

नाम Name \_\_\_\_\_

अनुक्रमांक Roll No. \_\_\_\_\_

पाठ्यक्रम Course \_\_\_\_\_

प्राप्त अंक Marks Awarded \_\_\_\_\_

दिनांक Date \_\_\_\_\_

अनुदेशक का अध्याक्षर Instructor's Initial \_\_\_\_\_

### 1. Purpose

To study the Hardware Architecture of Coral Flexicom 6000 exchange.

### 2. Introduction

Coral Flexicom 6000 exchange is a free standing cabinet with one control shelf expandable and supporting up to 16 peripheral shelves.

### 3. Peripheral shelf:

Consist of all user interface, trunk interfaces and service interface cards, arranged in 18 universal slots. The shelves are configured as odd and even. Even No. shelves are taken as **Masters** and odd Shelves as **Slaves**. Slots for Ringer Power Supply (RPS) & Peripheral Power Supply (PPS) are fixed. Slots 1&2 are called **Shared Service Slots** and designated for **Peripheral Buffer Cards (PB)**, slot 1 is main and slot 2 is standby for PB cards. A link card 'PB-ATS' is used to link up peripheral shelf to control shelf. A PPS card is provided to supply required voltages to the peripheral cards for their functioning. A RPS card is in the same shelf to provide ringing voltage to the analog subscriber. A back plane motherboard provides connectivity to the control shelf as well as to the field output cables getting terminated at the IDF/MDF.

### 4. Control Shelf

It consists of two control shelves called left and right controls. Each shelf consists of Common Control Cards and Power Supply Cards. They are as follows.

- **Control Power Supply Card (CPS)** - Supplies power to the control shelf
- **Main Control Processor Card (MCP)** - It is the brain of the system
- **Group Controller Card (32GC)** - Main switching and signaling processor card

### 5. 32GC Card front panel indicators

32 indicate the No. of supported PCM highways ( $32 \times 128 = 4096$  timeslots) by the 32GC card.

32GC card is having 8 inputs accepting from respective PB cards. 32GC card supports 16 shelves as one PB card represents two shelves.

The counting of shelves is from 0 to 15. All 'even' numbered shelves are provided with PB-ATS card in fix slot 1. And all 'odd' numbered shelves are connected via a PBD24 card from the backplane of the mother board to their respective paired even shelves. Shelf 0 and shelf 1 together make one pair and called as unit '0' and so on. Each pair is known as one unit. In all 0 to 7 units are made.

Following are the indications on 32 GC card.

- **'Main'** Red - 32GC card is faulty
- **'A'** Flashing Green - This side is Active
- **'S'** Green - This side is Standby
- **'M'** Red - Maintenance mode

- 'F' Red - This side is Faulty

## 6. Software Authorization Unit (SAU)

- ✓ It is the Software ID for the customer.
- ✓ Every service/feature is authorized in SAU.
- ✓ Unless a service/feature is authorized in SAU, it is not available to the user. Even if hardware is available, one can't use the service without authorization in SAU.
- ✓ The hardware is common to all the Coral 6000 system, as per the user requirement the services/features are given authorization in SAU.

## 7. Peripheral cards

Abbr.	Card Name	No. of Ports	Usage
8DTR	DTMF Trans receivers card	DTMF Decoder Card	Supports Tone dialing
iDSP	Digital Signal Processor	CLIP	Caller ID Card
CNF	Conference Card	2 x 15 party	Conference
24SLS	Single Line Station Card	24 ports - RPS is required	Line card - analog
24SA	Station Analog Card	24 ports – No RPS required	Line card - analog
24SFT	Station Flex Terminal Card	24 ports	Line card - digital
8T-C	Trunk CO Line Card	8 ports	Trunk CO card
8DRCF	Multifunction Resource Card	RS232, Paging, RMI, CNF	RMI card
4TEM	Trunk E&M Card	4 ports	Trunk E&M card
4TWL	Two Way Loop Card	4 ports	Trunk TWT card
8TBR	Trunk BRI Card	8 ports	BRI card
30T	Trunk E1 Card	30 channels	E1 card
PRI-30	Trunk PRI Card	30 channels	PRI card
PUGW	IP Gateway Card	240 ports	VoIP card

(IRISET Coral Exch is provided with 24SA cards)

## 8. Programming Interface

Programming is done through **HyperTerminal** application installed on a computer. The programming terminal is connected with MCP card terminal '0' by a data cable on serial port.

