
APPENDIX

LAN INTERFACE (10/100BASE-T(X))

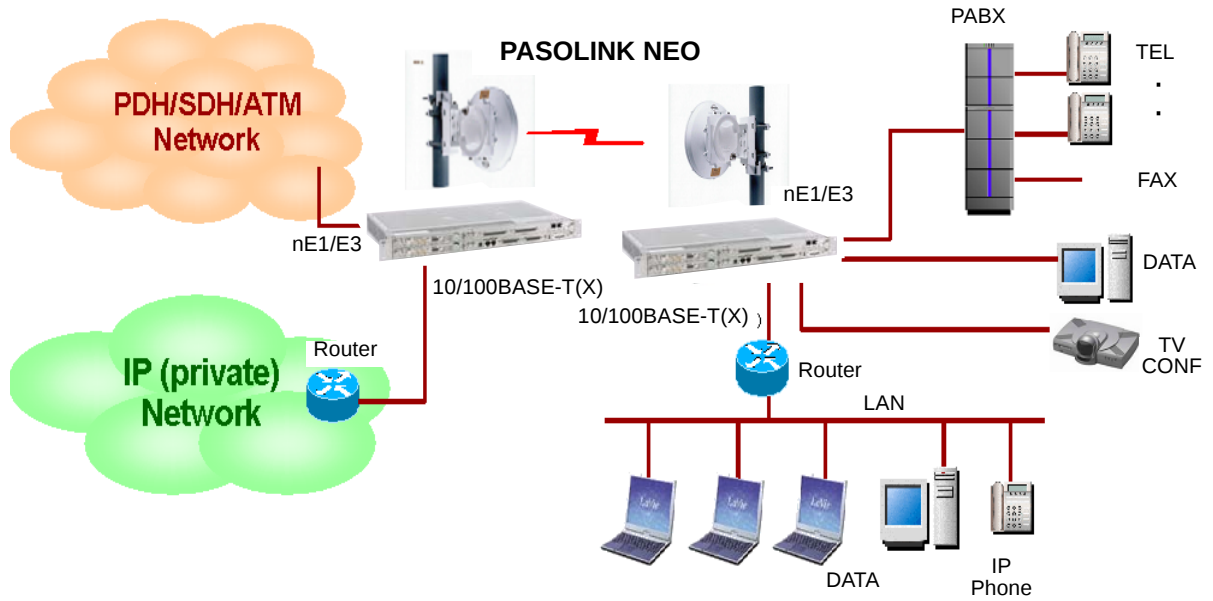
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1. OUTLINE

On the PASOLINK NEO, the LAN signal can be transported in Main signal domain and Auxiliary signal domain using adaptive LAN interface module.



2. MODULE INFORMATION

(1) H2980A 16E1 INTFC Interface (For PDH system)

It provides 16E1 channels interfaces and two (2) ports 10Base-T/100Base-TX interface. By easy setting, besides each LAN port can be used independently separated or a signal domain can be shared with two (2) LAN ports. LAN through put maximum capacities can be set from 64 kbps to 80 Mbps.

Module	Features
H2980A 16E1 INTFC	• Maximum LAN through put capacities, 64 kbps - 80 Mbps
	• 10BASE-T/100BASE-TX x 2 port
	• Auto Negotiation / Auto MDI/MDIX, effective
	• 1024 MAC Address Table, automatically learning and aging.
	• Maximum frame size 1548 bytes
	• Conformed to IEEE 802.3x, Pause Frame Flow Control, effective (Full Duplex)
	• Half Duplex Back Pressure, effective
	• Link Loss Forwarding (LLF) function
	• RMON function

(2) H3010A E3 INTFC Interface (For PDH system)

It provides one (1) E3 channel, four (4) WS channels (equivalent to E1 bandwidth per channel) and two (2) ports 10Base-T/100Base-TX interface. LAN through put maximum capacities can be set from 64 kbps to 8 Mbps.

Module	Features
H3010A E3 INTFC	• Maximum LAN through put capacities, 64 kbps - 8 Mbps
	• 10BASE-T/100BASE-TX x 2 port
	• Auto Negotiation / Auto MDI/MDIX, effective
	• 1024 MAC Address Table, automatically learning and aging.
	• Maximum frame size 1548 bytes
	• Conformed to IEEE 802.3x, Pause Frame Flow Control, effective (Full Duplex)
	• Half Duplex Back Pressure, effective
	• Link Loss Forwarding (LLF) function
	• RMON function

(3) H3020A 4P LAN INTFC (For PDH system)

It provides four (4) ports 10Base-T/100Base-TX interface and up to 8E1 channels. By easy setting, besides each port can be used independently separated, a signal domain can be shared with four (4) LAN ports. LAN through put maximum capacities can be set from 2 Mbps to 100 Mbps.

Module	Features
H3020A 4P LAN INTFC	• Maximum LAN through put capacities, 2 Mbps - 100 Mbps
	• 10BASE-T/100BASE-TX x 4 port
	• Auto Negotiation / Auto MDI/MDIX, effective
	• 1024 MAC Address Table, automatically learning and aging.
	• Maximum frame size 1548 bytes
	• Conformed to IEEE 802.3x, Pause Frame Flow Control, effective (Full Duplex)
	• Half Duplex Back Pressure, effective
	• Link Loss Forwarding (LLF) function
	• RMON function

(4) H2965A LAN/WS INTFC (For SDH system)

It provides two (2) ports 10Base-T/100Base-TX interface and one (1) WS channel (equivalent to E1 bandwidth per channel). When it is equipped into Slot1, the LAN signal is transported in the SDH (STM-1) payload. When it is equipped into Slot2, the LAN signal is transported in the auxiliary signal domain for the SC/WS.

Module	Features
H2965A LAN/WS INTFC	• Maximum LAN through put capacities Slot1 : 50 Mbps - 100 Mbps (Port1 + Port2; Maximum 150 Mbps) Slot2 : 64 kbps - 2 Mbps
	• 10BASE-T/100BASE-TX x 2 port
	• Auto Negotiation / Auto MDI/MDIX, effective
	• 1024 MAC Address Table, automatically learning and aging.
	• Maximum frame size 1548 bytes
	• Conformed to IEEE 802.3x, Pause Frame Flow Control, effective (Full Duplex)
	• Half Duplex Back Pressure, effective
	• Link Loss Forwarding (LLF) function
	• RMON function

3. EXAMPLE APPLICATION

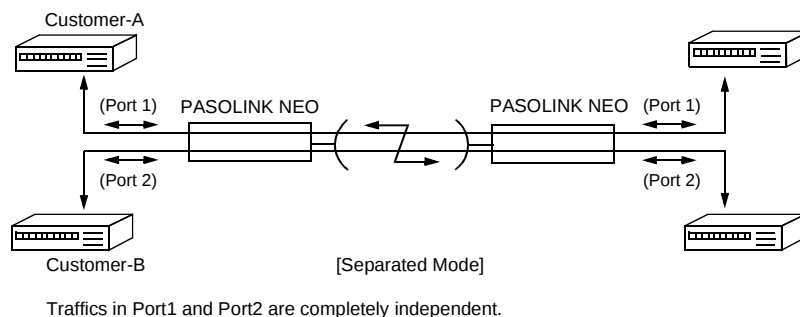
The LAN signal transmission mode in the radio section is described as follows. Applicable transmission mode is depending on the interface module type as listed in the following table.

Module	Mode				
	(1) Guaranteed Bandwidth	(2) Switching HUB	(3) Data Distribution	(4) Best Effort	(5) E1 Network Connection
(a) 16E1 INTFC	√	√	√	—	√
(b) E3 INTFC	—	√	√	—	√
(c) 4P LAN INTFC	√	√	√	—	—
(d) LAN/WS INTFC	√	√	√	√	√

Note: √; Applicable —: Not Applicable

(1) Guaranteed Bandwidth Mode

Two (2) ports are completely separated and guaranteed maximum through put for each port.

