



Enabling Australia's Field Technicians to build, troubleshoot and maintain better communications networks.



This reference material is provided by TMG Test Equipment, VI.AVI's **only** Master Distributor for Contractors in Australia



Industry Best Pricing



Finance Available



Short to Medium Project-Based Rental Solutions



Dedicated Technical & After-Sales Support



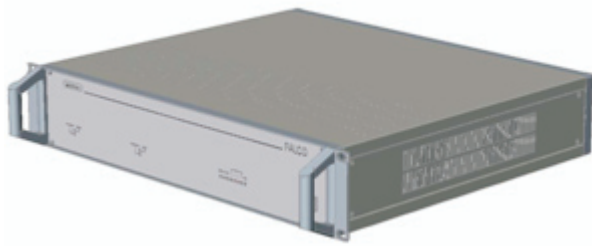
In-house Diagnostics, Repair & NATA Calibration Laboratory



FREECALL 1800 680 680

Falco

Broadband Monitor Test Access Platform for SDH/SONET & Gigabit Backbone



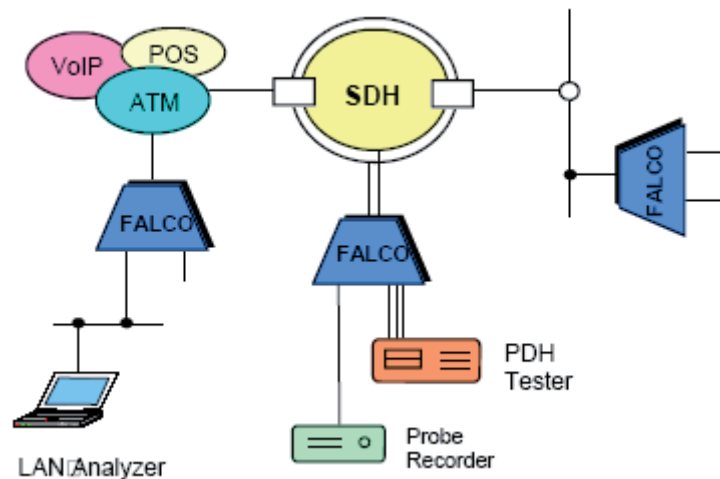
FALCO extends the usefulness of WAN/LAN test equipment to optical and GbE backbones.

Key Features

- SDH/SONET channelized or full channel traffic monitoring
- Built-in Cross-connect matrix for grooming of tributary streams
- Gigabit Ethernet Filtering
- Selective monitoring of IP connections
- Sophisticated data traffic pattern or content filtering
- SDH/SONET automatic line protection
- Non-intrusive full-duplex monitor access with TAP
- SNMP, WEB and Telnet management
- Network interfaces:
 - STM-1/OC3 singlemode or multimode
 - STM-4/OC12 singlemode or multimode
 - Gigabit Ethernet
- WAN test access interfaces:
 - E3, E1 and E0 subchannels
 - DS3, DS1 and DS0 subchannels
- LAN test access interfaces:
 - Fast Ethernet
 - Gigabit Ethernet

Applications

- Access system for :
 - Network probes
 - Protocol analyzer
 - Forensic equipment
 - Security equipment
 - Surveillance systems
- Custom formatting of traffic for specialized monitoring requirements



2

High-speed network traffic monitoring, filtering and formatting

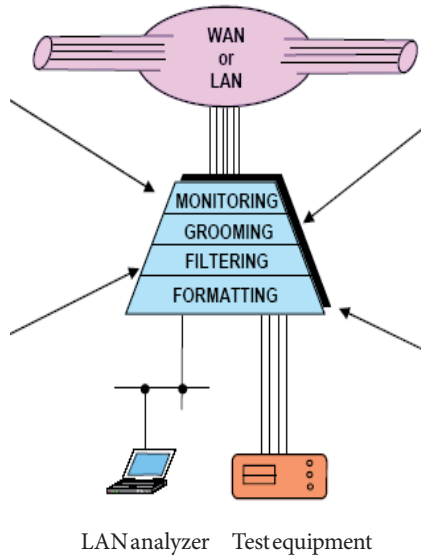
FALCO is the industry first monitor-test platform designed to offer access to SDH/SONET and

Monitoring

of concatenated and channelized high-speed data streams.

