set to 1=Enable, the station will only be able to call other stations within his own group.

Form 01-[CO line], Day Ringing Assignment provides the capability to program up to 16 stations to ring for each incoming CO line. This form controls ringing during the day service interval of operation. Each line can be programmed to ring only the stations necessary.

Form 02-[CO line], Night Ringing Assignment works the same as Day Ringing Assignment, but defines operation only during the night service interval.

Form 07-[group]-[key#], Flexible Key Group Assignment allows the design of up to eight individual layouts for TD-824i digital telephone sets. Through programming of this form, each of up to eight tenants can have their own individual key layout. DSS intercom keys can be tailored to display only other stations within a specific tenant group. CO line keys can be made to appear only on stations that have access to them.

Form 41-[station]-01, Group Assignment (Zone paging - Pick Up - Station - Single Digit Group) allows grouping of stations of one tenant into common paging, pickup, station groups, and if programmed, Single Digit dialing groups.

Form 41-[station]-02, Keyphone Flexible Key Group Assignment allows the key layouts that are built on Form 07-[group]-[key#] to be assigned to stations within the system. In this manner, as new extensions are added, they can be programmed into one of up to eight key layouts, supportive of up to eight tenants.

Operation

None

Time of Day Display

Description

TD-824i digital telephone sets equipped with LCD readout will display the time of day according to the system clock. The system may be programmed to display the time of day in either 12 hour format (12:00 - 11:59) or 24 hour format (00:00 - 23:59).

Conditions

None.

Programming

Form 11 controls the setting of day of the week, date, month, year and time of day. The format for setting this is mm dd yy HH MM D, where:

mm=month (01-12)

dd=day (01-31)

yy=year (00-99)

HH=hour (00-23)

MM=minute (00-59)

D=Day of week

D=Day Of Week	1=Monday	2=Tuesday	3=Wednesday
4=Thursday	5=Friday	6=Saturday	7=Sunday

Form 05-04-04, Clock Format determines whether LCD telephone displays will show time in 12 hour format or 24 hour format.

Clock Format, (Form 05-04-04)	0=12 Hour Format	1=24 Hour Format
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Time and date can also be set by the console Operator by pressing [PRG],[HOLD], 7, [SAVE] and entering the date, time and day of the week as shown by the display. When the information is accurately updated, press [SAVE]. Lift the handset and replace it and the display will update and return to idle.

Additionally a key can be programmed if desired on the Console Operator's telephone (FN:50). To set the date and time, simply press the key.

Operation

Operation is automatic.

Timed Reminder - Station User Alarm

Description

The station timed reminder allows a TD-824i digital telephone set user to program a timer that will notify the station user at a pre-determined time. When a timed reminder is programmed against a station, it can be used as a recurring daily reminder (the alarm will operate every day and will activate the background music function of the telephone set) or it can be programmed as a single event timed reminder or automatic wake up call (occurs only once). Upon maturation of a timed reminder or wake up call on a digital set, the monitor speaker will be activated and the selected background music source will be heard over the speaker. If a daily reminder is programmed, the duration of the speaker activation is also programmable from 1-98 minutes in length. It may be canceled by pressing the [SPK] button to turn it off. If programmed as a single event (timed reminder) the telephone will ring. If programmed as a wake up, the telephone will ring for one minute, or until answered.

Conditions

The audio source that plays to the station is programmable on a per station basis. Form 44-ST-08 determines if the station will hear music or busy tone when the reminder/alarm feature is activated.

Programming

To set up a reminder or alarm from your telephone:

1. Station is on hook.
2. Press the [Remind] key.
3. Enter YOUR station number
4. Enter the time you would like to have the alarm/reminder notify you.
5. Enter the duration you would like the notification to last on your telephone.
6. Press Save

Enter two digits for hour (00-23).

Enter two digits for minutes (00-59).

Enter two digits for duration in minutes (00-99) .

Note: The time is entered in 24 hour format (0000-2359). A duration of 01 will notify your telephone for a period of one minute. 02 will be two minutes etc. up to 98 minutes. A duration of 00 will disable the alarm/reminder function. Enter the time for the timed reminder (00:00 through 23:59) and the type or duration of the reminder (00 to cancel, 01-98 for a daily reminder for the desired number of minutes or 99 for a single duration timed reminder).

Operation

During execution of any timed reminder, the station receiving the reminder may press the [SPK] key or lift and replace the handset. The timed reminder will be quieted for the remainder of its duration.

Toll Control

Description

Toll Controls allow the assignment of dialing capabilities dependent upon specific CO lines as well as individual stations. This can be used to restrict dialing capabilities from some stations and to limit specific types of calls to certain special purpose telephone lines.

Conditions

1. There are a total of ten toll plans available in the TD-824i digital telephone system.
2. Each toll plan points to a Toll Class depending on the CO line used.
3. Each station can be subjected to one of the available toll plans.
4. A station can have a Day Service toll plan and a Night Service toll plan.

A station may become exempt from toll control for an individual call by entering a Forced Account Code or the system Master Toll Password

A locked station is subject to Class 9 toll restriction, regardless of its normal toll assignment.

Certain System Speed Dial numbers may be made exempt from toll restriction. Exempt numbers will not be checked for toll violations. See Speed Dial (Unrestricted) on page 163 of this document.

Programming

Form 18 provides for converting the station's Toll Plan to a Toll Class depending on which trunk has been selected for the call.

If Toll class '0' is selected, the station is completely unrestricted.

If a Toll class of '1' through '6' is selected, forms 61 through 66 are used to list the restricted number strings to be denied, and forms 51 through 56 are used to list exceptions to the basic rules listed in forms 61 through 66.

If a Toll class of '7', '8', or '9' is selected, only number strings found in 57, 58, and 59 will be allowed. All other dialing will be disallowed.

Form 41-stn-05/06 assigns a Toll Plan for Day Service (05) and for Night Service (06).

Examples

Example 1: In this example we would like to set up a toll restriction for a lobby phone and allow no outside calls except for '911' and 747-4466 which is a local number for a Taxi company. The extension number for this lobby phone is 105.

Form 41-105-05 and 06 are both set to a 7. This indicates that station 105 is to use toll plan 7 during both day service and night service.

By default, Form 18 has all values set to 7, one for each trunk in the system. This states that any station that is set to toll plan 7 will be subject to toll class 7 for all calls. Any phone programmed as plan 7 is completely restricted, except for entries found in Form 57.

Form 57 has two entries. The first one will be 911 and the second will be 747-4466. With these entries only calls to 911 and 747-4466 will be allowed.

Example 2: In this example the company has a WATS line on trunk 4, with normal local service on trunks 1 through 3. We want to force all DDD traffic onto trunk 4. And allow only local calls on trunks 1 through 3.

All stations, Form 41-stn-05 and 06 will be set to a '2' although any class from 1 to 6 would be acceptable for use in this example.

Form 18 for Toll Plan 02 will have a '2' for trunks 1, 2, and 3, but a '3' for trunk 4.

Form 62 will have the following entries, '0' to prevent calls to an outside operator who could dial a number for the user thereby bypassing restrictions, '1' to prevent '1'+ dialing.

Form 63 need have no entries in it and will result in LD calls being allowed on trunk 4. If trunk 4 is selected and a local call is attempted the operating company will reject it so no concern for restricting local calls need be considered, however if it is desired to deny the call on the first digit 63 could be set to contain 8 entries of 2, 3, 4, 5, 6, 7, 8, and 9. With these entries any attempt to dial a local call on the WATS line will result in immediate restriction.

See Appendix B, Toll Control for a detailed explanation of the operation of Toll Control within the TD-824-i Digital system.

Toll Override Account Codes

Description

Toll Override Account Codes allows a station user to temporarily bypass the toll restrictions that are in effect on a telephone station. When a Toll Override Code is programmed into the system, it is capable of overriding the toll restriction on any telephone set that does not have an associated Forced Account Code. For more information on Forced Account Codes, see page 98 of this document.

Conditions

1. There are up to 48 Toll Override Account Codes allowed on the TD-824i.
2. Codes are created during system programming.
3. When the Toll Override Code is dialed, the status of the originating station is upgraded to "Unrestricted" for the duration of the call.
4. Any call made using a Toll Override Code will have the entry number (not the actual code) associated with the resulting call and printed on the SMDR record if SMDR is enabled.
5. As soon as the call is finished, the telephone set will revert to its original Toll Class.
6. A station with an assigned Forced Account Code cannot be used with a Toll Override Account Code.

Programming

Toll Override Account Codes/Forced Account Codes are programmed on Form 17-[code#], Forced Account Code. The Codes can be up to eight digits in length.

