



Haliplex
Communication Systems

HPX-1600 USER GUIDE

**Chapter 2-15:
HPX-IM-1638
Dual G.703 Co-Directional IM**

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1. GENERAL CHARACTERISTICS

The Dual G.703 Co-Directional Interface Module (IM) operates at 64kB/s and allows connection via an RJ48 port to equipment that supports G.703 co-directional. This IM has dual G.703 Co-directional ports.

The Dual COD IM is shown below in Figure 1.



Figure 1: Dual COD IM

2. IM CONFIGURATION

The IM configuration dialog has configuration tabs as discussed below.

2.1. INTERFACE PARAMETERS

There is no configuration setting. This is a fixed function interface module that is designed for only a synchronous operation, when cross connected in the DACS. Any connected devices should be synchronised with the COD IM else clock slips will occur.

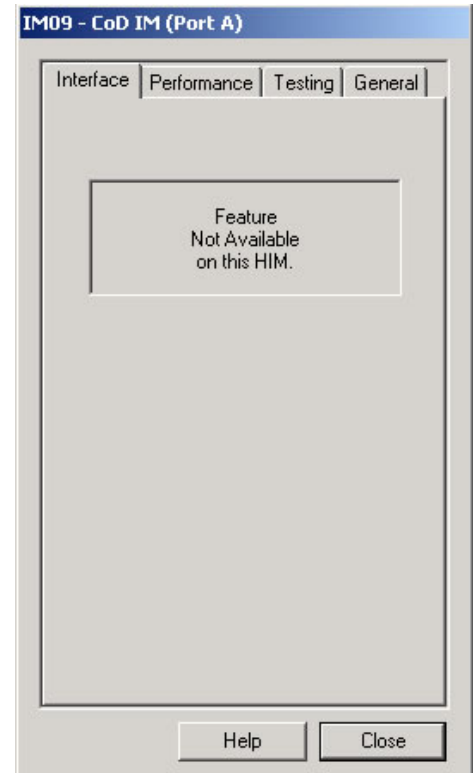


Figure 2: Dual COD IM Configuration Dialog Interface Tab

2.2. PERFORMANCE PARAMETERS

There are no configurable parameters.

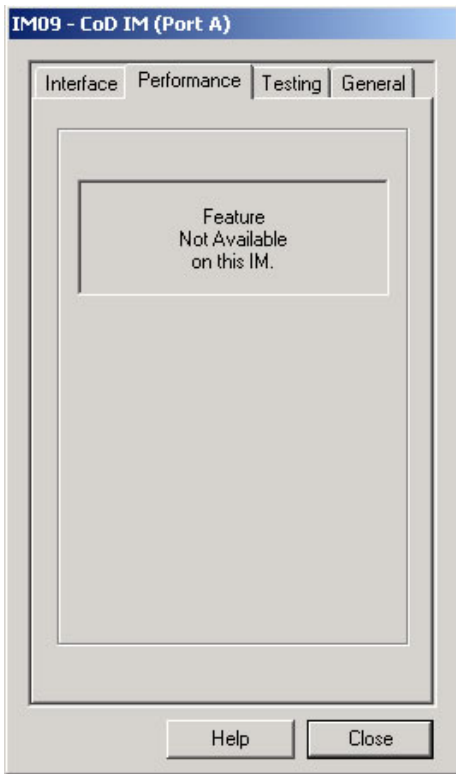


Figure 3: COD IM Configuration Dialog Performance

2.3. TESTING PARAMETERS

The testing tab allows the user to select a loopback mode for testing.

For more information on the loopback options available, refer to section 3.

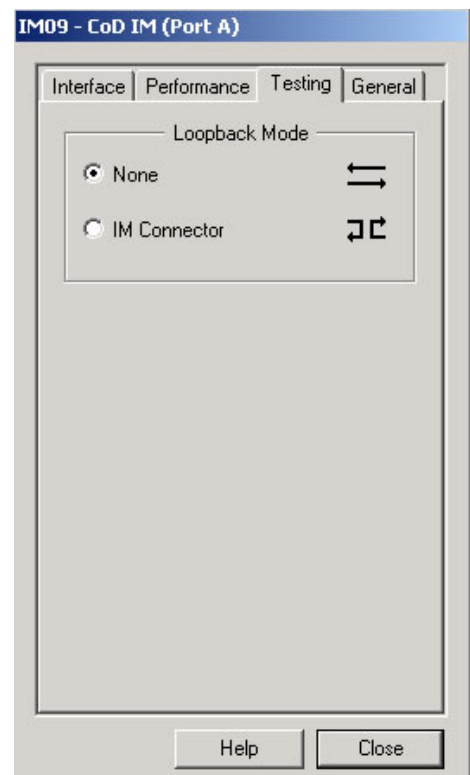


Figure 4: COD IM Configuration Dialog Testing Tab

3. IM TESTING

The dual COD IM has no loopback selected as the default setting for normal IM operation. However, for testing purposes, one of two loopback options can be set. The two available loopback options are illustrated below in Figure 5.

