Software Version 7.13.2

Iris Packet Broker (IPB)

Hardware Installation and Maintenance Guide Powered by VSS Monitoring



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Table of Contents

	What's New in IPB Hardware Maintenance Version 7.13.2?	З
Chapter 1	Iris Packet Broker Introduction	4
	Iris Packet Brokers	4
	IPB Benefits	5
	IPB Base Features	6
Chapter 2	IPB Hardware Reference	7
	IPB Models	7
	IPB Chassis Components	9
	IPB220 and IPB420 Front Panels	9
	IPB220 and IPB420 Rear Panel 1	1
	IPB220 and IPB420 Chassis LEDs 1	2
	IPB220 Chassis Port LEDs 1	3
	IPB Interconnection Support1	4
	IPB Chassis Modules1	5
	IPB220 and IPB420 1G/10G Chassis Module LEDs 1	6
	IPB420 40G Chassis Module LEDs1	6
	FP100 Fuse Panel 1	7
	IPB System Level Alarms 1	8
Chapter 3	IPB Installation 1	9
	Overview1	9
	Hardware Installation	20
	Fuse Panel Power Cabling (DC Units Only)2	21
	Terminal and Wiring Recommendations2	23
	Initial System Configuration	24
	Connecting IPB Network Ports	28
	IPB IrisView Admin Configuration	28
	Configure IPB Settings2	29
	Bind G10s to IPB420 Devices	30
	Bind G10s and IPB Devices to an Aggregation Cluster	32
Chapter 4	IPB System Operating Specifications	34
	Overview	34

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	IPB Physical Dimensions	35
	IPB Power and Heat Specifications	35
	IPB Environmental Specifications	
Chapter 5	IPB Software Upgrades	
	IPB Upgrades	
	Prerequisites	
	To Verify IPB Software Packages	
	To Create a IPB Software Upgrade Campaign	
	Upgrading G10 Probes Bound to IPB	
	Upgrading IPBs Bound to an Aggregation Cluster	
	Campaign Status	40
	Backing Up and Restoring an IPB Configuration	40
	Backup an IPB Configuration	40
	Restore an IPB Configuration	41
Chapter 6	IPB Maintenance Guidelines	42
	IPB Maintenance Procedures	42
	Air Filters	43
	Removing the Chassis Air Filter	43
	Removing the IPB220 Chassis Module Air Filter	45
	Power Supplies	46
	Replacing a Power Supply	46
	Fan Tray	47
	Chassis Modules	48

WHAT'S NEW IN IPB HARDWARE MAINTENANCE VERSION 7.13.2?

Feature ID	Description	Refer To:	
F-02339	Support for IPB420 40G Interface	IPB Models	
	Connections per IPB.	 IPB Chassis Modules 	
	Support for IPB420/IPB220 Configuration from IrisView The IPB System Management Web GUI can now be accessed from IrisView.	 Configure IPB Settings 	
	Support for IPB420/IPB220 Software Upgrades from IrisView Administrators can now perform IPB software upgrades using the Iris Admin Software tab.	 IPB Software Upgrades 	

Iris Packet Broker Introduction

IRIS PACKET BROKERS

Iris Packet Brokers (IPBs) enable you to more effectively utilize your existing Tektronix Communications monitoring solutions, simplify operational complexity, and realize a higher ROI from additional cost savings and service quality improvements. IPB intelligent stacking technology, vMesh, enables traffic capture devices to be deployed in a redundant, low-latency mesh for total, dynamic, fault-tolerant visibility.



Figure 1.1 - Iris Packet Brokers

With the visionary vMesh approach to architecture, you get the flexibility and modularity to deploy just the appliances you need, when you need them, with the ability to scale link-layer visibility and data access to a system-level architecture with up to 256 ports globally. The business benefits include more flexible capital requirements, high tool utilization and ROI, and lower operating costs.

Designed specifically to address high bandwidth interfaces and datacenter applications, the NEBS compliant Iris Packet Broker (IPB) features a scalable, modular architecture that bridges the gap between 1 GigE, 10 GigE, and 40 GigE networks. They also provide all of the intelligent network packet functionality on a large scale. Each model supports a maximum of four SFP+ chassis modules or that support different features, port densities, and port speeds up to a maximum line rate throughput of 240 Gbps for the IPB220 series and 640 Gbps for the IPB420. Additionally, ports and features are enabled as they are needed by license key. Any port can be designated as an ingress/input or an egress/output port.

Hardware-based filtering allows traffic to be distinguished according to source and destination MAC/IP address as well as by specific protocols, such as HTTP, VoIP, GTP, and LTE. A custom filter offers more granular specification of a filter with the payload of a packet. Filters can be ingress, egress, and overlapping.

All IPB models support symmetrical L2 to L4 load balancing. Session aware load balancing is provided by TD140. Select IPB models have optional features including port stamping, time stamping, and microburst protection. To feed third party tools, select IPB models have optional features including protocol/tag stripping (GTP, VLAN, MPLS) and conditional packet slicing.

All IPB models support a connection between multiple units which enables up to 256 ports at a single site. In addition, IPB can be deployed in a redundant, low-latency mesh for total, dynamic fault-tolerant visibility. Select IPB models have an option to support inter-connected IPBs over a LAN or WAN using TCP which enables backhaul of traffic from remote sites to a central monitoring location. To protect against data attacks during backhaul, secure data encryption (AES) is supported. Redundant hot-swappable power supplies, fans and air filters allow seamless transitions between power systems and ensure uptime.



IPBs are an add-on to TD140 deployments; they do not replace TD140s.

IPB BENEFITS

The IPB provides the following benefits:

- Gain link-layer visibility and data access across entire network
- Centralize tools while increasing their reach
- Quickly provision new tools by eliminating SPAN port contention
- Higher port density with flexibility in speed and media

IPB BASE FEATURES

The IPB provides the following base features:

- Hardware-Based L2-L4 Filtering and Custom Offset Filtering
- Define ingress to egress mapping
 - 1-to-1
 - 1-to-Many (replicates data)
 - Many-to-1 (aggregates data)
 - Many-to-Many (replicates and aggregates data)
- Automatic, symmetrical L2-L4 load balance of egress ports
 - MAC Destination and/or Source
 - IP Destination and/or Source
 - IP and TCP/UDP Combinations
- vMesh Stacking (connected by cables) provides up to 256 ports across multiple units.
 G10s having an IIC100 configuration are limited to 24 total ingress ports.

IPB Hardware Reference

IPB MODELS

Tektronix Communications offers the following Iris Packet Broker (IPB) models:

- IPB220 Base
- IPB220 Advanced
- IPB420

Table 2.1 shows the features available for each IPB model.

Table 2.1 - IPB Feature Support per Model

Feature	IPB Model		
	IPB220 Base	IPB220 Advanced	IPB420
Selective Port Aggregation and/or Replication	•	•	٠
Layer 2 to Layer 4 Filtering	•	•	٠
Symmetrical L2 to L4 Load Balancing	•	•	٠
NTP or PTP timing	•	•	٠
vMesh Direct Connect (connected by cable)	•	•	•
Integrated with IrisView Alarms and System Health visibility	•	•	•

Iris Packet Broker (IPB) 7.13.2

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Feature	IPB Model		
	IPB220 Base	IPB220 Advanced	IPB420
Maximum ports	24	24, up to 16 ports have advanced features	64 1G/10G and/or 16 40G
Integration with GeoProbe platform family			G10 only
1G or 10G Ethernet port	•	•	•
40G Ethernet port			•
Time & Port Stamping		•	•
Option to disable time and port stamping on egress			•
Within a GTP tunnel, L3 and L4 Filtering, 10G		•	
Microburst Protection (High Data Burst Buffer)		•	
Protocol/Tag Stripping (GTP, VLAN, MPLS)		•	
vMesh over IP (Interconnect IPB over TCP/IP)		•	

Table 2.1 - IPB Feature Support per Model (Continued)

IPB CHASSIS COMPONENTS

IPB220 and IPB420 Front Panels



Figure 2.1 shows the front panels for the IPB220 and IPB420.