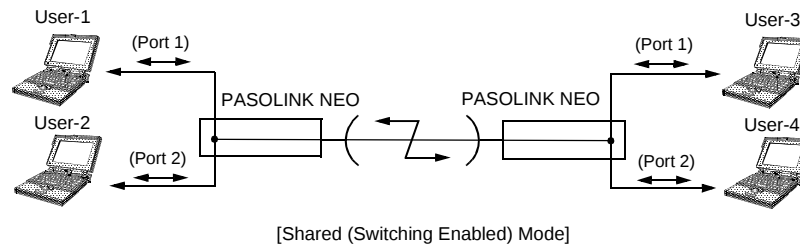


[Setup] (e.g. 16E1 INTFC)

[Equipment Setup]→[LAN Port Usage] : Port1-2 Separated (Main)

(2) Switching HUB Mode

Between distant sites are connected with switching HUB configuration.



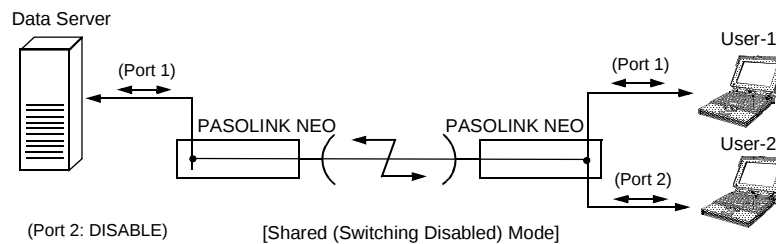
[Setup] (e.g. 16E1 INTFC)

[Equipment Setup]→[LAN Port Usage]: Port1-2 Shared / 1Port Only (Main)

[Provisioning]→[LAN Port Setting]→[Switching Function]: Enabled

(3) DATA Distribution Mode

Make up 1 vs. 2 asymmetry network composition like as connecting data center and terminals.



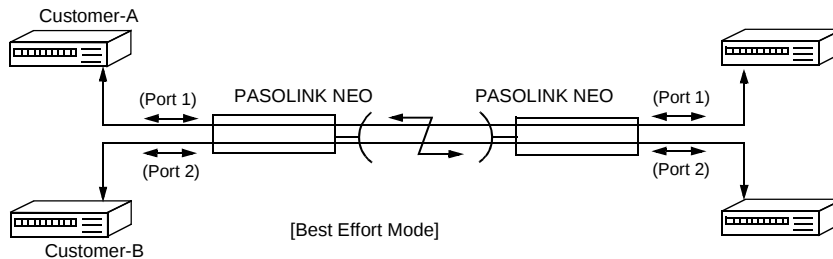
[Setup] (e.g. 16E1 INTFC)

[Equipment Setup]→[LAN Port Usage]: Port1-2 Shared / 1Port Only (Main)

[Provisioning]→[LAN Port Setting]→[Switching Function]: Disabled

(4) Best Effort Mode

Two (2) ports are separated and the signal band is shared in accordance with the traffic quantity of each port.



It applies total transmission capacities for LAN in the radio section. It does not guaranteed for each port.

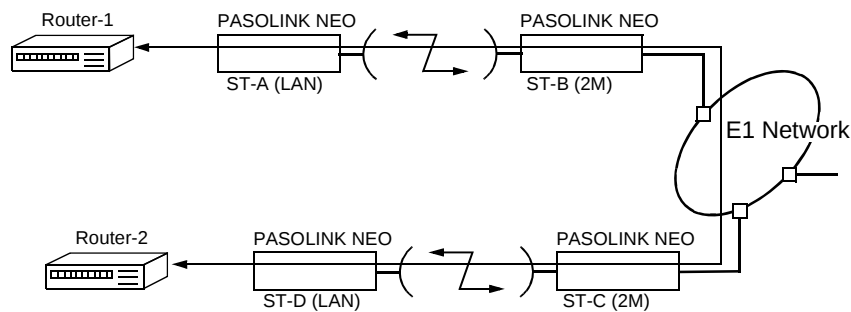
[Setup] (e.g. LAN/WS INTFC)

[Equipment Setup]→[LAN Port Usage]: Port1-2 Separated (Main)

[Equipment Setup]→[LAN Capacity] P1-P2: Best Effort

(5) E1 Network Connection Mode

Make up LAN network via E1 network.



[Setup] (e.g. 16E1 INTFC)

- * Set to **LAN Enabled** at the ST-A and ST-D stations, set to **2M** at the ST-B and ST-C stations.
- * LAN → E1 (2Mbps) and E1 (2Mbps) → LAN conversion must be performed through the PASOLINK NEO.

At ST-A / ST-D

[Equipment Setup]→[LAN Port Usage]: Port1-2 Shared / 1Port Only (Main)

[Equipment Setup]→[LAN Capacity] P1-P2: 2 Mbps

At ST-B / ST-C

[Equipment Setup]→[LAN Port Usage]: Not Used

4. SETUP OF THE MODULE

Setup of the LAN INTFC is performed with the LCT, PNMT or PNMS. The menu items on the LCT are as follows.

Main Menu	(Description)
— Equipment Setup	
— LAN Port Usage	4-1
— LAN Capacity	4-2
— Provisioning	
— LAN Port Setting	
— Switching Function	4-3
— 2M Framing	4-4
— Port Usage	4-5
— Speed & Duplex	4-6
— Flow Control	4-7
— Collision Report	4-8
— Link Loss Forwarding	4-9

For the 2Port LAN & 2M Capacity setup, it is necessary to set to the same mode between local and opposite equipments.

4.1 Setup of LAN Mode (LAN Port Usage)

It setsPerforming the setup of signal domain where LAN signal is multiplexed and multiplex mode of it. The LAN signal can be multiplexed into the E1 channel domain or SC/WS channels domain.

4.1.1 Multiplexing Signal Domain

(1) 16E1 INTFC

a. Main Signal Domain (Main)

The transmission bandwidth is selected from 2 Mbps to 80 Mbps. The Main signal domain that is used for LAN, it can not be used for E1 signal domain. The setup of the transmission bandwidth of the LAN signal is depending on the selection of the Transmission Capacity and the LAN Port Usage.

b. Service Channel Signal Domain (SC)

The transmission bandwidth is selected from 64 kbps, 128 kbps and 256 kbps. Depending on the selection of LAN signal capacity, the V.11/RS-232C interface to use the SC1/SC2/SC3/SC4 can not be of use.

- * When the LAN signal is used 64 kbps bandwidth, it is assigned to domain of SC1, when the LAN signal is used 128 kbps bandwidth, it is assigned to domains of SC1 and SC2 or when the LAN signal is used 256 kbps bandwidth, it is assigned to domains of SC1 to SC4.

(2) E3 INTFC

a. Main Signal Domain (Main)

It can not be selected.

- * Only auxiliary signal domains are assignable for the LAN signal.

b. Wayside Signal Domain (WS)

The transmission bandwidth is selected from 2 Mbps to 8 Mbps. Depending on the selection of LAN signal capacity, WS1 to WS4 (E1) cahnnel(s) can not be of use.

c. Service Channel Signal Domain (SC)

The transmission bandwidth is selected from 64 kbps, 128 kbps and 256 kbps. Depending on the transmission bandwidth selection, the V.11/RS-232C interface to use the SC1/SC2/SC3/SC4 can not be of use.

- * When the LAN signal is used 64 kbps bandwidth, it is assigned to domain of SC1, when the LAN signal is used 128 kbps bandwidth, it is assigned to domains of SC1 and SC2 or when the LAN signal is used 256 kbps bandwidth, it is assigned to domains of SC1 to SC4.

(3) 4P LAN INTFC**a. Main Signal Domain (Main)**

The transmission bandwidth is selected from 4 Mbps to 100 Mbps. The setup of the transmission bandwidth of the LAN signal is depending on the selection of the LAN Port Usage.

b. Wayside Signal Domain (WS)

It can not be selected.

c. Service Channel Signal Domain (SC)

It can not be selected.

