



CCF/CCF-II/MDH Transmission Guides

6.07 CF2DMX: Function User's Guide



Copyright © 1997 by The Depository Trust Company (“DTC”). All rights reserved. This work is proprietary and is intended for the exclusive use of DTC’s Participants and other Users of DTC’s services. No part of this work may be reproduced or distributed (including by transmission) in any form or by any means, or stored in any information storage and retrieval system, without DTC’s prior written permission.

All requests for additional copies of this work or inquiries about this work should be directed to DTC Participant Interface Planning.



6.07 CF2DMX: Function User's Guide

Table of Contents

Section	Title	Page
1.0	Overview	1
1.1	Availability of CF2DMX	1
1.2	Transmitting Transactions to DTC	1
1.3	File Preparation	2
1.4	CF2DMX Transaction Record Descriptions	2
2.0	CF2DMX Transmission Formats	5
2.1	The CCF-II Signon/Password Record	5
2.2	The CCF-II Header Record	6
3.0	CF2DMX Data Records	7
3.1	CF2DMX File Header Record	7
3.2	CF2DMX Batch Header Record	11
3.3	CF2DMX Batch Trailer Record	14
3.4	CF2DMX File Trailer Record	17
3.5	CF2DMX Security Detail Record	19
3.6	CF2DMX Certificate Addendum Record	30
3.7	CF2DMX Trailer Record	33
4.0	CF2DMX Transmission Response	34
5.0	CCF-II Control Record Format	36
6.0	CCF-II Audit Record Format	39
7.0	CF2DMX Error Indicators	41
7.1	CCF-II Header Record Error Indicators	42
7.2	CF2DMX File Header Record Error Indicators	43
7.3	CF2DMX Batch Header Record Error Indicators	44
7.4	CF2DMX Security Detail Record Error Indicators	45
7.5	CF2DMX Certificate Addendum Record Error Indicators	46
7.6	CF2DMX Batch Trailer Record Error Indicators	47
7.7	CF2DMX File Trailer Record Error Indicators	48
7.8	CCF-II Trailer Record Error Indicators	49
8.0	Control Record Transmission Status Codes	50
9.0	Data Records	51
10.0	Conditions for Cancellation of an Entire Transmission	52
10.1	Conditions for Rejection of Specific Detail Records	52



11.0	Cutoff Times	53
12.0	Recovery Procedures	54
13.0	Backup for CCF-II	55



1.0 Overview

The CCF-II CF2DMX will allow Participants to send Direct Mail Agent Return (DMA) transactions to DTC. The CF2DMX function uses the format of the DMA magnetic tape system.

When using the CF2DMX function, the CCF-II User will submit DMA transactions to DTC and receive responses indicating any control errors that have been detected in those transactions. The transaction will be edited, flagging any fields that do not pass the edit criteria.

If any records are found to be invalid, the rejected record is returned with an AUDIT and a CONTROL record and the entire transmission is rejected. The status of the transmission is always known by looking at the control record.

1.1 Availability of CF2DMX

The CF2DMX function will be available from 4:00 a.m. to 2:00 p.m. (Eastern Time).

1.2 Transmitting Transactions to DTC

DTC's Computer to Computer Facility (CCF-II) is a medium for transmitting data to and from DTC. It allows a more efficient control over computer resources.

When a CCF-II User wishes to transmit data to DTC, he must prepare the request JCL as specified in this document, the *CCF-II RJE User's Guide* and the *CCF-II/NDM User's Guide*. The User then transmits the DTC-specified JCL in order to initiate a job within DTC's Computer System. The input file and summary records are edited, and any records in error will be transmitted back to the User. Valid transmissions will be processed.



1.3 File Preparation

In order to use the CF2DMX function to transmit Direct Mail Return transactions, the User must prepare one input file with the following characteristics:

- Instream data
- Record Length = 750 bytes
- 1st Record ==>PSW record (Signon/Password Record)
- 2nd Record ==> HDR Record (Header Record)
- DMA Transaction Records.
- .
- .
- .
- Last Record ==> TLR Record (Trailer Record).

Refer to the *CCF-II RJE User's Guide* and the *CCF-II/NDM User's Guide* for further transmission method details.

1.4 CF2DMX Transaction Record Descriptions

In order to facilitate the CF2DMX function, it is necessary to format the following record types:

- C File Header Record (Type 00)
- C Batch Header Record (Type 01)
- C Security Detail Record (Type 05)
- C Certificate Addendum Detail Record (Type 06)
- C Batch Trailer Record (Type 88)
- C File Trailer Record (Type 99).

Here are some basic rules for these record types:

File Control Records Records transmitted by the DMA System to control the processing of transfer items. The records classified as File Control Records are:

00 File Header Record Describes the submitting and receiving institutions.

01 Batch Header Record Contains information and controls for a group of transfer items.



1.4 CF2DMX Transaction Record Descriptions (Continued)

- 88 Batch Trailer Record Contains totals for each batch of transfer items.

- 99 File Trailer Record Contains control totals for all items on the transmission.

- Transfer Detail Records Records which carry the detailed information for each transfer item. Each transfer item must have two detail records :

- 05 Security Detail Record Which contains the information necessary for each transfer item.

- 06 Certificate Addendum Which contains additional details from the Record Transfer Agent. Contains denomination data and the starting certificate number.

Examples:

The structure of a transmission is as follows:

- DMA File Header Record (Type 00) 1 per Transfer Agent*
- .
- .
- Batch Header Record (Type 01) 1 per batch
- Transfer Detail records
- Security Detail Record (Type 05)
- Certificate Addendum (Type 06)
- Detail Record
- .
- .
- .
- Batch Trailer Record (Type 88) 1 per batch
- Batch Header Record
- Transfer Detail records
- Security Detail Record
- Certificate Addendum Detail Record
- .
- .
- .



1.4 CF2DMX Transaction Record Descriptions *(Continued)*

Batch Trailer Record

•
•
•

DMA File Trailer Record (Type 99) 1 per Transfer Agent*

- C There may be multiple batches within each transmission.
- C There may be multiple sets of transfer detail records within one batch.
- C There may be multiple Certificate Addendum Detail records for each Security Detail Record.