Figure 2.1 - IPB220 and IPB420 Front Panels

Table 2.2 describes the IPB Front Panel components.

ltem	Description		
	IPB220	IPB420	
Air Filter	 One replaceable chassis air filter. One replaceable air filter on each installed IPB220 chassis module. 	 Two replaceable chassis air filters. 	
Control button	 Press briefly to page through LCD of 	Jisplay.	
Ethernet Ports	 8 1G/10G ports built into chassis. 4 1G/10G ports on each installed IPB220 chassis module (up to 16 additional ports). 40G Chassis Module: 4 port installed chassis module (up ports). Ports can be configured as ingress or egress ports based on configured requirements. Refer to IPB IrisView Admin Configuration or the IPB S 		
LCD Display	Displays system information: product model, software release, port status, and system error messages.		
ESD	Electro-static Discharge (ESD) connector for ESD devices to prevent electrical damage.		
LEDs	Refer to IPB220 and IPB420 Chassis LEDs.		

IPB220 and IPB420 Rear Panel



The rear panel for the IPB220 and the IPB420 have the same components (Figure 2.2).



 Table 2.3 describes the IPB Rear Panel components.

Table 2.3 - II	PB Rear Par	nel Component	Descriptions
----------------	-------------	---------------	--------------

Item	Description		
Alarm Relay	Not used.		
Grounding Lugs	Tektronix provides a two-hole grounding lug kit with the AC or DC cabling kit. The grounding lug must be installed on the IPBs to ensure proper electrical protection.		
Management Ports	RJ45 connectors supporting 10/100/1000 Gigabit Ethernet. Port 1 provides network connectivity to LAN for communications to Iris Server.		
GPS/1PPS Port	RS-422 connection used for time synchronization with GPS source. GPS synchronization is based on receipt of a 1PPS signal and the TSIP protocol (for time of day and other data).		
	Measure the length of the cable from the IPB to the GPS receiver; you will need to know this length when configuring GPS timing source in the IPB GUI to achieve the expected accuracy. Refer to the IPB System Software Guide for details about time stamping synchronization.		
PTP Port	Used for time synchronization using a Precision Time Protocol (PTP) source. PTP synchronization requires communication with a PTP Master Clock server over an Ethernet or IP network, where the IPB will be a PTP Slave.		
1PPS SMA Connector	PPS SMA connector used for time synchronization with Pulse Per Second (PPS) source.		

Iris Packet Broker (IPB) 7.13.2

Hardware Installation and Maintenance Guide

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ltem	Description	
Console Port	RJ45 connector supporting serial RS-232. Not used during normal probe operation.	
Fan Tray	Each hot-swappable fan tray provides six fans for platform for cooling.	
Power Supplies	Two redundant hot-swappable power supplies. The P1 and P2 LEDs on the front of the chassis indicate the power status.	
	Refer to IPB Power and Heat Specifications for details.	

IPB220 AND IPB420 CHASSIS LEDS

The front of the IPB chassis provides several LEDs (Figure 2.3).



Figure 2.3 - IPB Chassis LEDs

Table 2.4 describes the IPB chassis LEDs.

Table 2.4 - IPB Chassis LEDs

LED	Description	
Flag	OFF	Normal operation.
	YELLOW	Traffic overflow condition.
Error	OFF	Normal operation.
	Solid RED	Hardware alert, such as missing power supply.
	Blinking RED	Hardware condition needs immediate attention.
P1 and P2	OFF	No power present.
	Solid GREEN	Power on mode. Power supply outputs are on and power feed is good.

IPB220 Chassis Port LEDs

The IPB220 has eight 1G/10G ports built into the chassis itself (Figure 2.4). LED behavior for these eight ports differs from the IPB220 and IPB420 1G/10G Chassis Module LEDs.



Figure 2.4 - IPB220 Chassis Port LEDs

Figure 2.5 shows the LED usage for the IPB220 built-in chassis ports.



Figure 2.5 - IPB220 Chassis Port LEDs

Table 2.5 describes the front panel Ethernet status LEDs.

Table 2.5 - IPB220 Chassis Ethernet Status LEDs

LED Purpose	State	Explanation
Link status	Solid GREEN	10G
	Solid AMBER	1G
	Off	No link established

IPB INTERCONNECTION SUPPORT

Table 2.6 lists the IPB interconnection support.

Table 2.6 -	IPB Media/Speed	Support per Me	odel
-------------	-----------------	----------------	------

Media/Speed	IPB Model		
	IPB220 Base	IPB220 Advanced	IPB420
10Gbase-SR (850nm, multi-mode)	•	•	٠
10Gbase-LR (1310nm, single-mode)	•	•	٠
1000base-SX (850nm, multi-mode)	•	•	٠
1000base-LX (1310nm, multi- or single-mode)	•	•	٠
1000base-T (Cat5e/Cat6, RJ-45)	•	•	٠
40G Base-SR4 (850nm, multi-mode) via single MPO connector			•
40G Base-LR4 (1300/1310nm, single-mode) via duplex LC connectors			•

IPBs support the following modules:

- 10G/1G via SFP+ modules, LC-type fiber connectors
- 40G via QSFP+ modules, either MPO connectors (MMF) or LC connectors (SMF)

IPB CHASSIS MODULES

Figure 2.6 shows the IPB220 chassis module and the IPB420 chassis module. Refer to **Table 2.1** for a listing of features per IPB model. Ports can be configured as either ingress or egress depending on configuration requirements. Refer to the **IPB Software System Guide** for port configuration details.



Figure 2.6 - IPB Chassis Modules

IPB220 and IPB420 1G/10G Chassis Module LEDs

Figure 2.7 shows the LED usage for the IPB220 and IPB420 1G/10G chassis module ports.





Table 2.7 describes the front panel Ethernet status LEDs.

Table 2.7 - Ethernet Status LEDs

LED Purpose	State	Explanation
Link status	Solid GREEN	10G
	Solid AMBER	1G
	Off	No link established

IPB420 40G Chassis Module LEDs

Figure 2.8 shows the LED usage for the IPB420 40G chassis module ports.



Figure 2.8 - IPB420 40G Chassis Module Port LEDs

 Table 2.8 describes the front panel Ethernet status LEDs.

Table 2.8 - Ethernet Status LEDs

LED Purpose	State	Explanation
Link status	Solid GREEN	40G
	Off	No link established

FP100 Fuse Panel

The FP100 is a GMT dual circuit fuse panel that provides DC power connection, input fusing, and circuit protection for the IPB (see Figure 2.9). The fuse panel is not applicable in AC power configurations.



Figure 2.9 - Fuse Panel Front View

The fuse panel contains two separate circuits: A and B. In each circuit, current flows from the input through the fuse bus. When you install a fuse in a fuse holder, it completes the circuit to the output connector. When a fuse fails, it sends a fail signal to the Fuse Fail Alarm circuit.

The back of the fuse panel provides input and output terminal connections, chassis ground connections, and wire wrap pins for external alarm hookups (see Figure 2.10).