(4) LAN/WS INTFC**a. Main Signal Domain (Main)**

When the LAN/WS INTFC is equipped in the Slot1, this can be selected. The transmission bandwidth is the maximum 150 Mbps with two (2) ports together. The bandwidth of Port1/2 can be assigned by the LAN Capacity setting.

b. Wayside Signal Domain (WS)

When the LAN/WS INTFC is equipped in the Slot2, this can be selected. The transmission bandwidth is 2 Mbps. A WS (E1) channel can not of use.

c. Service Channel Signal Domain (SC)

The transmission bandwidth is selected from 64 kbps, 128 kbps and 256 kbps. Depending on the transmission bandwidth selection, the V.11/RS-232C interface to use the SC1/SC2/SC3/SC4 can not be of use.

- * When the LAN signal is used 64 kbps bandwidth, it is assigned to domain of SC1, when the LAN signal is used 128 kbps bandwidth, it is assigned to domains of SC1 and SC2 or when the LAN signal is used 256 kbps bandwidth, it is assigned to domains of SC1 to SC4.

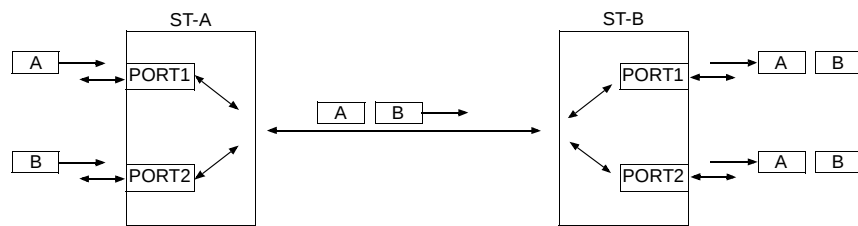
4.1.2 Multiplexing Mode

There are two modes of LAN Port usage; plural ports share signal domain in a radio section (Shared Mode) and independently separated domain is secured for each port (Separated Mode).

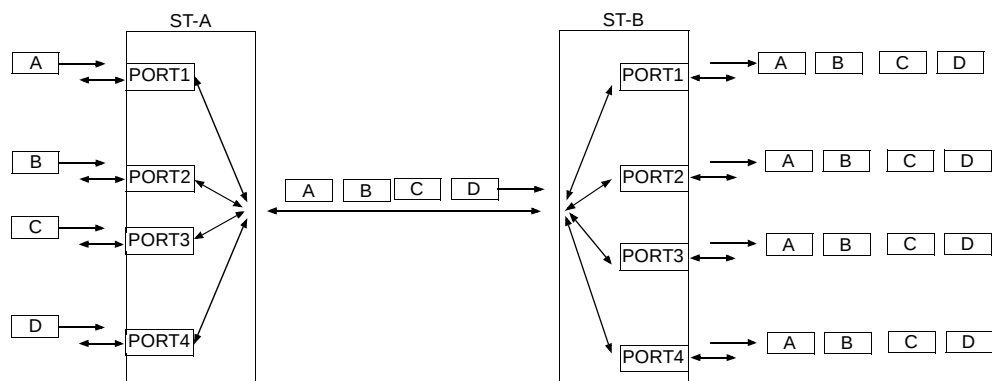
(1) Shared Mode

Plural ports share signal domain in a radio section.

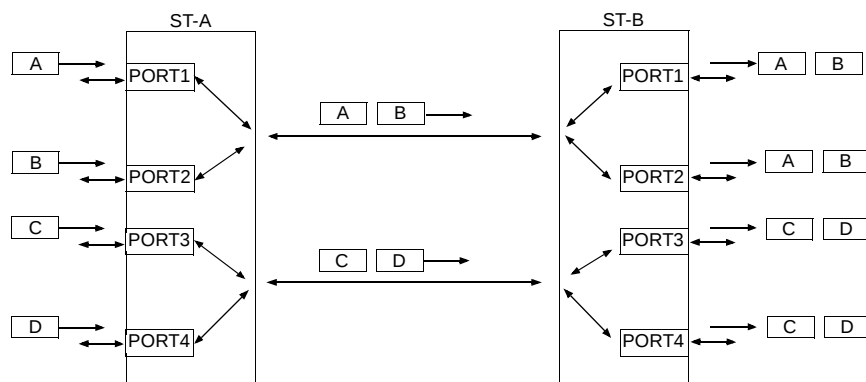
a. Port1-2 Shared



b. Port1-4 Shared

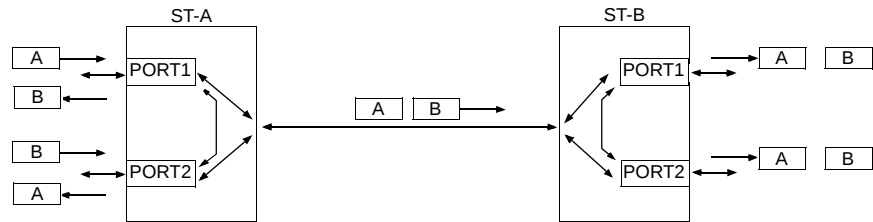


c. Port1-2 Shared/Port3-4 Shared



(2) Switching Mode

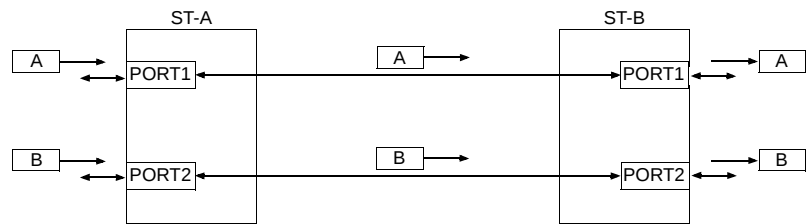
It is permitted that the signals pass through between local ports. When the shared mode is setup, it is recommended that using switching mode together.



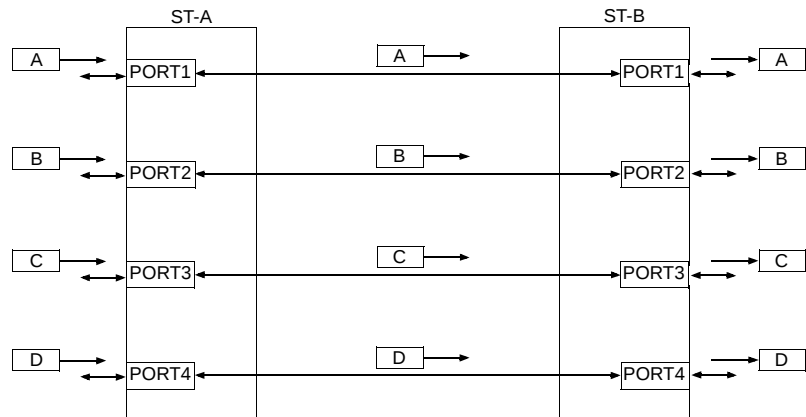
(3) Separated Mode

It is secured signal domain for each independent port.

a. Port1-2 Separated



b. Port1-4 Separated



4.1.3 Setup of LAN Port Usage

[LAN Port Usage Setup]

[Equipment Setup]→[LAN Port Usage]

(1) 16E1 INTFC

No.	Setup	Description
1	Port1-2 Shared / 1Port Only (Main)	Selecting when only one (1) port is used or bandwidth is shared in port1 and port2. The LAN signal is transmitted in the Main signal domain.
2	Port1-2 Separated (Main)	Selecting when each port is used independently separated. The LAN signal is transmitted in the Main signal domain.
3	Port1-2 Shared / 1Port Only (SC)	Selecting when only one (1) port is used or bandwidth is shared in port1 and port2. The LAN signal is transmitted in the SC signal domain.
4	Not Used	The LAN transmission is not applied.

