# **Application Note**

(Flag/Voice Codes)

## Product: All Phones Operating DD Type Firmware

The information in this application shows descriptions of flag codes and alarm codes for phones running DD type firmware. Flag descriptions are listed in alphabetical order using the two character flag code.

## Note:

The phone can be set to report error flags to the computer immediately, as they occur, by setting each flag to "immediately report" in the Options & Registers record used by the phone (See the "Programmable Reporting Flags" in the Options & Registers record.) If a flag is not set to immediately report, the flag remains set in the phone and is reported to the computer during the polling process or when a service person enters the \*#64 reporting command at the payphone keypad.

E\$ COIN BOX EMPTIED	<b>\$F</b> COIN BOX FULL	<b><u>\$V</u></b> COIN BOX VOLUME REACHED
BG BAD GROUND	<b>BM</b> BOX MISSING	BR BOX REMOVE
<b><u>CF</u></b> BILLING CDR FULL	CL CDR BILLING LIMIT REACHED	CR CLOCK RESET
DE DEFECTIVE ESCROW	DI DIAL INACTIVITY	EE EEPROM ERROR
HG HANDSET GONE	HO HANDSET OFFHOOK	LA LOWER ALARM
LB LOW BATTERY	LR LOOP REVERSAL	OC OPTO COUPLER
PC PEG COUNT REACHED	PR PHONE REPAIR	RC RELAY COLLECT
RE RAM ERROR	RI RELAY JAM	RR RELAY REFUND
ST STATUS CHECK	TG TROUBLE GONE	TR TIME REPORT

### Click on a flag code below for a detailed decription of the flag.

#### Cause

This flag is set if the phone detects that a repair person entered the reporting command \*#1 (Coin box emptied), followed by the security code, at the payphone keypad. This command causes the phone to report this information to the computer. Activating the vault door or coin box alarm switch also sets this flag. When this flag is set, coin box totals and coin box volume counters are reset.

#### **Reporting Time**

The phone reports this flag to the computer immediately after a \*#1 command is entered at the keypad or it is reported two minutes after the coin box alarm is set. After successful communication with the computer, the flag is reset, and the phone does not report in again. If communication is not successful, the phone attempts communication with the computer again in 2 hours, then 4 hours, then in 8 hours. If communication is successful at any of these points or if the phone is polled, the reporting attempts stop. If communication is not successful, the phone continues to try to report the flag every 8 hours until communication is successful.

#### **Resetting the Flag**

The computer resets this flag when successful communication occurs between the computer and the phone.

# Corrective Action





reaches 100 percent.

#### **Reporting Time**

The phone reports this flag to the computer two minutes after the flag is set. After successful communication with the computer, the phone does not report in again, but the flag remains set until the condition is cleared. If communication is not successful, the phone attempts communication with the computer again in 2 hours, then 4 hours, then in 8 hours. If communication is successful at any of these points or if the phone is polled, the reporting attempts stop. If communication is not successful, the phone continues to try to report the flag every 8 hours until communication is successful.

#### **Corrective Action**

Dispatch a service tech to empty the coin box.

#### **Resetting the Flag**

Empty the coin box and then use the \*#1 reporting command to report in to the computer. If the phone is equipped with a vault door or coin box switch, then simply empty the coin box and replace it.



FLAG CODE (\$V)	COIN BOX VOLUME REACHED	VOICE CODE (0, 4)
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#### Cause

This flag is set when the volume of coins in the cash box reaches the percentage (%) full programmed for the phone to report. The percentage full value is programmed in the field labeled "cash box volume" in the Options & Registers record used by the phone.

#### **Reporting Time**

The phone reports in to the computer two minutes after the flag is set. After successful communication with the computer, the phone does not report this flag to the computer again, but the flag remains set until the condition is cleared. If communication is not successful, the phone attempts communication with the computer again in 2 hours, then 4 hours, then in 8 hours. If communication is successful at any of these points or if the phone is polled, the reporting attempts stop. If communication is not successful, the phone continues to try to report the flag every 8 hours until it is successful.

#### **Corrective Action**

Dispatch a service tech to empty the coin box.

#### **Resetting the Flag**

Empty the coin box and then use the \*#1 reporting command to report in to the computer. If the phone is equipped with a vault door or coin box switch, empty the coin box and replace it.



