Foxboro P0972VA

01 Survey the existing network

Start with the node architecture

Before placing an ATS into an existing installation, trace the Nodebus stations, any LAN Interface, the Mesh switches and the workstation that will host the bridge. These components determine the bridge operating mode and the available communication services.

Network survey sequence

01	Identify the node and the stations attached to its Nodebus.
02	Record whether a LAN Interface is present on that same node.
03	Locate the Mesh workstation assigned to host the ATS.
04	Trace both Ethernet A/B paths to their intended switches.

Mode selection

Existing condition	ATS arrangement	Planning implication
No LI on the node	LAN Interface mode	The ATS performs the LI role for the node.
LI present on the node	Nodebus extender mode	Mesh stations appear on the same node as the Nodebus stations.
Multi-node I/A Series system	One Mesh network	Do not plan separate Mesh networks as independent attachments of the same multi-node system.

Preserve the boot-host plan

Traffic forwarding and boot hosting are different services. Retain the existing Nodebus boot-host arrangement when adding a Mesh workstation: the workstation hosts the ATS, but cannot boot-host the Nodebus stations through it.

Control the migration boundary

An ATS can replace LAN Interface backbone connections during Carrierband migration. Record which node has moved, which routes remain in service and how the affected applications will be observed during the transition.

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02 Fit the module and redundant interlink

Mounting preparation

Item	Preparation basis
Mounting structure	1x8 or 2x8 I/A Series structure
Single arrangement	One ATS module
Redundant arrangement	Two ATS modules in adjacent slots
Pair connection	P0926DF redundancy connector
Typical input supply	39 V DC
Power allowance	15 W maximum for each module

Pair assembly checks

01	Reserve neighboring slots so the redundancy connector can be fitted.
02	Identify the intended primary and backup positions before handling connections.
03	Check the local interlink and both network routes as separate communication paths.
04	Account for both ATS modules in the supply and enclosure load plan.

Two mechanisms to retain

Network health exchange
The pair exchanges health and state information through the network.

Local interlink
A direct inter-module path also carries health and state information.

Primary role
One module performs the primary ATS responsibilities.

Backup role
The partner watches for the primary healthy indication and takes over when required.

Calculated power planning

Two modules at 15 W each give a calculated maximum pair load of 30 W. This sum covers the ATS pair only; workstation, switches, other station modules and supply design margins require separate allowances.

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03 Route optical or copper connections

Switch-to-ATS cable choices

Medium / connector	Cable	Distance
Optical / LC	62.5/125 µm multimode fiber	2 km total maximum
Copper / RJ-45	Shielded copper cable	100 m total maximum

Available cable lengths

Medium	Listed lengths
Fiber	3 m, 15 m and 50 m; longer than 50 m user supplied
Copper	0.5 m, 3 m, 15 m, 50 m and 100 m

Measure the complete route

The maximum distance is the total path between the Ethernet switch and the ATS. Include the installed route rather than comparing only one purchased cable length. Keep redundant A and B route identities attached to their actual ports.

Connection inspection

01	Check that the selected medium matches the connection being restored.
02	Inspect optical end faces and protect disconnected connectors from contamination.
03	Check shielded copper terminations and connector engagement.
04	Confirm the switch destination and record the complete installed path length.

Do not transfer backbone ratings to the ATS port

The Mesh architecture can use 1 Gbps between switches. That rating does not change the 100 Mbps full-duplex ATS-to-switch link or the 10 Mbps Nodebus connection.

Observe both sides

A physical Ethernet link is only one part of the bridge path. Commissioning must also establish Nodebus activity and valid application data exchange with the intended stations.

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04 Assign identity and verify service

Commissioning observations

Stage	Observation
Infrared identity	Read the letterbug or hardware ID using the Letterbug Configurator.
Assignment	Set the soft letterbug required by the station configuration.
Power-up checks	Observe the module self-check and operating status.
Ethernet links	Inspect communication activity on A and B separately.
Nodebus	Check activity toward the intended local stations.
Application data	Confirm the expected compound and block parameter values cross the bridge.

Distinguish identity from route health

A readable letterbug establishes which module is being addressed. It does not prove that both redundant paths are functional or that the intended application data is reaching the correct node. Keep those observations separate in the commissioning result.

Capacity checks

Nodebus allocation
Count no more than 63 Nodebus stations for one ATS.

Combined network
Review the 1920-station limit across Nodebus and Mesh stations together.

Packet load
The ATS throughput limit is up to 1000 packets per second.

Minimum infrastructure
Retain the Mesh host workstation and Ethernet switches required by the bridge.

Restore the intended operating state

After any controlled isolation, reconnect the planned paths and confirm the bridge mode, letterbug, host relationship and application indications. A successful single-path test does not establish that the redundant arrangement has been restored.

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05 Test redundancy and isolate faults

Fault investigation

Observation	Engineering focus
Missing backup role	Inspect the partner supply, adjacent-slot arrangement and redundancy connector.
One Ethernet route inactive	Trace the affected A or B cable and its switch connection.
Nodebus traffic absent	Check the local node path and station availability independently of Ethernet.
Data exchange works but boot fails	Review the separate Nodebus boot host; Mesh boot hosting is not supported.
Unexpected node visibility	Recheck the presence of an LI and the resulting ATS operating mode.

Controlled role-transfer test

The redundant modules switch roles automatically when a problem is detected. The stated changeover time is less than one second. Test the installed pair under the approved process conditions and observe application recovery as well as the module role indication.

Record the restored topology

Retain the tested A/B paths, active role, partner availability, host workstation, letterbug and observed application behavior. Investigate any difference between a healthy local module indication and missing end-to-end data.

Explore other Foxboro catalogue pages

Foxboro FBM232 P0926GW

Foxboro DM900WT

Technical basis

Foxboro PSS 21H-1C4 B3, Address Translation Station, August 2007, pp. 1–7.