Form 40-[station]-08, Station Class Of Service determines whether Toll Override Codes will be legal on a station. If Form 40-[station]-08 is programmed as 00, any valid Toll Override Code programmed on Form 17-[code#] will override toll restriction. If Form 40-[station]-08 is set to a valid programmed code number (01-48) from Form 17-[code#], the actual digit string programmed (Forced Account Code) for that code number will be the only one that is capable of releasing toll restriction on that station.

40-STN-08 - Forced Account Code
There are 48 forced account codes which can be used on the system. Each user can be allocated use of one or all of these. If a station has a Forced Account Code 01-48, the user can key [PRG][4] and the force account code to override toll restrictions for one call only. If the setting is from 01-48 then this Account Code ONLY can be used by the station. If the setting is 00 then the station can use any one or all Account Codes. Refer to Form 17, Create Forced Account Code
00=Any Valid Account Code
01-48=Only the corresponding Account Code (01-48) is Valid on this Set

Operation

From a TD-824i digital telephone set:

1. Press [PRG], [4] or [Account] key.
2. Enter Toll Override Code.
3. If the telephone set is capable of accepting a Toll Override Code and the code entered is valid, the station will be connected to the first free line in the Dial 9 group for that station. If Dial 9 grouping is not active on the system, the station user can press a CO key for access to a CO line.

Transfer Recall Timeout

Description

Transfer Recall Timeout parameters determine how long a transferred call will remain at a busy or unanswered destination before it recalls to the station that originally transferred it. There are two parameters in the system governing the timers. One controls the recall timer for calls transferred to busy stations (Form 05-06-01) and one for unanswered calls (Form 05-06-02).

Conditions

None.

Programming

Transfer Recall Timeout (Busy), Form 05-06-01 determines the length of time that a call will remain camped on to a busy station before the call re-rings the station that transferred the call. Valid parameters for this option are listed below:

Recall Timeout (Busy), Form 05-06-01		0=5 seconds	1=10 seconds
2=15 seconds	3=20 seconds	4=30 seconds	5=40 seconds
6=50 seconds	7=60 seconds	8=70 seconds	9=Recall Disabled

Transfer Recall Timeout (No Answer), Form 05-06-02 determines the length of time that a call will exclusively ring an idle station. Valid parameters are listed below:

Recall Timeout (No Answer) Form 05-06-02		0=5 seconds	1=10 seconds
2=15 seconds	3=20 seconds	4=30 seconds	5=40 seconds
6=50 seconds	7=60 seconds	8=70 seconds	9=Recall Disabled

Operation

Any call that is either camped on (05-06-01) or unanswered (05-06-02) and exceeds the timers listed above will recall to the station that transferred the call. Prior to answer by the transferring station, the call is available to both the transferring station and the transferred station. In the case of the Recall Timeout (No Answer), the call will ring both stations. The first station to answer will silence the other station.

Trunk Queue (Trunk Callback)

Description

Trunk Queue allows a user to mark a busy CO line for use when it becomes available. When the line becomes idle, the system will place it into the Exclusive Hold mode on the requesting station. A recall ring will be heard at the requesting station. Queuing can also be set up based on a dial 9 group. In a dial 9 queue, the first available CO line in the group will call back.

Conditions

1. If a station does not pick up the recalled line within approximately 20 seconds, the callback is canceled.
2. Up to eight stations can queue for a CO line.
3. When multiple stations are queued for a line, the oldest request will be honored first.

Programming

None

Operation

To queue for an individual CO line:

1. Press a busy CO line pushbutton. Station user will hear busy tone.
2. Press [MSG] pushbutton.
3. Hang up.

To queue for a dial 9 group:

1. Dial [9]. Station user will hear busy tone.
2. Press [MSG] pushbutton.
3. If queue is accepted, station user will hear dial tone.
4. Hang up.

When the line becomes idle, the system will place it into the Exclusive Hold mode on the requesting station. In a dial 9 queue, the first available CO line in the group will call back. A triple recall ring will be heard at the requesting station.

Unsupervised Conference

Description

Unsupervised conference allows a station user to establish a conference with two or more CO lines. The station can then leave the conference and allow the other CO lines to continue in conversation. See also Conference, page 50 of this document.

Conditions

1. All unsupervised conferences are limited to four minutes in length. Like DISA calls, a warning tone will sound ten seconds prior to disconnect. The conference time can be extended in four minute increments by either party pressing any numeric DTMF digit (0-9).
2. Unsupervised conferences may be immediately terminated by any of the external parties, by dialing [*]. All connected CO lines will be disconnected.

Programming

None

Operation

Station Controlled Conference

To establish a conference:

1. Establish first telephone call (either CO or intercom call).
2. Press **[HOLD]**. The first caller is on system hold.
3. Establish second call (either CO or intercom call).
4. Press **[DND/CN]**.
5. The first and second caller are now in conference with you.
6. Steps 2 through 5 may be repeated to a maximum of fifteen other parties in the conference.

Unsupervised Line Conference

1. You have established a conference via the station controlled conference above.
2. The conference consists of two or more outside CO lines and no other internal stations.
3. Press **[DND/CN]** and hang up the telephone.
4. Your station is returned to idle and the outside lines are connected together. The outside line LED's will be lit steady, indicating they are still in conference.

Note: Remaining members are granted up to 4 additional minutes of time to converse in an unsupervised conference. A warning tone is provided 10 seconds prior to the expiration of the conference period. Any conference member may press a digit on their telephone 0 - 9 to extend the time period up to an additional 4 minutes.

Rejoining an unsupervised conference:

1. Press a CO line button that is involved in the conference. You will hear busy tone.
2. Press **[DND/CN]**. You will be readmitted to the conference.

To exit and terminate a conference:

1. During the conference, simply hang up the telephone set. All parties will be terminated.

To remove a party from a conference call:

1. During the conference, press the CO line of the party you would like to remove.
2. You will be connected to this line and removed from the conference. Other parties will continue in the conference.
3. Disconnect the desired party by hanging up.
4. To return to the original conference, simply press one the CO line keys followed by **[DND/CN]**.

To confer with members privately in a conference call:

For a 3 party conference (i.e yourself and 2 CO lines):

1. During the conference, press the CO line you wish to confer with. The other party goes on hold.
2. To alternate to the other party, press hold followed by the appropriate CO line key.
3. To re-establish the conference, simply press the **[DND/CN]** key.

For conferences with 4 parties or more (including yourself):

1. During the conference, press the CO line you wish to confer with. The other parties will continue in conference.
2. You may alternate freely and privately between conference members by pressing their associated CO line or station key.
3. To rejoin the conference, simply press the **[DND/CN]** key.

NOTE:

1. A CFC conference card is needed for this feature in the TD-824i.
2. In order to provide the capability to extend time on the unsupervised conference, the TD-824i must be equipped with either Single Line Station Card (SLC-8) or a Voice Service Card (VSC)
3. The unsupervised conference period is programmable from 1 minute to 4 minutes in one minute increments.

Voice Mail Answering Machine Emulation

Description

Answering machine emulation allows you to monitor or screen your incoming calls and decide if you want to let the incoming caller to your telephone set leave a voice message in your mailbox or you may elect to pick up the call and speak to the calling party. It works very similar to an answering machine you may have at your home.

Conditions

Requires TransTel TMS Voice processing System. This feature does NOT work when your telephone set is in a busy condition. Your telephone must be set up to forward to voice mail in a no answer condition.

Programming

Form 07 Key Assignment. Program a Voice Answer Machine Emulation Key in form 7 on one of the keys of the digital telephone sets. The Feature code is FN:27.

Related Programming: Form 67 Hunt Group Pilot Number. Form 68 Hunt Group Members. Form 43 Port Assignment for Voice Mail Port. Form 05-12-05 Voice Mail Integration Type.

Operation

To invoke, press the Voice Mail Answering Machine Emulation key. It will light steady. LCD telephone sets will have an additional indication of an M followed by the voice mail hunt group. This signifies that the telephone is forwarded to voice mail and answering machine emulation is turned on.

An incoming call arrives at your telephone. After the call forward no answer timer expires (Form 05-01-08), the call forwards and is answered by voice mail. Your speaker will turn on and you will monitor the caller leaving you a message. You have the option of letting the caller leave the message OR you may lift the handset and speak with the caller.

Voice Mail / Auto Attendant Transfer To Hunt Groups

Description

The Auto Attendant may transfer calls to various departments within a company. For example, there may be a greeting recorded that offers the option of dialing 1 for sales. The system has the ability to place the calling party on hold and transferring to a pilot hunt group that contains multiple station users.

Conditions

Requires TransTel TMS Voice processing System. Stations that are placed in DND will be omitted from the hunt group on transferred calls. Hunt options can be Common Audible, Circular or Linear.