FLAG CODE (BG)	BAD GROUND (Coin Line Phones Only!)	VOICE CODE (4, 4)
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#### Cause

This flag is set if the phone fails to detect a refund or collect signal from the Central Office on four successive calls and has been forced to the auto default condition.

#### **Reporting Time**

The phone reports this flag to the computer two minutes after the flag is set. After successful communication with the computer, the flag is reset and the phone does not report in again. If communication is not successful, the phone attempts communication with the computer again in 2 hours, then 4 hours, then in 8 hours. If communication is successful at any of these points or if the phone is polled, the reporting attempts stop. If communication is not successful, the phone continues to try to report the flag every 8 hours until communication is successful.

#### **Corrective Action**

Dispatch a service tech. Have the service tech perform a coin ground diagnostic test (\*4). Also verify that local and long distance coin calls are properly collecting and

refunding coins.

#### **Resetting the Flag**

The flag is reset when the phone detects a good collect or refund signal from the C.O. or when the program mode is entered and a digit is pressed.



FLAG CODE (BM)

BOX MISSING

VOICE CODE (5, 5)

#### Cause

This flag is set if the phone detects that the coin box has been missing from the phone for 15 minutes. This flag only occurs in phones that are equipped with a coin box alarm switch.

#### **Reporting Time**

The phone reports this flag to the computer two minutes after the flag is set. After successful communication with the computer, the phone does not report this flag again but the flag remains set. If communication is not successful, the phone attempts communication with the computer again in 2 hours, then 4 hours, then in 8 hours. If communication is successful at any of these points or if the phone is polled, the reporting attempts stop. If communication is not successful, the phone continues to try to report the flag every 8 hours until communication is successful.

#### **Corrective Action**

Dispatch a service tech. Have the service tech replace the coin box or check for a faulty coin box alarm switch.

#### **Resetting the Flag**

Replace the coin box, the faulty switch or enter program mode, press 2, and then hang up.



#### Cause

This flag is set if the phone detects that the coin box is removed from the phone during a time that is other than when the coin box removal window is active.

#### **Reporting Time**

The phone reports this flag to the computer two minutes after the flag is set. After successful communication with the computer, the phone does not report in again and the flag is reset. If communication is not successful, the phone attempts communication with the computer again in 2 hours, then 4 hours, then in 8 hours. If communication is successful at any of these points or if the phone is polled, the reporting attempts stop. If communication is not successful, the phone continues to try to report the flag every 8 hours until communication is successful.

#### **Corrective Action**

Monitor the phone to determine if the box is returned.

#### **Resetting the Flag**



FLAG CODE (CF)	BILLING CDR FULL	VOICE CODE (1, 7)	
Cause This flag is set if the phone detects that there have been 52 Store & Forward calls made on the phone and the call detail records for these calls have not yet been transferred to the computer. The Store & Forward records must be reported to the computer and the Store & Forward call counter must be reset before the phone allows any more Store & Forward calls.			

#### **Reporting Time**

The phone reports this flag to the computer two minutes after the flag is set. After successful communication with the computer, the flag is reset. If communication is not successful, the phone attempts communication with the computer again in 2 hours, then 4 hours, then in 8 hours. If communication is successful at any of these points or if the phone is polled, the reporting attempts stop. If communication is not successful, the phone continues to try to report the flag every 8 hours until communication is successful.

#### **Corrective Action** N/A

#### **Resetting the Flag**

The computer resets this flag in the phone when successful communication occurs between the computer and the phone.



CDR BILLING FLAG CODE (CL) LIMIT REACHED VOICE CODE (1, 6)

#### Cause

This flag is set if the phone detects that the number of Store & Forward calls made on the phone is one more than the number of calls specified in the field labeled "Number of Billable CDR Records before Reporting" in the Options & Registers record used by the phone.

### **Reporting Time**

The phone reports this flag to the computer two minutes after the flag is set. After successful communication with the computer, the flag is reset. If communication is not successful, the phone attempts communication with the computer again in 2 hours, then 4 hours, then in 8 hours. If communication is successful at any of these points or if the phone is polled, the reporting attempts stop. If communication is not successful, the phone continues to try to report the flag every 8 hours until communication is successful.

# Corrective Action N/A

#### Resetting the Flag

The computer resets this flag in the phone when successful communication occurs between the computer and the phone.