(2) E3 INTFC

No.	Setup	Description
1	Port1-2 Shared/1 Port Only (SC)	Selecting when only one (1) port is used or bandwidth is shared in port1 and port2. The LAN signal is transmitted in the SC signal domain.
2	Port1-2 Shared/1 Port Only (WS)	Selecting when only one (1) port is used or bandwidth is shared in port1 and port2. The LAN signal is transmitted in the WS signal domain.
3	Not Used	The LAN transmission is not applied.

(3) 4P LAN INTFC

No.	Setup	Description
1	Port1-4 Shared/1Port Only (Main)	Selecting when only one (1) port is used or bandwidth is shared in port1 to port4. The LAN signal is transmitted in the Main signal domain.
2	Port1-2 Separated/Port3-4 Shared (Main)	Selecting when bandwidth is shared in respective port 1/2 and port 3/4. The LAN signal is transmitted in the Main signal domain.
3	Port1-4 Separated (Main)	Selecting when each port is used independently separated. The LAN signal is transmitted in the Main signal domain.
4	Not Used	The LAN transmission is not applied.

(4) LAN/WS INTFC

No.	Setup	Description
1	Port1-2 Separated	Selecting when each port is used independently separated. The LAN signal is transported in the Main signal domain (STM-1 payload). It can be selected when the LAN/WS INTFC is equipped in the Slot1.
2	Port1-2 Shared/1 Port Only (SC)	Selecting when only one (1) port is used or bandwidth is shared in port1 and port2. The LAN signal is transmitted in the SC signal domain. It can be selected when the LAN/WS INTFC is equipped in the Slot2.
3	Port1-2 Shared/1 Port Only (WS)	Selecting when only one (1) port is used or bandwidth is shared in port1 and port2. The LAN signal is transmitted in the WS signal domain. It can be selected when the LAN/WS INTFC is equipped in the Slot2.
4	Not Used	The LAN transmission is not applied.

4.2 Setup of LAN Signal Bandwidth (LAN Capacity)

Setting of bandwidth for the LAN signal transmission.

Settable bandwidth varies depending on the Transmission Capacity selection and LAN Port Usage setup.

Selectable bandwidth and shared signal domain of the LAN signal are given in following tables. The codes are used for System Configuration and Channel Assignment in the table, refer in following Table a. and Table b.

a. System Configuration Setup Code

Code	LAN Port Usage
[A-1]	Port1-2 Shared/ 1Port Only (Main)
[A-2]	Port1-2 Separated (Main)
[B-1]	Port1-4 Shared/ 1Port Only (Main)
[B-2]	Port1-2 Shared/ Port3-4 Shared (Main)
[B-3]	Port1-4 Separated (Main)
[C-1]	Port1-2 Shared/ 1Port Only (SC)
[C-2]	Port1-2 Shared/ 1Port Only (WS)

b. Channel Assignment Code

Code	Description
E1	2.048Mbps (E1) Data
L1	LAN Port1
L2	LAN Port2
L3	LAN Port3
L4	LAN Port4
L	LAN (Shared)
S	V.11/RS-232C Data
/	Not Assignable

4.2.1 Setup of LAN Capacity

[LAN Capacity Setup]

[Equipment Setup] → [LAN Capacity]

(1) 16E1 INTFC

Transmission Capacity : 10 Mbps

System Configuration	LAN Capacity [bps]		Channel Assignment									
			Main Traffic					SC				
	PORT1	PORT2	1	2	3	4	5	1	2	3	4	
Not Used	—	—	E1	E1	E1	E1	E1	S	S	S	S	
[A-1]	2M		E1	E1	E1	E1	L	S	S	S	S	
	4M		E1	E1	E1	L	L	S	S	S	S	
	6M		E1	E1	L	L	L	S	S	S	S	
	8M		E1	L	L	L	L	S	S	S	S	
	10M		L	L	L	L	L	S	S	S	S	
[B-1]	64K		E1	E1	E1	E1	E1	L	S	S	S	
	128K		E1	E1	E1	E1	E1	L	L	S	S	
	256K		E1	E1	E1	E1	E1	L	L	L	L	

Transmission Capacity: 20 Mbps

System Configuration	LAN Capacity [bps]		Channel Assignment													
			Main Traffic										SC			
	PORT1	PORT2	1	2	3	4	5	6	7	8	9	10	1	2	3	4
Not Used	—	—	E1	E1	E1	E1	E1	E1	E1	E1	E1	E1	S	S	S	S
[A-1]	2M		E1	E1	E1	E1	E1	E1	E1	E1	E1	L	S	S	S	S
	4M		E1	E1	E1	E1	E1	E1	E1	E1	L	L	S	S	S	S
	6M		E1	E1	E1	E1	E1	E1	E1	L	L	L	S	S	S	S
	8M		E1	E1	E1	E1	E1	E1	L	L	L	L	S	S	S	S
	10M		E1	E1	E1	E1	E1	L	L	L	L	L	S	S	S	S
	12M		E1	E1	E1	E1	L	L	L	L	L	L	S	S	S	S
	14M		E1	E1	E1	L	L	L	L	L	L	L	S	S	S	S
	16M		E1	E1	L	L	L	L	L	L	L	L	S	S	S	S
	18M		E1	L	L	L	L	L	L	L	L	L	S	S	S	S
20M		L	L	L	L	L	L	L	L	L	L	S	S	S	S	
[A-2]	10M	10M	L2	L2	L2	L2	L2	L1	L1	L1	L1	L1	S	S	S	S
[C-1]	64K		E1	E1	E1	E1	E1	E1	E1	E1	E1	E1	L	S	S	S
	128K		E1	E1	E1	E1	E1	E1	E1	E1	E1	E1	L	L	S	S
	256K		E1	E1	E1	E1	E1	E1	E1	E1	E1	E1	L	L	L	L

Transmission Capacity: 40 Mbps

System Configuration	LAN Capacity [bps]		Channel Assignment																								
			Main Traffic																				SC				
	Port1	Port2	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	1	2	3	4	
Not Used	—	—	E1	E1	E1	E1	E1	E1	E1	E1	E1	E1	E1	E1	E1	E1	E1	E1	E1	/	/	/	/	S	S	S	S
[A-1]	8M		E1	E1	E1	E1	E1	E1	E1	E1	E1	E1	E1	E1	E1	E1	E1	E1	E1	L	L	L	L	S	S	S	S
	10M		E1	E1	E1	E1	E1	E1	E1	E1	E1	E1	E1	E1	E1	E1	E1	E1	L	L	L	L	L	S	S	S	S
	12M		E1	E1	E1	E1	E1	E1	E1	E1	E1	E1	E1	E1	E1	E1	E1	L	L	L	L	L	L	S	S	S	S
	14M		E1	E1	E1	E1	E1	E1	E1	E1	E1	E1	E1	E1	E1	L	L	L	L	L	L	L	L	S	S	S	S
	16M		E1	E1	E1	E1	E1	E1	E1	E1	E1	E1	E1	E1	L	L	L	L	L	L	L	L	L	S	S	S	S
	18M		E1	E1	E1	E1	E1	E1	E1	E1	E1	E1	E1	L	L	L	L	L	L	L	L	L	L	S	S	S	S
	20M		E1	E1	E1	E1	E1	E1	E1	E1	E1	E1	L	L	L	L	L	L	L	L	L	L	L	S	S	S	S
	22M		E1	E1	E1	E1	E1	E1	E1	E1	E1	L	L	L	L	L	L	L	L	L	L	L	L	S	S	S	S
	24M		E1	E1	E1	E1	E1	E1	E1	E1	L	L	L	L	L	L	L	L	L	L	L	L	L	S	S	S	S
	26M		E1	E1	E1	E1	E1	E1	E1	L	L	L	L	L	L	L	L	L	L	L	L	L	L	S	S	S	S
	28M		E1	E1	E1	E1	E1	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	S	S	S	S
	30M		E1	E1	E1	E1	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	S	S	S	S
	32M		E1	E1	E1	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	S	S	S	S
	34M		E1	E1	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	S	S	S	S
	36M		E1	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	S	S	S	S
	38M		E1	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	S	S	S	S
40M		L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	S	S	S	S	
[A-2]	4M	4M	E1	E1	E1	E1	E1	E1	E1	E1	E1	E1	E1	E1	E1	E1	E1	E1	L2	L2	L1	L1	S	S	S	S	
	10M	10M	E1	E1	E1	E1	E1	E1	E1	E1	E1	L2	L2	L2	L2	L2	L1	L1	L1	L1	L1	L1	S	S	R	R	
	20M	20M	L2	L2	L2	L2	L2	L2	L2	L2	L2	L1	L1	L1	L1	L1	L1	L1	L1	L1	L1	L1	S	S	S	S	