*There should be only one File Header Record and one File Trailer Record per transmission; however, in the case of a service bureau, there should be one File Header and one File Trailer for EACH of the Transfer Agents it services.

In addition, CCF-II requires the following:

- C CCF-II PASSWORD RECORD
- C CCF-II Header Record
- C CCF-II Trailer Record



2.0 CF2DMX Transmission Formats

2.1 The CCF-II Signon/Password Record

The Password Record contains information regarding the eligibility of a Participant to use DTC's services.

The format of the Password Record is as follows:

CCF-II Password Record Layout				
Position	Length	Format	Field Name	Field Description
1	3	Character	Record Identifier	Constant value "PSW".
4	6	Character	Signon ID	ID of Transmitting Participant. Left aligned, space filled.
10	6	Character	Password	DTC assigned password.
16	6	Character	Activity Type	Constant value "CF2DMX".
22	3	Numeric	Transmission ID	Non-zero value, right aligned, zero filled.
25	716	Character	Filler	DTC use only; do not use.



2.2 The CCF-II Header Record

CCF-II Header Record Layout				
Position	Length	Format	Field Name	Field Description
1	3	Character	Record Identifier	Constant value "HDR".
4	4	Character	Filler	DTC use only; do not use.
8	4	Character	SIGNON ID	ID of the transmitting Participant.
12	6	Numeric	Transmission Date	Format MMDDYY.
18	6	Character	Activity Type	Constant value "CF2DMX".
24	3	Numeric	Transmission ID	3 digit numeric field, right aligned, left zero filled.
27	1	Character	Filler	DTC use only; do not use.
28	1	Character	Processing Option	P = Production T = Test
29	710	Character	Filler	DTC use only; do not use.
739	6	Character	Error Indicators	See "CCF-II Header Record Indicators" on page 42.
745	6	Character	Filler	DTC use only; do not use.



3.0 CF2DMX Data Records

The TA Return File Control Records are records referred to be the CF2DMX system to control the processing of transfer items. There are four types of TA Return File Control Records. Their formats are as follows:

3.1 CF2DMX File Header Record

CF2DMX File Header Record Type 00 (Part 1 of 4)				
Position	Length	Format	Field Name	Field Description
1	2	Character	Record Type	Constant value "00".
3	1	Character	Sending Institution Industry Code	Currently initialized to space.
4	4	Numeric	Sending Institution FINS Number	The Sending Transfer Agent Number will be used. Must be last 4 characters of 8 character Expanded TA Number (see Pos 111).
8	1	Character	Sending Institution Check Digit	Currently initialized to space.
9	2	Character	Sending Institution Suffix	Currently initialized to space.
11	20	Character	Sending Institution Name	Name of the Sending Institution.
31	1	Character	Receiving Institution Industry Code	Constant value "7".
32	4	Character	Receiving Institution Number	Constant value "0001" for DTC.



3.1 CF2DMX File Header Record (Continued)

CF2DMX File Header Record Type 00 (Part 2 of 4)				
Position	Length	Format	Field Name	Field Description
36	1	Character	Receiving Institution Check Digit	Constant value "3" for DTC.
37	2	Character	Receiving Institution Suffix	Constant value "00" for DTC.
39	20	Character	Receiving Institution Name	Constant value "DEPOSITORY TRUST CO".
59	3	Character	Record Length	Constant value = "740".
62	3	Character	Filler	DTC use only; do not use.
65	6	Character	Filler	DTC use only; do not use.
71	4	Character	File Creation Time	Time of DMA file creation. Format HHMM.
75	1	Character	DP Servicing Institution Industry Code	Currently initialized to space.
76	4	Character	DP Servicing Institution Number	The number of the DP Servicing Institution processing for the TA.
80	1	Character	DP Servicing Institution Check Digit	Currently initialized to space.
81	2	Character	DP Servicing Institution Suffix	Currently initialized to space.
83	10	Character	DP Servicing Institution Name	The name of the DP Servicing Institution processing for the TA.



3.1 CF2DMX File Header Record (Continued)

CF2DMX File Header Record Type 00 (Part 3 of 4)				
Position	Length	Format	Field Name	Field Description
93	1	Character	Manual Servicing Institution Industry Code	Currently initialized to space.
94	4	Character	Manual Servicing Institution Number	
98	1	Character	Manual Servicing Institution Check Digit	Currently initialized to space.
99	2	Character	Manual Servicing Institution Suffix	Currently initialized to space.
101	10	Character	Manual Servicing Bureau Name	Name of Manual Servicing Bureau for the TA.
111	8	Numeric	Sending Institution FINS Number	The DTC Expanded Transfer Agent Number will be used. Right aligned with leading zeroes.
119	8	Numeric	Creation Date	Format CCYYMMDD. Date on which the DMA file was created.
127	600	Character	Filler	DTC use only; do not use.
727	1	Character	Sending Institution FINS Industry Code	Currently initialized to space.

**3.1 CF2DMX File Header Record (Continued)**

CF2DMX File Header Record Type 00 (Part 4 of 4)				
Position	Length	Format	Field Name	Field Description
728	4	Character	Sending Transfer Agent Number	The Sending Transfer Agent Number will be used. Must be last 4 characters of 8 character Expanded TA Number (see Pos 4-7).
732	3	Character	Julian Work Date	Day on which the TA processed the item.
735	6	Character	Record Number	Each Sequential record is assigned a sequence number in ascending order including all "01", "05", "06", "88" and "99" records. The File Header Record ("00") contains zeroes.
741	5	Character	Filler	DTC use only; do not use.
746	3	Character	Error Indicators	See "CF2DMX File Header Record Error Indicators" on page 43.
749	2	Character	Filler	DTC use only; do not use.