FLAG CODE (CR)

CLOCK RESET

VOICE CODE (4, 5)

#### Cause

This flag is set if the phone detects that the date and time setting in the phone has been reset due to a power-on reset condition. This condition can occur if the ni-cad or lithium battery supply falls to a low voltage.

#### **Reporting Time**

The phone reports this flag to the computer two minutes after the flag is set. After successful communication with the computer, the flag is reset and the phone does not report in again. If communication is not successful, the phone attempts communication with the computer again in 2 hours, then 4 hours, then in 8 hours. If communication is successful at any of these points or if the phone is polled, the reporting attempts stop. If communication is not successful, the phone continues to try to report the flag every 8 hours until communication is successful.

#### **Corrective Action**

If this flag occurs 8 times over a 30 day period dispatch a service tech. Have the service tech replace either the battery or the Chassis Assembly.

#### **Resetting the Flag**





#### Cause

This flag is set if the phone does not detect deposited coins on 10 consecutive attempts to process a coin call.

#### **Reporting Time**

The phone reports this flag to the computer two minutes after the flag is set. After successful communication with the computer, the flag is cleared and the phone does not report in again even if the condition remains uncorrected. If communication is not successful, the phone attempts communication with the computer again in 2 hours, then 4 hours, then in 8 hours. If communication is successful at any of these points or if the phone is polled, the reporting attempts stop. If communication is not successful, the phone continues to try to report the flag every 8 hours until it is successful.

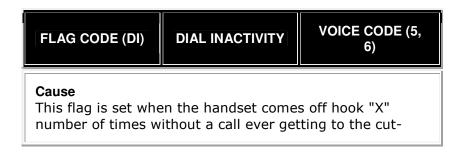
#### **Corrective Action**

Dispatch a service tech. Have the service tech perform a coin recognition diagnostic test on the phone.

#### **Resetting the Flag**

This flag is reset when the phone recognizes a good coin deposit.





through point (phone dials out and the transmitter/receiver turns on). The value of "X" is specified in the field labeled "Peg Count/Inactivity" in the Options & Registers record used by the phone.

#### **Reporting Time**

The phone reports this flag to the computer two minutes after the dial inactivity counter reaches the specified value. After successful communication with the computer, the phone does not report in again, but the flag remains set until the condition is cleared. If communication is not successful, the phone attempts communication with the computer again in 2 hours, then 4 hours, then in 8 hours. If communication is successful at any of these points or if the phone is polled, the reporting attempts stop. If communication is not successful, the phone continues to try to report the flag every 8 hours until communication is successful.

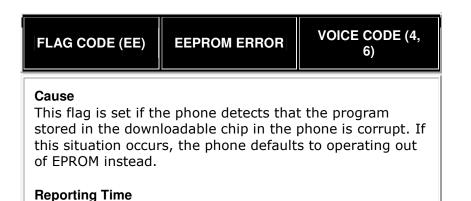
#### **Corrective Action**

Have the computer poll the phone approximately 8 hours after the alarm is reported. Check for an increase in the number of calls by checking the call counters. If there is no increase in the number of calls made from the phone, dispatch a service tech. Have the service tech perform diagnostic tests on the phone to test for proper keypad activity.

#### **Resetting the Flag**

This flag is reset when the phone dials a successfully completed call.





The phone reports this flag to the computer two minutes after the flag is set. After successful communication with the computer, the flag is reset, and the phone does not report in again. If communication is not successful, the phone attempts communication with the computer again in 2 hours, then 4 hours, then in 8 hours. If communication is successful at any of these points or if the phone is polled, the reporting attempts stop. If communication is not successful, the phone continues to try to report the flag every 8 hours until communication is successful.

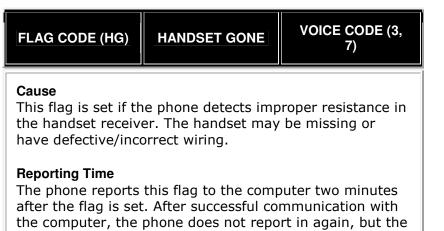
#### **Corrective Action**

Verify that the firmware installed at the phone matches the firmware specified in the site record used by the phone. If so, review a 30-day history of flags that were reported from the phone. If the EE flag was reported, dispatch a service tech to mark and replace the chassis assembly. If the firmware installed in the phone does not match the firmware specified in the site record, poll the phone and force a firmware download to the phone. If the firmware download is unsuccessful, dispatch a service tech. Have the service tech check for noisy phone line conditions or replace the chassis assembly.