Programming

Form 67 Hunt Group Pilot Number and hunting type. Form 68 Hunt Group Members. Form 43 Port Assignment for Voice Mail Port. Form 05-12-05 Voice Mail Integration Type.

Operation

TMS Voice Processing System will take the input dialed by the caller, transfer the call to the appropriate pilot hunt group number.

Voice Mail Hunt Group Recall

Description

The installer may set options in Class Of Service to assure transferred calls to stations are recalled back to Voice Mail after a no-answer condition. This alleviates the need to set each telephone in the call forward mode.

Conditions

Form 46-st-07 when enabled, will forward both intercom calls as well as transferred outside calls automatically in a no answer condition.

Form 78-st-04 when enabled, will forward both intercom calls and transferred outside calls automatically on a busy condition.

In a no answer condition, it follows the setting of the call forward no answer timer in Form 05-01-08.

Camp-On, Monitor, and Barge-In (Override) are mutually exclusive with Form 78-st-04, Call Forward Busy to Assigned Hunting Group.

Important Note: Form 05-06-02, Transfer Recall Timer operates simultaneously with 05-01-08. In applications where calls are answered by a live attendant and are to be forwarded to voice mail, it will be necessary to program 05-06-02 to a value that is longer than 05-01-08.

Programming

Form 05-01-08 - Call Forward No Answer Timer.

Form 46-ST-07. Call Forward No-Answer to Assigned Hunting Group
0=Disable (Default). 1 through 9 equals Hunt Group 1 through 9.

Form 78-ST-04. Call Forward Busy to Assigned Hunting Group
0=Disable (Default). 1 through 9 equals Hunt Group 1 through 9.

Related Programming:

Form 67 Hunt Group Pilot Number.

Form 68 Hunt Group Members.

Form 43 Port Assignment for Voice Mail Port.

Form 05-12-05 Voice Mail Integration Type.

Operation

Intercom calls or transferred calls will automatically go to the Hunt group on a no answer condition if 46-st-07 is set.

Intercom calls or transferred calls will automatically go to the Hunt group on a busy condition if 78-st-04 is set.

Voice Mail Integration Digit String

Description

The means of communication between the TD Series digital systems and the TMS or other Voice processing System is via inband DTMF signaling.

Conditions

Requires TransTel TMS or other capable Voice processing System.

Programming

Form 05-12-05 defines the type of DTMF code that will be sent to the Voice Processing System. Form 43-PORT-02 must be set to an 8 to specify this port is used as a Voice Mail Port and turn on the integration signaling.

Setting 05-12-05	1	3	5	7
Mute Leading Digits	No	Yes	No	Yes
Send CO Line DTMF Info.	Yes	Yes	No	No

Note: A setting of 1 or 5 is typically used for testing purposes only to verify DTMF digits are being sent to Voice Mail. When set to 1 or 5, an incoming caller will hear all DTMF digits sent to the voice mail. A setting of 3 or 7 is generally used when the system is placed on line and the DTMF digits are muted from the calling party during call processing.

Related Programming:

Form 43 - Port Assignment for Voice Mail Port.

Form 67 - Hunt Group Pilot Number.

Form 68 - Hunt Group Members.

Form 05-12-05 - Voice Mail Integration Type.

Digit String Definition:

1 plus station number	Call Forward All Calls
2 plus station number	Call Forward Busy
3 plus station number	Call Forward No Answer
4 plus station number	Direct station call to voice mail (Auto log On)
5 plus station number	Live Call Recording Request
6 plus station number	Recall to Voice Mail
7 plus CO Line number	Incoming CO Call (two digits 01 ~ 08)
9 plus # plus station number	Direct transfer to mailbox
A	Answer digit
B	Busy digit
C	Disconnect
7071 plus station number	Turn On Message Waiting Light from Telephone System
7072 plus station number	Turn Off Message Waiting Light from telephone System

Voice Mail Live Call Recording

Description

Provides station users the ability to record a live conversation into their mailbox while on a call. Recorded message can be reviewed later and forwarded if desired. Ideal for conversations of a lengthy nature, disgruntled customers, or in a law firm taking depositions.

Conditions

Requires TransTel TMS Voice processing System.

Programming

Program a Voice Mail Live Call Recording Key in Form 07 (Key Assignment) on one of the keys of the digital telephone sets. The Feature code is FN:34.

Related Programming:

Form 67 Hunt Group Pilot Number.

Form 68 Hunt Group Members.

Form 43 Port Assignment for Voice Mail Port.

Form 05-12-05 Voice Mail Integration Type.

Operation

During a call with an outside party, simply press the Voice Mail Live Call Recording Key. This action will automatically and silently signal the Voice Mail System to begin recording the conversation into your mailbox.

To terminate the recording process, press the lit VM Live Call Recording key. This will terminate the recording process while you stay connected to your call.

Upon completion of the call, your message waiting light will flash. You will have a new message containing the recorded conversation.

Note: Some voice mail systems will generate a beep tone when recording commences. This is not under control of the TD-824i

Voice Mail Hunt Group Recall COS Option

Description

The installer may set an option in Class Of Service to assure transferred calls to stations are recalled back to Voice Mail. This alleviates the need to set each telephone in the call forward mode.

Conditions

Will forward both intercom calls as well as transferred outside calls automatically in both a busy and no answer condition.

In a no answer condition, it follows the setting of the call forward no answer timer in Form 05-01-08

Programming

Call Forward No Answer Timer- 05-01-08

Form 46-ST-07

05-01-08. Call Forward No Answer Transfer Time:				
This parameter sets the duration between calling a station which has set call forward no answer, and the transfer of the call to the station to which it has been forwarded.				
0=10 seconds	1=20 seconds	2=30 seconds	3=40 seconds	4=50 seconds
5=60 seconds	6=70 seconds	7=80 seconds	8=90 seconds	9=100 seconds

46-ext-07 - Call Forward to a Pre-assigned Hunting Group	
This parameter allows Call forward (no answer / busy) to the pre-assigned hunting group. This parameter will not be disabled if the user enables or disables the "Personal Call Forward" function, but will be temporarily overridden. If the user has set the Personal Call Forward to some specified number, system will use "Personal Call Forward" rule first. When the user disables Personal Call Forward, this option will once again go into effect.	
0=Disable	1-9=Forward to Hunt Group 1-9

Related Programming:

Form 67 Hunt Group Pilot Number.

Form 68 Hunt Group Members.

Form 43 Port Assignment for Voice Mail Port.

Form 05-12-05 Voice Mail Integration Type.

Operation

Intercom calls or transferred calls will automatically go to the Pilot Hunt group on a busy and no answer condition.

Voice Mail Suppress Auto Log On

Description

In some applications for certain station users it may be desirable to suppress the leading digit string that normally provides the auto log on feature. Typically, station users with auto log enabled are greeted with "Please enter your password." When auto log on is disabled or suppress they will hear the main system greeting and can navigate through voice mail the same as an outside caller.

Conditions

Requires TransTel TMS Voice processing System.

Programming

Form 50-ST-05

50-ext-05 – Voice Mail Auto Logon Function	
0 = EnableVoice Mail Auto Log On String	1 = Disable Voice Mail Auto Log On String

Operation

Automatic

Voice Mail Transfer To Mailbox

Description

Allows the system operator and other station users a simplified method of transferring outside callers directly to another station user's personal mailbox greeting.

This option will also allow a receptionist to transfer callers to voice mail to a "virtual mailbox." A virtual mailbox does not have a physical extension on the system.

Conditions

Requires TransTel TMS Voice processing System. The TD Series system will send the DTMF digit string 9 # followed by the extension number after Voice Mail answers. This signifies a direct to mailbox function. The system will also send this code to Hunt Group 1.

Transfer code (9+#+extension) is not user programmable. When using Transfer to Mailbox function, system will always send call to Hunt Group 1.

Digit length for virtual mailboxes must conform to the same numbering plan as the station digit length defined in Form 05-03-06. However it can fall outside the allowable range of extensions. Virtual mailboxes can be any number from 10-99, 100-999, or 1000-9999, depending on your choice of digit length within the system.

Programming

Program a Voice Mail Transfer Key in Form 07 on one of the keys of the digital telephone sets. The Feature code is FN:25.

Related Programming:

Form 67 Hunt Group Pilot Number.

Form 68 Hunt Group Members.

Form 43 Port Assignment for Voice Mail Port.

Form 05-12-05 Voice Mail Integration Type.

Operation

During a call with an outside party press the Voice Mail Transfer Key, followed by the DSS Key of the Station User or dial the extension number of the station user and hang up. The caller will automatically be transferred to the personal greeting of the desired station.

