

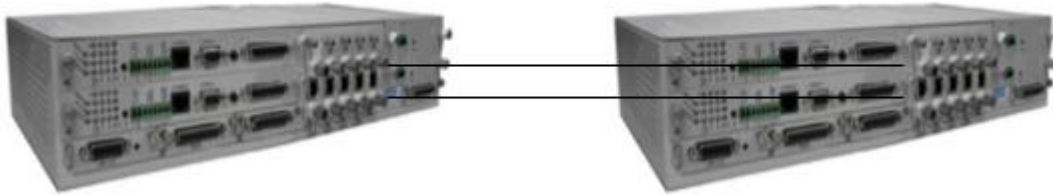


DCB, Inc.
2949 CR 1000 E
Dewey, Illinois
61840

217.897.6600 Tel
 800.432.2638 Toll Free
 217.897.1331 Fax
 www.dcbnet.com

AM3440 to AM3440 FOM Sample Mapping and Loopback Test July, 2011

AM3440 to AM3440 fiber link



AM3440A T1 over FOM cards July 26, 2011

Two AM3440A chassis with FOM cards in slots B, Quad T1 cards in Slot 1.

The first FOM logical channel is mapped to the Slot 1, Port 1 T1, all 24 DS0s.

In this example, CAS is OFF. If on, channel 16 of the FOM is for signaling. With CAS ON and channel 16 used for signaling, a full T1 will use DS-0 1 through 15 and 17 through 25 of the FOM. Each FOM card has 4 logical E1s of 31 DS-0 time slots.

First AM3440 Setup

```

LOOP AM3440-A                === Controller Menu ===                12:39:44 07/26/2011

Serial Number   : 173030                Redundant Controller: Enabled
Hardware Version: Ver.H                Start Time      : 09:19:11 07/24/2011
Software Version: V8.17.01 06/15/2011  Device Name: LOOP AM3440-A TEST

[DISPLAY]
C -> System Configuration
B -> Clock source Configuration
Q -> Alarm Queue Summary
I -> Information Summary
R -> Redundant CTRL Information
P -> Performance Report

[SETUP]
S -> System Setup
M -> System Alarm Setup
W -> Firmware Transfer
V -> Store/Retrieve Configuration
K -> Clock source Setup
T -> Bit Error Rate Test

[LOG]
U -> Choose a Slot
F -> Log Off [SETUP],[MISC] Menu
O -> Log On  [SETUP],[MISC] Menu

[MISC]
A -> Alarm Cut Off
X -> Clear Alarm Queue
Y -> Controller Return to Default
Z -> Controller Reset
  
```



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FOM Card System Setup, FOM in Slot B

```
SLOT B FOM E1 PORT 1      === Unit Setup ===      12:40:22 07/26/2011  
ARROW KEYS: CURSOR MOVE, TAB: ROLL OPTIONS  
  
FRAME   = ON  
CRC     = ON  
RAI     = OFF  
CAS    = OFF  
AIS     = OFF  
IDLE    = D5  
Sabit   = Sa4  
SSM     = OFF  
OOS     = 1000
```

T1 Slot 1, Port 1 Setup

```
SLOT 1 Quad-T1 PORT 1      === Port System Setup ===    12:40:47 07/26/2011  
ARROW KEYS: CURSOR MOVE, TAB: ROLL OPTIONS  
  
FRAME    = ESF  
CODE     = B8ZS  
YEL      = ON  
AIS      = FRAMED  
CAS     = OFF  
SIGNALLING= TRANS  
CGA      = NORM  
OOS      = BUSY  
INBAND   = OFF  
IDLE     = FF  
INTF     = LONG HAUL  
LBO      = 0 dB  
FDL      = OFF  
Protected = DISABLE  
Master   = ****
```



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T1 to FOM mapping (From main screen, Press C, then C again to get this screen)

```

LOOP AM3440-A      === System Configuration (Map) ===   12:41:46 07/26/2011
ARROW KEYS: CURSOR MOVE, TAB: ROLL OPTIONS
Map Number:MAP_1
  
```

<u>Slot Number: B</u>	<u>FOM</u>	PO/TS	D	SL/PO	TS	PO/TS	D	SL/PO	TS
<u>Port Number:P1</u>	<u>NON-CAS</u>	=====	=====	=====	=====	=====	=====	=====	=====
		1	1	d	1	1	1	1	1
		1	2	d	1	1	2	1	18
		1	3	d	1	1	3	1	19
		1	4	d	1	1	4	1	20
		1	5	d	1	1	5	1	21
		1	6	d	1	1	6	1	22
		1	7	d	1	1	7	1	23
		1	8	d	1	1	8	1	24
		1	9	d	1	1	9		25
		1	10	d	1	1	10		26
		1	11	d	1	1	11		27
		1	12	d	1	1	12		28
		1	13	d	1	1	13		29
		1	14	d	1	1	14		30
		1	15	d	1	1	15		31
		1	16	d	1	1	16		