#### **Resetting the Flag**

The flag is reset when the phone and the computer successfully communicate with each other.





flag remains set until the condition is cleared. If

communication is not successful, the phone attempts communication with the computer again in 2 hours, then 4 hours, then in 8 hours. If communication is successful at any of these points or if the phone is polled, the reporting attempts stop. If communication is not successful, the phone continues to try to report the flag every 8 hours until it is successful.

#### **Corrective Action**

Have the computer poll the phone approximately 8 hours after the alarm is reported. Check for an increase in the number of calls by checking the call counters. If there is no increase in the number of calls made from the phone, dispatch a service tech. Have the service tech check for a faulty handset and/or dial pad connection.

#### **Resetting the Flag**

This flag is reset when the phone detects that the handset is operating properly.



FLAG CODE (HO)	HANDSET OFFHOOK	VOICE CODE (3, 4)
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#### Cause

This flag is set if the phone detects that the handset is off hook with no hookswitch activity for approximately 15 minutes.

#### **Reporting Time**

The phone reports this flag to the computer two minutes after the flag is set. After successful communication with the computer, the flag is cleared and the phone does not report this flag again even if the condition remains uncorrected. If communication is not successful, the phone attempts communication with the computer again in 2 hours, then 4 hours, then in 8 hours. If communication is successful at any of these points or if the phone is polled, the reporting attempts stop. If communication is not successful, the phone continues to try to report the flag every 8 hours until communication is successful.

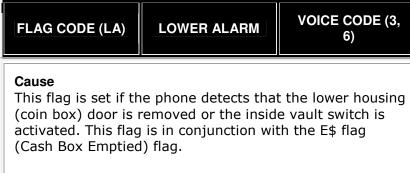
#### Corrective Action

Make sure that the handset is hung up in the cradle. Verify proper operation of the hookswitch.

#### **Resetting the Flag**

This flag is reset when the phone goes on hook and the hookswitch is determined to be operating properly. Enter the program mode, press 2, and then hang up.





#### **Reporting Time**

The phone reports this flag to the computer 2 minutes after the coin box is removed from the phone. After successful communication with the computer, the flag is reset and the phone does not report in again. If communication is not successful, the phone attempts communication with the computer again in 2 hours, then 4 hours, then in 8 hours. If communication is successful at any of these points or if the phone is polled, the reporting attempts stop. If communication is not successful, the phone continues to try to report the flag every 8 hours until communication is successful.

#### **Corrective Action**

N/A

#### **Resetting the Flag**



FLAG CODE (LB)

#### Cause

This flag is set if the phone detects that the ni-cad battery voltage in the phone is too low. If this condition occurs, the phone attempts to recharge the battery.

#### **Reporting Time**

The phone reports this flag to the computer two minutes after the flag is set. After successful communication with the computer, the flag is reset. If communication is not successful, the phone attempts communication with the computer again in 2 hours, then 4 hours, then in 8 hours. If communication is successful at any of these points or if the phone is polled, the reporting attempts stop. If communication is not successful, the phone continues to try to report the flag every 8 hours until communication is successful.

#### **Corrective Action**

If this flag is repeated, have the service tech verify that the battery voltage and line current are at proper levels.

#### **Resetting the Flag**

Enter program mode, press 2, and then hang up.



FLAG CODE (LR)	LOOP REVERSAL	VOICE CODE (0, 7)
Cause This flag is set if tip & ring are determined to be reversed on three consecutive regulated coin calls. The loop reversal check is performed after the last digit of the destination number is dialed by the user.		
Reporting Time		

The phone reports this flag to the computer two minutes

after the flag is set. After successful communication with the computer, the phone does not report in again, but the flag remains set until the condition is cleared. If communication is not successful, the phone attempts communication with the computer again in 2 hours, then 4 hours, then in 8 hours. If communication is successful at any of these points or if the phone is polled, the reporting attempts stop. If communication is not successful, the phone continues to try to report the flag every 8 hours until it is successful.

#### **Corrective Action**

Dispatch a service tech, or have the Central Office technician reverse the tip & ring pair.

#### **Resetting the Flag**

Enter program mode, press 2, and then hang up or the flag is reset when the phone detects normal loop polarity on a call.

