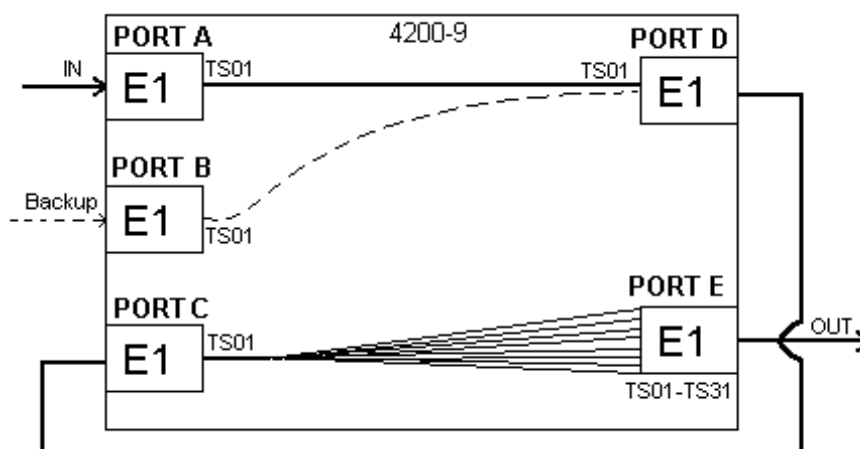


Multicast/ Broadcast and Backup

This document is an addendum to the Loop-V 4200-9 manual. It covers the multicast/broadcast function of the Time Slot Interchange (TSI) capabilities of the 4200-9 chassis. For the purposes of this document, Multicast is an operation where one time slot is mapped to many time slots either on one or many DS1s (T1/E1 lines). Broadcast is the mapping of one time slot to all time slots of a single DS1.

This document will also cover the backup feature offered in the Loop-V 4200-9, which is a standard feature of this product. The backup functionality is also listed in the manual, but is mentioned here for clarity.

In this demonstration, Time Slot 1 of an E1 line, Port C, will be mapped to all 31 time slots of another E1 line, Port E. Port B, an E1 line, will serve as a backup to Port A. See the diagram below.



The Loop-V 4200 showing multicasting of Port C to Port E and backup of Port A by Port B

Hardware

Install an E1 card into Ports A, B, C, D, E.

Install an E1 cross-over cable from Port C to Port D.

Install a VT-100 terminal into the "Console" port on the front of the Loop-V 4200-9.

Configuration

The multicast function is setup in two places. First the Multicast function must be enabled.

From the main menu, press “S” for System setup.

```

LOOP V4200-9          === Controller Menu ===          10:48:35 09/06/2000
Serial Number: 10001   Connect_port: SUPV_PORT
Version      : HW VER.D SW V2.0 03/22/2000
Start Time   : 09:24:37 03/23/2000
[Port Status]
A      B      C      D      E      F      H      J      K
FE1    FE1    FE1    FE1    FE1    o      o      o      o

[DISPLAY]                                [SETUP]
C -> Display System Configuration        S -> System Setup
Q -> Alarm Queue Summary                 P -> Password Setup
I -> Information Summary                 M -> System Alarm Setup
                                           L -> Download/Upload Firmware
                                           T -> Download/Upload Configuration
                                           R -> Store/Retrieve Configuration

[LOG]                                     [MISC]
U -> Choose a Unit                       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
                                           K -> Load All Ports Default

>>SPACE key to refresh or enter a command ===>

```

Then, move the cursor to the right to “System” and press ENTER.

```

LOOP V4200-9          === System Setup ===            09:25:55 09/06/2000

>> Select System_setup Type ?  MAP  PORT_BACKUP  *SYSTEM  CLOCK

```

To set the multicast feature, move the cursor down and to the right to select the “TSI_FUNC” setting.

```

LOOP V4200-9          === System Setup (SYSTEM) ===   09:51:02 04/12/2001

[System]
Time/Date      :14:28:37 07/05/2001
IP Interface    :ETHERNET_PORT
IP Address     :000.000.000.000 Subnet:000.000.000.000 Gateway:000.000.000.000
Trap IP Address:255.255.255.255
Community Name :public
Device Name    :LOOP V4200-9
System Location:8F,No. 8,Hsin Ann Rd.
                Science-Based Industrial Park
                Hsinchu,30077 Taiwan

System Contact :Name: FAE Tel:+886-3-5787696 Fax:+886-3-5787695
                E-mail:F AE@loop.com.tw

Baud Rate      : 9600                                TSI_FUNC: 1:N(Multicast)
Data Length    : 8-Bits
Stop Bit       : 1-Bit
Parity         : NONE
XON_XOFF       : XOFF

<< ESC key to return to previous menu >>

```

Use **TAB** to change the value to 1:N(Multicast).