Figure 2.10 - Fuse Panel Rear View

Table 2.9 contains technical specifications for the fuse panel.

Specification	Panel Capacity
Panel capacity	20 fuses (dual groups of 10)
Current capacity	0.18 to 20 A per fuse, 100 A max per group (200 A total)
Input voltage	40 to -72 VDC
Alarm contact relays	2 A

Iris Packet Broker (IPB) 7.13.2 Hardware Installation and Maintenance Guide

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Table 2.9 -	Fuse Panel	Technical	Specifications	(Continued)
-------------	------------	-----------	----------------	-------------

Specification	Panel Capacity
Temperature	-5 C to 55 C
Humidity	0 to 90%, non-condensing
Rack mounting	Standard 19 inch rack, 1U high

IPB System Level Alarms

The IPB sends alarms to the IrisView server; you can view the alarms in the Alarms Dashboard. Refer to the Iris online help for details about the IPB alarms, including probable cause and recommended action.

IPB Installation

OVERVIEW

This procedure describes how to install the IPB into any network for monitoring purposes.



The IPB should only be installed in a restricted access location such as a data center or network telecommunications facility (for example a central office (CO)). It is not intended for use as customer premises equipment (CPE).

HARDWARE INSTALLATION



The IPBs must be installed in a four-post 19" rack. The IPB can tip and fall causing injury or damage if it is unbalanced or if it becomes unbalanced in its physical location in a rack.

Perform the following steps to rack mount the IPB unit.

- Step Action
- 1. Install the two front-mount brackets at the front of the chassis and the two rear-mount brackets at the rear of the chassis (Figure 3.1).
 - Use the mounting brackets and screws included with the IPB for attaching the bracket wings to the chassis, and for installing the chassis into a 19" rack.
 - Ensure that the location of the bracket wings will provide for equal distribution of the unit's weight during deployment. Also be sure to balance the IPB as you install it into the rack. If it becomes unbalanced, it can tip and fall, causing injury to you or others.



Figure 3.1 - Installing IPBs (4-Post Rack)

- 2. Connect the power cabling:
 - Refer to IPB Power and Heat Specifications for power details.
 - AC: Connect the IPB AC cables into the AC power supplies on the rear of the IPB unit and to the rack power outlet. Do not turn on the power switch.
 - DC: IPB DC units must connect to a fuse panel. Refer to Fuse Panel Power Cabling (DC Units Only) for details.

FUSE PANEL POWER CABLING (DC UNITS ONLY)

After the power cabling is connected to the IPB, connect the equipment power cabling to the fuse panel. This applies to DC units only. The IPB connects to the fuse panel that contains two separate circuits: A and B. The maximum output loading of the Fuse Panel is 100A per side (A and B). In each circuit, current flows from the input through the fuse bus. When you install a fuse in a fuse holder, it completes the circuit to the output connector. When a fuse fails, it sends a fail signal to the Fuse Fail Alarm circuit.



Connect all cabling on the IPB before connecting the cables to the Fuse Panel to minimize risk of electrical hazard. Do not connect more than six components to a single fuse panel. Make sure not to exceed the maximum current per each side of the fuse panel.

Please note the following when wiring the IPB to the fuse panel:

- Use input wire size appropriate for the total output loading of the fuse panel. For 100A input use . at least #2 AWG wire.
- An input branch circuit protector (fuse or circuit breaker) must be provided and rated to meet local codes and installation requirements. For a 100A input, use a 125A protector or as directed by local codes.
- A switch or means to disconnect from the input must be provided in the building installation which is easily accessible and identified as the disconnect device.

Perform the following steps to connect the IPBs to the fuse panel.

Step	Action
------	--------

Refer to Figure 3.2 and the following bullets and connect each power feed for the IPB to 1. the Fuse Panel. Refer to the Terminal and Wiring Recommendations for additional wiring and lug recommendations.

- Connect IPB DC Power Supply 2 to Fuse Panel A Output Terminals and Ground
- Connect IPB DC Power Supply 1 to Fuse Panel B Output Terminals and Ground
- Connect the IPB DC grounding lugs to the fuse panel grounding lugs



Figure 3.2 - Component Power Cabling



Tektronix equipment, cables, and wiring diagrams comply with industry standard DC electrical color coding. Please ensure proper cabling if your equipment and cabling uses nonstandard DC electrical color coding. Improper cabling can cause damage to equipment or personal injury. Contact Tektronix to request specially labeled power cables (-48V = Red, Return = Black) for the IPB.



Systems with multiple units require a grounding solution that can adequately ground all units. **Figure 3.3** shows an example grounding solution using a grounding bar. Note that **Figure 3.3** only shows grounding cabling from the components to the grounding bar; refer to **Figure 3.2** for power cabling from the components to the grounding bar; refer to **Figure 3.2** for power cabling from the components to the grounding bar; refer to **Figure 3.4** for power cabling from the components to the grounding bar; refer to **Figure 3.4** for power cabling from the components to the grounding bar; refer to **Figure 3.4** for power cabling from the components to the grounding bar; refer to **Figure 3.4** for power cabling from the components to the grounding bar; refer to **Figure 3.4** for power cabling from the components to the grounding bar; refer to **Figure 3.4** for power cabling from the components to the grounding bar; refer to **Figure 3.4** for power cabling from the components to the grounding bar; refer to **Figure 3.4** for power cabling from the components to the grounding bar; refer to **Figure 3.4** for power cabling from the components to the grounding bar; refer to **Figure 3.4** for power cabling from the components to the grounding bar; refer to **Figure 3.4** for power cabling from the components to the grounding bar; refer to **Figure 3.4** for power cabling from the components to the grounding bar; refer to **Figure 3.4** for power cabling from the components to the grounding bar; refer to **Figure 3.4** for power cabling from the components to the grounding bar; refer to **Figure 3.4** for power cabling from the components to the grounding bar; refer to **Figure 3.4** for power cabling from the components to the grounding bar; refer to **Figure 3.4** for power cabling from the components to the grounding bar; refer to **Figure 3.4** for power cabling from the components to the grounding bar; refer to **Figure 3.4** for power cabling from the components to the grounding bar; refer to **Figure 3.4** for power cabling from the components to



Figure 3.3 - Example Grounding Solution



Tektronix equipment, cables, and wiring diagrams comply with industry standard DC electrical color coding. Please ensure proper cabling if your equipment and cabling uses nonstandard DC electrical color coding. Improper cabling can cause damage to equipment or personal injury.

2. Insert 15 A GMT fuses into the slots on the front of the fuse panel corresponding to the output terminals that you used for the IPB at the rear of the fuse panel.

Terminal and Wiring Recommendations

This section provides wiring and lug recommendations for the Fuse Panel. Refer to the FP100 Fuse Panel for technical specifications of the fuse panel. Table 3.1 lists specifications for wiring of the IPB.

IPB Terminal	Wire Specifications
Power Input (-48VDC or -60VDC) Connect to - Terminal (negative)	#12 AWG copper
Return Connect to + Terminal (positive)	#12 AWG copper
Earth Ground	#12 AWG copper Ground must be equal to or larger in size than the largest power conductor feeding the equipment.

Table 3.1 -	IPB to Fuse F	Panel Wiring and	Lug Specifications
-------------	---------------	------------------	--------------------

Use the following guidelines when connecting IPB power cabling:

- The type of wiring connector to be used must be a NRTL-listed copper or brass ring crimp terminal/lug, suitable for 12 AWG wire, with welded/ brazed seam a #6 center opening for DC on each power source. Examples are TE Connectivity 329697 or Thomas and Betts RC484 for +/- power and ground wires.
- Each power lug must have insulated ends, with correct color coding for wire size.