**BACK** 

FLAG CODE (OC)	OPTO COUPLER (Coin Line Phones Only!)	VOICE CODE (5, 0)
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#### Cause

This flag is set if the phone detects a collect/refund signal immediately after coming off hook.

#### **Reporting Time**

The phone reports this flag to the computer two minutes after the flag is set. After successful communication with the computer, the flag is reset. If communication is not successful, the phone attempts communication with the computer again in 2 hours, then 4 hours, then in 8 hours. If communication is successful at any of these points or if the phone is polled, the reporting attempts stop. If communication is not successful, the phone continues to try to report the flag every 8 hours until communication is successful.

# Corrective Action

Dispatch a service tech. Have the service tech replace the

chassis assembly.

**Resetting the Flag** The computer resets this flag when successful communication occurs between the computer and the phone.





PEG COUNT REACHED

VOICE CODE (0, 3)

#### Cause

This flag is set if the phone detects that the number of calls made on the phone is equal to the number specified in the field labeled "Peg Count/Inactivity" in the Options & Registers record used by the phone.

#### **Reporting Time**

The phone reports this flag to the computer two minutes after the flag is set. After successful communication with the computer, the flag is reset and the phone does not report in again. If communication is not successful, the phone attempts communication with the computer again in 2 hours, then 4 hours, then in 8 hours. If communication is successful at any of these points or if the phone is polled, the reporting attempts stop. If communication is not successful, the phone continues to try to report the flag every 8 hours until communication is successful.

Corrective Action N/A

#### **Resetting the Flag**

The computer resets this flag in the phone when successful communication occurs between the computer and the phone. The Audit CDR counter is also reset to zero (0) when this flag is reset.



FLAG CODE (PR)

#### Cause

This flag is set if the phone detects that a repair person entered the reporting command \*#3 (Program Update) at the payphone keypad. This reporting command causes the phone to call in to the computer and request a download of costing/options information to program or reprogram the phone.

#### **Reporting Time**

The phone reports this flag to the computer immediately after it is set. After successful communication with the computer, the flag is reset and the phone does not report it again. If communication is not successful, the phone attempts communication with the computer again in 2 hours, then 4 hours, then in 8 hours. If communication is successful at any of these points or if the phone is polled, the reporting attempts stop. If communication is not successful, the phone continues to try to report the flag every 8 hours until communication is successful.

**Note:** This flag is set when the reporting command \*#3 is entered at the payphone keypad during initialization.

# Corrective Action

N/A

#### **Resetting the Flag**



FLAG CODE (RC)	RELAY COLLECT	VOICE CODE (5, 3)
Cause		

This flag is set if there are six consecutive coin collection failures. A relay jam flag (RJ) may be reported along with this flag.

#### **Reporting Time**

The phone reports in to the computer two minutes after the flag is set. After successful communication with the computer, the phone does not report this flag to the computer again. The relay jam flag (RJ) reported along with this flag remains set until the condition is corrected. If communication is not successful, the phone attempts communication with the computer again in 2 hours, then 4 hours, then in 8 hours. If communication is successful at any of these points or if the phone is polled, the reporting attempts stop. If communication is not successful, the phone continues to try to report the flag every 8 hours until communication is successful.

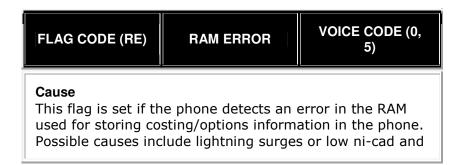
#### **Corrective Action**

Verify that there has not been a "trouble gone" flag (TG) reported since the relay jam and relay collect flags were reported. If the condition still exists, dispatch a service tech immediately. Have the tech check for a faulty relay connection, stuck coins, and proper relay function using diagnostic tests to thoroughly test the collect function.

#### **Resetting the Flag**

- Enter the phone's program mode, press 2 and then hang up.
- Clear the escrow relay and perform complete diagnostic tests.
- This flag is reset if a successful collect and refund occurs.





lithium batteries. An "EE" flag may also be reported with this flag.

#### **Reporting Time**

The phone reports this flag to the computer two minutes after the flag is set. During the time that the phone and the computer communicate with each other, the phone receives a costing data/options update to restore the RAM. If the update is successful, the phone does not report this flag again. If communication is not successful, the phone attempts communication with the computer again in 2 hours, then 4 hours, then in 8 hours. If communication is successful at any of these points or if the phone is polled, the reporting attempts stop. If communication is not successful, the phone continues to try to report the flag every 8 hours until communication is successful.