Clocking setup - Press K from main screen to get to System Clock setup

```

LOOP AM3440-A      === System Setup (CLOCK-Normal Mode) ===12:42:46 07/26/2011
ARROW KEYS: CURSOR MOVE, TAB: ROLL OPTIONS

Master_Clk Source : INTERNAL
Second_Clk Source : INTERNAL
Current Clock      : SECOND_CLK
Clk_Recover_Mode : AUTOMATIC
Clock Status       : NORMAL
Ext. Clock Type    : T1
Dual External Clock Protection : Disable
  
```

=====



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Second AM3440A Setup

```
LOOP AM3440-A          === Controller Menu ===          13:48:30 07/26/2011

Serial Number   : 173845                               Redundant Controller: Disabled
Hardware Version: Ver.H                                 Start Time   : 10:26:03 07/24/2011
Software Version: V8.15.01 01/25/2011                 Device Name:  LOOP AM3440-A

[DISPLAY]                                             [SETUP]
C -> System Configuration                             S -> System Setup
B -> Clock source Configuration                       M -> System Alarm Setup
Q -> Alarm Queue Summary                             W -> Firmware Transfer
I -> Information Summary                             V -> Store/Retrieve Configuration
R -> Redundant CTRL Information                       K -> Clock source Setup
P -> Performance Report                               T -> Bit Error Rate Test

[LOG]                                                  [MISC]
U -> Choose a Slot                                     A -> Alarm Cut Off
F -> Log Off [SETUP],[MISC] Menu                       X -> Clear Alarm Queue
O -> Log On  [SETUP],[MISC] Menu                       Y -> Controller Return to Default
                                                         Z -> Controller Reset
```

FOM in Slot B setup

```
SLOT B  FOM E1_PORT 1          === Unit Setup ===          13:51:09 07/26/2011
ARROW KEYS: CURSOR MOVE, TAB: ROLL OPTIONS

FRAME = ON
CRC   = ON
RAI   = OFF
CAS  = OFF
AIS   = OFF
IDLE  = D5
Sabit = Sa4
SSM   = OFF
OOS   = 1000
```



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T1 Setup for T1 in Slot 1, Port 1

```
SLOT 1 Quad-T1 PORT 1      === Port System Setup ===      13:51:31 07/26/2011
ARROW KEYS: CURSOR MOVE, TAB: ROLL OPTIONS

FRAME      = ESF
CODE       = B8ZS
YEL        = ON
AIS        = FRAMED
CAS      = OFF
SIGNALLING= TRANS
CGA        = NORM
OOS        = BUSY
INBAND     = OFF
IDLE       = FF
INTF       = LONG HAUL
LBO        = 0 dB
FDL        = OFF
Protected  = DISABLE
Master     = ****
```

T1 to FOM mapping

```
LOOP AM3440-A      === System Configuration (Map) ===      13:52:08 07/26/2011
ARROW KEYS: CURSOR MOVE, TAB: ROLL OPTIONS
Map Number:MAP_1

Slot Number: B      FOM
Port Number:P1    NON-CAS
```

PO/TS	D	SL/PO	TS	PO/TS	D	SL/PO	TS
1	1	d	1	1	1	1	1
1	2	d	1	1	2	1	17
1	3	d	1	1	3	1	18
1	4	d	1	1	4	1	19
1	5	d	1	1	5	1	20
1	6	d	1	1	6	1	21
1	7	d	1	1	7	1	22
1	8	d	1	1	8	1	23
1	9	d	1	1	9	1	24
1	10	d	1	1	10		25
1	11	d	1	1	11		26
1	12	d	1	1	12		27
1	13	d	1	1	13		28
1	14	d	1	1	14		29
1	15	d	1	1	15		30
1	16	d	1	1	16		31



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Clock Setup - This unit takes its clock from the incoming FOM card in Slot B

```
LOOP AM3440-A      === System Setup (CLOCK-Normal Mode) ===13:52:35 07/26/2011
ARROW KEYS: CURSOR MOVE, TAB: ROLL OPTIONS
```

```
Master_Clk_Source : SLOT_B P1
Second_Clk_Source : INTERNAL
Current_Clock      : MASTER_CLK
Clk_Recover_Mode : AUTOMATIC
Clock_Status       : NORMAL
Ext. Clock Type    : E1(75ohm)
Dual External Clock Protection : Disable
```