- The IPB's battery return terminals must be in the configuration of an Isolated DC Return (DC-I).
- All bare conductor wires should be coated with antioxidant before making crimp connections.
- Unplated surfaces intended for bonding and grounding must be cleaned, polished, and coated with an anti-oxidant before assembly.
- When attaching ground wires with screws, a star washer must be used for antirotation.
- The grounding wire must be connected to the IPB by the grounding screw using a user-supplied lug.
- When attaching the grounding wire, ensure the screw is torque to 8 to 10 in-lb (0.9 to 1.1 N-m).

Table 3.2 contains wiring and lug recommendations for the Fuse Panel.

Terminal	Wire Recommendations (Customer Provides)	Lug Recommendations (Tektronix Provides)
Power Input (-48VDC or -60VDC)	Use input wire size appropriate for total output loading on panel Use #2 AWG for 100A input	Straight dual-hole lugs for 1/4" studs on 5/8" centers (Panduit LCDN2-14A-Q for #2 AWG or equivalent)
Return	Use input wire size appropriate for total output loading on panel Use #2 AWG for 100A input	Straight dual-hole lugs for 1/4" studs on 5/8" centers (Panduit LCDN2-14A-Q for #2 AWG or equivalent)
Earth Ground	Use #8 AWG or greater	90° dual-hole lugs for #10 studs on 5/8" centers (Burndy YA8CL2TC10-90 or equivalent)

Table 3.2 - Fuse Panel Wiring and Lug Recommendations

INITIAL SYSTEM CONFIGURATION



Before beginning this procedure, confirm SSH keys have been generated on Iris Server. Contact Tektronix Communications Customer Support for assistance. Do not connect the IPB to the network until you change the IPB IP address.

Perform the following to initially setup the IPB system.

Step Action

- 1. Power up the unit.
 - Insert the power cord (for models with one or two AC power supplies) into the rear power connector
 - Turn on the power switches to both power supplies. Power to the IPB will illuminate the P1 and P2 LEDs on the front of the IPB.
- 2. Change Laptop IP:
 - Use 192.168.0.100/24
 - Default Gateway: 192.168.0.1
 - No DNS

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- 3. Connect to the IPB:
 - Connect from laptop to IPB with RJ-45 cable
 - Verify Link LEDs on both sides of connection
 - Crossover cable not necessary

4. Connect to the IPB System Software GUI:

- Launch Web Browser of choice
- In browser navigate to <u>http://192.168.0.250</u>

The IPB System Software GUI appears (Figure 3.4).



Figure 3.4 - IPB System Software Login GUI

5. Log in using the user ID and password provided by Tektronix Communications. The main page appears (Figure 3.5).

								IPB 420				
	Tektronix communications		IPB 420									
Main menu	Status Svatem Status Network Activity Module Information Sectiongs System Settions	Friday, August02, 2013 4:30:16 PM (02 Au System Name: System Location: System Contact: Internal Temperature: Normal (104 %, 40 % Main Power Supply #1: Normal voltage	August 02, 2013 430-16 PM (02 Aug 2013 2130-16 GNT) Booke Friday, August 02, 2013 12:07.47 AM (02 Aug 2014) Name: Running 0 days, 16 hougs 2 minutes, 29 seconds Location: Last configuration change Filday, August 02, 2013 12:58:17 Temperature: Normal (104 17, 40 °C) Temperature: Normal voltage Main Power Supply #2: Normal voltage									13 05:57:47 GMT) :15 AM
	Port Settings SNMP Settings Access Control		Port Status									
	Filter Library Load-Balancing Groups		Port	Name	Link	Speed	Class	Applications ?	Monitor	Status	Setup	
	Monitor Settings		1/1		Down		Span	10G+PTS+CAP+ELB+TCENCAP+HDB			Setup	
	Trigger Policies		1/2		Down		Span	10G+PTS+CAP+ELB+TCENCAP+HDB			Setup	
	Save Settings Load Settings		1/3		Down		Span	10G+PTS+CAP+ELB+TCENCAP+HDB			Setup	
	Support		1/4		Down		Span	10G+PTS+CAP+ELB+TCENCAP+HDB			Setup	
	System Software		1/5		Down		Span	10G+PTS+CAP+ELB+TCENCAP+HDB			Setup	
	CONTROL OS		1/6		Down		Span	10G+PTS+CAP+ELB+TCENCAP+HDB			Setup	
	User: admin		1/7		Down		Span	10G+PTS+CAP+ELB+TCENCAP+HDB			Setup	
	Logout		1/8		Down		Span	10G+PTS+CAP+ELB+TCENCAP+HDB			Setup	
			1/9		Down		Span	10G+PTS+CAP+ELB+TCENCAP+HDB			Setup	l .

Figure 3.5 - IPB System Software Main Menu

6. Select System Settings from the main menu. The System Settings page appears (Figure 3.6).

	IPB 420	
Tektronix	System Settings	
communications	System Name:	
Status	System Location:	
System Status	System Contact:	
Network Activity Module Information		
Settings	Network Settings	
System Settings	IPv4 IPv6	
SNMP Settings	IP Address: IPV6 Address:	
Access Control	Subnet Mask: Karak Brother Lander Br	
Filter Library Load-Balancing Groups Monitor Settings	Gateway/Router: Value is 1 - 120, details 5 - 20, detail 5 - 20, details 5 - 2	
Trigger Policies		
Save Settings	Syslog Server 1: Syslog Server 2:	
Load Settings Support	System (Timestamping) Clock = Timestamping clock	source
System Software	Local Clock Settings NTP Configuration GPS Configuration	
User: admin	Set clock from browser/s(PC's) clock NTP Server 1: Cable length: Cable length: feet NTP Server 2:	
<u>Logout</u>	Time: 16:: 34:: 20 NTP Statu:: 0PS Statu:: GPS not connected to the serial port Deviation: 0 Satellite count: 0	
Model:	PTP/1PPS Configuration	_
IPB 420 Software:	Enable PTP and/or 1PPS IP Address: Subnet Mask:	
3.2.15	Domain: 0 Announce Msg. Interval: 1 Announce Reck. Timeout: 3 Sync Interval: 0	
	DHCP: @Enabled Obisabled Transport: @UDP Ethernet 1PPS Source: @GPS Port OPTP OTPPS Cor Port Selection: @PTP OEthernet Delay Mechanism: @End-to-End OPeerto-Peer 1PPS Cable Length: 0 feet	nnector
	PTP State: PTP2_INITIALIZING Detail	is 🚺
	Advanced	
	Timestamp adjustment. Include UTC leap seconds in packet timestamp	
	Voltage error indicators: Disable indicators on front panel LED and web status page	
	Automatic logoff timeout (mins): 30 (1-240) Setting to '0' will disable auto-logoff	
	Monitor Port VLAN Tagging	
	TPID (E-type): 88A8 Starting VID: 1 VLAN ID = Starting VLAN ID + network port number	

Figure 3.6 - IPB System Settings Page

- Change IP Address, Gateway and DNS
- Make other changes if necessary, such as System Name
- 7. Click **Submit**. The IP address will be changed at this point.

3

8.

3

Connect an Ethernet cable from Management Port 1 to the LAN/WAN (Figure 3.7). Make sure the switch/router is set to Auto/Full for negotiation. If timing other than NTP will be used, extra cabling is required. Contact TekComms for assistance.