Voice Service Unit

Description

The Voice Service Unit of the TD-824i digital Telephone System provides the ability to record brief messages within the system for various notification situations that arise within the system. These messages should not be confused with answering machine type messages. The Voice Service Unit is designed for long term storage of specific messages that relate to call processing within the system.

The Voice Service Unit is heavily used when the internal Automated Attendant function is enabled on the Superkey system. For more information on the operation of Automated Attendant, please see Appendix A - DISA Detailed Explanation of this document.

Conditions

The Voice Service Unit is mounted on the MBU of the Key Service Unit. It can be used to provide a number of recorded announcements to be used during call processing. Its main purpose is to provide caller instructions when the call has come in as DISA but can also be used for wake up calls and message calls.

Programming

Form 19, locations 01 through 08 provide the ability to assign the Voice Service Unit to various functions. Assignments must be made in the order that the messages are recorded. The total recording time is 60 seconds. If the first message on the system is 12 seconds in length (assuming 60 seconds total time on the VSU), the total time remaining is 48 seconds. If the first five messages are all 12 seconds in length, there is no time remaining for the last three messages, so the programming for the last three messages is irrelevant.

The options that can be programmed on Form 19-01 through Form 19-08 are listed below:

VSU Channel Assignment, (Form 19-01 through 19-08)	00=Non-Operational
01=DISA: Answer Greeting	02=DISA: Dialed Extension is Busy
03=DISA: Dialed Extension Does Not Answer	04=DISA: Dialed Number is invalid
05=DISA: Console is Busy, Please Wait	06=DISA: Time duration has run out
07=DISA: Insufficient Digits Dialed	08=DISA: Night Answer Greeting
09=External Call Forward Reroute Message	Reserved
14=Wake Up Message	15=SLT Message

If a channel on Form 19 is set to 14(Wake Up message), Form 05-05-01 (Wake Up Call Signaling) should be programmed as 0, to direct wake up calls to use the Voice Service Unit for wake up calls. If Form 05-05-01 is set to 1, calls will be connected to background music instead of the Voice Service Unit.

Form 05-04-08 must be set to a '2' to indicate that messages waiting will result in a message from the VSU when the ringing phone is answered. This is used for single line phones since they have no keys and must be alerted to a message by ringing.

Operation

See Appendix A - DISA Detailed Explanation in this manual.

Appendix A- DISA Detailed Description

The following section describes the details of operation, programming and implementation of Direct Inward System Access (DISA) on the TransTel TD-824i. This appendix primarily concentrates on the implementation of DISA with Voice Service Units. DISA call flow is also explained at the end of this Appendix through the use of a flow chart.

DISA Overview

DISA and the Voice Service Unit provide an end user with the ability to have the telephone system answer calls, play a greeting to the caller and provide some choices to the incoming caller as to how calls should be routed. Its most common use is to provide Automated Attendant functions to reduce or eliminate the need for a person dedicated to the task of answering telephone calls. Through the use of DISA with the Voice Service unit, outside callers can directly dial individual stations, select one of up to five stations from a single digit dialing menu, or route themselves to one of a number of people within a department.

Maintenance personnel may use the DISA feature to make program changes from a remote location such as their service center. DISA callers may be allowed access to speed dial, and dial 9 CO line groups, individual CO lines, the system operator and they may also be allowed to invoke the monitor feature for specific stations or either of the two door phones.

While DISA can be implemented without the use of a Voice Service Unit, most DISA setups make use of the VSU to provide some level of Auto Attendant capabilities.

Voice Service Unit

The TD-824i can be equipped with a Voice Service Unit daughter-board (TD-VSC). This optional board provides 60 seconds of recording time, that can be dynamically divided into up to 8 different sections and messages. The TD-VSC mounts on the motherboard of the TD-824i. It is unique in that it does not require any system resources to operate. No station ports are used in its implementation, so there is no impact on the configuration of a system when setting up a VSU. One Voice Service Unit can be installed on a TD-824i.

Programming Options and Parameters

On TransTel systems, unlike most other systems on the market, a DISA call can be treated as a normal incoming telephone call until it is answered by the system. As such, most normal operating parameters for CO lines also apply. They will be described in detail within this section.

05-01-04. DISA Access Delay Time:

This parameter sets the time duration that a DISA trunk will ring prior to connection to return dial tone or VSC message. (Stations can answer during this time.)

0 = Automatic connection, no ring to the stations.

1-8 = Automatic connection after 2-254 seconds ringing as listed below.

0=0 second	1=2 seconds	2=4 seconds	3=6 seconds	4=8 seconds
5=15 seconds	6=30 seconds	7=60 seconds	8=120 seconds	9=254 seconds

This parameter is important for at least two reasons:

1. If all calls are to be answered exclusively by the Voice Service Unit, Delayed DISA Access should be set at 0. With this setting, as soon as a call is detected, DISA will answer the call and begin call processing.
2. If DISA is to be used as a "backup" method of answering calls, such as an Attendant Overflow, Form 05-01-04 should be set to a value that will allow adequate time for an available answering position to answer the call. This setting will be determined by the urgency that the customer wishes to place on incoming calls.

Form 05-07-04, DISA No Digits Dialed Routing provides the capability to drop calls where no digits are dialed into a DISA call. Under most applications, this parameter will be programmed to overflow to an operator group. In instances where incoming digits are expected and no alternate call handling is to take place, this option provides a quick method for disconnecting callers who do not dial.

05-07- 04 - DISA Operator Recall Capability (No Digits Dialed)			
Setting	Situation		
	No dialing after the first voice announcement from the VSU.	The VSU has announced that the called station is busy or no answer	The VSU has already announced the invalid number or a dialed number that has not been received completely.
0=	*	*	*
1=	T	*	*
2=	*	T	*
3=	T	T	*
4=	*	*	T
5=	T	*	T
6=	*	T	T
7=	T	T	T
Note	<p>“*” = Transfer the incoming call to console “T”=System will announce VSU function 06 (if programmed) to the incoming call if no digits dialed timer has expired. System releases call (hangs up).</p>	<p>“*”=See Form 46-ST-04 “T”=See Form 46-ST-04. If 46-ST-04 is no recall to operator, VSU function 06 will be played to the caller (if programmed). System will release call (hang up).</p>	<p>“*”= System will transfer incoming caller to system operator if 05-08-07 has expired. “T”=System will play VSU function 06 (if programmed) to the caller if 05-08-07 has expired. System will release the call (hang up).</p>

Form 05-08-04, DISA Operator Recall Location on No Answer determines where a call will forward if an incoming caller dials an extension that does not answer.

05-08-04 - DISA Operator Recall Location (No Answer)
This parameter decides to which Console group an unsuccessful DISA call will be transferred if the called station has transfer enabled in 46-st-04.
0=Console for the Called Station's group (41-st-01)
1=Console for the Incoming Trunk's group (36-gp)

Form 05-08-06, DISA No Answer Recall Timer determines how long a DISA call will ring a station before it considers the call to be unanswered. This parameter can be set from a minimum of 8 seconds (a setting of 0) to a maximum of 80 seconds (a setting of 9).

05-08-06 – DISA No Answer Recall Timer (seconds)				
An incoming call is answered by the DISA voice message and transferred to the called extension. If the called extension does not answer after this time duration the voice card will announce the status of the station (no answer). Or if the station is busy will announce the status (busy) immediately and then retry the station the number of times set in Mode 05-11-06 and depending on the settings for individual stations in Mode 46-st-03 will also transfer the call to the console of the group specified in Mode 05-08-04, transfer the call to the console only or disconnect the call.				
0=8	1=16	2=24	3=32	4=40
5=48	6=56	7=64	8=72	9=80

Form 05-08-07 DISA Transfer Time (No Digits Dialed) determines how long the system will wait before dealing with a caller who does not dial any digits. When this timer expires, the system will then check Form 05-07-04 to determine if the call should be routed to an operator or dropped. In systems that are equipped with a VSU, this timer applies after the initial greeting message has played. In systems without a VSU, this timer begins as soon as the call is answered by the system.

05-08-07 -DISA Transfer Time (No Digits Dialed) Transfer to Console

This parameter sets the time that a DISA call will wait after the voice message is completed before transferring to the console if no digits are dialed by the caller. Do not set this to less than about 3 seconds for normal operation

0=Immediate	1 = 1 second	2 = 2 seconds	3 = 3 seconds	4 = 4 seconds
5 = 5 seconds	6 = 6 seconds	7 = 7 seconds	8 = 8 seconds	9 = 9 seconds

05-09-06 - UCD Enable Time

This parameter is to set the time duration before the system answers an incoming call when the ring assigned station(s) are busy, if a VSC card is installed. The incoming call will show as a normal ring signal on the DSS key and can be answered by the operator at any time even while the voice message is playing to the caller.

