

★ RS-232

★ RS-530

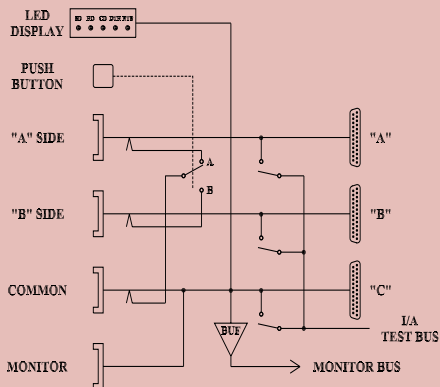
★ V.35

★ X.21

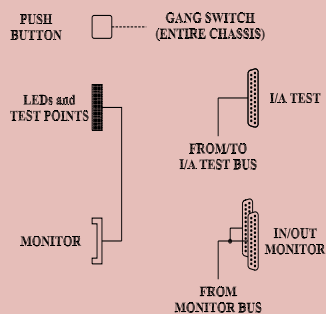
I NTELLIGENT

S WITCH

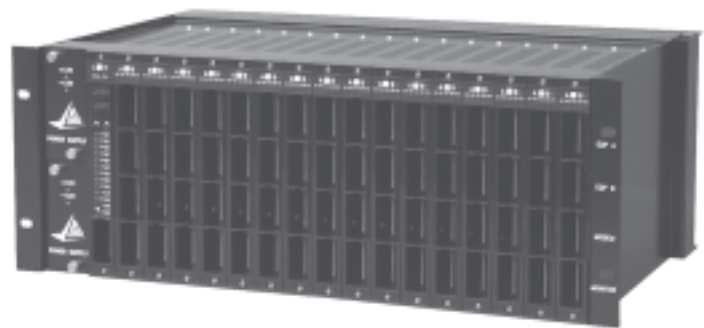
P ATCH



ISP Circuit Module



ISP Control Module



ISP INTELLIGENT SWITCH PATCH

INTELLIGENT SWITCH PATCH



REAR VIEW

PRODUCT FEATURES

- Check A/B Switch Status of any Interface
- Define Switch Sets (Custom Switching Combinations)
- Define Alarms on each Circuit Interface
- Switch Individual Circuits, Entire Chassis or Groups
- Reconfigure Switch on Alarm Condition
- Connect any Circuit to Monitor/Test Equipment
- Disable Local Front Panel Control of Chassis
- Software Breakout Box Display
- Available in ASCII Terminal or VIRTUOSO Software
- Local Patching Capabilities
- Remote Test Access

The **ISP Intelligent Switch Patch** is a chassis-mounted switching and patching system for commonly used digital interfaces **RS-232/V.24**, **RS-530/422**, **V.35**, and **X.21** supporting speeds up to 2 Mbps. Individual circuits, all 16 circuits in a chassis or a group of user-defined circuits can be switched by remote console command or automatically upon alarm. Push buttons can be used to switch individual circuits or gang switch an entire chassis. If desired, the manual switching capabilities can be disabled with a console command. Although patching is normally performed manually with patch cords, a remote console can command an electronic patch within each chassis.

Each switch/patch card contains five signal monitoring LEDs. A single chassis supports up to 16 A/B switchable circuits. The console management link

can be daisy-chained among multiple chassis within a single location.

The console can be any ASCII terminal or a PC with **VIR**'s optional Windows based **VIRTUOSO** software. A single **VIRTUOSO**-equipped PC can support up to 32,000 circuits at up to 20 physical locations. If a network contains more than eight locations, dial-up or X.25 connections can provide shared access among some or all comm ports. The console can be configured to place outgoing calls and receive incoming calls from the **ISP** locations.

Each circuit can be individually configured for up to 8 alarms on presence or absence of physical layer signals. The operator is alerted when any alarm condition occurs with date and time stamp along with an alarm description. The operator can also display a "software breakout box" with color coded signal status for any circuit in the network. Signal status for the entire chassis can also be displayed on the screen.

The **ISP** is particularly suitable for unattended sites without technical personnel. In the event of a problem, console commands would establish the physical connection from the tester to the circuit in question for either bridged (monitor) or intrusive testing such as BERT or protocol simulation. In those sites, a third-party tester would be installed for problem investigation. **The chassis mounts in a NEMA standard 19" cabinet and occupies 7" (4U) of vertical space.**