Filtering

of traffic based on multiple levels of complex filter targets in the same message.



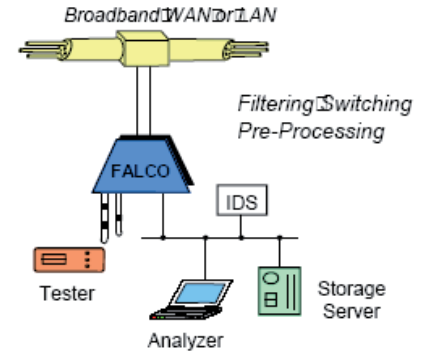
Grooming

of the streams to match test equipment data format and bandwidth requirements.

Formatting

of high speed network traffic into standard WAN or LAN for efficient test equipment access.

The traffic filtered out by Falco can also be forwarded to storage for later Forensic or Surveillance analysis.

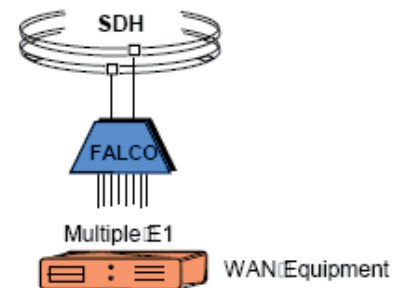


Monitoring

SDH with WAN test equipment

On channelized SDH/SONET lines, Falco provides monitoring access to individual PDH traffic streams.

Standard E1 output interfaces support direct connection of a wide range of WAN equipment such as protocol analyzer, probes, surveillance and security equipment.



SDH with LAN test equipment

Falco enables LAN equipment to monitor full channel or channelized SDH lines. Falco filters out selected ATM IP or POS IP connections on SDH lines and formats the IP data streams into Ethernet frames for output on Fast Ethernet or Gigabit Ethernet port.

Gigabit Ethernet backbone by traditional WAN and LAN equipment.

FALCO enables traditional WAN test equipment to access and monitor individual tributary sub-channels in their native PDH and T-carrier data formats.

FALCO also formats the WAN traffic streams into LAN traffic format for monitoring by LAN test equipment and network probes.

Applications

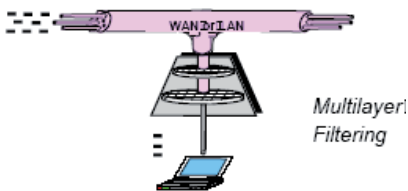
Filtering

FALCO monitors the traffic on broadband WAN or LAN backbone.

On SONET/SDH it provides access to full channel or channelized data traffic streams and to selected IP connections.

On high-speed LAN it monitors and extracts the selected LAN sessions.

FALCO is capable of real time detection of multiple levels of complex filter targets in the same message.

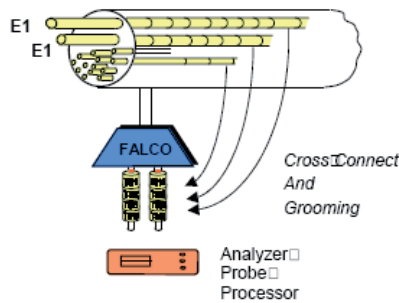


Monitor/analyzer recorder

Grooming

Falco extracts the desired time slots and format them into consolidated new streams to match test equipment requirements.

Falco extends the usefulness of traditional WAN/LAN test equipment to optical backbones.

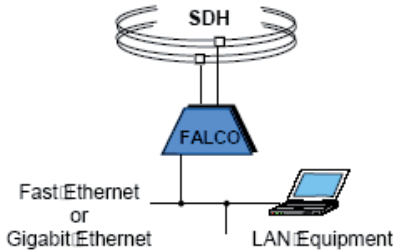


Security and surveillance

FALCO may be configured to actively filter, switch or pre-process the messages if operating in concert with Intrusion Detection Systems or surveillance equipment.

3

This enables standard Ethernet analyzer, Probe, Security or Surveillance equipment to monitor the SDH WAN IP Traffic in real-time.