- IM connector loopback

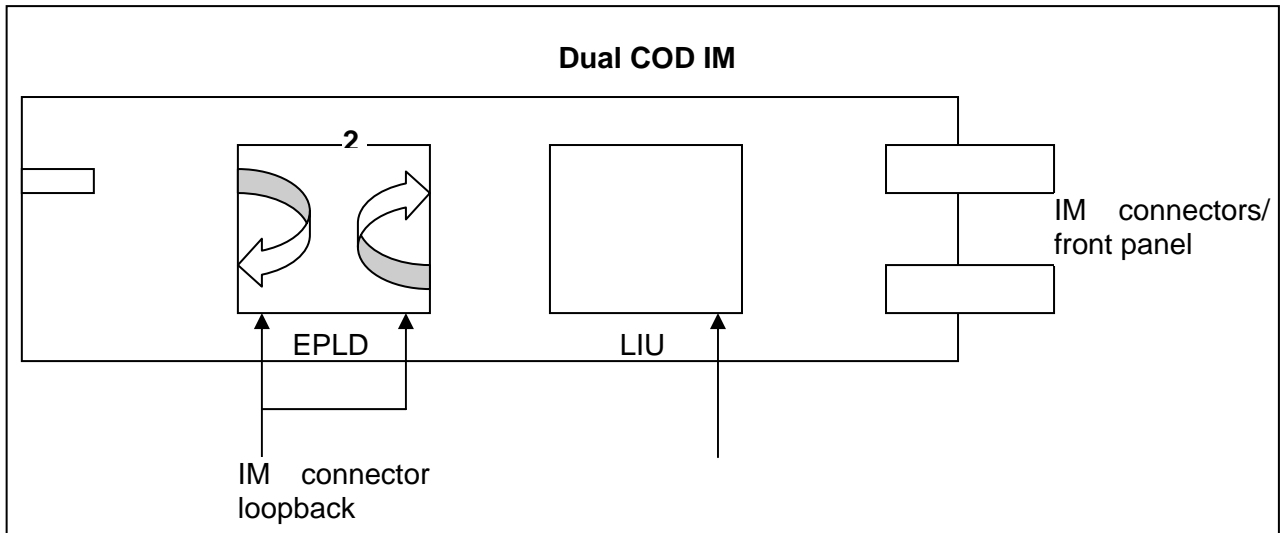


Figure 5: COD IM loopback options

4. IM ALARMS

The COD IM has a Loss of Sync alarm that can be configured and monitored via the IM alarm monitor setup window.

LOS: Loss of Signal

LOC: Loss of Clock

OOS: Clock signal present but Out Of Synch

AIS: Alarm Indicator Signal

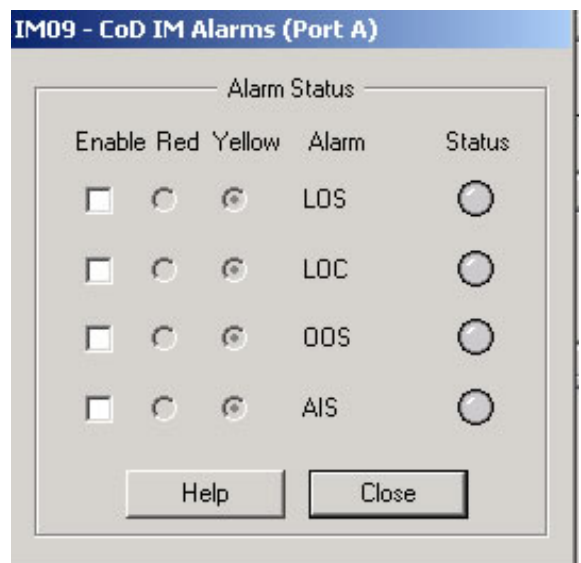


Figure 6: COD IM Alarm Monitor Setup Window

5. IM INDICATORS

Each RJ45/48 connector has two LEDs. The state of both the LEDs indicates the status of the software load, clock configuration and the data communications for each port. The LED interpretations for the COD IM are shown below in Table 1.