3.2 CF2DMX Batch Header Record

CF2DMX Batch Header Record Type 01 (Part 1 of 3)				
Position	Length	Format	Field Name	Field Description
1	2	Character	Record Type	Constant value "01".
3	9	Character	CUSIP Number	CUSIP number of the issue whose transfer details follow the Batch Header Record.
12	20	Character	Security Description	Name of the security whose transfer items appear in the Security Detail Records for the batch.
32	1	Character	Issue Type	Indicator describing type of issue: "2" = ADR "3" = Debt Issue "4" = Equity Issue.
33	37	Character	Filler	DTC use only; do not use.
70	1	Character	FAST W/T Status	Indicator to identify the FAST status of a W/T: "0" = Normal "1" = FAST W/T
71	15	SCL Reference Block		Following 7 fields are SCL Reference fields.
	4	Numeric	SCL Julian Date	
	1	Numeric	SCL Record Date Indicator	"0" = Record date "1" = Non record date.
	1	Character	SCL Record Type	
	1	Character	SCL Type	
	5	Numeric	SCL Sequence Number	



3.2 CF2DMX Batch Header Record (Continued)

CF2DMX Batch Header Record Type 01 (Part 2 of 3)				
Position	Length	Format	Field Name	Field Description
	1	Character	SCL Check Digit	
	2	Numeric	SCL Page Number	
86	10	Character	Filler	DTC use only; do not use.
96	8	Numeric	Work Date	Format CCYYMMDD. Date upon which transfer item was processed by DTC.
104	522	Character	Filler	DTC use only; do not use.
626	1	Numeric	RSA/DMA Indicator	"1" = RSA "2" = DMA
627	100	Character	Filler	DTC use only; do not use.
727	14	Sequence Number Block		A record ID key which is assigned by the originating institution in association with the Work Date. The sequence number uniquely identifies each record in a file. Same format as 727-740 of "00" record.
	1	Character	Sending Institution FINS Industry Code	Currently Initialized to space.
	4	Numeric	Sending Transfer Agent Number	The Sending Transfer Agent Number will be used. Must be last 4 characters of 8 character Expanded TA Number (see Pos 4-7).
	3	Character	Julian Work Date	Day on which the TA processed the item.



3.2 CF2DMX Batch Header Record (Continued)

CF2DMX Batch Header Record Type 01 (Part 3 of 3)

Position	Length	Format	Field Name	Field Description
	6	Character	Record Number	Each Sequential record is assigned a sequence number in ascending order including all "01", "05", "06", "88" and "99" records. The File Header Record ("00") contains zeroes.
741	5	Character	Filler	DTC use only; do not use.
746	3	Character	Error Indicators	See "CF2DMX Batch Header Record Error Indicators" on Page 44
749	2	Character	Filler	DTC use only; do not use.



3.3 CF2DMX Batch Trailer Record

CF2DMX Batch Trailer Record Type 88 (Part 1 of 3)				
Position	Length	Format	Field Name	Field Description
1	2	Character	Record Type	Constant value "88".
3	7	Character	Filler	DTC use only; do not use.
10	7	Character	Detail Record Count	Count of total number of Security Detail and, Addendum records (Types "05" and "06") contained in the batch.
17	14	Character	Filler	DTC use only; do not use.
31	15	Character	Entry Hash Total	Accumulation of sequence numbers for all transfer detail records ("05", "06") within the batch. All "88" records (position 31-45) are added to form the "99" record Entry Hash Total.
46	1	Character	SCL ID End	"0" = CUSIP number of next record will not change. "1" = End of CUSIP number.
47	22	Character	Filler	DTC use only; do not use.
69	1	Character	End of CUSIP Indicator	"0" = Another batch follows for this security. "1" = Last batch for this security.
70	18	Character	Filler	DTC use only; do not use.
88	12	Numeric	Whole/ Fractional Debit Share Quantity	Format 9(7)V9(5).



3.3 CF2DMX Batch Trailer Record (Continued)

CF2DMX Batch Trailer Record Type 88 (Part 2 of 3)				
Position	Length	Format	Field Name	Field Description
100	12	Numeric	Whole/ Fractional Credit Share Quantity	Format 9(7)V9(5).
112	16	Character	Filler	DTC use only; do not use.
128	16	Numeric	Whole/ Fractional Credit Share Quantity Overflow	Format 9(11)V9(5).
144	568	Character	Filler	DTC use only; do not use.
712	15	SCL Reference Block		Following 7 fields are SCL Reference fields.
	4	Character	SCL Julian Date	
	1	Character	SCL Record Date Indicator	"0" = Record date "1" = Non record date.
	1	Character	SCL Record Type	
	1	Character	SCL Type	
	5	Character	SCL Sequence Number	
	1	Character	SCL Check Digit	
	2	Character	SCL Page Number	



3.3 CF2DMX Batch Trailer Record (Continued)

CF2DMX Batch Trailer Record Type 88 (Part 3 of 3)

Position	Length	Format	Field Name	Field Description
727	14	Sequence Number Block		A record ID key which is assigned by the originating institution in association with the Work Date. The sequence number uniquely identifies each record in a file. Same format as 727-740 of "00" record.
	1	Character	Sending Institution FINS Industry Code	Currently initialized to space.
	4	Character	Sending Transfer Agent Number	The Sending Transfer Agent Number will be used. Must be last 4 characters of 8 character Expanded TA Number (see Pos 4-7).
	3	Character	Julian Work Date	Day on which the TA processed the item.
	6	Character	Record Number	Each Sequential record is assigned a sequence number in ascending order including all "01", "05", "06", "88" and "99" records. The File Header Record ("00") contains zeroes.
741	2	Character	Filler	DTC use only; do not use.
743	6	Character	Error Indicators	See "CF2DMX Batch Trailer Record Error Indicators" on Page 47.
749	2	Character	Filler	DTC use only; do not use.