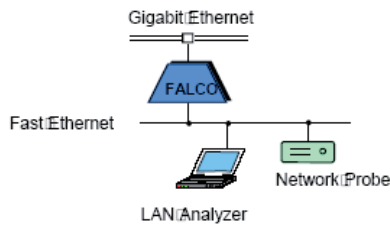


Gigabit Ethernet with Fast Ethernet equipment

Falco allows 10/100 BaseT LAN equipment to access and monitor full duplex Gigabit Ethernet Traffic.

Falco filters out selected IP connections on the Gigabit line and transfers these streams to its 10/100 BaseT access port.

Falco filters out and forwards selected traffic with bandwidth not exceeding 10/100 BaseT, but it collects and reports traffic statistics for the entire GbE line.



Grooming

Grooming

STM-1 can be seen as a multiconductor cable containing many individual conductors.

Each conductor is organized in TDM Frames with standardized time slots.

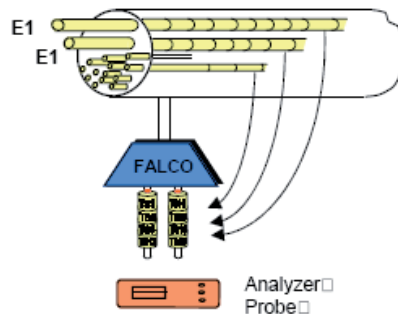
Falco extracts the desired time slot and format them into consolidated new streams to match test equipment requirements.

User can configure Falco's cross-connect logic to extract the desired streams or parts of streams, format them into data formats required by the specific test equipment and send such consolidated new streams to selected Falco's output tests ports.

For example, Falco may extract the TS16 (CAS) bi-directional signaling information from all 63 E1 in a full-duplex STM-1 line and consolidate these 63 TS16 bytes into six E1 outputs for centralized monitoring of full duplex PCM voice traffic activity for 63 E1 lines or 1,890 subscribers.

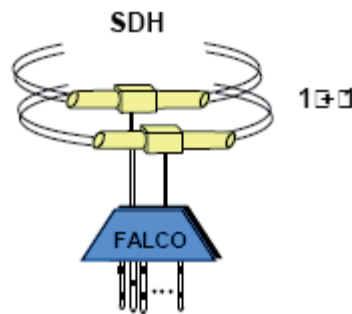
Automatic protection switching

SDH network configurations often employ



redundancy schemes such as SDH rings. Falco supports APS (automatic protection switching) configurations and provides uninterrupted monitoring access for WAN or LAN test equipment monitoring the SDH line.

Test access matrix

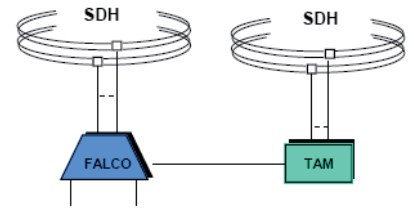


Falco is capable of monitoring up to 4 Full Duplex SDH/SONET lines.

For larger Network Configurations, in one or more locations, Falco operates with TAM, a Test Access Matrix.

TAM is a flexible optical/copper access system that can be configured to support up to 8 STM-1 Fiber Links or up to 128 E1 lines.

Falco and TAM can be managed as one system, allowing flexible integration in various network applications.



Filtering

Filters and triggers

Falco is capable of real time detection of multiple levels of complex filter targets in the same message.

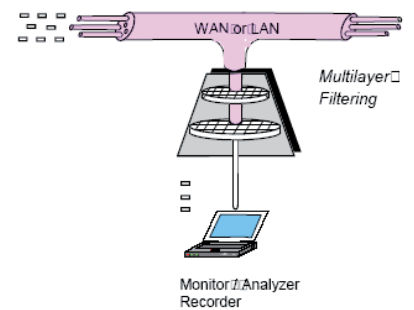
The user may configure Falco to capture and forward either entire messages or only the initial part of messages containing protocol headers without payload.