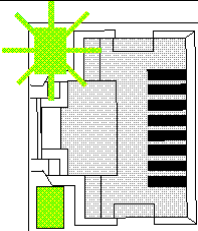
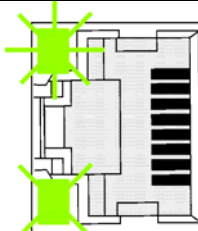
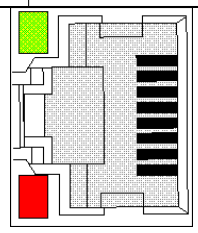
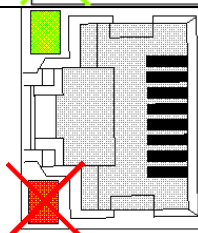
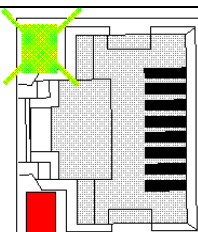
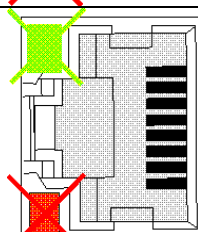
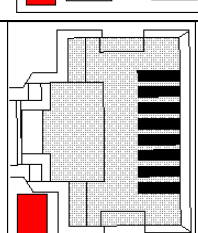
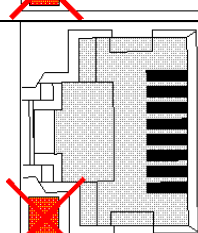
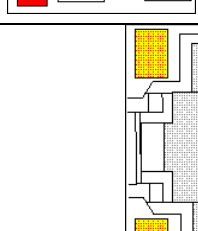

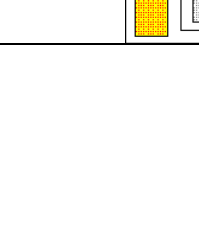
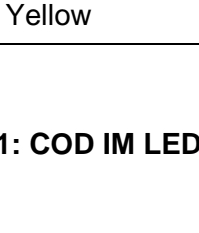
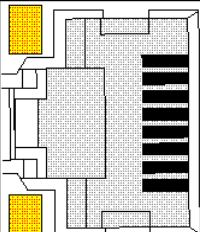

RJ45 LED Display				Interpretation
Not Clock source		Port is an External Clock source		
	Green flashing		Green flashing	Normal Data Transmission
	Green		Green flashing	
	Green		Green	Error AIS
	Red		Red flashing	
	None		None	Error Loss of Sync / Clock
	Red		Red flashing	
		Yellow		Firmware loaded waiting for Configuration files to be loaded
		Yellow		

Table 1: COD IM LED Interpretations

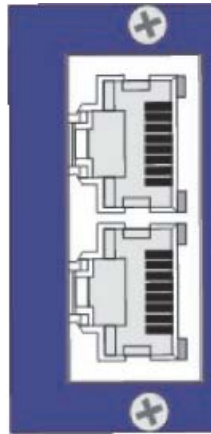
6. COD CABLES

There are two types of cables to connect devices to the COD IM, one for Network Interface mode and the other for Network Terminal mode of operation. Each cable connects to the IM, 8 pin RJ45 connector.



Note:

The Dual COD IM,
Has two RJ45
connectors.



Note: Unused pins are not connected at the COD IM. The metal shell of the RJ45 socket may optionally be used as shield.

HPX-1600 Cable 006 Network Interface Mode			
P1 RJ45	Signal Name	P2 RJ45	Signal Name
1	Tx Tip	4	Rx Tip
2	Tx Ring	5	Rx Ring
3			
4	Rx Tip	1	Tx Tip
5	Rx Ring	2	Tx Ring
6			
7			
8			

Table 2: HPX-1600 Cable 006

HPX-1600 Cable 007 Network Terminal Mode			
P1 RJ45	Signal Name	P2 RJ45	Signal Name
1	Tx Tip	1	Tx Tip
2	Tx Ring	2	Tx Ring
3		3	
4	Rx Tip	4	Rx Tip
5	Rx Ring	5	Rx Ring
6		6	
7		7	

Table 3: HPX-1600 Cable 007

7. INTERFACE SPECIFICATIONS

Connector	RJ 48, 120 Ohms
Power Consumption	< 3W
Trunk Speed	64kB/S
Loopback	Interface Module loopback
Alarms	LOS: Loss of Signal LOC: Loss of Clock signal OOS: Clock signal present but out of Sync Slip: Data slip AIS: Alarm Indicator Signal
Standards	G.703 Section 4 Codirectional Interface

Table 4: Interface Specifications

8. INTERNATIONAL COMPLIANCES

All HPX-1600 products have achieved the following international compliances;

- CE
- A Tick
- C Tick
- FCC part 15 class B
- UL



FCC COMPLIANCE STATEMENT

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference and (2) this device must accept any interference received, including interference that may cause undesired operation.

NOTE:

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures

- *Reorient or relocate the receiving antenna*
- *Increase the separation between the equipment and the receiver*
- *Connect the equipment into an outlet on a circuit different from that to which the receiver is connected*
- *Consult the dealer or an experienced radio/TV technician for help*

Warning: *Any changes or modifications not expressly approved by Haliplex Pty Ltd could void the user's authority to operate this equipment.*

8.1. ELECTROMAGNETIC COMPATIBILITY (EMC)

- CISPR 22 class B
- EN55022
- FCC part 15 class B
- AS/NZS3548
- EN300386-1

8.2. SAFETY

- IEC60950, UL60950, and AS/NZS60950:2000 for General safety

8.3. IMMUNITY

- EN61000-4-2
- EN61000-4-3
- EN61000-4-4
- EN61000-4-5
- EN61000-4-11