0=5 seconds	1=10 seconds	2=15 seconds	3=20 seconds	4=25 seconds
5=30 seconds	6=35 seconds	7=40 seconds	8=45 seconds	9=50 seconds

05-09-07 - UCD Hold Recall Time

After the assigned time duration, if a station in the hunt group or the system operator has not become free, the caller will recall the VSU and VSU 2nd UCD recording will be played. This time sets the hold value. The message will be played to the caller every time the recall time is reached until answered by the operator or the caller hangs up.

0=disabled (Does not recall)	1=30 seconds	2=45 seconds	3=60 seconds	4=75 seconds
5=90 seconds	6=105 seconds	7=120 seconds	8=135 seconds	9=150 seconds

05-09-08 - UCD Duration Time

If a call has not been answered by a live person by the time this timer expires, the system will disconnect the outside caller. The system will play a warning message to the caller before releasing the call

0=No Disconnect Timer	1=5 minutes	2=10 minutes	3=15 minutes	4=20 minutes
5=25 minutes	6=30 minutes	7=35 minutes	8=40 minutes	9=45 minutes

05-11-04 – DISA Queuing to VSU

This parameter determines how the system process DISA calls when the Voice Service Unit (VSU) is busy or absent. If Queuing is not enabled (0) the the system will answer the call and the outside caller will heard DISA dial tone. This is the required setting if you are using DISA and do not have a VSU installed. If Queuing is enabled, the call will not be answered by the system until the VSU is available to play the answer greeting.

0 = Disable Queuing	1 = Enable Queuing
---------------------	--------------------

Form 05-11-05 DISA Special Digit Acceptance allows the customer to select the level of service that is appropriate for the individual installation. In most automated attendant applications it is not desirable to allow callers to have access to outside CO lines, speed dialing, or outside disconnect capabilities. In such situations 05-11-05 allows the installation personnel to selectively disable outside dialing capabilities and other special features. When a digit is treated as "special" it may be used for special system defined functions. When a digit is treated as "Digits only" it has only a normal DTMF function and no special DISA capabilities are recognized by the system.

05-11-05 - DISA Digit Acceptance	
This parameter sets which of the system functions are accessible by DISA callers	
0=All special digits allowed	1=[*],[#] Allowed - [8],[9] Disallowed
2=[8],[9] Allowed - [*],[#] Disallowed	3=No Special Digits Allowed

05-11-06 - DISA Transfer Count				
This function sets the number of times that an unsuccessful DISA call will attempt to retry a station and or transfer to a console after the ringing time set in Mode 05-08-06. A setting of 9 may cause trunks to lock up on systems that are completely unattended overnight. Please use care if you select 9 as the value for this parameter.				
0=2	1=3	2=4	3=5	4=6
5=7	6=8	7=9	8=10	9=Infinite

05-11-08 - DISA Single Digit Dialing	
This feature allows a DISA caller to dial stations by 1 digit (1-5) using the settings in Form 10-gp-IP to set which station will be dialed by each digit	
	0=No Single Digit Dialing
1=Single Digit Group 1	2=Single Digit Group 2
3=Single Digit Group 3	4=Single Digit Group 4
5=Single Digit Group 5	6=Single Digit Group 6
7=Single Digit Group 7	8=Single Digit Group 8

Form 19 - Voice Service Unit Channel Assignment			
Channel/Item	Function Number	Channel/Item	Function Number
19-01		19-05	
19-02		19-06	
19-03		19-07	
19-04		19-08	
19-01 - 19-08=Channel Assignments			
00	Non-functional (Not Programmed)		
01	DISA: Day Main Answer Greeting		
02	DISA: Dialed Extension is Busy Message		
03	DISA: Dialed Extension does Not Answer		
04	DISA: Dialed number is invalid (doesn't exist)		
05	DISA: Console (Operator) is Busy, Please Hold		
06	DISA: Timer has Expired		
07	DISA: Insufficient Digits Dialed		
08	DISA: Night Answer Main Greeting		
09	External Call Forward Reroute - Tells callers that call is being routed outside.		
10	UCD: Answer Greeting and all stations are busy.		
11	UCD: second announcement all stations are busy.		
12	UCD: All stations busy. Call timer has expired. Call will be dropped		
13	Lunch Greeting (Note: For Disa Trunks only)		
14	Wake Up Message		
15	SLT Message Waiting Advisory		
18	Music On Hold Greeting		

Form 35-CO-04 DISA External Call Forward Status determines under what conditions DISA will be activated. DISA may be completely disabled, enabled only during Day Service, only during Night Service, or at all times. The valid settings are listed below.

35-xx-04 – DISA / External Call Forward Status	0=Day Disable/Night Disable
1=Day Disable/Night DISA	2=Day DISA/Night Disable
3=Day DISA/Night DISA	4=Day Disable/Night ECF
5=Day ECF/Night Disable	6=Day ECF/Night ECF
7=Day DISA/Night ECF	8=Day ECF/Night DISA

RECORDING VOICE MESSAGES

VOICE MESSAGES MUST BE RECORDED FROM A MASTER CONSOLE ONLY.

There is a channel available in the TD-824i and this is accessed by dialing 86 from the console. Each channel can be divided into 1 to 8 segments depending on requirements.

VOICE PORT (1) (1) 0=REC 7=PLAY

Dial 0 and after the tone has stopped, record the company greeting message,

VOICE PORT (1) RECORDING.....

When completed Dial 1 and the screen display will be,

VOICE PORT (1) (2) 0=REC 7=PLAY

The 2 in brackets indicate that the second message segment is ready to record. Dial 0 and record the message to apologize for the continuing delay,

VOICE PORT (1) RECORDING.....

When the message is recorded dial 1. Continue using the same procedure until all the required segments are recorded and then hang up.

To record and play voice prompts:

1. From the operators station, dial 86
2. LCD display shows:
The number in parenthesis indicates the voice channel number that is presently being programmed.
3. You must record your entire set of messages, one at a time. Press [0] to record. Press 1 to stop recording and step to the next message section.
4. Repeat step 4 until you have completed all messages you wish to record.
5. To listen to your recording(s), press [7]. The selected message will play. You may step from message to message by pressing [1].
6. The values entered must show what recording has been made first, second, etc.

DISA Call Flow Charts

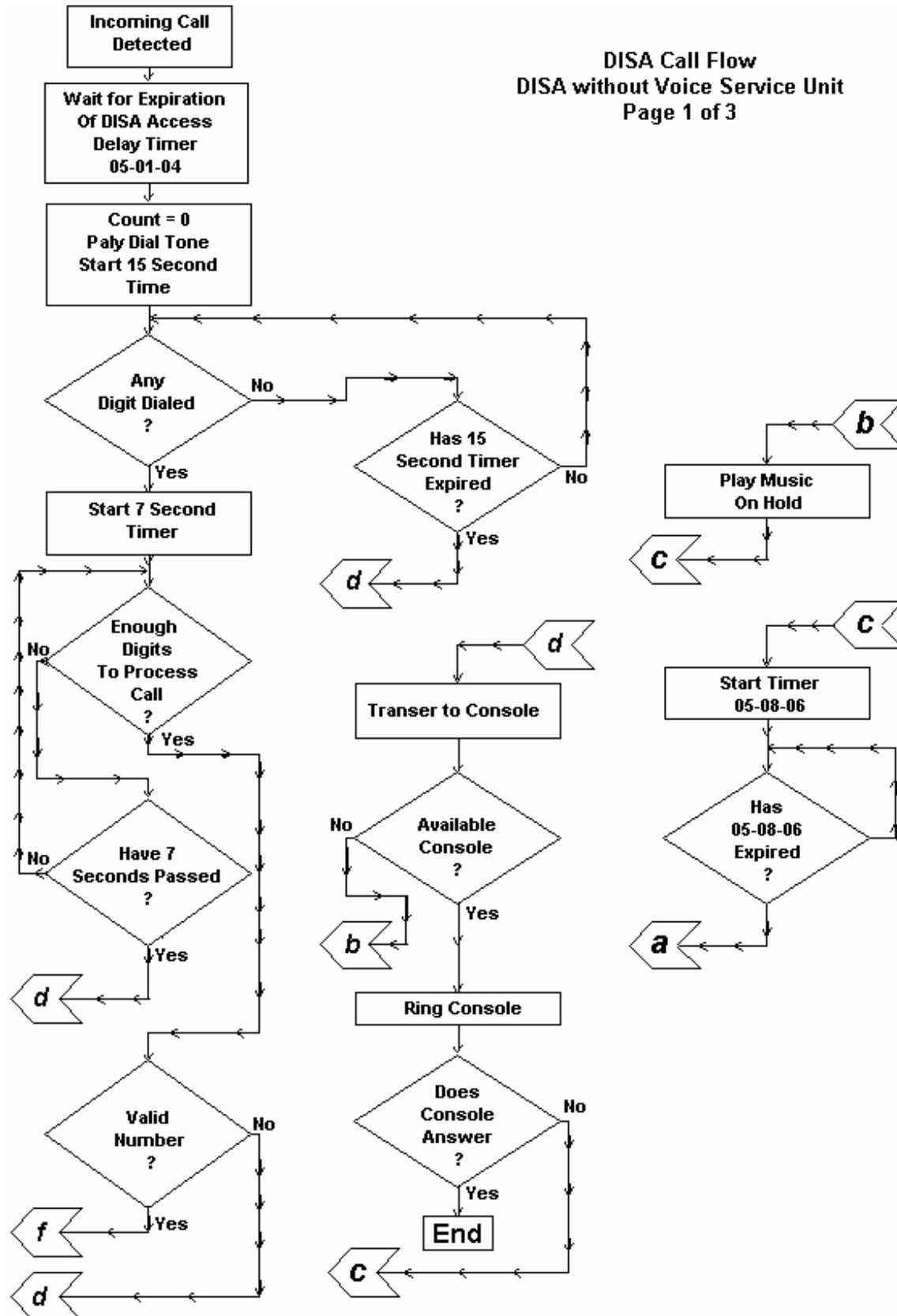
Each description consists of three pages of charts.