3.4 CF2DMX File Trailer Record

CF2DMX File Trailer Record Type 99 (Part 1 of 2)				
Position	Length	Format	Field Name	Field Description
1	2	Character	Record Type	Constant value "99".
3	7	Character	Batch Count	Count of the total number of batches contained on the file.
10	7	Character	Detail Record Count	Count of total number of Security Detail and Addendum records (Types "05" and "06") contained in the file.
17	14	Character	Filler	DTC use only; do not use.
31	15	Character	Entry Hash Total	Accumulation of sequence numbers for all transfer detail records within the file.
46	1	Character	Filler	DTC use only; do not use.
47	41	Character	Filler	DTC use only. Must be initialized to zeroes.
88	12	Numeric	Whole/ Fractional Debit Share Quantity	Format 9(7)V9(5).
100	12	Numeric	Whole/ Fractional Credit Share Quantity	Format 9(7)V9(5).
112	16	Character	Filler	DTC use only; do not use.
128	16	Numeric	Whole/ Fractional Credit Share Quantity Overflow	Format 9(11)V9(5).
144	583	Character	Filler	DTC use only; do not use.



3.4 CF2DMX File Trailer Record (Continued)

CF2DMX File Trailer Record Type 99 (Part 2 of 2)

Position	Length	Format	Field Name	Field Description
727	14		Sequence Number Block	A record ID key which is assigned by the originating institution in association with the Work Date. The sequence number uniquely identifies each record in a file. Same format as 727-740 of "00" record.
	1	Character	Sending Institution FINS Industry Code	Currently initialized to space.
	4	Character	Sending Transfer Agent Number	The Sending Transfer Agent Number will be used. Must be last 4 characters of 8 character Expanded TA Number (see Pos 4-7).
	3	Character	Julian Work Date	Day on which the TA processed the item.
	6	Character	Record Number	Each Sequential record is assigned a sequence number in ascending order including all "01", "05", "06", "88" and "99" records. The File Header Record ("00") contains zeroes.
741	2	Character	Filler	DTC use only; do not use.
743	7	Character	Error Indicators	See "CF2DMX File Trailer Record Error Indicators" on page 48.
750	1	Character	Filler	DTC use only; do not use.



3.5 CF2DMX Security Detail Record

CF2DMX Security Detail Record Type 05 (Part 1 of 11)				
Position	Length	Format	Field Name	Field Description
1	2	Character	Record Type	Constant value "05".
3	1	Character	Broker Industry Code	Currently initialized to space.
4	4	Numeric	Broker Participant Number	
8	1	Character	Broker Check Digit	Currently initialized to space.
9	2	Character	Broker Suffix	Currently initialized to space.
11	8	Numeric	Transaction Date	Format CCYYMMDD. Date which transaction was sent by broker to DTC for transfer processing.
19	1	Character	Direct Registration System Request Indicator	" " = Non DRS Request "S" = Statement Account for DRS "C" = Issue Certificate "Y" = Third Party Transfer.
20	1	Character	Depository Indicator	"D" = DTC "P" = Philadelphia.
21	2	Character	Filler	For DTC use only; do not use.
23	1	Character	Tax Waiver Code	Indicator which shows the tax status of this transfer according to New York State statute: "2" = Tax paid (future use) "3" = Tax waived.



3.5 CF2DMX Security Detail Record (Continued)

CF2DMX Security Detail Record Type 05 (Part 2 of 11)

Position	Length	Format	Field Name	Field Description
24	1	Character	Taxpayer ID Code	Type of taxpayer ID shown in this record: "0" = Not available "1" = Social Security Number "2" = Employer Identification Number "3" = Non-resident alien (in the form NRAbbbbbb, where bbbbbbb stands for blanks).
25	9	Character	Taxpayer ID Number	The number (as defined in previous field) of the primary owner of the securities described in this transfer code. If Taxpayer ID Code = "3", owner is not subject to backup withholding.



3.5 CF2DMX Security Detail Record (Continued)

CF2DMX Security Detail Record Type 05 (Part 3 of 11)

Position	Length	Format	Field Name	Field Description
34	2	Character	Social Code	<p>Defines the type of registration to be used for the security by the Transfer Agent. This code is set by the RSA system during processing:</p> <p>"00" = Unknown. "01" = Single Registrant - Male. "02" = Single Registrant - Female. "03" = Individual - Sex Undetermined. "04" = Tenants in Common. "05" = Tenants by the Entireties. "06" = Joint Tenancy. "07" = Community Property. "08" = Uniform Gifts to Minors. "09" = Fiduciary. "10" = Business.</p>

The following field has multiple definitions dependent on transaction indicated

For Regular W/T Transactions

36	40	Character	Broker Reference	A free format identification number which is assigned by the submitting broker to identify this transfer item. It should be used in any correspondence to the submitting institution concerning the item.
----	----	-----------	------------------	---

For DRS Items ONLY

36	37	Character	DRS Broker/Dealer Customer Account Number	For DRS items, this field will be used for the DRS Broker/Dealer customer account number instead of the broker reference number.
----	----	-----------	---	--



3.5 CF2DMX Security Detail Record (Continued)

CF2DMX Security Detail Record Type 05 (Part 4 of 11)				
Position	Length	Format	Field Name	Field Description
73	3	Character	Filler	For DTC use only; do not use.
76	17	Character	Filler	DTC use only. Must be initialized to zeroes.
93	2	Character	Transfer Transaction Code	"30" = Credit (Transfer Instructions). Defines type of transfer processing requested.
95	2	Character	DMA Return Code	For returned items, reason why item was rejected by the processing institution: "00" = Transfer completed. "01" = Incomplete registration. "02" = Trust registration incomplete/unacceptable. "03" = Address incomplete. "99" = TA rejected (other). Note: if a code 99 is used here, see "06" record position 483.
97	1	Character	Filler	DTC use only; do not use.
98	1	Character	DMA Direct Mailing Code	Defines procedure which will be used for returning the transferred securities to the registered owner. Blank or "0" = non-DMA "1" = DMA using registration for mailing. "2" = DMA using third party address.