Transmission Capacity: 80 Mbps

System Configuration	LAN Capacity [bps]		Channel Assignment																																								SC																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										
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	PORT1	PORT2	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
Not Used	—	—	E1	E1	E1	E1	E1	E1	E1	E1	E1	E1	E1	E1	E1	E1	E1	E1	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/

(2) E3 INTFC

Transmission Capacity : 40 Mbps

System Configuration	LAN Capacity [bps]		Channel Assignment								
			Main Traffic	Wayside				SC			
	PORT1	PORT2		1	1	2	3	4	1	2	3
Not Used	—	—	E3	E1	E1	E1	E1	S	S	S	S
[D-1]	2M		E3	E1	E1	E1	L	S	S	S	S
	4M		E3	E1	E1	L	L	S	S	S	S
	6M		E3	E1	L	L	L	S	S	S	S
	8M		E3	L	L	L	L	S	S	S	S
[C-1]	64K		E3	E1	E1	E1	E1	L	S	S	S
	128K		E3	E1	E1	E1	E1	L	L	S	S
	256K		E3	E1	E1	E1	E1	L	L	L	L

(3) 4P LAN INTEFC

Transmission Capacity : 100 Mbps

System Configuration	LAN Capacity [bps]				Channel Assignment							
					Main Traffic							
	PORT1	PORT2	PORT3	PORT4	1	2	3	4	LAN			
[B-1]	100M				E1	E1	E1	E1	L			
[B-2]	50M		50M		E1	E1	E1	E1	L3		L1	
[B-3]	25M	25M	25M	25M	E1	E1	E1	E1	L4	L3	L2	L1

Transmission Capacity : 20 Mbps

System Configuration	LAN Capacity [bps]				Channel Assignment									
					Main Traffic									
	PORT1	PORT2	PORT3	PORT4	1	2	3	4	5	6	7	8	9	10
Not Used	—	—	—	—	E1	E1	E1	E1	E1	E1	E1	E1	/	/
[B-1]	4M				E1	E1	E1	E1	E1	E1	E1	E1	L	L
	6M				E1	E1	E1	E1	E1	E1	E1	E1	L	L
	8M				E1	E1	E1	E1	E1	E1	E1	E1	L	L
	10M				E1	E1	E1	E1	E1	E1	E1	E1	L	L
	12M				E1	E1	E1	E1	E1	E1	E1	E1	L	L
	14M				E1	E1	E1	E1	E1	E1	E1	E1	L	L
	16M				E1	E1	E1	E1	E1	E1	E1	E1	L	L
	18M				E1	E1	E1	E1	E1	E1	E1	E1	L	L
	20M				E1	E1	E1	E1	E1	E1	E1	E1	L	L
[B-2]	10M		10M		L3	L3	L3	L3	L3	L3	L1	L1	L1	L1

Transmission Capacity : 40 Mbps

System Configuration	LAN Capacity [bps]				Channel Assignment																				
					Main Traffic																				
	PORT1	PORT2	PORT3	PORT4	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
Not Used	—	—	—	—	E1	E1	E1	E1	E1	E1	E1	E1	/	/	/	/	/	/	/	/	/	/	/	/	/
[B-1]	24M				E1	E1	E1	E1	E1	E1	E1	E1	L	L	L	L	L	L	L	L	L	L	L	L	L
	26M				E1	E1	E1	E1	E1	E1	E1	L	L	L	L	L	L	L	L	L	L	L	L	L	L
	28M				E1	E1	E1	E1	E1	E1	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L
	30M				E1	E1	E1	E1	E1	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L
	32M				E1	E1	E1	E1	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L
	34M				E1	E1	E1	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L
	36M				E1	E1	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L
	38M				E1	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L
	40M				L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L
[B-2]	12M		12M		E1	E1	E1	E1	E1	E1	E1	L3	L3	L3	L3	L3	L1	L1	L1	L1	L1	L1	L1	L1	L1
	40M		40M		L3	L3	L3	L3	L3	L3	L3	L3	L3	L1	L1	L1	L1	L1	L1	L1	L1	L1	L1	L1	L1
[B-3]	16M	16M	16M	16M	E1	E1	E1	E1	E1	E1	E1	L4	L4	L4	L3	L3	L3	L2	L2	L2	L2	L1	L1	L1	L1
	10M	10M	10M	10M	L4	L4	L4	L4	L4	L3	L3	L3	L3	L3	L2	L2	L2	L2	L2	L1	L1	L1	L1	L1	L1

Transmission Capacity: 80 Mbps

System Configuration	LAN Capacity [bps]				Channel Assignment																																									
					Main Traffic																																									
	PORT1	PORT2	PORT3	PORT4	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40		
Not Used	—	—	—	—	E1	E1	E1	E1	E1	E1	E1	E1	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
[B-1]	64M				E1	E1	E1	E1	E1	E1	E1	E1	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	
	66M				E1	E1	E1	E1	E1	E1	E1	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L
	68M				E1	E1	E1	E1	E1	E1	E1	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L
	70M				E1	E1	E1	E1	E1	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L
	72M				E1	E1	E1	E1	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	
	74M				E1	E1	E1	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	
	76M				E1	E1	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	
	78M				E1	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L
	80M				L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L
[B-2]	32M		32M		E1	E1	E1	E1	E1	E1	E1	E1	L3	L3	L3	L3	L3	L3	L3	L3	L3	L3	L3	L3	L3	L3	L3	L3	L3	L1	L1	L1	L1	L1	L1	L1	L1	L1	L1	L1	L1	L1	L1	L1	L1	L1
	40M		40M		L3	L3	L3	L3	L3	L3	L3	L3	L3	L3	L3	L3	L3	L3	L3	L3	L3	L3	L3	L3	L3	L3	L3	L3	L1	L1	L1	L1	L1	L1	L1	L1	L1	L1	L1	L1	L1	L1	L1	L1	L1	L1
[B-3]	16M	16M	16M	16M	E1	E1	E1	E1	E1	E1	E1	E1	L4	L4	L4	L4	L4	L4	L4	L4	L3	L3	L3	L3	L3	L3	L3	L3	L2	L2	L2	L2	L2	L2	L2	L2	L2	L1	L1	L1	L1	L1	L1	L1	L1	L1
	20M	20M	20M	20M	L4	L4	L4	L4	L4	L4	L4	L4	L4	L4	L4	L4	L3	L3	L3	L3	L3	L3	L3	L3	L3	L3	L3	L2	L2	L2	L2	L2	L2	L2	L2	L2	L1	L1	L1	L1	L1	L1	L1	L1	L1	

(4) LAN/WS INTFC

Transmission Capacity : 156 Mbps Slot1

System Configuration	LAN Capacity [bps]		Channel Assignment	
	PORT1	PORT2	Main Traffic (150M)	
[A-2]	150M Best Effort		L2	L1
	75M	75M	L2	L1
	100M	50M	L2	L1

Slot2

System Configuration	LAN Capacity [bps]		Channel Assignment				
			Wayside (2Mbps)	SC (64K×4)			
	PORT1	PORT2		1	2	3	4
Not Used	—	—	E1	S	S	S	S
[D-1]	2M		L	S	S	S	S
[C-1]	64k		E1	L	S	S	S
	128k		E1	L	L	S	S
	256k		E1	L	L	L	L

4.3 Setup of the Switching Mode (Switching Function)

This is switching mode setup between local ports which share domain, that is available only on the shared mode.