The COM port settings are as follows:

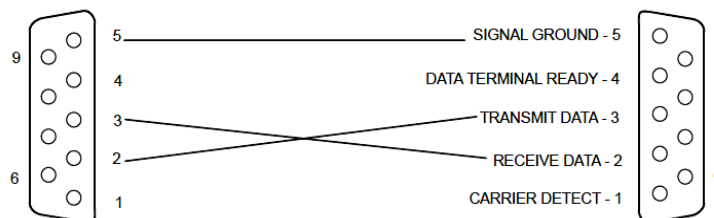
Data speed - 9600 bps,

Data bits - 8,

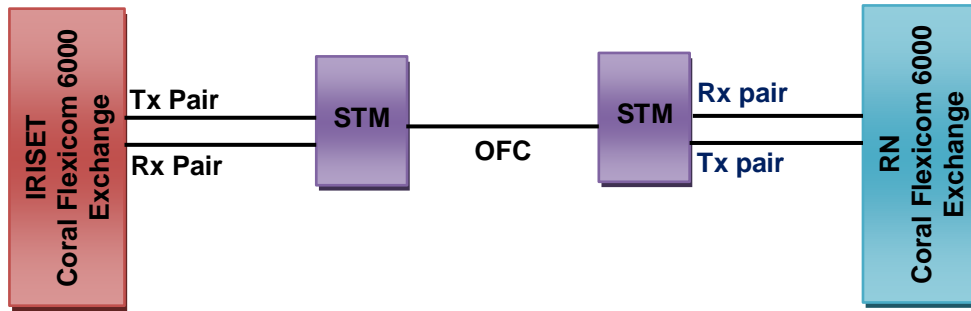
Parity - none,

Stop bits - 1,

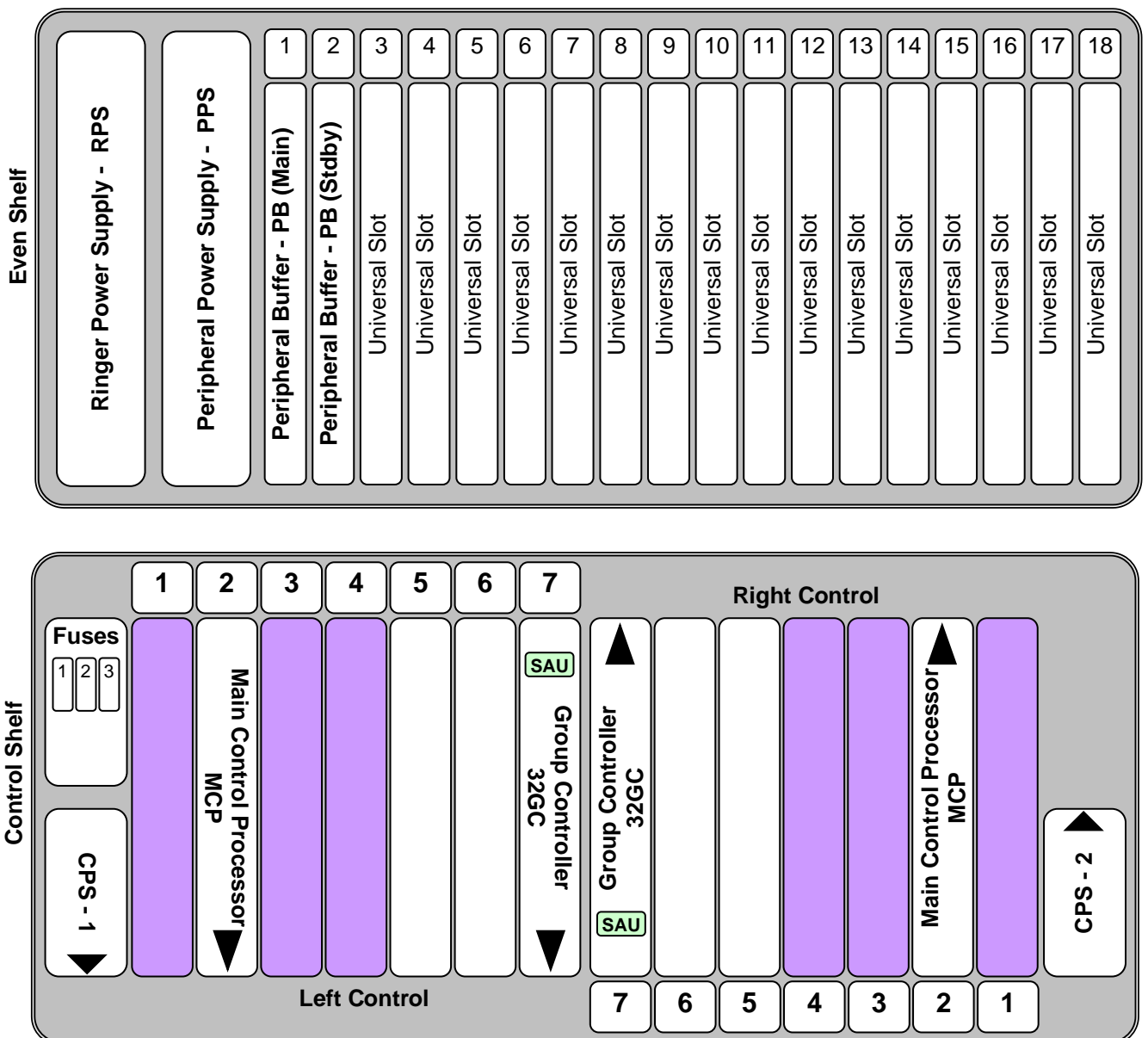
Flow control – none



## 9. PRI Connectivity

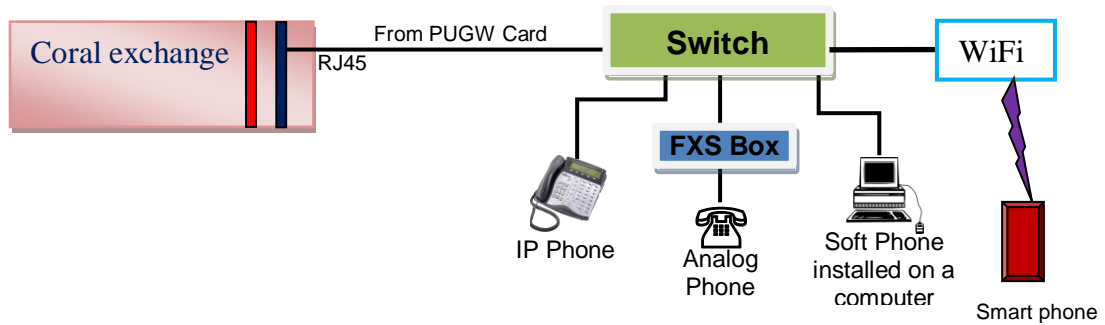


## 10. Coral Flexicom 6000 Exchange Hardware Configuration



## 11. Special Features - VoIP

Coral Flexicom 6000 Exchange can be connected to LAN through PUGW card. This card is the VoIP interface in this exchange. PUGW card is to be configured with two IP address. One is for **Media Gateway** and the other is for **Signaling**. Access can be made by IP phone, FXS interface or IP Soft Phone.



▪ **Review Questions: in this Exchange**

1. How many PB cards are there per shelf ? .....
2. In which configuration the shelves are configured ? .....
3. How many slots are there in a shelf including power supply slots ? .....
4. Which slots are marked as shared service slots ? .....
5. What are the peripheral cards in this exchange ? .....
6. What are the service cards in this exchange ? .....
7. What are the control cards in this exchange ? .....
8. In which mode the control system of this exchange is configured? .....
9. Name of the LED indications on 32 GC card .....
10. How many pairs are required to connect PRI card? .....
11. What type of subscriber phone is connected to 24SFT card? .....
12. Name some of the features in this exchange .....
13. Name of the keys available on Digital phone .....
14. Name some tones you observed in this exchange .....
15. How many conferences can be connected with one CONF card? .....
16. In which card a inbuilt internal modem is available? .....
17. In which card the ringing voltage is generated in this exchange ? .....
18. In which card the tones are generated in this exchange ? .....

19. Which card supports DTMF tone dialing from subscribers ? .....
20. Which card supports caller ID feature to subscribers ? .....
21. Which card supports VoIP feature in this exchange?.....
22. What is the significance of SAU and where it is located?.....
23. Name the trunk cards available in this exchange? .....
24. What connectors are provided on MCP card and for what purpose? .....
25. What connectors are provided on 32GC card and for what purpose? .....
26. What are the functions of 8DRCF card? .....
27. What type of connector is provided on PUGW card? .....
28. What information is given through the numeral part in a card's name? .....
29. How PC is connected to this exchange for programming?.....
30. What are the pin numbers used in RS232 connector for transceiver? .....

Signature of the Trainee