Figure 3.7 - IPB Rear Panel (AC Unit Shown)

- 9. Contact Tektronix Communications customer support to connect the IPB to the Iris server.
- 10. Select Access Control from the main menu. The following page appears (Figure 3.8).

			Authorized Users						
User	Password	Confirm	Access Permissions	Accessible Ports	9	+Add User			
admin			Øyrlem Gettings Økrbunk Port Settings Økrbunk Port Settings Økrbunk Settings Økrbunk Settings	The first the the first op top top top top The first top 2 for top top top top top Car tag tag tag tag tag tag tag tag Tag tag tag tag tag					
			Authentication						
Serial port only: Local Authonized Users (above) only 🔹 All other interfaces: Local Authonized Users (above) only 🔹									
Peak button for configure saves: Radius 1 • Radius 2 • TACACE 2 • Accounting: # Off On On									
			Management Access (allowed interfaces)						
Serial (RS-232) Conso	le		С 100 К.	CLCD / Font Panel					
Tempolary Access Dv	ariide Se								
			Submit	1					

Figure 3.8 - IPB Access Control Page

- 11. For maximum security, configure the IPB to allow only these interfaces:
 - Serial
 - SSH
 - **HTTPS**
 - **LCD/Front Panel**
- 12. Change the password for the admin user. DO NOT delete or rename the default admin account.
- 13. Notify Tektronix of the following information:
 - IP address of unit for final configuration
 - New password for the admin user
- 14. Click Submit.

CONNECTING IPB NETWORK PORTS



Cabling IPB ingress and egress ports is dictated by the specific features installed on the chassis modules. Because installed features can vary per chassis module, it is very important to ensure proper cabling. Contact Tektronix Communications for assistance in cabling the IPB network ports.

IPB Egress ports must connect directly to G10 probes, TD140 load balancers, and Splprobes (no router/ switch in between.)

Connect each device to its corresponding ingress or egress port on the IPB. For copper SFP ports, either straight-through or crossover cables can be used since the IPB has Auto-MDI/X. The corresponding link status LEDs should turn on when the cable is plugged in.

IPB IRISVIEW ADMIN CONFIGURATION



Contact Tektronix Communications for assistance connecting the IPB devices to the Iris Server so you can view it in the Probe tab in IrisView Admin.

After the IPB connects to the IrisView server, you can view it the Probes tab in Iris Admin. All provisioned G10 probes (G), TD140s (T), and IPBs (I) appear in the Probe Tab. You can perform the following procedures:

- Configure IPB Settings
- Bind G10s to IPB420 Devices
- Bind G10s and IPB Devices to an Aggregation Cluster

TODE LIST	1								
Vame: Filter by Name	_ Port S	ettings for IP	8 4143						
- Additional filter	Ingre	ss Ports					Egres	s Ports	
4 CDAL 220 420 Chutter	D	Name	Ref ID	Direction	Gb	Member Of	D	Name	
GVSS-CLUSTER	742	Port1_1	1	Tx	10	vss420_Lnk	632	Port1_7	
G 9107	1.5 million						631	Port1_5	
gt 0nme5							633	Port1_10	
i Tred2									
vss220-4									
vss420-2									
G g103									
0.000									
	2								
	1 m						10		
	1.00								

Figure 3.9 - IrisView Admin Probe Management Tab (IPB)

Configure IPB Settings

Perform the following to access the IPB System Management Web GUI from within IrisView.

T

Tektronix Communications service personnel must initially setup the IPB to enable IrisView to access its configuration GUI. Contact Tektronix Communications for details.

- Step Action
- 1. From IrisView, select System Config from the Admin menu. The Probes tab appears.
- 2. Select an IPB ("I" icon) in the Probe List (Figure 3.10). The right pane displays the IPBs Ports tab, Details tab, and IPB Configuration tab.

Probe List		Ports		Detai	ls		IPB Configuration		
Name: Filter by Name		Port Se	ttings for IPI	3 4143					
Additional filter		Ingres	ss Ports					Egress	Ports
BCDAL_220_420_Cluster		ID	Name	Ref ID	Direction	Gb	Member Of	ID	Name
S-CLUSTER		742	Port1_1	1	Tx	10	vss420_Lnk	632	Port1_7
g107								631	Port1_5
g10mme5								633	Port1_10
🗄 🛄 rad2									
Uss220-4									
VSSZ2U-4									
Ga103									
gitte									
	20								

Figure 3.10 - IrisView Probes Tab

 Select the IPB Configuration tab to access the IPB System Management Web GUI (Figure 3.11).

Details	IPB Configuration											
								vss420-2				
Tektronix communications								IPB 420				
	Wednesday, February 05, 2014 2:	46:42	PM (05 Feb 2014 20:46	42 GM	T)			Booted Thursday, January 16	8, 2014 3:51:10	PM (16 Jar	2014 21:51:10 GMT)	
Status	System Name: vss420-2							Running 19 days, 22 hours, 5	55 minutes, 32 :	seconds		
System Status	System Location: A11-16U							Last configuration change M	londay, January	27, 2014 3	:51:28 PM	
Network Activity	System Contact:							The Monitor Buffer is OK				
Module Information	Internal Temperature: Normal (98	Internal Temperature: Normai (98 ºF, 37 °C)										
Settings	Main Power Supply #1: Normal vo	oltage						Main Power Supply #2: Norr	nal voltage			
System Settings												
Port Settings	Port Status											
Filter Library Load-Balancing Groups		Port	Name	Link	Speed	Negotiate	Class	Applications 🕐	Monitor	Status	Optical Pwr. (Tx/Rx)	Setup
Monitor Settings		1/1	From vss220-4 #1 (1G)	Up	10	Auto	Span	1G+PTS+MVS+SLC+CAP+ELB+TCENCAP+HDB	To: 1/2	ок	-5.50 dBm, -2.30 dBm	Setup
Trigger Policies]	1/2	To g107 (#6)	Up	1G	Auto	Monitor	1G+PTS+MVS+SLC+CAP+ELB+TCENCAP+HDB	From: 1/1	ок	-4.55 dBm, -6.26 dBm	Setup
Save Settings Load Settings]	1/3		Down		Auto	Span	1G+PTS+MVS+SLC+CAP+ELB+TCENCAP+HDB			-4.51 dBm, -40.00 dBm	Setup
Applications		1/4		Down			Span	1G+PTS+MVS+SLC+CAP+ELB+TCENCAP+HDB				Setup
vSlice Library vSlice Settings		1/5		Down			Monitor	1G+PTS+MVS+SLC+CAP+ELB+TCENCAP+HDB				Setup
MPLS Stripping		1/6		Down			Span	1G+PTS+MVS+SLC+CAP+ELB+TCENCAP+HDB			-	Setup
Support		1/7		Down			Span	1G+PTS+MVS+SLC+CAP+ELB+TCENCAP+HDB				Setup
System Software Contact Us		1/8		Down			Monitor	10+PTS+MVS+SLC+CAP+ELB+TCENCAP+HDB			-	Setup
		1/9	From vss220-1 #6 (10 G)	Up	100		Span	10G+PTS+MVS+SLC+CAP+ELB+TCENCAP+HDB	To: 1/10 1/15	ок	-0.79 dBm, 0.05 dBm	Setup

Figure 3.11 - IrisView IPB Configuration Tab



Some pages on the IPB System Management Web GUI are not accessible via IrisView: Access Control, Logout, and the Software Update option on System Software page. You can only access these pages when directly accessing the IPB device.