3.5 CF2DMX Security Detail Record (Continued)

CF2DMX Security Detail Record Type 05 (Part 5 of 11)

Position	Length	Format	Field Name	Field Description
99	45	Character	Assignment Indicators	<p>A set of 15 three byte fields for assignments which point to the following items:</p> <ol style="list-style-type: none"> 1. First name or initial of the first registrant. 2. Last name, including prefix if present, of the first registrant. 3. Length of the last name of the first registrant. 4. First name or initial of the second registrant. 5. Last name, including prefix, of the second registrant. 6. Length of the last name of the second registrant. 7. First name or initial of the third registrant. 8. Last name, including prefix, of the third registrant. 9. Length of the last name of the third registrant. 10. Starting position of the "In Care Of" phrase. 11. Starting position of the postal address. 12. Starting position of the city/town. 13. Starting position of the standard postal state abbreviation. 14. Starting position of zip code. 15. Reserved Indicators not used are zero filled. <p>Indicators not used are zero filled.</p>
144	1	Character	Syntax Code	<p>"1" = Formatted record "2" = Unformatted record.</p>



3.5 CF2DMX Security Detail Record (Continued)

CF2DMX Security Detail Record Type 05 (Part 6 of 11)

Position	Length	Format	Field Name	Field Description
145	210	Character	Assignment	If Syntax Code (pos 144) = "1", the Assignment field will be 7 lines of 30 characters each because it has been processed by DTC's RSA program. If Syntax Code (pos 144) = "2", the Assignment field will be 6 lines of 35 characters each (the format in which DTC received the input from a DTC Participant) because the RSA program could not reformat the item.
355	180	Character	DMA Third Party Mailing	When Direct Mailing Code (pos 98) = "2", this field contains address to which transferred securities are mailed.
535	9	Character	Reinvestment CUSIP Number	
544	1	Character	Participant Input Mode	"1" = Four Phase System "2" = PTS (Participant Terminal System) "3" = Tape, CF2, Mohawk.
545	1	Character	Security Communication Code	"0" = Not a communication issue "1" = Communication issue.
546	1	Character	FAST Security Code	"0" = Non-FAST Security "1" = FAST Security.



3.5 CF2DMX Security Detail Record (Continued)

CF2DMX Security Detail Record Type 05 (Part 7 of 11)

Position	Length	Format	Field Name	Field Description
547	1	Character	Backup Withholding Code	Blank =not applicable "A" = Failure to provide TIN. "B" = Failure to certify TIN. "C" = Notification of incorrect TIN to Secretary of Treasury. "D" = Failure to certify backup withholding status. "E" = Voluntary disclosure from payee of affirmative backup withholding status. "F" = Notification to commence backup withholding from Secretary of Treasury for under reporting dividends and/ or interest payments.
548	2	Character	Filler	DTC use only; do not use.
550	5	Character	DMA Item Charge by the TA	Format 9(3)V9(2).
555	5	Character	DMA Other Charge by the TA	Format 9(3)V9(2).
560	5	Character	Filler	DTC use only; do not use.
565	12	Numeric	Whole/ Fractional Share Quantity	Format 9(7)V9(5).
577	40	Character	DRS Participant Correspondent Name	For DRS transactions.



3.5 CF2DMX Security Detail Record (Continued)

CF2DMX Security Detail Record Type 05 (Part 8 of 11)				
Position	Length	Format	Field Name	Field Description
617	20	Character	DRS Plan Customer Account Number	For DRS items, this field will contain the DRS Plan Customer Account Number.
637	65	Character	Filler	DTC use only; do not use.
702	15	SCL Reference Block		Following 7 fields are SCL Reference fields.
	4	Character	SCL Julian Date	
	1	Character	SCL Record Date Indicator	"0" = Record date "1" = Non record date.
	1	Character	SCL Record Type	
	1	Character	SCL Type	
	5	Character	SCL Sequence Number	
	1	Character	SCL Check Digit	
	2	Character	SCL Page Number	
717	1	Character	UIT Reinvestment Code	"0" = Not applicable for UIT "1" = All Cash "2" = Reinvest Principal and Interest "4" = Reinvest Principal Only "5" = Reinvest Interest Only.
718	9	Character	CUSIP Number	



3.5 CF2DMX Security Detail Record (Continued)

CF2DMX Security Detail Record Type 05 (Part 9 of 11)

Position	Length	Format	Field Name	Field Description
727	14	Sequence Number Block		A record ID key which is assigned by the originating institution in association with the Work Date. The sequence number uniquely identifies each record in a file. Same format as 727-740 of "00" record.
	1	Character	Sending Institution FINS Industry Code	Currently initialized to space.
	4	Character	Sending Transfer Agent Number	The Sending Transfer Agent Number will be used. Must be last 4 characters of 8 character Expanded TA Number (see Pos 4-7).
	3	Character	Julian Work Date	Day on which the TA processed the item.
	6	Character	Record Number	Each Sequential record is assigned a sequence number in ascending order including all "01", "05", "06", "88" and "99" records. The File Header Record ("00") contains zeroes.
741	5	Character	Filler	DTC use only. Do not use. Initialized to spaces.
746	4	Character	Error Indicators	See "CF2DMX Security Detail Record Error Indicators" on page 45.
750	1	Character	Filler	DTC use only; do not use.



3.6 CF2DMX Certificate Addendum Record

CF2DMX Certificate Addendum Record Type 06 (Part 1 of 3)

Position	Length	Format	Field Name	Field Description
1	2	Numeric	Record Type	Constant value "06".
3	1	Character	Filler	DTC use only; do not use.
4	560	Character	DMA Number of Pieces	A group of up to 20 occurrences of a twenty-eight position field describing the requested certificates requested by the transaction. The format is as follows: Number of certificates (3) Certificate denomination/fractional (format 9(7)V9(5)). Starting Certificate Number: Certificate prefix (5) Certificate number (6) Certificate suffix (2).
564	8	Character	DMA Issue Date	This field has multiple definitions: <u>DMA Issue Date (for Regular W/T Transactions)</u> Format CCYYMMDD. <u>Issue Date (for DRS items)</u> For DRS indicators "S" or "Y", the Issue Date field must be provided. Format CCYYMMDD.
572	8	Character	DMA Mail Date	Format CCYYMMDD.
580	3	Character	Filler	DTC use only; do not use.
583	120	Character	Rejection Explanation	If applicable. Note: if code "99" appears in position 95 of the "05" record, an explanation of the reject will appear here.
703	15	SCL Reference Block		Following 7 fields are SCL Reference fields.