Filters (triggers) may be set to run either individually or concurrently, such as:

- IP Source and/or Destination Addresses
- ATM VPI/VCI
- Tunneled IP (such as L2TP) Addresses
- Tunnel/Session Identifiers
- Specific IP Protocol Ports
- Protocol Types and Header Elements
- User defined payload data patterns

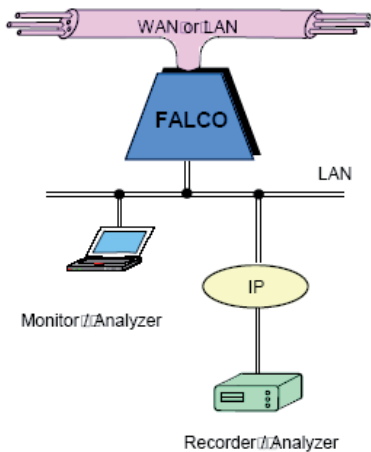
Once classified, the message such as IP packet may be labeled and forwarded or discarded. The labels may contain the time stamp (in microseconds) and may include application-related content.

The messages which need to be forwarded to the application are formatted into standard Ethernet format.



Auto-learning

Falco may be set to automatically learn all active data connections on the broadband line. This may include all IP addresses of active IP sessions and/or active VPI/VCI addresses of ATM VCs. The user may retrieve the address list in order to accurately set up filters for capturing specific data sessions.



Output formatting

Falco formats the WAN traffic streams into LAN traffic format for monitoring by LAN Test Equipment and Network Probes.

Falco may format the traffic to:

- Standard LAN formats ready to be used by LAN clients such as analyzer
- Probes and security equipment
- PDH, T-carrier E1 or E3 traffic for efficient test equipment access

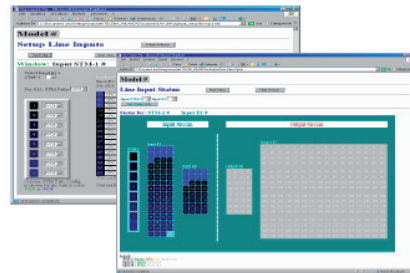
Management

Falco and TAM

Falco and its TAM extension have several management modes offering locally attached or remote LAN based management capabilities. Falco and TAM are managed as a single system.

Falco supports several management modes :

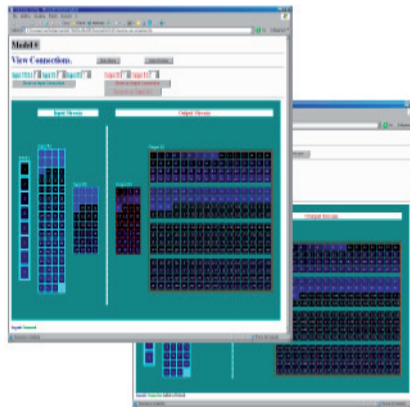
- Astro
- Browser
- SNMP Manager
- PC Terminal



Astro

Astro is a SNMP manager specifically designed to manage Falco and TAM.

It offers a Web based user interface and runs under Window 2000.



Browser

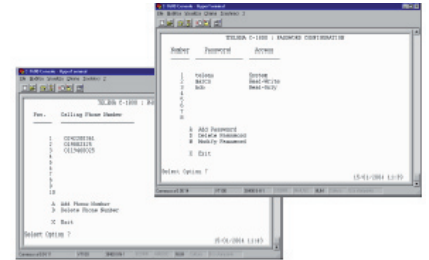
Falco includes HTTP Web management server for Browser Management Access from any PC with Internet connection.

Through effective use of Web pages and pop up windows the user can easily access and modify device configuration and monitor its operation.

SNMP manager

Falco contains a standard SNMP v1 and v3 device agent.

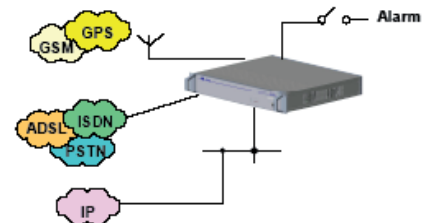
This allows Falco to be readily integrated into larger Network Management Systems managed by any standard SNMP Network manager.