Press **ESC** and save the configuration.

Now, setup the backup feature.

Move the cursor to the left to "PORT_BACKUP" and press **ENTER**.

```
LOOP V4200-9          === System Setup ===          09:25:55 09/06/2000

>> Select System_setup Type ? *MAP  *PORT_BACKUP  SYSTEM  CLOCK
```

Move the cursor to the position under Port A.

Press **TAB** until PORT B is listed in the cell.

This will set Port B to backup Port A.

```
LOOP V4200-9          === System Setup ( BACKUP ) ===      10:47:58 09/06/2000
ARROW KEYS: CURSOR MOVE, TAB: ROLL OPTIONS
  PORT A PORT B PORT C PORT D PORT E PORT F PORT H PORT J PORT K PORT Z
  FE1    FE1    FE1    FE1    FE1                                INBAND
BACK NONCAS NONCAS NONCAS NONCAS NONCAS
UP      =====
BY      PORT B

<< Press ESC key to return to previous menu >>
```

Press **ESC** and save the configuration.

Now, setup the Time Slot Interchange mapping.

Move the cursor to "MAP" and press **ENTER**.

```
LOOP V4200-9          === System Setup ===          09:25:55 09/06/2000

>> Select System_setup Type ? *MAP  PORT_BACKUP  SYSTEM  CLOCK
```

First, map the Multicast feature.

Move the cursor to the blank space in column E.

Use **TAB** to select Port C.

Move the cursor to the right and change 00 to 01.

Do this for the entire column for Port E.

```
LOOP V4200-9          === System Setup ( MAP ) ===          09:25:55 09/06/2000
ARROW KEYS: CURSOR MOVE, Please Input: 0~9, BACKSPACE to edit
  PORT A PORT B PORT C PORT D PORT E PORT F PORT H PORT J PORT K PORT Z
TIME FE1    FE1    FE1    FE1    FE1                                Inband
SLOT NONCAS NONCAS NONCAS NONCAS NONCAS
=====
 1 d    00 d    00 d    00 d    00 d C 01 d    00 d    00 d    00 d    00
 2 d    00 d    00 d    00 d    00 d C 01 d    00 d    00 d    00 d    00
 3 d    00 d    00 d    00 d    00 d C 01 d    00 d    00 d    00 d    00
 4 d    00 d    00 d    00 d    00 d C 01 d    00 d    00 d    00 d    00
 5 d    00 d    00 d    00 d    00 d C 01 d    00 d    00 d    00 d    00
 6 d    00 d    00 d    00 d    00 d C 01 d    00 d    00 d    00 d    00
 7 d    00 d    00 d    00 d    00 d C 00 d    00 d    00 d    00 d    00
 8 d    00 d    00 d    00 d    00 d C 01 d    00 d    00 d    00 d    00
 9 d    00 d    00 d    00 d    00 d C 01 d    00 d    00 d    00 d    00
10 d    00 d    00 d    00 d    00 d C 01 d    00 d    00 d    00 d    00
11 d    00 d    00 d    00 d    00 d C 01 d    00 d    00 d    00 d    00
12 d    00 d    00 d    00 d    00 d C 01 d    00 d    00 d    00 d    00
13 d    00 d    00 d    00 d    00 d C 01 d    00 d    00 d    00 d    00
14 d    00 d    00 d    00 d    00 d C 01 d    00 d    00 d    00 d    00
15 d    00 d    00 d    00 d    00 d C 01 d    00 d    00 d    00 d    00
16 d    00 d    00 d    00 d    00 d C 01 d    00 d    00 d    00 d    00

<< ESC key to previous menu, SPACE key to another page >>          PAGE1
```

Press the space bar to view the rest of the time slots (Time slots 17-31).

