Fiber-Span
RF ON FIBER® EXPERTS

FS71C-85

806 - 869 MHz
Digital Narrowband Class A Signal Booster

Key Features :

- 806 - 869 MHz Frequency Range
- Class A Narrowband for Public Safety applications
- +37 dbm Linear Composite Output Power
- Up to 16 or 32 (dual) full duplex channels in 4U subrack
- 120 dB System Gain per channel max
- NFPA 72 Compliant (wall-mount Version)
- Individual AGC and Squelch settings per channel
- Fiber-Fed DAS Configurations, with or without Power Amplifiers or Duplexers
- Programmable Filter Bandwidths, Selectivity & Group Delay

DESCRIPTION

Fiber-Span's FS71C-85 Narrowband Digital Technology integrates uplink and downlink programmable front-end narrowband filters with broadband Multi-Carrier Power Amplifiers (MCPAs), to deliver a Bi-Directional Narrowband Signal Booster.

The FS71C-85 uplink amplifiers can be specified as truly channelized narrowband filters tuned to transmit only your licensed channels, in compliance with the FCC definition for Class-A Signal Boosters. It can be configured with up to 16 or 32 fully programmable filters per path, Uplink and Downlink. The downlink path filters can be broader for reduced delays to accommodate the digital modulation signals timing constraints in the overlap coverage areas. Each filter-window has an input sensitivity of -105 dBm and up to 120 dB of available gain.

The FS71C-85 is a patent-pending design for multi-carrier two-way rebroadcast systems, where significantly high dynamic range is required on a channel-per-channel basis, while delivering lower and smoother group delay ripple.

The individual AGC per channel feature essentially eliminates the uplink near-far concern prevalent in many Public Safety broadband DAS systems.

The filter's bandwidths and selectivity can be specified by the user in order to achieve very narrow filter windows to optimize between rejection and latency. The individual receive threshold level (RF Squelch) per filter ensures clean output spectrum with no amplified noise if in-active.

A variety of pre and post-rebanded internal duplexer options are available for additional interference protection and multi-service/multi-band compatibility over broadband DAS systems. Also available are confi guration options that exclude the portable side duplexer and downlink MCPA for direct compatibility with Fiber Optic DAS systems.

Consult Fiber-Span Sales team for custom Bi-Directional Amplifier configurations and fiber optic options including WDM. Refer to separate data sheets for VHF & UHF bands.

Applications :

- Shopping Malls
- Warehouses
- Parking Garages
- Airports
- Justice Centers
- Manufacturing Facilities
- Stadiums
- Convention Centers
- Universities
- Tunnels
- Subways

Fiber-Span is a world-leading manufacturer of RF ON FIBER® Communication Network Products for in-building, in-tunnel and outdoor coverage extension systems serving the Commercial Wireless, Public Safety, Government and Military markets.

3434 Rt. 22W, Suite 140 | Branchburg, New Jersey 08876 | (908) 253.9080 | www.fiber-span.com

FS71C-85 | Specifications

Description	Specifications
Frequency Range:	806-824 MHz / 851-869 MHz range The overall system bandwidth per path (UL & DL) could be specified as 3, 7, 10, 15 or 18 MHz. Note: The bandwidth option chosen will limit operation within that bandwidth only.
Narrowband filters Selectivity – Adjacent Channel Rejection (ACR):	20-70 dB, The Filters Response-Type, Group Delay, Bandwidth and Selectivity are software-defined.
Absolute Group Delay:	10-120 uSec, Factory set per customer specifications

NOTE: Filter selection determines bandwitdh, rejection / selectivity and latency. A wider bandwidth filter will have less rejection of out-of band spurious but also lower latency. A narrower filter will have better rejection but higher delay. Operational bandwidth is adjustable and has a maximum of 4 MHz (model DD option 3A & 3B have a maximum of 3 MHz). Channels can be selected within the operational bandwidth, and the system will only function inside this bandwidth. **Please consult Sales with your specific requirements.**