PC terminal

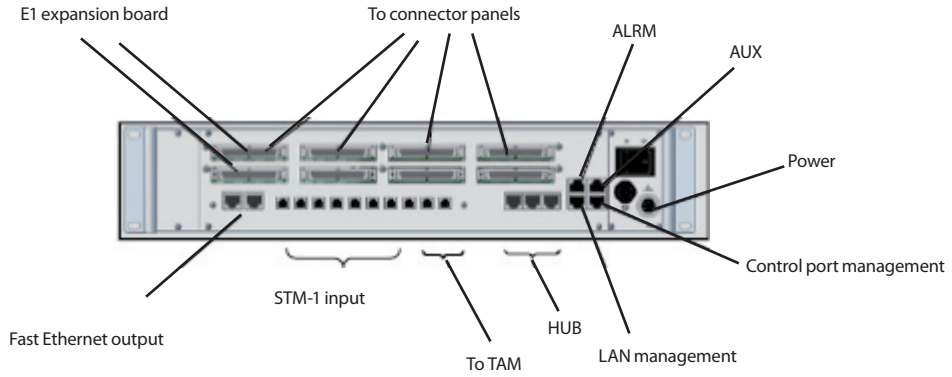
A rich set of Telnet menus and screens allows remote and local set up and monitoring of Falco system.

Telnet access is supported over Ethernet or a serial management port.



Falco and TAM can be managed over many different network types.

F-210 rearview



TAM

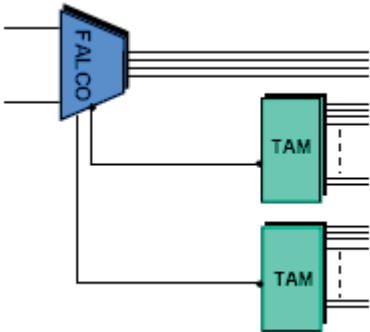
TAM is a non blocking test access matrix. It extends Falco access to multiple STM1/STM4 or multiple E1 lines.



TAM system is highly modular and scales in increments of 8 STM1/STM4 lines, allowing to be equally cost effective in small and in large access configurations.

Large configurations can be obtained by stacking several TAMs.

TAM supports APS (automatic protection switching) configurations and provides uninterrupted monitoring access.



Line protection switching

Falco main configurations

Groomer cross connect		Filter	
Input	Output	Input	Output
2÷4÷8	• Multiple E1	2÷4÷8	• Gigabit Ethernet
STM-1	• Fast Ethernet	STM-1	• Fast Ethernet
Single mode		Single mode	
Multimode		Multimode	
8÷96 E1s	• Fast Ethernet	Gigabit Ethernet	• Fast Ethernet
	• STM-1		• Multiple E1



Software options

- Grooming
- Automatic Protection Switching
- Layer 3 Filtering
- Layer 7 Filtering

Hardware accessories

- Connector panel
- Options : Modem — GPS — ISDN — TA

General

Power: - 220 VAC single or redundant
 - 48 VDC single or redundant
 - Consumption < 120 W

Dimensions: 48,26 width × 43,7 depth × 8,82 cm height

Weight: 8 kg (17,63 pounds)

All statements, technical information and recommendations related to the products herein are based upon information believed to be reliable or accurate. However, the accuracy or completeness thereof is not guaranteed, and no responsibility is assumed for any inaccuracies. The user assumes all risks and liability whatsoever in connection with the use of a product or its applications. JDSU reserves the right to change at any time without notice the design, specifications, function, fit or form of its products described herein, including withdrawal at any time of a product offered for sale herein. JDSU makes no representations that the products herein are free from any intellectual property claims of others. Please contact JDSU for more information. JDSU and the JDSU logo are trademarks of JDS Uniphase Corporation. Other trademarks are the property of their respective holders. © 2006 JDS Uniphase Corporation. All rights reserved. 30149147 000 0707 FALCO.DS.CPO.TM.AE

Test & Measurement Regional Sales

NORTH AMERICA TEL: 1 866 228 3762 FAX: +1 301 353 9216	LATIN AMERICA TEL:+55 11 5503 3800 FAX:+55 11 5505 1598	ASIA PACIFIC TEL:+852 2892 0990 FAX:+852 2892 0770	EMEA TEL:+49 7121 86 2222 FAX:+49 7121 86 1222	WEBSITE: www.jdsu.com
---	--	---	---	--