#### **Corrective Action**

If this flag recurs, have the service technician label the chassis with RE, and replace the chassis assembly.

#### **Resetting the Flag**

- Enter program mode, dial 2, and then hang up.
- This flag is reset after the computer updates costing/options information in the phone.





#### Cause

Coin relay jammed. This flag is set after 12 consecutive failed attempts to collect and/or refund coins.

#### **Reporting Time**

The phone reports in to the computer two minutes after the flag is set. After successful communication with the computer, the phone does not report in again, but the flag remains set until the condition is cleared. If communication is not successful, the phone attempts communication with the computer again in 2 hours, then 4 hours, then in 8 hours. If communication is successful at any of these points or if the phone is polled, the reporting attempts stop. If communication is not successful, the phone continues to try to report the flag every 8 hours until communication is successful.

#### **Corrective Action**

Verify that there has been no "trouble gone" flag (TG) set in the phone since the relay jam was reported. If the relay jam condition still exists, dispatch a service tech immediately. Have the service tech check for a faulty relay connection, stuck coins, and proper relay function using diagnostic procedures.

#### **Resetting the Flag**

- Enter the phone's program mode, press 2 and then hang up.
- Clear the escrow relay, and perform complete diagnostic tests.
- The escrow relay clears itself if a successful collect or refund occurs.





#### Cause

This flag is set if there have been six consecutive coin refund failures. A relay jam flag (RJ) may be reported in conjunction with this flag.

#### **Reporting Time**

The phone reports in to the computer two minutes after the flag is set. After successful communication with the computer, the alarm is cleared. The relay jam flag (RJ) reported along with this flag remains set until the condition is corrected. If communication is not successful, the phone attempts communication with the computer again in 2 hours, then 4 hours, then in 8 hours. If communication is successful at any of these points or if the phone is polled, the reporting attempts stop. If communication is not successful, the phone continues to try to report the flag every 8 hours until it is successful.

#### **Corrective Action**

Verify that there has been no "trouble gone" flag (TG) since the relay jam and relay refund flags were reported. If the condition still exists, dispatch a service tech immediately. Have the tech check for stuck coins, and proper relay function using diagnostic tests to thoroughly test the refund function.

#### **Resetting the Flag**

- Enter the phone's program mode, press 2 and then hang up.
- Clear the condition manually and perform complete diagnostic tests.
- This flag is cleared if a successful refund and collect occurs.





#### Cause

This flag is set if the phone detects that a repair person entered the reporting command \*#2 (General Reporting Status) at the payphone keypad. This command causes the phone to call the computer and report the details of the calls that have been made on the phone since the last time that the phone reported this information to the computer. The phone also verifies that the costing/options information stored in the phone is up to date and if necessary requests a download of costing/options information from the computer.

#### **Reporting Time**

The phone reports this flag to the computer immediately after it is set. After successful communication with the computer, the flag is reset and the phone does not report it again. If communication is not successful, the phone attempts communication with the computer again in 2 hours, then 4 hours, then in 8 hours. If communication is successful at any of these points or if the phone is polled, the reporting attempts stop. If communication is not successful, the phone continues to try to report the flag every 8 hours until communication is successful.

#### **Corrective Action** N/A

#### **Resetting the Flag**

The computer resets this flag when successful communication occurs between the computer and the phone.



FLAG CODE (TG)	TROUBLE GONE	VOICE CODE (4, 7)	
<b>Cause</b> This flag is set if the phone detects that a previously reported relay jam condition (RJ, RR, RC) is cleared.			
- · · · · ·			
Corrective Action			

N/A

### **Resetting the Flag**



FLAG CODE (TR)

#### Cause

This flag is set when the phone detects that it has reached the scheduled time to report. The scheduled time for the phone to report in to the computer is specified in the "Reporting Options" of the Options & Registers record used by the phone.

#### **Reporting Time**

The phone reports this flag to the computer two minutes after the flag is set. After successful communication with the computer, the flag is reset and the phone does not report in again. If communication is not successful, the phone attempts communication with the computer again in 2 hours, then 4 hours, then in 8 hours. If communication is successful at any of these points or if the phone is polled, the reporting attempts stop. If communication is not successful, the phone continues to try to report the flag every 8 hours until communication is successful.

Corrective Action N/A

#### **Resetting the Flag**