[Switching Function Setup]

[Provisioning]→[LAN Port Setup]→[Switching Function]

No.	Setup	Descriptions
1	Enabled	Enables data communication between local ports which share domain.
2	Disabled (Default)	Disables data communication between local ports which share domain.

4.4 Setup of Simple E1 Framing (2M Framing)

When the bandwidth of LAN signal is set to 2M, simple 2M framing of ITU-T G.704 can be applied to the output data of the radio side. This function can be used when the LAN signal is to be connected via opposite radio in the E1 network. (Refer to (5) E1 Network Connection in Chapter 3 EXAMPLE APPLICATION)

[2M Framing Setup]

[Provisioning]→[LAN Port Setup]→[2M Framing]

No.	Mode	Descriptions
1	Unframed (Default)	Unframed Not applies frame structure. Every 2.048 Mbps data are treated in the LAN data domain.
2	PCM31C (FAS + CRC)	31 channels with CRC error checking Applies frame structure and CAS domain is treated as LAN data domain. CRC check of received frame is performed.
3	PCM31 (FAS)	31 channels Applies frame structure and CAS domain is treated as LAN data domain.
4	PCM30C (MFAS + CRC)	30 channels with CAS signalling in time slot 16 and CRC error checking. Applies frame structure and CAS domain is ensured as signalling domain. CRC check of received frame is performed.
5	PCM30 (MFAS)	30 channels with CAS signalling in time slot 16. Applies frame structure and CAS domain is ensured as signalling domain.

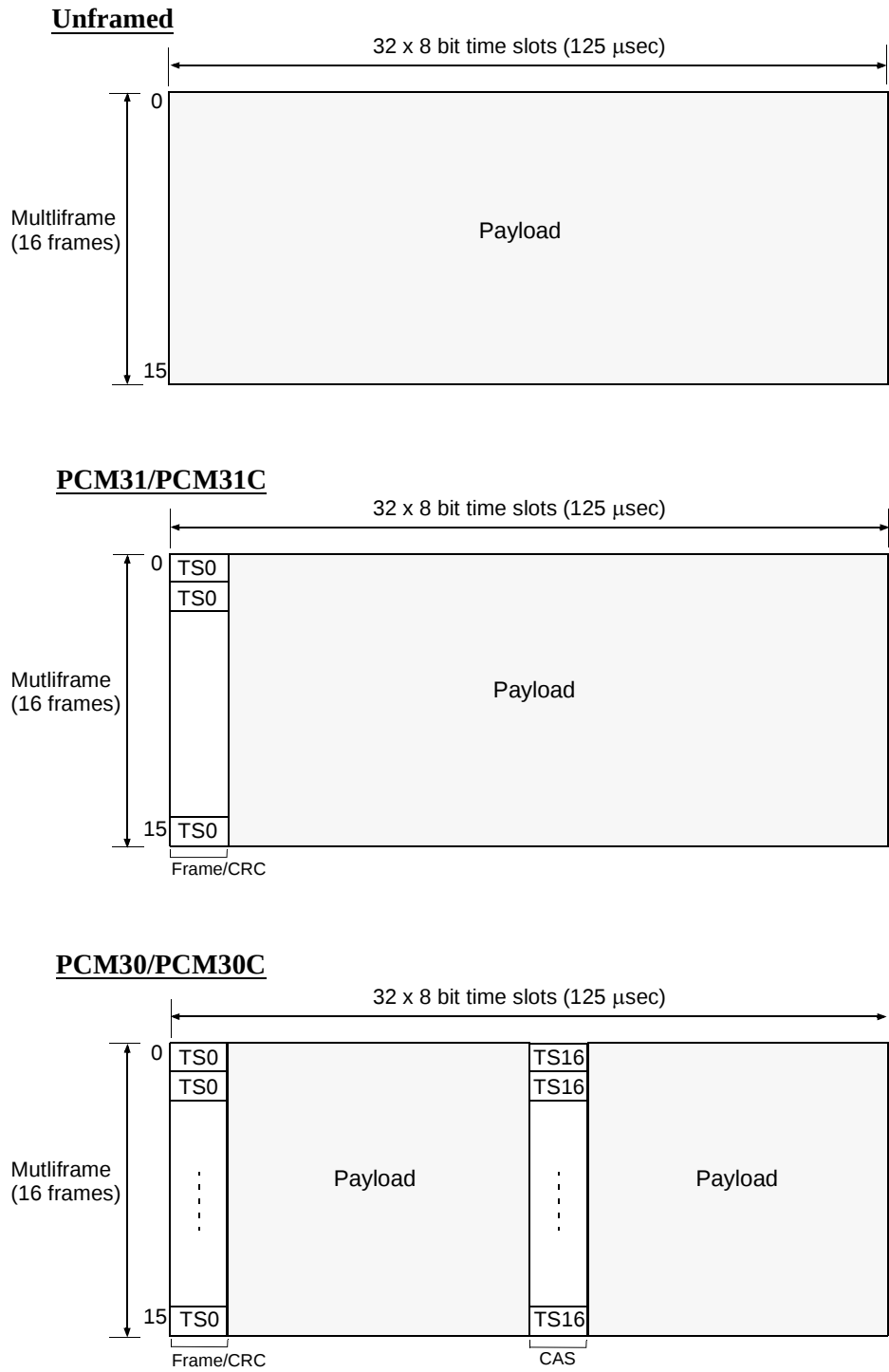
* Into the CAS domain, fixed values ("55h") are multiplexed. Analysis for the CAS at the received side is not performed.

* FAS : Frame Alignment Signal

* MFAS : Multi Frame Alignment Signal

* CAS : Channel Associated Signalling

4.4.1 G.704 2.048Mbps CRC-4 Multiframe Format



4.5 Setup of Used/Unused Port (Port Usage)

This is the setup of the used or unused LAN port.

[Port Usage Setup]

[Provisioning] → [LAN Port Setup] → [Port Usage]

No.	Setup	Descriptions
1	<i>Used</i>	Port is used.
2	<i>Not Used (Default)</i>	Port is not used.

* When *Not Used* is selected, link of port is compulsorily released.

4.6 Setup of Port Speed & Duplex

This is the setup of the operation mode of LAN port.

[Speed & Duplex Setup]

[Provisioning] → [LAN Port Setup] → [Speed & Duplex]

No.	Mode	Descriptions
1	AUTONEG (AUTO-MDI/MDIX) <i>Auto-Negotiation (Auto-MDI/MDIX)</i> <i>(Default)</i>	Depending on the connecting NE, the setting of 10M / 100M, Half / Full and STRAIGHT / CROSSED are plugged in auto-sensing.
2	10M - HALF (MDI) <i>10BASE-T HALF Duplex (MDI)</i>	For 10M Half-Duplex (MDI), set to fixed mode.
3	10M - FULL (MDI) <i>10BASE-T FULL Duplex (MDI)</i>	For 10M Full-Duplex (MDI), set to fixed mode.
4	100M - HALF (MDI) <i>100BASE-TX HALF Duplex (MDI)</i>	For 100M Half-Duplex (MDI), set to fixed mode.
5	100M - FULL (MDI) <i>100BASE-TX FULL Duplex (MDI)</i>	For 100M Full-Duplex (MDI), set to fixed mode.
6	10M - HALF (MDIX) <i>10BASE-T HALF Duplex (MDIX)</i>	For 10M Half-Duplex (MDIX), set to fixed mode.
7	10M - FULL (MDIX) <i>10BASE-T FULL Duplex (MDIX)</i>	For 10M Full-Duplex (MDIX), set to fixed mode.
8	100M - HALF (MDIX) <i>100BASE-TX HALF Duplex (MDIX)</i>	For 100M Half-Duplex (MDIX), set to fixed mode.
9	100M - FULL (MDIX) <i>100BASE-TX FULL Duplex (MDIX)</i>	For 100M Full-Duplex (MDIX), set to fixed mode.