The first set of flow charts explain the operation of DISA when a Voice Service Unit is not programmed for use by DISA.

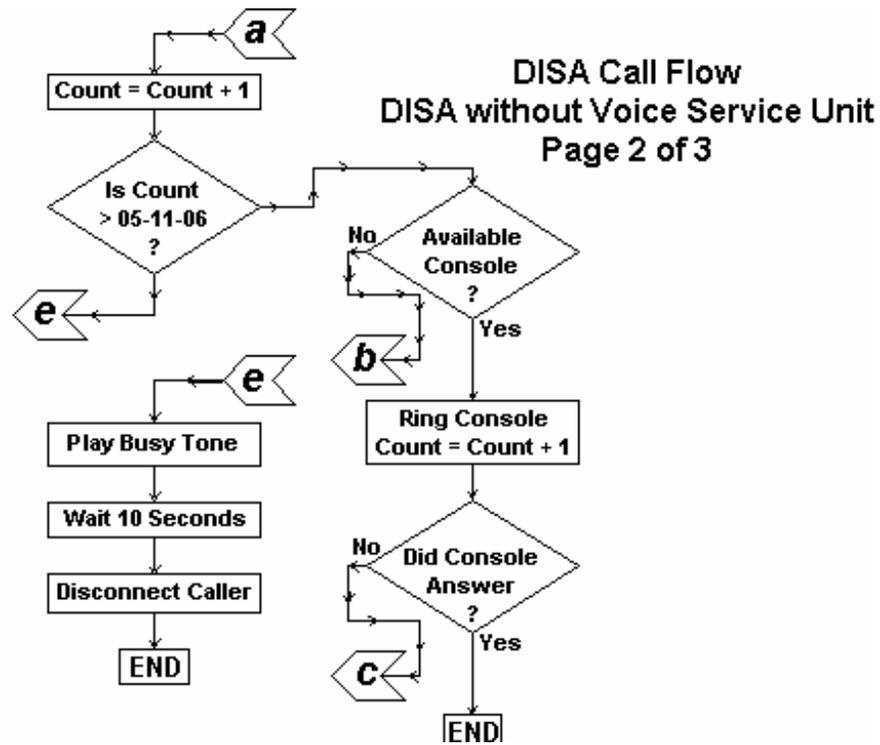
The second set of flow charts explain the operation of DISA when a Voice Service Unit is programmed for use by DISA.