The main System Status page appears (Figure 3.11). This page consists of two panes:

- Menu Pane, which allows selection of other pages, such as System settings and Port settings.
- Port Status pane, which displays a summary of configured ports.

Refer to the *IPB Software User Guide* for details about configuring the IPB using this GUI.

Bind G10s to IPB420 Devices

For first time setup, it is recommended you follow these steps to ensure optimum provisioning of the IPB.

Step	Action	

- 1. Bind the G10 probe to the IPB. On the Probes tab, select a G10 probe in the Probe List pane.
- Click the Bind to Aggregation Device button in the Probe Details tab (Figure 3.12). This button is only visible if at least one IPB device has connected to the Iris server. A message appears warning you of the following consequences:
 - Any currently configured physical links on the G10 probe will be deleted
 - Loss of data will occur on G10 probe and IPB.
 - Once binding starts, the changes cannot be reverted.

robe List		+ Pro	be Details	Tim	ng Control		Monitoring	g Details	Media Conriguration	
ame: Filter by Name		Setting	s for Probe 4	104						
 Additional filter 		Probe N	lame:		a107					
		Probe D	escription:		a107		-			
DAL_220_420_Cluster			TD .		gior					
Get 07		Current	IP:			RUTUR.				
Ga10mme5		S2D Pro	file:		Defaul	t Probe Pro	ifile 🎽			
Trad2	=	Location	n: 🕕		0, 0					
🔽 vss220-4		Status:			ΔΥΔΤΙ	ABLE				
⊞ 💷 vss420-2			ance Ctates			of Hoffiche				
		Mainten	ance state:							
		Physic	al Device Por	ts						
		ID	Name	Direction	Gb	Enabled	TXEnabled	Op Mode	Member Of	
		85	Port 1	Rx	1	true	true	Negotiate		
		86	Port 2	Rx	1	false	true	Negotiate		
		87	Port 3	Rx	1	false	true	Negotiate		
		88	Port 4	Rx	1	false	true	Negotiate		
		89	Port 5	Rx	1	false	true	Negotiate		

Figure 3.12 - IrisView Admin Probe Management Tab (IPB)

3. Select the IPB to associate with the G10 and then click OK. The G10 will be moved under the IPB device in the Probe List pane.



If you need to unbind a G10 from an IPB420, first ensure the G10 is not currently being upgraded during execution of a software campaign. Refer to IPB Software Upgrades for details.

- 4. IPB Ingress and Egress Port settings appear in the IPB Ports tab based on their configured Port Settings in the IPB GUI. Refer to *Configure IPB Settings* and the *IPB Software User Guide* for details.
 - Ingress ports are the equivalent of span ports with Time and Port stamping enabled in the IPB GUI. Both IPB220 and IPB420 devices can have ingress ports appear in Iris Admin.
 - **Egress** ports are the equivalent of **monitor** ports with TekComms format port stamping enabled. Only IPB420 devices can have egress ports appear in Iris Admin.
- 5. Create physical links for the IPB device. The IPBs are available in the Probe Selection drop-down menu as shown in **Figure 3.13**.

When you select an IPB device, the ingress ports of the IPB appear in the Physical Device Ports area (Figure 3.13).

Entity Details		
Link Details	Node Details Monitoring Details	
Name:	VSS420-2	Soloot on IDP from
Enabled:		Probe drop-down
Probe:	vss420-2	menu
Domain:	Default 💙	
VLAN Assignr	nent	
Enabled:		
 Wildcard 	○ Rx/Tx	
Physical D	Device Ports	IPB Ingress Ports
Port1_1 (Tx)	- Available: 🛛 🔽	

Figure 3.13 - Iris Admin Topology Tab - Physical Links Pane

- 6. Click the Physical Device Port check box and click **Save**.
- 7. The IPB port settings on the Probes tab displays the configured physical link in the Member Of column of the Ingress ports area (Figure 3.17).

Probe List	Ports		Detai	ls								
Name: Filter by Name	Port Se	Port Settings for IPB 4143										
Additional filter	Ingres	Ingress Ports										
TD140 4151	ID	Name	Ref ID	Direction	Gb	Member Of	ID	Name				
ID 140 4152	662	Port1_1	2	Tx	10	VSS420-2_Lnk	632	Port1_7				
CVSS-CLUSTER							631	Port1_5				
g107							633	Port1_10				
g10mme5												
ad2												
🗄 🛄 vss220-4												
∃ 🗾 vss420-2												
- G g103												

Figure 3.14 - Iris Admin Probes Tab - Physical Link Assigned for IPB

Bind G10s and IPB Devices to an Aggregation Cluster

When configuring a large number of IPBs to feed data to a G10 probe, you can combine the elements in an aggregation cluster to simplify displaying statistics within Iris applications.

Step	Action
1.	On the Probes tab, click the Create Cluster Device button to create an aggregation

- cluster. IPBs appear with an "I" icon and aggregation clusters appear with a "C" icon in the tree hierarchy.
- 2. On the Probes tab, select an IPB in the Probe List pane, and click the **Bind to** Aggregation Device button in the Probe Details tab (Figure 3.15).

Probe List		+ Pro	be Details	Tim	ing Contro	bl	Monitorin	g Details	Media Configuration	
me: Filter by Name	Settings for Probe 4104									
Additional filter		Probe N	lame:		g107					
		Probe D	escription:		a107		-			
CDAL_220_420_Cluster		Current	IP:							
Gg107		S2D Pro	file		Dofa	it Drobo Dro	ofilo 🗙			
Gg10mme5	-	JZD FIC			Derau	iii Probe Pri	nie 🕅			
Trad2	-	Location: 🙂			0, 0					
B VSS220-4		Status:			AVAILABLE					
		Mainten	Maintenance State:							
		Physic	al Device Por	ts						
		ID	Name	Direction	Gb	Enabled	TXEnabled	Op Mode	Member Of	
		85	Port 1	Rx	1	true	true	Negotiate		
		86	Port 2	Rx	1	false	true	Negotiate		Ξ
		87	Port 3	Rx	1	false	true	Negotiate		
		88	Port 4	Rx	1	false	true	Negotiate		
		89	Port 5	Rx	1	false	true	Negotiate		-

Figure 3.15 - IrisView Admin Probe Management Tab (IPB)

3. Select the cluster to associate with the IPB and then click OK. The IPB is moved under the cluster in the Probe List pane.



If you need to unbind an IPB from an Aggregation Cluster, first ensure the IPB is not currently being upgraded during execution of a software campaign. Refer to IPB Software Upgrades for details.

- 4. Repeat Step 2 and Step 3 for each IPB you want to bind to the Aggregation Cluster.
- 5. Once the IPB420 has been added to the cluster, you can add the G10 probe to the cluster. You will not be able to add the G10 probe to the cluster until the IPB420 (with configured Egress ports) has been bound to the aggregation cluster.
- Aggregation Cluster Ingress and Egress Port settings appear in the Cluster Ports tab based on the IPB Port Settings configured in the IPB GUI. Refer to *Configure IPB Settings* and the *IPB Software User Guide* for IPB port setting details.
 - Ingress ports are the equivalent of span ports with Time and Port stamping enabled in the IPB GUI. Both IPB220 and IPB420 devices can have ingress ports appear in Iris Admin.
 - Egress ports are the equivalent of monitor ports with TekComms format port stamping enabled. Only IPB420 devices can have egress ports appear in Iris Admin.