4.6.1 Setup for External Connection

According to the setting mode of the connected equipment port, the LAN port setup is performed. Acceptable port settings are as follows.

		External Equipment				
		Auto Negotiation	10BASE-T/ Half Duplex	10BASE-T/ Full-Duplex	100BASE-TX/ Half-Duplex	100BASE-TX / Full-Duplex
Port Setting	Auto Negotiation (Auto MDI/MDIX)	√	√	—	√	—
	10BASE-T/ Half Duplex	√	√	—	—	—
	10BASE-T/ Full-Duplex	—	—	√	—	—
	100BASE-TX/ Half-Duplex	√	—	—	√	—
	100BASE-TX / Full-Duplex	—	—	—	—	√

√: Effective — : Invalid

Note: The connection of different setting mode, it may be caused inferior performance or link loss.

4.6.2 Setup of MDI / MDIX

When the Auto Negotiation is applied, it is operated with Auto MDI or MDIX. It can be selected MDI or MDIX by manual setting mode.

MDI : Straight Port Setting

Select MDI when the crossed cable is connected to the straight port of the external equipment or straight cable is connected to the crossed port of the external equipment.

MDIX : Crossed Port Setting

Select MDIX in other conditions than above MDI.

Auto MDI/MDIX

Straight or Crossed is auto-sensing to correspond to the connected equipment.

4.7 Setup of Flow Control (Flow Control)

This is the setup of ON/OFF for the flow control function to each port.

[Flow Control]

[Provisioning] → [LAN Port Setup] → [Flow Control]

No.	Setup	Descriptions
1	On (Default)	Flow control is operated.
2	Off	Flow control is not operated.

4.7.1 Flow Control

In accordance with the Half/Full-Duplex mode, following two (2) flow control modes provide in the INTFC module.

No.	Mode	Description of Flow Control System
1	Half-Duplex	Back Pressure: To prevent frame inflow, it is caused pseudo-collision by sending jam signals.
2	Full-Duplex	PAUSE frame Flow Control: By sending PAUSE frame (conformed to IEEE 802.3x), request the opposite equipment that the frame sending to be stopped/started. It is required that the opposite equipment also has this function.

4.8 Setup of Collision Report

In HALF-Duplex mode, it is selected that is reported or not reported about collision conditions at each port.

[Collision Report]

[Provisioning] → [LAN Port Setup] → [Collision Report]

No.	Setup	Descriptions
1	Reported	Collision condition is reported.
2	Not Reported (Default)	Collision condition is not reported.

- * When the flow control is applied in HALF-Duplex mode, a collision condition may be occurred while the Back Pressure control, therefore, use of “Not Reported” mode is recommended.

4.9 Port Link Loss Forwarding (Link Loss Forwarding; LLF)

The function is provided for compulsorily release the local link by detecting opposite link failure. It can be set the control that it is enabled/disabled the function for each port.

[Link Loss Forwarding Setup]

[Provisioning]→[LAN Port Setup]→[Link Loss Forwarding]

No.	Setup	Descriptions
1	Enabled	Enables the function to compulsorily release the local link by information from the opposite link.
2	Disabled (Default)	Disables the function to compulsorily release the local link by information from the opposite link.

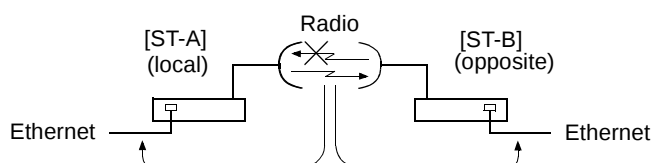
- * When LOF/High BER alarm occurs in a radio section, regardless of above setup, link is compulsorily released.
- * When the Port Switching is set to *Enabled*, this function is not operated.

4.9.1 Control of Releasing Link

The function provides the control to release the link at both terminals when the radio section failure or LAN port link failure occurs.

a. Control of Compulsorily Released Link by Radio Channel Failure

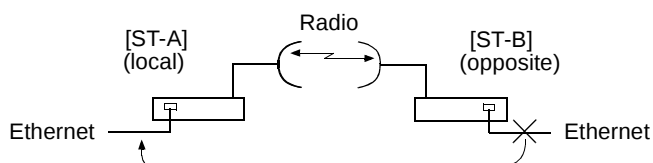
When radio section failure occurs, port link is compulsorily released for both end terminals. This function operates regardless of setting of the Loss Forwarding function.



- * The control is performed in accordance with the setting conditions of the AIS Activation Condition. (Default: LOF + High BER Alarm)

b. Control of Compulsorily Released Link by the Opposite Link Failure

When the Link Loss Forwarding function is set to Enabled, the local link is compulsorily released by detecting the link failure of the opposite station.



5. ALARM/STATUS INDICATION AND REPORTING

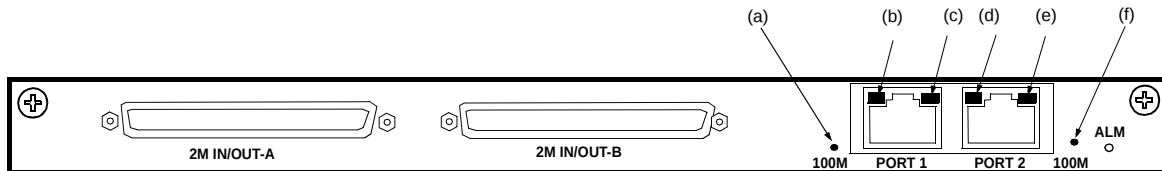
The alarm/status of the LAN interface can be observed using LCT/PNMT/PNMS. Link status is also observable with LED indicators on the module front. The menu structure of LCT is as follows.

+ Alarm/Status		Chapter 5.2
+ LAN Link		
+ LAN Collision		
+ Link Loss Forwarding (LLF)		
+ Speed & Duplex		
+ PMON (Current)		Chapter 5.3
+ RMON(Line)(15min)		
+ RMON(Line)(1day)		
+ RMON(DMR)(15min)		
+ RMON(DMR)(1day)		
+ PMON (History)		
+ RMON(Line)(24H/15min)		
+ RMON(Line)(7days/day)		
+ RMON(DMR)(24H/15min)		
+ RMON(DMR)(7days/day)		

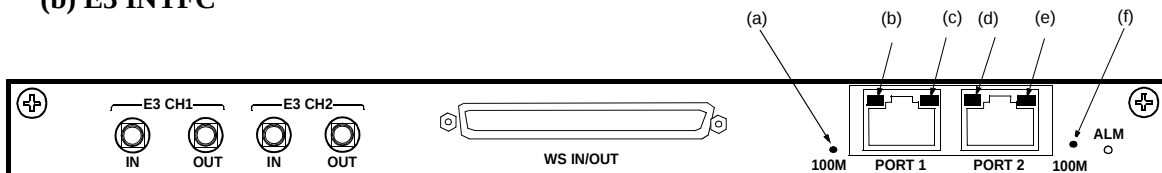
5.1 LED Indication

The following visual indications with LEDs are provided on the module front.