DISA With No Voice Service Unit - Chart 1

DISA Call Flow
DISA without Voice Service Unit
Page 1 of 3

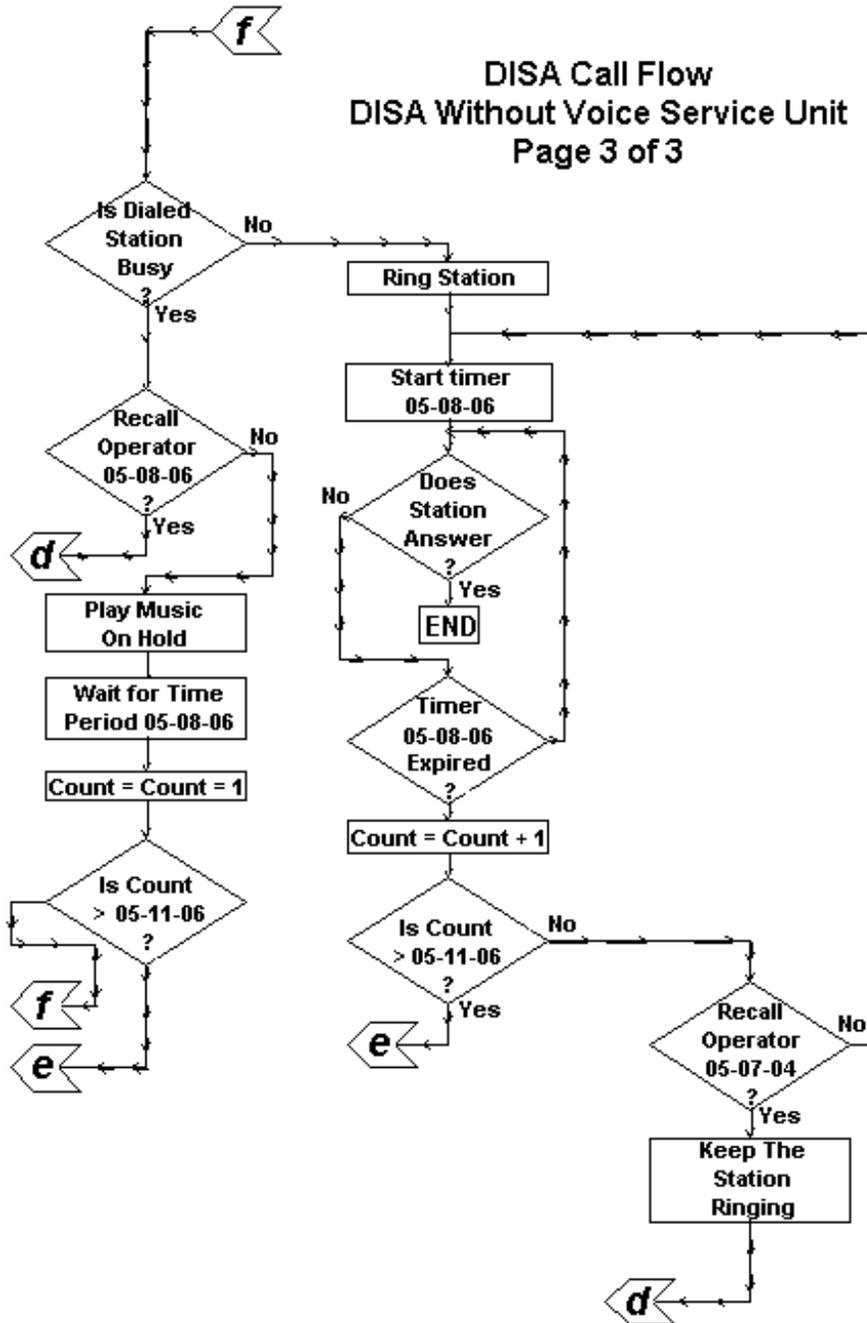


DISA With No Voice Service Unit - Chart 2



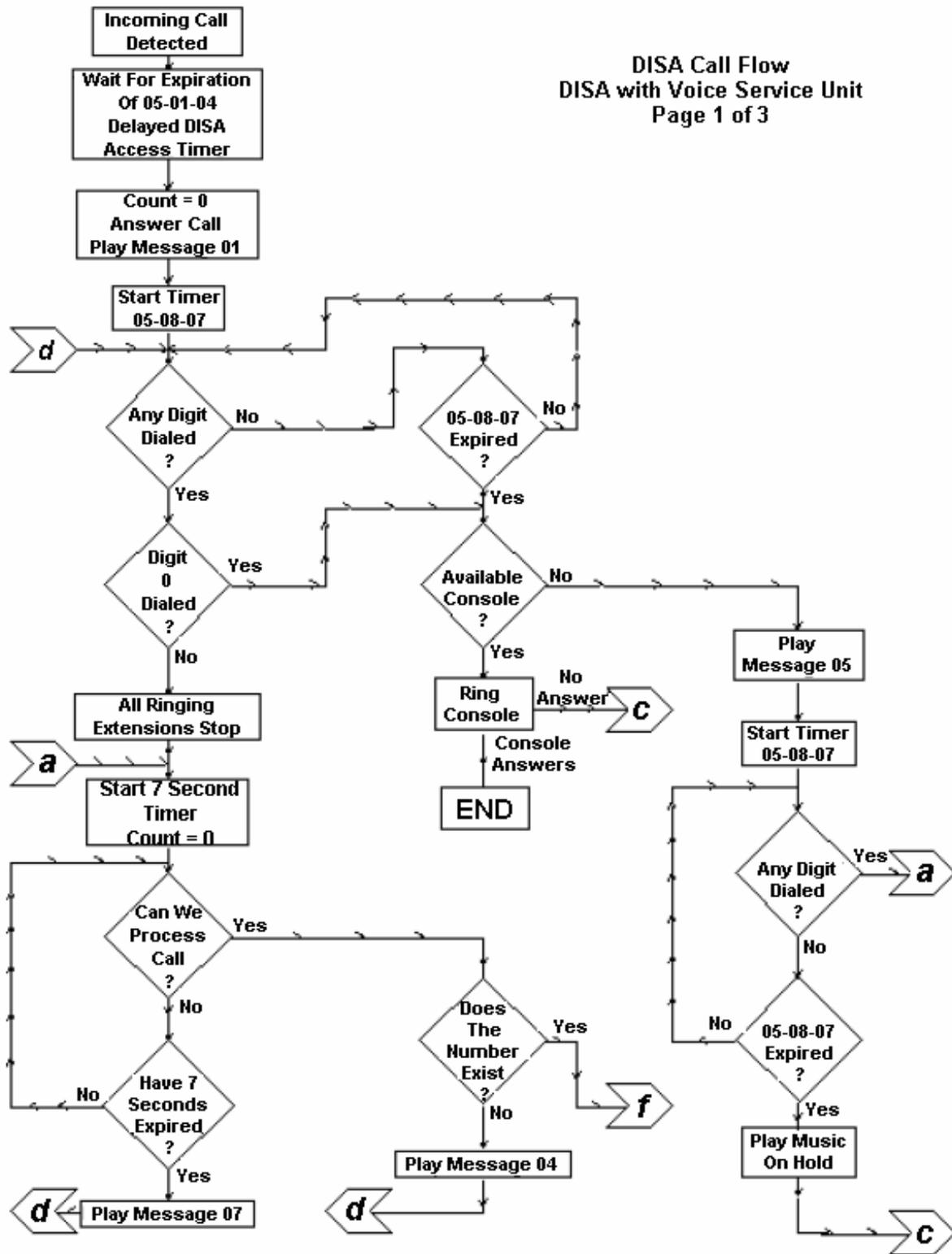
DISA With No Voice Service Unit - Chart 3

DISA Call Flow DISA Without Voice Service Unit Page 3 of 3



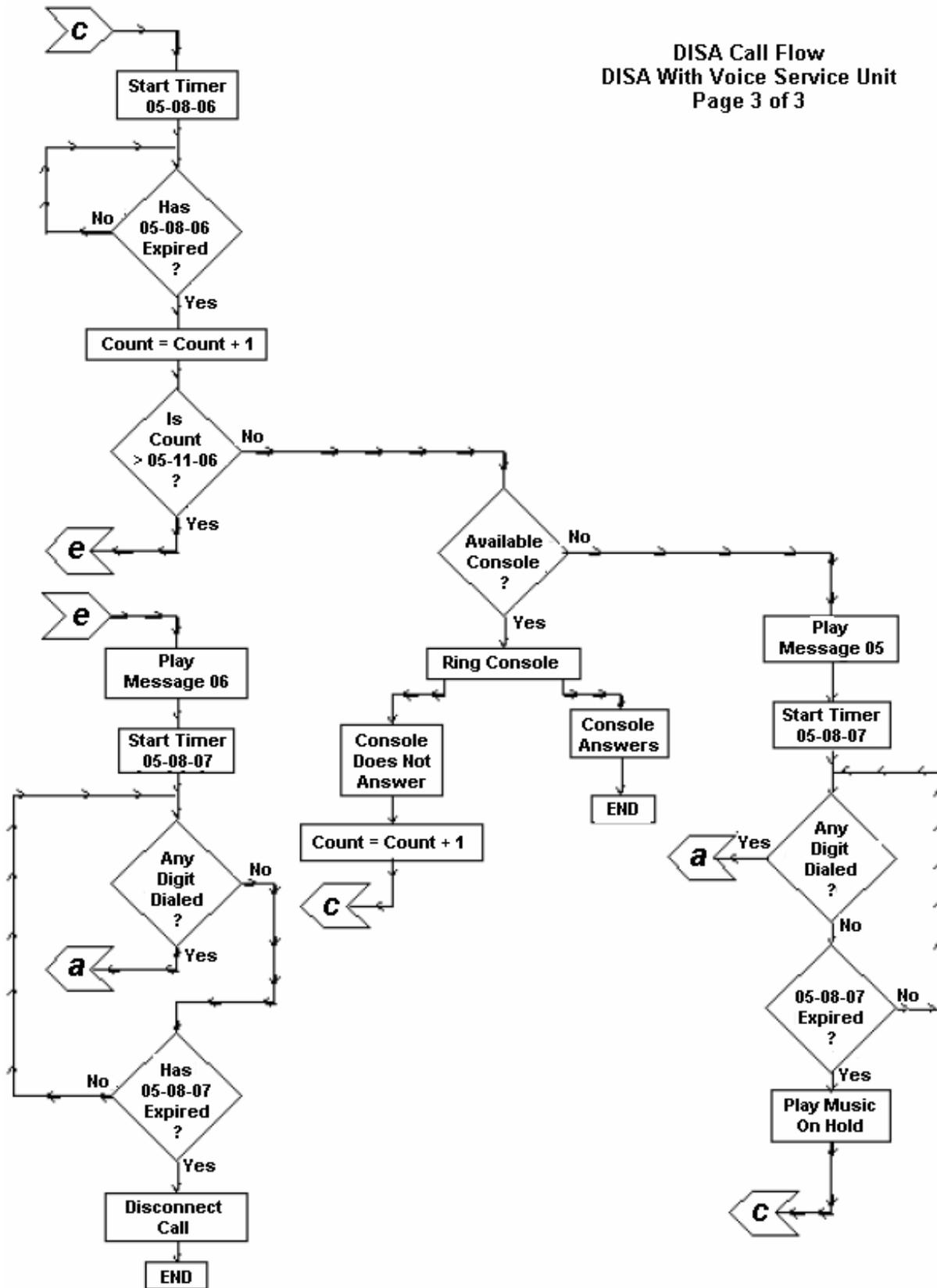
DISA With a Voice Service Unit - Chart 1

DISA Call Flow
DISA with Voice Service Unit
Page 1 of 3



DISA With a Voice Service Unit - Chart 3

DISA Call Flow
DISA With Voice Service Unit
Page 3 of 3



Appendix B - Toll Control Detailed Description

The following section describes the details of operation, programming and implementation of Toll Control on the TransTel TD-824i.

Toll Control Overview

Toll control provides the ability for installation personnel and the end user to selectively restrict the dialing capabilities of telephones within the system. There are 9 levels of restriction and one unlimited dialing level within the system. Each of the 9 levels of restriction is under user control and can be programmed to allow or disallow calls through a series of deny and exception tables that can be configured to up to 11 significant digits.

Centrex Considerations

If your system is not configured behind Centrex or behind a PABX, you may skip this section.

If the system is to be used behind Centrex or PABX operation, the system should be set up to recognize that calls within the Centrex/PABX system are not subject to toll control and that calls outside the system are subject to toll control.

There are two places within system programming that notify toll control that CO lines are behind Centrex. The first location is on **Form 35-CO-01**, where *CO* is the CO line number. If this item is set to a value of [0], the system assumes that it is a normal CO line and that all dialing on it will be subject to toll control.

If 35-CO-01 is set to a value of [1], the system assumes that the line is configured behind Centrex and will look for the Centrex Outgoing Code as programmed on **Form 05-03-04, Centrex Outgoing Code**. If the first digit dialed on the CO line matches the one programmed on 05-03-04, toll control checking will occur. However, the digit programmed in Form 05-03-04 will be discarded before toll checking occurs.