3.6 CF2DMX Certificate Addendum Record (Continued)

CF2DMX Certificate Addendum Record Type 06 (Part 2 of 3)				
Position	Length	Format	Field Name	Field Description
	4	Numeric	SCL Julian Date	
	1	Numeric	SCL Record Date Indicator	"0" = Record date "1" = Non record date.
	1	Character	SCL Record Type	
	1	Character	SCL Type	
	5	Numeric	SCL Sequence Number	
	1	Character	SCL Check Digit	
	2	Numeric	SCL Page Number	
718	9	Numeric	CUSIP Number	
727	14	Sequence Number Block		A record ID key which is assigned by the originating institution in association with the Work Date. The sequence number uniquely identifies each record in a file. Same format as 727-740 of "00" record.
	1	Character	Sending Institution FINS Industry Code	Currently initialized to space.
	4	Character	Sending Transfer Agent Number	The Sending Transfer Agent Number will be used. Must be last 4 characters of 8 character Expanded TA Number (see Pos 4-7).

**3.6 CF2DMX Certificate Addendum Record** *(Continued)***CF2DMX Certificate Addendum Record Type 06 (Part 3 of 3)**

Position	Length	Format	Field Name	Field Description
	3	Character	Julian Work Date	Day on which the TA processed the item.
	6	Character	Record Number	Each Sequential record is assigned a sequence number in ascending order including all "01", "05", "06", "88" and "99" records. The File Header Record ("00") contains zeroes.
741	4	Character	Filler	DTC use only; do not use.
745	4	Character	Error Indicators	See "CF2DMX Certificate Addendum Record Error Indicators" on page 46.
749	2	Character	Filler	DTC use only; do not use.



3.7 CF2DMX Trailer Record

CF2DMX Trailer Record				
Position	Length	Format	Field Name	Field Description
1	3	Character	Record Identifier	Constant value "TLR".
4	4	Character	Filler	DTC use only; do not use.
8	4	Character	Signon ID	Of transmitting agent.
12	6	Character	Activity Type	Constant value "CF2DMX".
18	3	Numeric	Transmission ID	Must be equal to the 3 digit numeric field on the CCF-II Header Record. Right aligned and zero filled.
21	2	Character	Filler	DTC use only; do not use.
23	9	Numeric	Total Record Count	Right-aligned and zero filled. total number of 750 byte CF2DMX records in the transmission excluding CCF-II PSW, header and trailer.
32	703	Character	Filler	DTC use only; do not use.
735	6	Character	Error Indicators	See "CCF-II Trailer Error Record Indicators" on page 49.
741	10	Character	Filler	DTC use only; do not use.



4.0 CF2DMX Transmission Response

After CF2DMX transmissions are processed by DTC, an acknowledgment consisting of control totals of transactions processed and rejected are transmitted to the User. An Error Record is sent if the function or password is invalid or ineligible. Otherwise, a Control Record and an Audit Record are sent.

If errors are found in the transactions, one of the following actions will be taken depending upon the error's severity:

- | | |
|---------|--|
| Error: | C Header or Trailer Record is missing or invalid. |
| | C Trailer Record control totals do not match totals of records processed. |
| | C Invalid field or fields in detail record. |
| Action: | C Entire transmission is rejected. |
| | C Rejected record(s) is/are returned along with Control and Audit Records. |

If the entire transmission is rejected, the records transmitted to the User will be the following:

- Control Record
- Rejected Record(s) (EXCEPT "PSW" Record)
- .
- .
- .
- Audit Record

Note: The initial "PSW" record is not returned to the Participant for security purposes. If a "PSW" record is embedded within the body of the file, it is treated as an invalid Detail Record and returned with the password field populated with asterisks for security.

If the transmission is accepted, the records transmitted to the User will be the following:

- Control Record
- Audit Record



4.0 CF2DMX Transmission Response *(Continued)*

The Control Record will contain a transmission status number, indicating the status of the transmission (See “Control Record Transmission Status Codes on page 50 for codes and their meanings).

The Audit Record will contain the total record count which DTC accepted for processing.

All transactions submitted will be checked for validity. Rejected records on the Error/Control File transmitted to the User will have a series of indicators placed in the records. Each indicator corresponds to a field in the record. A zero in the indicator means the field is valid. A number in the indicator represents a particular error which was detected. If the record identifier is incorrect, the record will be edited as if it were a Detail Record and returned to the User.



5.0 CCF-II Control Record Format

The Control Record contains information regarding the status of the transmission and the number of error records within the transmission.

CF2DMX Control Record (Part 1 of 3)				
Position	Length	Format	Field Name	Field Description
1	3	Character	Record Identifier	Constant value "CTL".
4	4	Character	Filler	DTC use only; do not use.
8	4	Character	Signon ID	Of transmitting Participant; Left aligned, space-filled.
12	5	Character	Filler	DTC use only; do not use.
17	3	Character		Constant value "DTC".
20	6	Numeric	Process Date	Date transaction was processed through CF2DMX system.
26	6	Character	Activity Type	Constant value "CF2DMX".
32	3	Numeric	Transmission ID	Must be equal to the 3 digit numeric field on the Header Record; right aligned, zero filled.
35	1	Character	Filler	DTC use only; do not use.
36	1	Character	Processing Option	P = Production T = Test



5.0 CCF-II Control Record Format (Continued)

CF2DMX Control Record (Part 2 of 3)

Position	Length	Format	Field Name	Field Description
37	3	Numeric	Processing Status	"000" = Transmission Accepted. "100" = Transmission Rejected (Invalid DMA Detail Records). "200" = Transmission Rejected (Invalid or missing DMA File Header). "250" = Transmission Rejected (Invalid or missing DMA File Trailer). "300" = Transmission Rejected (Invalid or missing DMA Batch Header). "400" = Transmission Rejected (Invalid or missing DMA Batch Trailer). "420" = Transmission Rejected (Invalid or missing DMA Security Detail). "430" = Transmission Rejected (Invalid or missing DMA Certificate Addendum). "444" = Transmission Rejected (No file received). "555" = Transmission Rejected (Past cutoff). "600" = Transmission Rejected (Invalid record identifier). "666" = Transmission Rejected (Function not available). "700" = Transmission Rejected (Accumulated CCF-II Trailer total invalid). "800" = Transmission Rejected (No CCF-II Trailer). "888" = Transmission Rejected (CCF-II Trailer invalid). "900" = Transmission Rejected (No CCF-II Header).