=====

Loopback screen, source of the **QRSS test pattern**
 To get this screen, select the T1 slot, then T1 port, then "L"

```
SLOT 1 Quad-T1 PORT 1      === Port Loopback Test ===          12:46:44 07/26/2011
ARROW KEYS : CURSOR MOVE , ENTER KEY : ITEM SELECT
```

```
- NEAR-END LOOPBACK      : *OFF LOCAL PLB LLB

- SEND LOOPBACK ACTIVATE CODE TO FAR-END:
  *IN-BAND AT&T-P ANSI-P ANSI-L
- SEND LOOPBACK DEACTIVATE CODE TO FAR-END:
  *IN-BAND AT&T-P ANSI-P ANSI-L
- SEND TEST PATTERN:
  *OFF QRSS-FULL
```

When the QRSS test is running, you can loop the local FOM card, loop the far end T1. It should all be error free.

=====



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FOM Status Screens - Select Slot, then "I" for Information

Local Unit. Note that when the fiber link is ok, you get the status of both the local and the remote FOM cards.

```

SLOT B FOM E1 PORT 1      === Unit Status ===      12:48:21 07/26/2011
[----- LOCAL -----]      [----- REMOTE -----]
  TYPE: FOM-8M-Card          TYPE: FOM-8M-Card
  SERIAL NO: 31042          SERIAL NO: 47929
-- OPTICAL --                -- OPTICAL --
  LOS                        : NO                LOS                : NO
  LOF                        : NO                LOF                : NO
  FRAMING ERROR              : 131              FRAMING ERROR      : 5
  FRAME CHECKSUM ERROR      : 0                FRAME CHECKSUM ERROR : 100
  EOC-M FRAME CHECKSUM ERROR: 179
-- E1 --                      -- E1 --
  LOF                        : NO                LOF                : NO
  RCV AIS                   : NO                CRC ERROR: 0
  RCV RAI                   : NO
  XMT AIS                   : NO
  XMT RAI                   : NO
  CRC ERROR: 0
-- LOOPBACK STATUS --        -- LOOPBACK STATUS --
  OPTICAL LOOPBACK: OFF      OPTICAL LOOPBACK: OFF
  E1 LOOPBACK: OFF          E1 LOOPBACK: OFF
-- TEST --
  E1 PATTERN TRANSMITTED: OFF
  
```

Remote Unit. Note both the local and remote FOM information.

```

SLOT B FOM E1 PORT 1      === Unit Status ===      13:56:18 07/26/2011
[----- LOCAL -----]      [----- REMOTE -----]
  TYPE: FOM-8M-Card          TYPE: FOM-8M-Card
  SERIAL NO: 47929          SERIAL NO: 31042
-- OPTICAL --                -- OPTICAL --
  LOS                        : NO                LOS                : NO
  LOF                        : NO                LOF                : NO
  FRAMING ERROR              : 5                FRAMING ERROR      : 131
  FRAME CHECKSUM ERROR      : 100              FRAME CHECKSUM ERROR : 0
  EOC-M FRAME CHECKSUM ERROR: 16
-- E1 --                      -- E1 --
  LOF                        : NO                LOF                : NO
  RCV AIS                   : NO                CRC ERROR: 0
  RCV RAI                   : NO
  XMT AIS                   : NO
  XMT RAI                   : NO
  CRC ERROR: 0
-- LOOPBACK STATUS --        -- LOOPBACK STATUS --
  OPTICAL LOOPBACK: OFF      OPTICAL LOOPBACK: OFF
  E1 LOOPBACK: OFF          E1 LOOPBACK: OFF
-- TEST --
  E1 PATTERN TRANSMITTED: OFF
  
```

=====



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T1 Status

Local T1- All is running clean, no errors

```
SLOT 1 Quad-T1 PORT 1          === Port Status ===          12:49:43 07/26/2011

-- LINE --
  LOS      : NO
  LOF      : NO
  RCV AIS  : NO
  RCV YEL  : NO
  XMT AIS  : NO
  XMT YEL  : NO
  BPV ERROR COUNT : 0
  ES ERROR COUNT : 0

-- TEST --
  PATTERN TRANSMITTED : OFF
  NEAR-END LOOPBACK   : OFF

>>SPACE bar to refresh or enter a command ==>
```

Remote T1 – All is running clean, no errors.

```
SLOT 1 Quad-T1 PORT 1          === Port Status ===          13:57:15 07/26/2011

-- LINE --
  LOS      : NO
  LOF      : NO
  RCV AIS  : NO
  RCV YEL  : NO
  XMT AIS  : NO
  XMT YEL  : NO
  BPV ERROR COUNT : 0
  ES ERROR COUNT : 0

-- TEST --
  PATTERN TRANSMITTED : OFF
  NEAR-END LOOPBACK   : OFF
```