For example, if the digit [9] is programmed in Form 05-03-04, any call that begins with the digit [9] will be subject to normal toll control. The first digit subject to toll checking will be the next digit after the [9] is dialed. Should the first digit dialed be something other than [9], the system assumes that the call is an inside Centrex call and does not apply toll checking.

Form 05-03-04, Centrex Outgoing Code as listed above determines the code that will cause the system to recognize a call as an outside Centrex call. This parameter is only checked when Form 35-CO-01 is set to a value of 1.

Note: In some installations where the TD-824i is installed behind a PABX, there may be multiple access codes that provide access to various types of CO lines. These installations are not as common as they once were, but there are still some installations where a user may have to dial an access code for a local call, a different access code for long distance calls and sometimes even a third or fourth code to access tie lines to another facility. In those applications, we recommend that the installation be configured so that all lines are configured as CO (Form 35-CO-01 set to [0]) and that toll control consider all digits that are dialed on the line.

Toll Plans

Form 41-Station-05, Toll Plan (Day Service) or 41-Station-06, Toll Plan (Night Service), where *Station* is the extension number of the station, is the first pointer that is checked when dialing begins on a CO line. The digit refers toll control to check the matching toll plan on **Form 18, Toll Plan Assignment**.

Example: If a station is programmed as [0] on Form 41-Station-05 or 28-Station-06, the station will be subject to Toll Plan 00 on Form 18. If a station is programmed as [2], it will be subject to Toll Plan 02 on Form 18.

Form 18, Toll Plan Assignment provides a toll plan routing map for each of the ten plans within the system. It sets up the reference checking for each individual trunk within the system. In essence, it is the switchboard that connects a station and a trunk to a pair of deny and exception tables. As can be seen

by consulting Form 18 in the System Programming Forms, there is an entry in each of the 10 plans for every CO line in the system. The TD-824i shows 10 entries.

Example: If a station is programmed as [0] on Form 41-*Station-05* or 41-*Station-06*, it will be subject to plan 00 on Form 18.
If the station accesses Line 1, the system will check the entry in Form 18-*00-01*, where *00* is the plan number and *01* is the CO line number. The number that is found in that entry is used to select the toll restriction deny/exception tables that will be used to monitor the digits dialed.

Class/Setting	Subject to:
0	No Restriction - Toll checking will not apply
1	Restriction (Deny) Form 61 / Exception Form 51
2	Restriction (Deny) Form 62 / Exception Form 52
3	Restriction (Deny) Form 63 / Exception Form 53
4	Restriction (Deny) Form 64 / Exception Form 54
5	Restriction (Deny) Form 65 / Exception Form 55
6	Restriction (Deny) Form 66 / Exception Form 56
7	Restricted Unless Exception is found in Form 57
8	Restricted Unless Exception is found in Form 58
9	Restricted Unless Exception is found in Form 59

Note: Settings of [7], [8], or [9] are completely restricted. There is no need for a Deny Form for these values. However, in order to lessen the restrictions on some of these classes, each value has an associated exception Form. These are explained in greater detail later in this Appendix under the explanations for Forms 61 through 66 and 51 through 59.

Restriction (Deny) Forms 61-66

Restriction Forms are the first items checked to determine the dialing capabilities of a telephone. Each Form allows up to 16 entries.
The TD-824i allows entries to be up to 12 digits in length.
There are two possible types of entry, **Unconditional** and **Conditional**.

Unconditional Entries

Unconditional Entries make absolute rules. If a caller dials the digits that are found in an unconditional entry, the call will be disallowed. Examples of unconditional entries are:

TD-824i
0
1900
1976
15551212

Any time a caller enters one of these numbers and is subject to the Restriction table in which these are programmed, the caller will be disconnected from the CO line. There are no exceptions to these rules.

Conditional Entries

Conditional Entries are entries that make a rule, but may have exceptions to the rule. The exceptions to the rule will be found in the corresponding Exception Form.

Restriction Form 61 will search for exceptions in Form 51.
Restriction Form 62 will search for exceptions in Form 52.
Restriction Form 63 will search for exceptions in Form 53. .
Restriction Form 64 will search for exceptions in Form 54. .
Restriction Form 65 will search for exceptions in Form 55. .
Restriction Form 66 will search for exceptions in Form 56. .

A conditional entry will end with don't care digits (d). Examples of conditional entries are:

TD-824i
10288ddddddd
1555ddddddd
976ddddddd

In each entry the corresponding Exception Form will be checked to see if there are exceptions to the rule.

If no exceptions are found, the caller will be disconnected.

If there are exceptions found, the digits will be matched to see if the number dialed matches an entry in the exception form. If they match, the call will be allowed. If they do not match, the call will be disconnected.

Exception Forms 51-59

Form 51 through 56 provide exceptions to their corresponding Restriction (Deny) Tables 61-66 as explained above. Form 57, Form 58 through Form 59 provide exceptions to total restriction and do not correspond to 6x Restriction Forms. Forms 57 through 59 provide the exceptions to toll classes 7 through 9, when these classes are entered into a plan on Form 18.

Regardless of the number, Forms 51 through 59 all perform the same function, to provide exceptions to the rules set elsewhere. Forms 51 through 56 will only be checked when their corresponding Restriction table has found a **Conditional Entry**.

Forms 51 through 59 each provide for up to 20 entries. The programming method is also similar and entire strings must be used when entering digits in Forms 51-59.

The **TD-824i** allows entries to be up to 12 digits in length.

There are two types of entries that can be made in Form 51 through 59, **Fixed** and **Variable**.

Fixed Entries

Fixed Entries are entries that require a specific number of digits. Any digits dialed after this string has been allowed will cause the call to be in violation of the exception and be disconnected. Examples of fixed entries are:

15551212

9761111

These entries will allow only the digits dialed. In any case, if additional digits are dialed, the calls will be disconnected.

Variable Entries

Variable Entries are the more commonly used entries in exception forms. These entries allow the programmer to stop toll checking at some point before the entire telephone number is dialed. They are also used where there may be more digits dialed than just a telephone number, such as when calling into a remote voice mail system, bank by phone service or other services that require additional Touch Tone entry after the telephone number.

Examples of variable entries are :

1555ddddddd

1203ddddddd

1319ddddddd

In each of these cases, a call beginning with 1+555 will be allowed and any digits beyond that will be accepted. Likewise, 1+203 and additional digits will be allowed, as well a 1+319 and more digits. Toll checking will cease under four conditions in the forms

1. When an Unconditional Entry is matched in a Restriction (Deny) Form. (Call is disallowed).
2. When a Conditional Entry in a Restriction Form is not matched by an Exception Entry. This can be either due to no match in the Exception Form or because the digit length exceeds what is allowed in the exception Form. (Call is disallowed).
3. When a conditional entry has been matched and an exception has been matched by a Variable Entry.
4. When the total digit length has been exceeded without the call being disallowed. This will occur after twelve digits.

Other Factors

Special Note: The items listed below apply only to outbound access of CO lines. The handling of inbound calls and CO lines is a function of incoming ringing assignments and line appearances on key telephone sets. Please do not confuse the two separate functions.

Stations can be restricted from all CO Line Access through a combination of programming options.

Form 05-04-02, Dial 9 Activation may be disabled on systems where there is no desire to utilize dial 9 functions. When this option is disabled, a station cannot dial 9 to access his dial 9 line Group (from Form 36). However, a station may directly access any CO line that is in his dial 9 group.

TD-824i a station may directly access by dialing 80+ the line number (from 1 to 8).

Form 05-08-02, Direct CO Access can be enabled or disabled to allow or deny direct access to CO lines. When enabled, stations will be able to directly access any CO line in the system by the methods listed below:

A station may directly access by dialing 80+ the line number (from 1 to 8).

If this option is disabled, stations will only have access to CO lines that are in their Dial 9 group (Form 36). This is true whether Dial 9 activation is enabled or not.

Form 41-Station-04, Dial 9 Group determines which dial 9 group is applicable to each station. There are eight groups in Superkey systems. A setting of 1 corresponds to the CO lines programmed in Form 36-01. A setting of 2 corresponds to the CO lines programmed in Form 36-02, etc., up to a setting of 8, which corresponds to Form 36-08.

This form will also assign an alternate Dial 87 Group the corresponds to the entry. Dial 87 groups are programmed on Form 38. There are eight groups available on the Superkey system.

Station Lock will cause a station to be subject to Toll Class 9. As noted in the section of this Appendix, a Toll Class of 9 is completely restricted with the exception of any items found in Form 59.

Forced Account Codes will take a station from the programmed Toll Restriction Class to a Toll Class 0 for the duration of a single call. For more information please see page 98 of the Features and Services Description