**5.0 CCF-II Control Record Format** *(Continued)***CF2DMX Control Record (Part 3 of 3)**

Position	Length	Format	Field Name	Field Description
37	3	Numeric	Processing Status <i>(con't)</i>	"999" = Transmission Rejected (CCF-II Header invalid).
40	5	Numeric	Error Count	Total number of records returned due to errors.
45	6	Numeric	Time Arrived	Time record was received. Format HHMMSS.
51	6	Numeric	Time Completed	Time transmission was completed. Format HHMMSS.
57	694	Character	Filler	DTC use only; do not use.



6.0 CCF-II Audit Record Format

The Control Record contains information regarding the status of the transmission. It is sent regardless of the number of errors (if any) in the transmission.

CF2DMX Audit Record (Part 1 of 2)				
Position	Length	Format	Field Name	Field Description
1	3	Character	Record ID	Constant value "ADT".
4	4	Character	Filler	DTC use only; do not use.
8	4	Character	Signon ID	Of transmitting Participant; Left aligned, space-filled.
12	6	Character	Activity Type	Constant value "CF2DMX".
18	3	Numeric	Transmission ID	Must be equal to the 3 digit numeric field on the Header Record; right aligned, zero filled.
21	2	Character	Filler	DTC use only; do not use.
23	9	Numeric	Total Valid Records	Counter of all valid DMX records transmitted.
32	10	Character	Filler	DTC use only; do not use.
42	5	Numeric	Total Invalid Records	Counter of all invalid DMX records transmitted.
47	10	Character	Filler	DTC use only; do not use.
57	7	Numeric	Total Shares	Counter of all DMX credit shares transmitted.
64	5	Numeric	Total Fractional Shares	A counter of all DMX fraction shares.
69	5	Character	Filler	DTC use only; do not use.



6.0 CCF-II Audit Record Format *(Continued)*

CF2DMX Audit Record (Part 2 of 2)

Position	Length	Format	Field Name	Field Description
74	15	Numeric	Total Dollars	Counter of all DMA Hash Totals (dollars) transmitted.
89	662	Character	Filler	DTC use only; do not use.



7.0 CF2DMX Error Indicators

Each item, in each record type edited, can have more than one possible Error Indicator. These Error Indicators will be explained, item by item, until each item in the record has been clarified.

NOTE: If a "PSW" record is embedded within the body of a input file, it will be treated as an invalid Detail Record and returned with the password field populated with asterisks for security purposes.



7.1 CCF-II Header Record Error Indicators

CCF-II Header Record Error Indicators		
Position	Value	Explanation of Value
739	0	Filler.
740	0	Valid.
	1	Sign On ID does not match JCL Sign On ID.
741	0	Valid.
	1	Transaction Date not numeric.
	2	Transaction Date does not match the current date.
742	0	Valid.
	1	Activity Type not equal to "CF2DMX".
743	0	Valid.
	1	Transmission ID not numeric.
	2	Transmission ID does not fall between 1 and 999.
	3	Transmission ID is a duplicate.
744	0	Valid.
	1	Processing option does not equal one of the following: P = Production T = Test
	2	Production transmission past cutoff time.



7.2 CF2DMX File Header Record Error Indicators

CF2DMX File Header Record Error Indicators		
Position	Value	Explanation of Value
746	0	Filler.
747	0	Valid.
	1	The previous record was not one of the following: CF2DMX Header Record File Trailer Record (in the case of a service bureau).
748	0	Valid.
	1	Sequence Number not numeric.
	2	Sequence Number does not equal "00".



7.3 CF2DMX Batch Header Record Error Indicators

CF2DMX Batch Header Record Error Indicators		
Position	Value	Explanation of Value
746	0	Filler.
747	0	Valid.
	1	The previous record was not one of the following: File Header Record Batch Trailer Record.
748	0	Valid.
	1	Sequence Number is not numeric.
	2	Sequence Number error.



7.4 CF2DMX Security Detail Record Error Indicators

CF2DMX Security Detail Record Error Indicators		
Position	Value	Explanation of Value
746	0	Filler.
747	0	Valid.
	1	The previous record was not one of the following: Certificate Addendum Record Batch Header Record.
748	0	Valid.
	1	Sequence Number is not numeric.
	2	Sequence Number error.
749	1	Valid.
	2	Participant not eligible for processing at DTC.
	3	Participant not eligible for DRS processing.



7.5 CF2DMX Certificate Addendum Record Error Indicators

CF2DMX Certificate Addendum Record Error Indicators		
Position	Value	Explanation of Value
745	0	Filler.
746	0	Valid.
	1	The previous record was not one of the following: Security Detail Record Certificate Addendum Record.
747	0	Valid.
	1	Sequence Number is not numeric.
	2	Sequence Number error.
748	0	Valid.
	1	The previous record received was a Security Detail Record ("05"), and the "05" record was a general reject (return code of "99" in bytes 95-96 of "05" record) and reject reason is equal to SPACES (position 483 for 120 bytes in "06" record).



7.6 CF2DMX Batch Trailer Record Error Indicators

CF2DMX Batch Trailer Record Error Indicators		
Position	Value	Explanation of Value
743	0	Filler.
	1	Valid.
744	0	The previous record was not a Certificate Addendum Record.
	1	Valid.
745	0	Sequence Number is not numeric.
	1	Sequence Number error.
	2	Valid.
746	0	Number of detail items is not numeric.
	1	Valid.
747	0	Batch Trailer hash total is not numeric.
	1	Batch Trailer hash total not equal to DTC's accumulated hash totals.
	2	Valid.
748	0	Total overflow credit shares is not numeric.
	1	Total overflow credit shares not equal to DTC's accumulated batch share totals.
	2	Valid.



