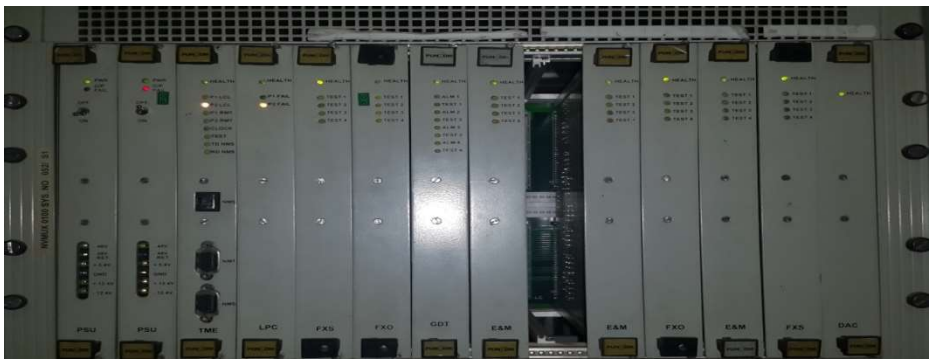
Puncom Primary mux

Puncom VMX-100 is a Primary level 2 Mbps E1 Mux which is capable giving different standard 30 user channels .This Unit is designed to install in a standard 19 U rack.Puncom add & drop mux having two E1 level ports for normal working and another two ports for protection. This mux works in 48 volts power supply .This unit having 14 Slots ,in that first two slots are for redundant power supply. Third slot is for Multiplexing Card(TME) which capable to accept two E1 s from two different directions .Fourth slot is for Loop protection card which normally works in the normal working E1s.In case of a E1 failure loop protection card acts and the failure E1 will be looped back to protect through protection E1 connected to the end equipments.Thefirst two slot is for power supply(PSU),3rd slot for multiplexing card(TME) ,4th slot is loop protection card (LPC), next 10 slots are universal slots wich can be used as per the requirement for the station .

SLOT 1 2 3 4 5 6 7 8 9 10 11 12 13 14



Slot position	Card
1	Power supply card(PSU) 1
2	Power supply card(PSU) 2
3	Terminal Multiplex Equipment(TME)
4	Loop protection card(LPC)
5-14	Universal slots

As This 2 Mbps MUX is highly versatile this model is called V-MUX

Checking of Power Supply card voltages

1) -48v & GND = -48V 2) -48V RET & GND = 0V 3) -48V & -48V RET = -48V

4.) +5.4V & GND = +5.4V 5) +12.4V & GND = +12.4V 6) -12.4V & GND = -12.4V 7) +12.4V & -12.4V = 25V

TME Card Indications (P1 LCL, P2 LCL, P1 RMT, P2 RMT)

S.No	Station – A	Station – B	Remards
1.	No Indication	No Indication	Circuit working normal on both sides
2.	PI/P2 LCL	P2/P1 RMT	Local side failure (A- Station)- Failure between MUX and STM or TME Card- Give 4-wire loop towards mux side(E1 software loop/physical loop), No Failure at B- Station End.
3.	P1/P2 RMT	P2/P1 RMT	No Failure in PD MUX, STM Failure or OFC Cable Cut
IF P1/P2 blinking, which indicates excessive BER or clock mismatch, If one station clock mismatch happens , this will affect any of the waystation BPAC/Voice Circuit. Don't disturb the clock settings in any way station through NMS.			

Identification of Slots and Ports:

Left to Right

PSU	**PSU**	**TME**	**LPC**	**1**	**5**	**9**	**13**	**17**	**21**	**25**	**29**	**33**	**37**
				2	**6**	**10**	**14**	**18**	**22**	**26**	**30**	**34**	**38**
				3	**7**	**11**	**15**	**19**	**23**	**27**	**31**	**35**	**39**
				4	**8**	**12**	**16**	**20**	**24**	**28**	**32**	**36**	**40**

SLOT No.

1 2 3 4 1 2 3 4 5 6 7 8 9 10

Control Card Slots **User Interface Card Slots**

Slot No.1 to 4 allotted for Control Card Slots, Cards provided in each slots should not be interchanged. Remaining Slots from allotted for control card slots except Slot No.14 (Last Slot) for Data Acquisition Card (DAC) for logging/recording Voltages etc., Each user interface cards having four no. of Ports or Channel. For eg., if User Interface Slots in Slot No.1 consist of Port No. 1 to 4 and thereof.

Types of User Interface Cards.

a) E & M Card
b) FXO Card
c) FXS Card
d) GDT Card

S.No	Name of the Circuit	Type of Card Required
1	Section Control	E&M
2	Traction Power Control	E&M
3	Emergency Control	E&M
4	Remote Control	E&M
5	Datalogger	E&M
6	BPAC	E&M (2W)
7	Railnet	GDT
8	Autophone Exchange Side	FXO
9	Autophone Subscriber Side	FXS
10	Train Loco Control	E&M

If slot is configured, Permenant green indication will appear, if not configured green/red flashing indication will ap

MUX ID Setting (back side of MUX)

Dip	8	7	6	5	4	3	2	1	Switch
Switch Values -	128	64	32	16	8	4	2	1	

To Set Mux ID 100: Add the above values to get 100

64 + 32 + 4 = 100

So , SW 7 SW 6 SW 3 = ON , remaining switches OFF condition

Krone Terminations:

In General, each port consist of three pair of wires, ie, TX pair, RX Pair and E&M Pair. If the port is allotted for control circuits (4 Wire) output can be taken from TX Pair and RX pair. If the port is allotted for Autophone or other 2 Wire circuit, the output can be taken from TX pair only. There are two types of Krone Termination method followed in Railways.

Port dB level setting:

Circuit	TX Level	RX level
Control Circuit	-3.5	-3.5
Datalogger/BPAC	-6.0	-6.0