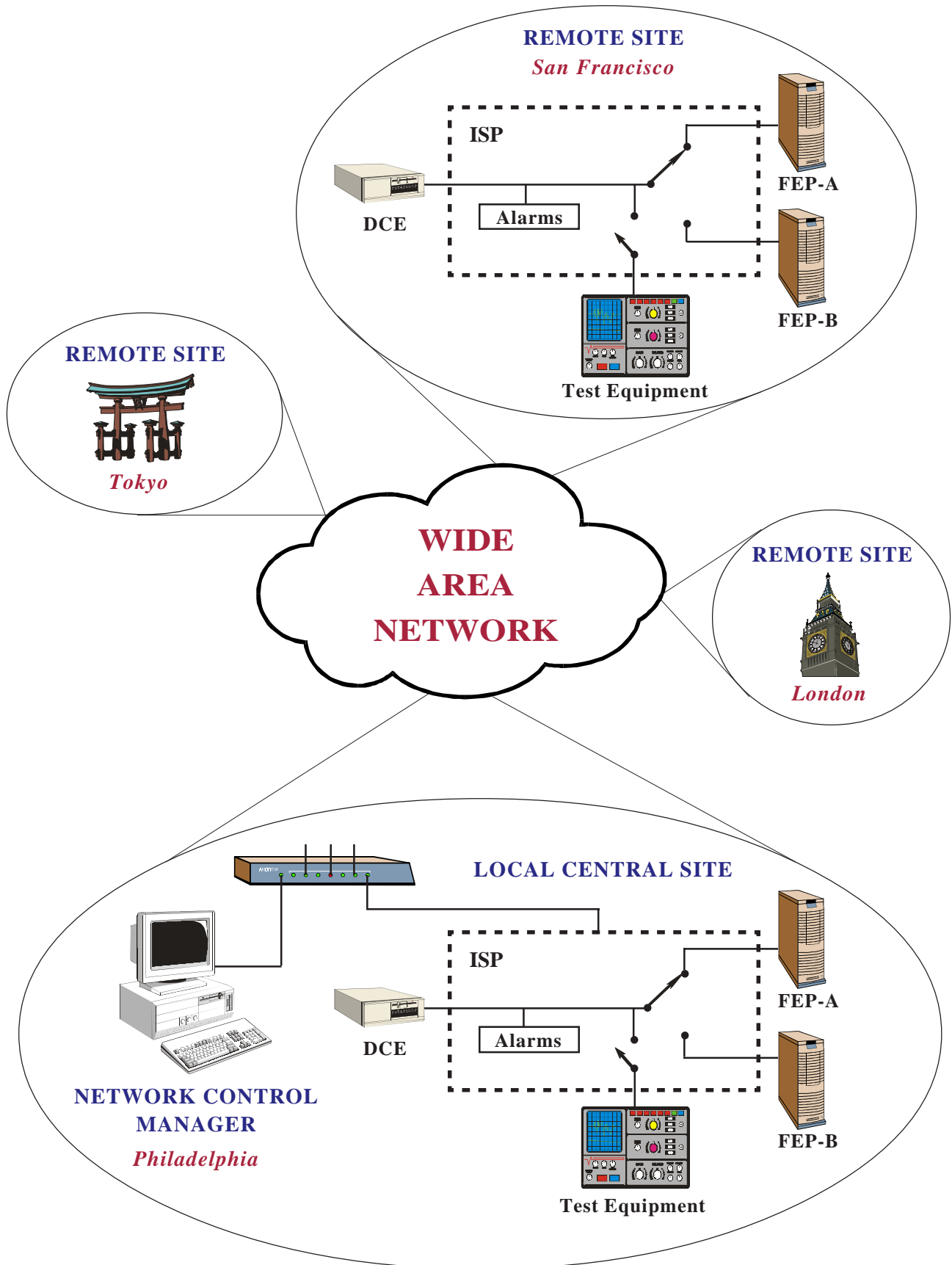
COMPONENTS

Rack Chassis	One per assy
Circuit Module	Up to 16 units
Control Module	One per assy
Power Supply	Two for redundancy
Software	VIRTUOSO

INTERFACES SUPPORTED

RS-232/V.24, RS-530/422, V.35, and X.21

TYPICAL APPLICATION



PRODUCT SPECIFICATIONS

STANDARDS	FCC and CSA standards CE Approved
WARRANTY	Limited three-year warranty
PHYSICAL INTERFACE	RS-232/V.24: DB-25 RS-530/422: DB-25 V.35: DB-25 or 34-Pin X.21: DB-15
TRANSMISSION	RS-232/V.24, RS-530/422, V.35, and X.21
PROTOCOLS	Transparent to all protocols
CONTROL	VIRtuoso software or ASCII Terminal
CONTROL INTERFACE	1200, 2400, 4800, 9600, or 19,200 bps 8 Data Bits, 1 Stop Bit No Parity
SYSTEM CAPACITY	Ability to be stacked and daisy-chained

PROGRAMMED ALARMS (RS-232, RS-530, V.35) (TERMINAL OR VIRTUOSO)

SD	Send Data - Present/Absent
RD	Receive Data - Present/Absent
SCT	Serial Clock Transmit - Present/Absent
SCR	Serial Clock Receive - Present/Absent
RTS	Request to Send - High/Low
DTR	Data Terminal Ready - High/Low
DCD	Data Carrier Detect - High/Low
DSR	Data Set Ready - High/Low (Terminal only)
CTS	Clear to Send - High/Low (VIRtuoso only)

PROGRAMMED ALARMS (X.21)

(TERMINAL OR VIRTUOSO)

T	Transmit Data - Present/Absent
R	Receive Data - Present/Absent
I	Indicate - High/Low
C	Control - High/Low
S	Signal Element Timing - Present/Absent
B	Byte Timing - Present/Absent

SIZE 19.0" (48.26 cm) wide, 14.0" (35.56 cm)
deep by 7.0" (17.8 cm) high maximum

WEIGHT 29 lbs. complete system with **DB-25/DB-15** connectors
39 lbs. complete system with **V.35** connectors

CIRCUIT MODULE ACTIVITY INDICATORS

RS-232, V.35, RS-530

SD, RD, CD, DTR, and RTS

X.21

T, R, I, C, and S

CONTROL MODULE ACTIVITY INDICATORS

RS-232, V.35

SD, RD, RTS, CTS, DSR, CD,SCT, SCR,
DTR, RI, and SCTE

RS-530

SD, RD, RTS, CTS, DSR, CD,SCT, SCR,
DTR, and SCTE

X.21

T, R, I, C, S, and B

POWER REQUIREMENTS

AC Source - 115/230 Volt input to the
dual redundant power supplies

AC Fuse: 0.75 AMP at 115V
0.375 Amp at 230V

Frequency - 50/60 Hertz +/- 3%

Energy Rate - 50 VA

Receptacle - 3-Prong, Grounding

OPERATING ENVIRONMENT

Temperature - 0 to 40 Degrees Celsius

Relative Humidity - 10% to 80%, non-condensing



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