3

 Create physical links for the Aggregation Cluster ingress ports. The clusters are available in the Probe Selection drop-down menu as shown in Figure 3.16. G10s and IPBs currently bound to other clusters do not appear in the Probe Selection list.

When you select a cluster, the ingress ports of the cluster appear in the Physical Device Ports area (Figure 3.16).

Link Details	Node Details Monitoring	Details	
Name:	VSS-Cluster_Lnk		
Enabled:			
Probe:	VSS-CLUSTER	~	
Domain:	Default	*	Ingress Ports
- VLAN Assig	nment		
Enabled:			
Wildcard	Rx/Tx		
A Physical	Device Ports		

Figure 3.16 - Iris Admin Topology Tab - Physical Links Pane

8. The Cluster port settings on the Probes tab displays the configured physical link in the Member Of column of the Ingress ports area (Figure 3.17).

Probe List	Ports		Detai	ls		
Name: Filter by Name	Port Se	ttings for Clust	er 4134			
 Additional filter 	Ingres	s Ports			Egress	Ports
∃ TD140 4152	ID	Name	Ref ID	Member Of	ID	Name
	662	Portvss420	2	VSS-Cluster_Lnk	632	Portvss420-2:1_7
g103					631	Portvss420-2:1_5
vss420-2					633	Portvss420-2:1_10
G g107 G g10mme5 T rad2						

Figure 3.17 - Iris Admin Probes Tab - Physical Link Assigned for Cluster

IPB System Operating Specifications

Overview

The design of the Iris Packet Broker (IPB) enables you to install it in common switching, or other equipment frame lineups found in telecommunications central office environments. The following sections list the physical specifications, power and ground requirements, and appropriate specifications to which the IPB conforms.

IPB Physical Dimensions

 Table 4.1 lists the physical dimensions for the IPB models.

Table 4.1 - Physical Dimension	s
--------------------------------	---

Dimension	IPB220	IPB420
Measurements	17.3 in. (w) x 27.5 in. (d) x 3.5 in. (h) 441 mm x 699 mm x 89 mm	17.3 in. (w) x 27.5 in. (d) x 3.5 in. (h) 441 mm x 699 mm x 89 mm
Weight	42 lbs. 19.1 kg.	46.5 lbs. 21.1 kg.
Rack Mount	4-post, 19-inch, front mount	4-post, 19-inch, front mount

IPB POWER AND HEAT SPECIFICATIONS

Table 4.2 lists the power and heat specifications for the IPB models.

Dimension		IPB220	IPB420
Power consumption (all chassis modules installed)		450W Max 418W Typical	720W Max 426W Typical
	DC	450W Max 397W Typical	600W Max 397W Typical
Heat Dissipation	AC	1536 BTU/hr Max 1427 BTU/hr Typical	2457 BTU/hr Max 1455 BTU/hr Typical
	DC	1535 BTU/hr Max 1355 BTU/hr Typical	2048 BTU/hr Max 1355 BTU/hr Typical
Voltage	AC	100-240 Vrms, nominally	100-240 Vrms, nominally
	DC	-48 VDC nominally -40 VDC to -60 VDC	-48 VDC nominally -40 VDC to -60 VDC
Amps	AC	5.0 Amps Max	7.2 Amps Max
	DC	11.25 Amps Max	15 Amps Max
Per chassis module	AC	72W, 10G/1G SFP+	74W, 10G/1G SFP+ 68W, 40G QSFP+
	DC	68W, 10G/1G SFP+	68W, 10G/1G SFP+ 61W, 40G QSFP+

Table 4.2 - Power and Heat Dimensions

IPB ENVIRONMENTAL SPECIFICATIONS

- Temperature
 - 0 to +55°C (131°F), operating
 - -20°C (-4°F) to +100°C (212°F), storage
- Humidity: +5% to +95%, non-condensing
- Designed for NEBS Level 3

IPB Software Upgrades

IPB UPGRADES

IPB software is initially installed by Tektronix Communications system engineers. You can perform subsequent software upgrades using the IrisView Software tab to create upgrade campaigns. A campaign is a defined set of configuration parameters for upgrading software packages for one or more IPBs. Campaigns enable you to:

- Perform individual or multi-IPB software upgrades
- Schedule IPB activation during non-peak hours

PREREQUISITES

Tektronix Communications loads software upgrades on the Iris server to make them available for installation on the IPB using campaigns. Available upgrades appear in the Software List pane on the Available Patches Tab.

TO VERIFY IPB SOFTWARE PACKAGES

You must verify the software package integrity prior to updating IPB. Follow these steps to verify software packages on the Iris server prior to installing them on the IPBs.

- 1. Click the Software tab, and then click the Available Patches tab. Under the Software List Pane, you will see the software packages that were loaded on the Iris server and not yet verified. IPB Software package names will be in the format REL-XXX-<version>.ISO.
- 2. Select the package you want and click the **Verify** button.
 - If the package is valid, it is moved to the Available Software Summary Pane.
 - If the package cannot be verified, an error message displays and the package remains in the Software List Pane. Call Customer Support for assistance.
- 3. In the Available Software Summary Pane, verify the patch software has the correct version and date.

TO CREATE A IPB SOFTWARE UPGRADE CAMPAIGN

Once IPB packages are verified, you can create a campaign to upload, install, and activate the software packages to one or more IPBs.



Campaigns also support reverting back to a previous release of IPB software. However, the IPBs will become inaccessible from OAM due to the IPB configuration being reset. Therefore, you must manually backup the IPB configuration before reverting and manually restore the configuration after reverting to a previous release. Refer to Backing Up and Restoring an IPB Configuration for details. Previous release packages must be listed in the Available Patches Tab in order to be accessible for selection in revert campaigns.

Follow these steps to create a campaign for upgrading software on one or more IPBs.



If reverting to a previous release of IPB software, backup the IPB configuration prior to continuing with the procedure.

Step Action

1. Click the **Software** tab, and then click the **Probe Campaigns** tab. The Campaigns pane appears (**Figure 5.1**).

Campaigns				61	Campaign Details				
Status Filter: Select 5	tatus Type-	Type Filter: 1PB D	evicel		Package Selection				
Campaign Name vss3_REL-1219131606	Campaign Type IPB Device	Schedule Date	Status Completed Successfully	Transfer Only N	Campaign Type:	IPB Device		-	
					IPB Package:	REL-1219131606-3.3.34	13 22:00	*	
					Select Protes				
					Probe Selection List	leaner			
					Vss220-4	Prote Status -	REL-1219131	rsion 505-3.3.34	AG_1
					vss420-2		REL-1210131	606-3.3.34	A0_1
					NOTE Activation will sta	ri as close to the selected line as pool	a silan.		
If if Page 1 of	5 16 4 1		Displaying	empeigns 1 - 1 of 1				Save	Cencel Abort Delete
				(Add Carlenge)					

Figure 5.1 - Probe Campaigns Tab - IPB

Iris Packet Broker (IPB) 7.13.2 Hardware Installation and Maintenance Guide

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- 2. Click Add Campaign; the Campaign Details Pane appears.
- 3. Select IPB Device from the Campaign Type drop-down menu.
- 4. Enter a name for the campaign.
- Select a IPB package. You can choose from packages that have been verified and are 5. listed in the Available Software Summary Pane on the Available Patches Tab.
- 6. Select a date and time to transfer and activate the software package. IPB package transfer is started at activation time, it is not started immediately upon campaign saving as it is done for G10 and TD140 campaigns.



Tektronix Communications recommends scheduling activation during non-peak hours. The IPBs require a reboot after activation and this process can take up to 5 minutes. During reboot, the IPB does not send heartbeats to the Iris Server.