7.7 CF2DMX File Trailer Record Error Indicators

CF2DMX File Trailer Record Error Indicators		
Position	Value	Explanation of Value
743	0	Filler.
	1	The previous record was not a Batch Trailer Record.
745	0	Valid.
	1	Sequence Number is not numeric.
	2	Sequence Number error.
746	0	Valid.
	1	Number of batch items is not numeric.
747	0	Valid.
	1	Number of detail items is not numeric.
748	0	Valid.
	1	File Trailer hash total is not numeric.
	2	File Trailer hash total not equal to DTC's accumulated hash totals.
749	0	Valid.
	1	Total overflow credit shares is not numeric.
	2	Total overflow credit shares not equal to DTC's accumulated file trailer share totals.



7.8 CCF-II Trailer Record Error Indicators

CCF-II Trailer Record Error Indicators		
Position	Value	Explanation of Value
735	0	Filler.
	1	Sign On ID does not match JCL Sign On ID.
737	0	Valid.
	1	Activity Type not equal "CF2DMX".
738	0	Valid.
	1	Transmission ID not numeric.
	2	Transmission ID does not match Transmission ID used on the JCL.
739	0	Valid.
	1	Total DMA Record Count is not numeric.
	2	Total DMA Record Count does not match the number of DMA Records.
740	0	Valid.
	1	Transmission completed past cutoff time.

8.0 Control Record Transmission Status Codes

The Control Record sent to the User will contain a Transmission Status Code, which represents the transmission status found during processing.

The codes are as follows:

- 000 Transmission Accepted.
- 100 Invalid DMA Detail Records.
- 200 Invalid or missing DMA File Header.
- 250 Invalid or missing DMA File Trailer.
- 300 Invalid or missing DMA Batch Header.
- 400 Invalid or missing DMA Batch Trailer.
- 420 Invalid or missing DMA Security Detail.
- 430 Invalid or missing DMA Certificate Addendum.
- 444 No file transmitted/received.
- 555 After processing cutoff time.
- 600 Invalid record identifier.
- 666 Function temporarily not available.
- 700 DMA transaction count specified on CCF-II Trailer Record does not match program count.
- 800 CCF-II Trailer Record missing.
- 888 CCF-II Trailer Record invalid.
- 900 CCF-II Header Record missing.
- 999 CCF-II Header Record invalid.

Transmission status codes with a value higher than zero will cause all transmitted records to be rejected.



9.0 Data Records

In the event of an error during transmission or processing, the following records will be transmitted, indicating the problem encountered in positions 37-39.

Error Message Output Records				
Position	Length	Format	Field Name	Field Description
1	3	Character	Record ID	Constant value "ERR".
4	8	Character	Signon ID	Right aligned, left zero filled.
12	8	Character	Filler	DTC use only; do not use.
20	6	Character	Processing Date	
26	6	Character	Function Name	Constant value "CF2DMX".
32	3	Character	Transmission ID	
35	2	Character	Filler	DTC use only; do not use.
37	3	Numeric	Error Status	"150" = 80-byte card image sequence error (RJE only) "222" = Invalid password "333" = Ineligible for function.
40	5	Numeric	Filler	DTC use only. Must be initialized to zeroes.
45	6	Numeric	Transmission Time	Time transmission arrived.
51	6	Numeric	Error Step Time	Time error message step completed.
57	24	Character	Error Description	Description of error.



10.0 Conditions for Cancellation of an Entire Transmission

The following conditions will cause the entire CF2DMX transmission to be canceled:

- C Control errors were detected during the transmission
- C Invalid record length is transmitted to DTC.
- C Participant number on Transaction Data Record is not eligible either as a User or service bureau for the Participant.
- C Missing or embedded DMA Header Record.
- C Missing or embedded DMA Trailer Record.
- C Missing or embedded CCF-II Header Record.
- C Missing or embedded CCF-II Trailer Record.
- C Total record count or share quantity field on Trailer Record is miscalculated or non numeric.

10.1 Conditions for Rejection of Specific Detail Records

The following conditions will result in the rejection of Detail Records, which will, in turn, cause the transmission to be rejected:

- C Participant Number is not numeric.
- C Participant fields are out of sequence.
- C Detail Record is out of sequence.



11.0 Cutoff Times

Transmissions of CF2DMX transactions will be accepted from 4:00 a.m. until 2:00 p.m. (Eastern Time) daily. test CF2DMX transmissions (Processing Option = "T" in the CCF-II Header Record) will be accepted during PTS operating hours. In no event will DMA transactions be accepted after the cutoff times specified above.

Should the cutoff time be reached during a transmission, that transmission **WILL NOT** be accepted.



12.0 Recovery Procedures

Restart capability is available for CF2DMX Users. Details of the procedures to be followed in the event that RESTART is necessary are provided in *the CCF-II SYSTEM User's Guide* in the section entitled "Recovery/Restart Procedures".



13.0 Backup for CCF-II

If, for any reason, a User is unable to use CCF-II to enter his transactions as scheduled, DTC Network Operations should be notified immediately.

If the User is not able to enter his DMA transactions via CCF-II because of modem or telephone line equipment failures at his site, the User has the following option:

Create a tape in the format of DMAR transactions and bring it to DTC via messenger. Tape should be:

Non Labeled
1600 or 6250 BPI
RECFM = FB
LRECL = 80 (for RJE) 750 (for NDM, SNA)
BLKSIZE = Efficient Block Size

DTC will input the transactions from the tape and return it to the User.

Participants that, in an emergency, will not be able to deliver a magnetic tape to DTC via messenger before 2:00 p.m. for CF2DMX, are responsible for making other arrangements for backup in case of modem or telephone equipment failures.

Participants should realize that when using CCF-II to input transactions to DTC, they are bound by computer and data communications equipment availability at their site. DTC can not afford to delay its entire processing cycle in order to accommodate equipment failures at any Participant site. It is strongly recommended that all CF2DMX Users maintain redundant CCF-II equipment (computers, communications controllers, etc.).

DTC will, in no event, accept any responsibility for a Participant's inability to enter CF2DMX transactions.