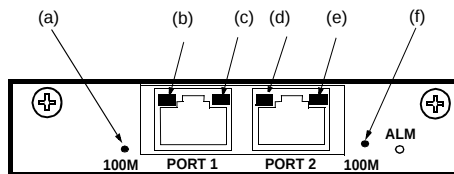
(a) 16E1 INTFC



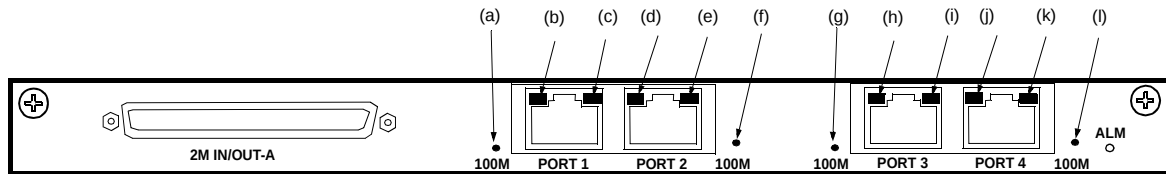
(b) E3 INTFC



(c) LAN/WS INTFC



	Name of LED	Color	Indication	Descriptions
(a)	Port1 100M	green	lighting	When Port 1 is linked in 100M mode.
(b)	Port1 Collision / Full Duplex	amber	lighting	When Port 1 is linked in Full-Duplex mode.
			blinking	When Port 1 is linked in Half-Duplex mode and collision condition occurs.
(c)	Port1 LINK / TX/RX Activity	green	lighting	When Port 1 is linked.
			blinking	When Port 1 is linked and data is sending and receiving.
(d)	Port2 Collision / Full Duplex	amber	lighting	When Port 2 is linked in Full-Duplex mode.
			blinking	When Port 2 is linked in Half-Duplex mode and collision condition occurs.
(e)	Port2 LINK / TX/RX Activity	green	lighting	When Port 2 is linked.
			blinking	When Port 2 is linked and data is sending and receiving.
(f)	Port2 100M	green	lighting	When Port 2 is linked in 100M mode.

(d) 4P LAN INTFC

	Name of LED	Color	Indication	Descriptions
(a)	Port1 100M	green	lighting	When Port 1 is linked in 100M mode.
(b)	Port1 Collision / Full Duplex	amber	lighting	When Port 1 is linked in Full-Duplex mode.
			blinking	When Port 1 is linked in Half-Duplex mode and collision condition occurs.
(c)	Port1 LINK / TX/RX Activity	green	lighting	When Port 1 is linked.
			blinking	When Port 1 is linked and data is sending and receiving.
(d)	Port2 Collision / Full Duplex	amber	lighting	When Port 2 is linked in Full-Duplex mode.
			blinking	When Port 2 is linked in Half-Duplex mode and collision condition occurs.
(e)	Port2 LINK / TX/RX Activity	green	lighting	When Port 2 is linked.
			blinking	When Port 2 is linked and data is sending and receiving.
(f)	Port2 100M	green	lighting	When Port 2 is linked in 100M mode.
(g)	Port3 100M	green	lighting	When Port 3 is linked in 100M mode.
(h)	Port3 Collision / Full Duplex	amber	lighting	When Port 3 is linked in Full-Duplex mode.
			blinking	When Port 3 is linked in Half-Duplex mode and collision condition occurs.
(i)	Port3 LINK / TX/RX Activity	green	lighting	When Port 3 is linked.
			blinking	When Port 3 is linked and data is sending and receiving.
(j)	Port4 Collision / Full Duplex	amber	lighting	When Port 4 is linked in Full-Duplex mode.
			blinking	When Port 4 is linked in Half-Duplex mode and collision condition occurs.
(k)	Port4 LINK / TX/RX Activity	green	lighting	When Port 4 is linked.
			blinking	When Port 4 is linked and data is sending and receiving.
(l)	Port4 100M	green	lighting	When Port 4 is linked in 100M mode.

5.2 Alarm/Status Report

The following alarm/status are reported to the equipment.

No.	Alarm/Status	Condition	Message	Description
1	Port() Link	Alarm	Normal	Reporting about link condition in Port(). Surveillance object as alarm item of the IDU. * It does not reported when Port Usage is set to Not Used.
			Alarm	
2	Port() Collision	Status	Normal	Reporting about occurrence of collision in Port(). By setting of Port Collision Report, the selection of either Report/Not Report is applicable.
			Collision	
3	Port() Speed & Duplex	Status	10M - Half (MDI)	Reporting established link mode of Port(). * If link failure occurs in Auto-Negotiation mode, it is reported as 10M-Half (MDIX).
			100M - Half (MDI)	
			10M - Full (MDI)	
			100M - Full (MDI)	
			10M - Half (MDIX)	
			100M - Half (MDIX)	
			10M - Full (MDIX)	
			100M - Full (MDIX)	
4	Port() Link Loss Forwarding	Status	Normal	Reporting situation of the compulsive release of link in Port().*1
			Under Execution	

*1 Refer to Chapter 4.9 Link Loss Forwarding for compulsive release of link.

5.3 Remote Network Monitoring (RMON)

Observing passing LAN signal through each LAN port, it provides RMON functions to itemize statistics of total number of transmitting frames, receiving frames and error frames. The statistic informations are indicated per 15 minutes for 24 hours and per 1 day for 7 days.

No.	Statistics Item	Objective		Description
		Line	DMR	
1	<i>Rx Unicast</i>	√	√	Total number of received frame addressed to unicast.
2	<i>Rx Broadcast</i>	√	√	Total number of received frame addressed to broadcast.
3	<i>Rx Multicast</i>	√	√	Total number of received frame addressed to multicast.
4	<i>Rx Pause</i>	√	√	Total number of received frame of PAUSE.
5	<i>Rx CRC Error</i>	√	√	Total number of received frame of detected FCS error.
6	<i>Rx Alignment Error</i>	√	—	Total number of received frame of alignment error.
7	<i>Rx Symbol Error</i>	√	—	Total number of received frame of symbol error.
8	<i>Rx Undersize</i>	√	√	Total number of received frame excluded erred frame for less than 63 bytes frame length.
9	<i>Rx Fragments</i>	√	√	Total number of received frame included erred frame for less than 63 bytes frame length.
10	<i>Rx 64</i>	√	√	Total number of received frame of 63 bytes frame length.
11	<i>Rx 65 to 127</i>	√	√	Total number of received frame from 65 bytes to 127 bytes frame length.
12	<i>Rx 128 to 255</i>	√	√	Total number of received frame from 128 bytes to 255 bytes frame length.
13	<i>Rx 256 to 511</i>	√	√	Total number of received frame from 256 bytes to 511 bytes frame length.
14	<i>Rx 512 to 1023</i>	√	√	Total number of received frame from 512 bytes to 1023 bytes frame length.
15	<i>Rx 1024 to 1536</i>	√	√	Total number of received frame from 1024 bytes to 1536 bytes frame length.
16	<i>Rx 1537 to Max Size</i>	√	√	Total number of received frame excluded erred frame from 1537 bytes to 1916 bytes frame length.
17	<i>Rx Jabbers</i>	√	√	Total number of received frame included erred frame exceeding 1537 bytes frame length.
18	<i>Tx Unicast</i>	√	√	Total number of transmitted frame addressed to unicast.
19	<i>Tx Broadcast</i>	√	√	Total number of transmitted frame addressed to broadcast.
20	<i>Tx Multicast</i>	√	√	Total number of transmitted frame addressed to multicast.
21	<i>Tx Pause</i>	√	√	Total number of transmitted frame of PAUSE.
22	<i>Tx Total Collision</i>	√	—	Total number of occurred collision.

Notes: √; Objective Item, —; Out of Objective Item

6. MAINTENANCE/Control

+ Maintenance		
+ Maintenance1		
+ LAN Device Reset		Chapter 6.1

6.1 Remote Reset (LAN Device Reset)

It can be performed Reset control for LAN Port.

[LAN Device Reset Control]

[Maintenance] → [Maintenance1]

No.	Item	Descriptions
1	INTFC(1) Port*	Perform reset control for LAN Port.

- * Not performed when in normal operation.
- * Link failure may be occurred when reset control is performed.