Do not change anything under Port C.

Now, setup the backup mapping.

Move the cursor to the blank space under Column A.

Use **TAB** to select Port D.

Move the cursor to the right and change 00 to 01.

Move the cursor to the blank space under Column D.

Use **TAB** to select Port A.

Move the cursor to the right and change 00 to 01.

There is no need to map Port B, because that is taken care of by the backup feature.

The final map should look like this:

```

LOOP V4200-9          === System Setup ( MAP ) ===          09:25:55 09/06/2000
ARROW KEYS: CURSOR MOVE, Please Input: 0~9, BACKSPACE to edit
   PORT A  PORT B  PORT C  PORT D  PORT E  PORT F  PORT H  PORT J  PORT K  PORT Z
TIME FE1    FE1    FE1    FE1    FE1
SLOT NONCAS  NONCAS  NONCAS  NONCAS  NONCAS
=====
 1  d D 01 d   00 d   00 d A 01 d C 01 d   00 d   00 d   00 d   00
 2  d   00 d   00 d   00 d   00 d C 01 d   00 d   00 d   00 d   00
 3  d   00 d   00 d   00 d   00 d C 01 d   00 d   00 d   00 d   00
 4  d   00 d   00 d   00 d   00 d C 01 d   00 d   00 d   00 d   00
 5  d   00 d   00 d   00 d   00 d C 01 d   00 d   00 d   00 d   00
 6  d   00 d   00 d   00 d   00 d C 01 d   00 d   00 d   00 d   00
 7  d   00 d   00 d   00 d   00 d C 00 d   00 d   00 d   00 d   00
 8  d   00 d   00 d   00 d   00 d C 01 d   00 d   00 d   00 d   00
 9  d   00 d   00 d   00 d   00 d C 01 d   00 d   00 d   00 d   00
10  d   00 d   00 d   00 d   00 d C 01 d   00 d   00 d   00 d   00
11  d   00 d   00 d   00 d   00 d C 01 d   00 d   00 d   00 d   00
12  d   00 d   00 d   00 d   00 d C 01 d   00 d   00 d   00 d   00
13  d   00 d   00 d   00 d   00 d C 01 d   00 d   00 d   00 d   00
14  d   00 d   00 d   00 d   00 d C 01 d   00 d   00 d   00 d   00
15  d   00 d   00 d   00 d   00 d C 01 d   00 d   00 d   00 d   00
16  d   00 d   00 d   00 d   00 d C 01 d   00 d   00 d   00 d   00
<< ESC key to previous menu, SPACE key to another page >>          PAGE1

```

Press **ESC** and save the configuration.

Finally, the new configurations should be stored so they will not be deleted upon a power reset.

Press **ESC** to return to the main menu.

Press "R" to activate the Store/Retrieve Configuration screen

```

LOOP V4200-9          === Controller Menu ===          10:48:35 09/06/2000
Serial Number: 10001   Connect_port: SUPV_PORT
Version      : HW VER.D SW V2.0 03/22/2000
Start Time   : 09:24:37 03/23/2000
[Port Status]
A           B           C           D           E           F           H           J           K
o           o           o           FE1        FT1        DTE        MDSL       MDSL       MDSL

[DISPLAY]
C -> Display System Configuration
Q -> Alarm Queue Summary
I -> Information Summary

[SETUP]
S -> System Setup
P -> Password Setup
M -> System Alarm Setup
L -> Download/Upload Firmware
T -> Download/Upload Configuration
R -> Store/Retrieve Configuration

[LOG]
U -> Choose a Unit
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
K -> Load All Ports Default

>>SPACE key to refresh or enter a command ===>

```

Move the cursor to "Store" and press **ENTER**.

```
LOOP V4200-9      === Store / Retrieve Configuration ===      11:20:53 09/06/2000
>> Select ?  *STORE  RETRIEVE
```

Press "Y" to store the configuration.

Enter the password for the system. The default password is "loop."

When configuration is stored, press **ESC**, then **ESC** to return to the main menu.

This configuration has been tested as sound. If you have any questions, please feel free to contact your Loop representative.