- 7. Click Select Probes to open the Probe Selector dialog box. It displays a list of available Aggregation Clusters and IPB devices. Note the following about bound devices:
 - All IPBs bound to an aggregation cluster can only be upgraded together
 - All G10 probes bound to an IPB can only be upgraded together
- 8. Select the check boxes for the IPB devices you want to include in the campaign and click OK. You cannot select a IPB for the campaign if it is disconnected, or part of another current campaign. The IPBs you select appear in the Probe Selection List in the Campaign Details Pane.
- 9. Verify your selections and click Save. The IPB package transfer and activation will begin at the scheduled time. After activation, the IPB(s) reboot. It may take up to 5 minutes for applications to shutdown before the IPB(s) restart. Campaign and IPB status will update to show success or failure.
- 10. Monitor IPB status in the Campaign Details Pane; monitor campaign status in the Campaigns Pane.

Upgrading G10 Probes Bound to IPB

- G10 probes bound to an IPB device must be on the same version of software (EP and SP).
- The bound G10s are upgraded at the same time within one campaign; they cannot be upgraded . individually.
- If a campaign failed on a bound G10 probe, a new campaign CANNOT be scheduled immediately. The user must wait until the previous campaign completes before scheduling a new one.

Upgrading IPBs Bound to an Aggregation Cluster

- IPBs bound to an aggregation cluster must be on the same version of software (REL version).
- The bound IPBs are upgraded at the same time within one campaign; they cannot be upgraded individually.
- If a campaign failed on a bound IPB, a new campaign CANNOT be scheduled immediately. The user must wait until the previous campaign completes before scheduling a new one.

Campaign Status

Table 5.1 shows campaign status messages that appear in the Campaigns Pane.

Table 5.1 -	IPB Status	Messages
-------------	------------	----------

Message	Description
Transferring Packages	Iris server is transferring packages to one or more IPBs.
Transfer Failed	Transfer of packages failed to one or more IPBs. Review the IPB status messages for details.
Activation Scheduled	Transfer of packages was successful to all IPBs. Activation will begin at scheduled time.
Activating	Activation of all IPBs is in process.
Partial Success	One or more IPBs failed package transfer or failed activation. Review the IPB status messages for details.
Transferring Packages	Iris server is transferring packages to one or more IPBs.

BACKING UP AND RESTORING AN IPB CONFIGURATION



Campaigns support reverting back to a previous release of IPB software. However, the IPBs will become inaccessible from OAM due to the IPB configuration being reset. Therefore, you must manually backup the IPB configuration before reverting and manually restore the configuration after reverting to a previous release.

Refer to the following procedures for manually backing up and restoring an IPB configuration.

Backup an IPB Configuration

Step	Action
1.	From IPB main GUI, select Save Settings to access the Save Configuration Settings page (Figure 5.2).

Tektronix communications	Save Configuration Settings This will save all configuration settings from the Tap to a local file (on this PC).
Status System Status Network Activity vStack+ ³⁰ Summary Module Information Settings System Settings Port Settings Access Control Filter Library Load-Balancing Groups Monitor Settings	Below is a link to this tap's configuration file. On most browsers, right-olicking this link will allow you to save this to a filename and location of your choice.
Trigger Policies Save Settings Load settings Support	

Figure 5.2 - Save Settings- IPB GUI

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2. Perform one of the following:

- Click the Tap Configuration link to save the config.vss file in the Downloads folder.
- Right-click the Tap Configuration link to save the config file to any folder.

Restore an IPB Configuration

Step Action

1. From IPB main GUI, select Load Settings to access the Load Configuration Settings page (Figure 5.3).



Figure 5.3 - Load Settings- IPB GUI

- 2. Click the Browse button and select a config file.
- 3. Click the Load Settings button.
- 4. Restart the IPB.

IPB Maintenance Guidelines

IPB MAINTENANCE PROCEDURES

This chapter provides the maintenance procedures for the following components:

- Air Filters
- Power Supplies
- Fan Tray
- Chassis Modules



Electrostatic discharge can damage circuits or shorten their life. Before performing any maintenance procedures, or touching electronic components, ensure that you are working in an ESD-safe environment.

AIR FILTERS



Figure 6.1 - IPB Air Filters

Removing the Chassis Air Filter

Perform the following steps to remove the IPB chassis air filter. Refer to Figure 6.1 for location of filters for each unit. You can remove the air filter while the unit is still powered on.

Step	Action	
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1. Loosen the two retention thumbscrews and pull the air filter unit out (Figure 6.2).



Figure 6.2 - IPB Chassis Air Filter Removal

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2. Remove the filter tray screws and remove the air filter from the tray (Figure 6.3).



Figure 6.3 - IPB Chassis Air Filter Removal

- 3. Remove the filter from the tray.
- 4. When visible dust is present, clean the filter by vacuuming it or gently rinsing it with cold water.
- 5. Once dry, reinstall the filter.

Removing the IPB220 Chassis Module Air Filter

Perform the following steps to remove the IPB220 chassis module air filter. You can remove the air filter while the unit is still powered on.

Step Action

1. Loosen the retention thumbscrew in the center of the chassis module and slightly pull out the air filter tray (Figure 6.4).



Figure 6.4 - IPB Chassis Air Filter Removal

- 2. Remove the filter from the tray.
- 3. When visible dust is present, clean the filter by vacuuming the filter or gently rinsing with cold water.
- 4. Once dry, reinstall the filter.

6

POWER SUPPLIES

This section provides the information needed to remove and replace the power supplies. The IPB chassis is equipped with two AC or DC power supplies, accessible from the chassis rear. Before replacing a power supply, verify that a second power supply is present and working properly.

Replacing a Power Supply



Hot power supplies may cause injury. Allow them to cool before servicing.

Perform the following steps to replace a power supply.

Step Action	
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- 1. Perform one of the following:
 - AC units: Switch the breaker of the power supply to the OFF position.
 - DC units: Disconnect power from the rack power supply.
- 2. Remove the power cables from the power supply.
- 3. Loosen the three retention screws of the power supply (**Figure 6.5**).
- 4. Remove the power supply from the unit by pulling the handles.



Figure 6.5 - Loosen Retention Screws

- 5. AC units: Before inserting the replacement power supply, ensure the breaker switch is OFF.
- 6. Insert the replacement power supply, and tighten the retention screws.
- 7. Reconnect the power cables to the power supply.
- 8. Perform one of the following:
 - AC units: Switch the breaker of the power supply to the ON position.
 - DC units: Reconnect power to the rack power supply.

FAN TRAY

If the fan tray starts to fail or has failed, it can be removed while the unit is still powered. Perform the following steps to remove the IPB fan tray.

Step	Action	

1. Loosen the three retention thumbscrews and pull the fan tray out (Figure 6.6).



Figure 6.6 - IPB220 and IPB420 Fan Tray

2. Insert the replacement fan tray, and tighten the retention screws.

CHASSIS MODULES



Installed features can vary per chassis module, so it is very important to ensure you are replacing a chassis module with the same features as the original. Contact Tektronix Communications for assistance in chassis module replacement.

Perform the following steps if a chassis module needs to be replaced due to an actual or suspected failure:

Step	Action

1. Loosen the thumb screws of the existing cover plate or chassis module.

Figure 6.7 - IPB Chassis Modules

- 2. Remove the cover plate or chassis module.
- 3. Insert the new chassis module, ensuring it is completely seated.
- 4. Tighten all thumb screws.

6