

iDirect® Series 12100 Universal Hub (Commercial 4-Slot)

The ideal market-entry size hub for service providers operating multiple high performance IP broadband networks

The Series 12100 Universal Hub (Commercial 4-slot) chassis is a cost-effective, compact, and highly scalable solution for service providers operating more than one network, who benefit from the same level of flexibility, efficiency, and reliability as larger iDirect hub solutions for deployment at a teleport or an enterprise location.

Smart Design With Great Scalability

The hub consists of up to 4 IF interfaces enabling multiple in- and outbound networks on 4 satellites. The compact design enables service providers to start with a smart and feature-rich solution when building new networks, while offering the same functionality as iDirect's larger hubs including integrated IP routing, TCP/IP acceleration, advanced Group QoS, encryption, iVantage™, iDirect's industry-leading NMS (network management system). Scalability is furthermore achieved through a hub daisy chaining capability.

Maximum Flexibility

The hub is highly flexible, supporting the entire array of topologies and access schemes including star, mesh, SCPC, DVB-S2/ACM, iNFINITI TDM, deterministic MF-TDMA and SCPC Return all in the same chassis. Bandwidth can be increased on the fly up to 149 Mbps per Evolution line card and up to 20 Mbps per iNFINITI line card on the outbound and up to 11.1 Mbps in TDMA mode or up to 20 Mbps in SCPC Return on the inbound. Furthermore, the hub supports up to 4 IF interfaces, supporting up to 4 satellite connections.

Greater Control and Manageability

Convenient plug-in modules, with an extensive LED array, offers even more control and manageability. The management control module includes power and fan status module reset switches, audible alarm on/off, and over temperature sensor switches. The LED array provides instant status checks on IF modules, line cards, power supplies, fans, RCM and chassis conditions.

Greater Efficiencies Through Bandwidth Optimization

With iDirect's most advanced built-in Group QoS functionality, service providers can increase quality of service levels, bandwidth optimization, and traffic prioritization. Group QoS allows for unparalleled flexibility when partitioning bandwidth groups by allowing traffic differentiation by groups of remotes, by applications, and by VLANs.

Ease of Mind With Built-in Redundancy

Uncompromised reliability is achieved through redundant components: power, fan, RCM, line card redundancy as well as optional outdoor power modules.



Features

- ◆ Compact, scalable 4-slot design for operation inside a teleport or enterprise
- ◆ Interface with up to 4 satellites from one hub
- ◆ Integrated, hub daisy chaining
- ◆ Supports multiple topologies including star, mesh and iSCPC
- ◆ Supports DVB-S2/ACM or iNFINITI TDM rates up to 149 Mbps on the outbound
- ◆ High level of redundancy with integrated, convenient, plug-in modules

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Network Configuration

IFM	1IF or 4IF
SatCom Interfaces	Please refer to line card specification sheets for detailed frequency ranges
Line Cards Slots	4
Remote Requirements	Works with any Evolution™ or iNFINITI® remotes

Line Card Specifications

Model	Designed for use with Evolution line cards: XLC-10, XLC-11, XLC-M, eM1D1, eM0DM Designed for use with iNFINITI line cards: M1D1, M0D1, M1D1-T, M1D1-TSS, M1D1-iSCPC
Max. IP Data Rates Per Line Card	Downstream: up to 20 Mbps (iNFINITI) or up to 149 Mbps (Evolution) Upstream: up to 11.1 Mbps in TDMA mode, up to 20 Mbps in SCPC Return mode
Network Access Scheme	DVB-S2/ACM, TDM iNFINITI and deterministic MF-TDMA or SCPC Return
Topologies	Star, mesh, iSCPC
LAN Interface	RJ-45, Cat 5e, 10/100/1000 Mbps Ethernet

Power Specifications

Input Voltage Range	100 – 240 VAC
Frequency	47 – 63 Hz
Outdoor Power Module (OPM) — Optional	24 VDC or 48 VDC, 1+1 redundancy, hot-swappable (BUC up to 20W C-Band, 16W Ku-Band)
10 MHz Reference	10 MHz reference to BUC and LNB available via line card
Main Power Module	600 Watt, 1+1 redundancy, hot-swappable
BTU	1793 BTU/hr.

Mechanical and Environmental

LED Display Module	Line Card Status, IF module status, Fan status module (FSM), RCM A and B alarm, BUC power supply A and B alarm, main power supplies, A and B over temperature status and A and B power good, control module status, chassis over temperature status
Size	W 17.5" x D 19" x H 10.5" (6U) (W 44.45 cm x D 48.26 cm x H 26.7 cm)
Weight Empty	60 lbs (27.2 kg)
Operating Temperature and Humidity	0° to 45°C (+32° to +113°F), 0–95% non condensing
Operational Altitude	Up to 10,000 feet (< 3,048 meters)
Fans	One fan status module, 2 fans 1+1 redundant, hot-swappable
Management Control Module	Power reset switch, audible alarm on/off switch, over temperature sensor, fan status module reset switch
Start of Frame (SOF)	Start of Frame toggle switches (on front panel) for timing group configuration
RCM	10 MHz, 1+1 redundant, with auto fail-over, hot-swappable, external GPS Ref. capable Hub daisy chain capable — 4-slot to 4-slot (2 maximum)
Safety Standards	Complies with IEC 60950, EN 60950-1, UL 60950-1, CSA C22.2 No.60950-1-03
Emission Standard	Complies with EN 61000-3-2, EN 61000-3-3, EN 55022 Class A, FCC Part 15 Class A, CISPR 22 Class A
Immunity Standard	Complies with EN 55024, EN 61000-4-2, EN 61000-4-3, EN 61000-4-4, EN 61000-4-5, EN 61000-4-6, EN 61000-4-11
Certification	FCC, CE and RoHS Compliant