System net gain per filter window:	120 dB max.
Automatic Gain Control (AGC) range, on a per filter-window basis:	60 dB
Constant Output level regardless of input level variations, per filter:	± 2 dB
Broadband input power attenuator adjustment range, per path UL/DL:	30 dB
Maximum input power (composite) for no-damage, per path UL/DL:	-30 dBm
System OIP3:	> +63 dBm
System Output Power - Linear Power :	37 dBm, 5 watts (ALC set for FCC compliance)
System Output Power Automatic Level Control (ALC), composite, factory limited for compliance with FCC Signal Boosters maximum power = 5W:	variable set-point 32 ~ 37 dBm (5 Watts) (Note: +37dBm is maximum output power)
Composite output power level adjustment range:	20 dB
Input (Rx) IM Rejection:	>60 dB
Spurious & harmonics outputs:	<= -20 dBm

Mechanical & Environmental

Rackmount 19 in. shelf. (Optional wallmount enclosure upon request)	Up to 16 channels per Uplink and per Downlink: 4U, 18 inches depth Up to 32 channels per Uplink and per Downlink: 4U, 18 inches depth
Weight:	4U enclosure: 44 lbs. (20 Kg),
Operating ambient temperature range:	-30 to +50° Celsius
MTBF:	> 90,000 hours, > 70,000 hours (fiber-fed versions)
Power Requirements, 100-240 Vac 50/60Hz:	175W (dual amplifier version). 100 watts (single amplifier)

Interface and Alarms

Human-Machine-Interface:	Graphical User Interface via USB and using Fiber-Span DASView1000™ , Summary alarm via circular connector
Computer Interface, Serial port:	USB interface for DASView1000™ Graphical User Interface Program (for Control and Alarms)
Summary Alarm I/O:	Single pole Relay, normally closed

Ordering Information

Identification	Part Number
FS71C	FS71C-85XEDDYYZMM
	Where: X=Downlink PA, (E=37dBm, N=No MCPA)[1] MM=Mounting (RM=Rack-mount, 4X=Nema 4X Wall-mount) YY=Number of channels (1 thru 16, or 32 for dual unit) Number of active channels (1 to 16) is settable by user via GUI Z=Mobile Side Duplexer (N= No Duplexer, D=Duplexer)[2]
	DD=Duplexer Bandwidth: 3A=3 MHz, 806-809/851-854 MHz 3B=3 MHz, 821-824/866-869 MHz 07=7 MHz, 817-824/862-869 MHz 09=9 MHz, 806-815/851-860 MHz 15=15 MHz, 806-821/851-866 MHz 18=18 MHz, 806-824/851-869 MHz
	Example: FS71C-85EE3A16NRM - 800 MHz SMR Channelized BDA, 37dBm uplink and downlink PAs, 3 MHz Passbands, 16 channels uplink, 16 channels downlink, non-duplexed output port, rack-mount configuration. The Duplexer Bandwidth (DD) option chosen will limit operation within that bandwidth only.

[1] Do not include Downlink Power Amp for configurations that interface with a Fiber Distributed Antenna System only.
[2] Choose "N" to elliminate downlink Duplexer - used in cases where the unit only feeds a fiber DAS. With the "D" option both a downlink PA and a fiber interface is provided.

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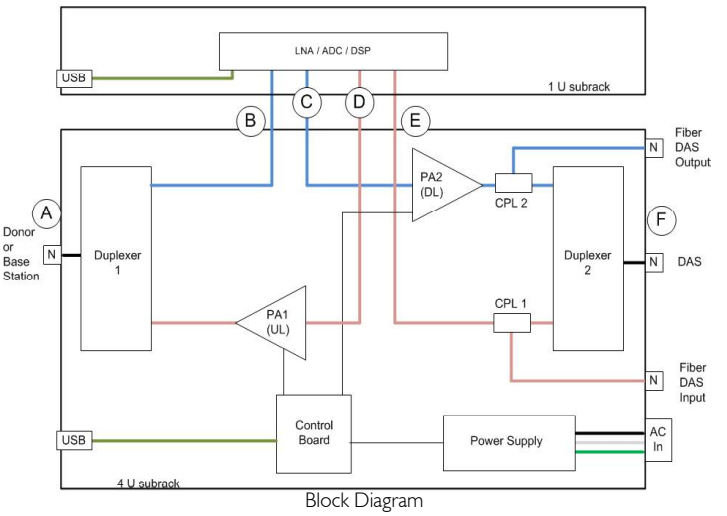
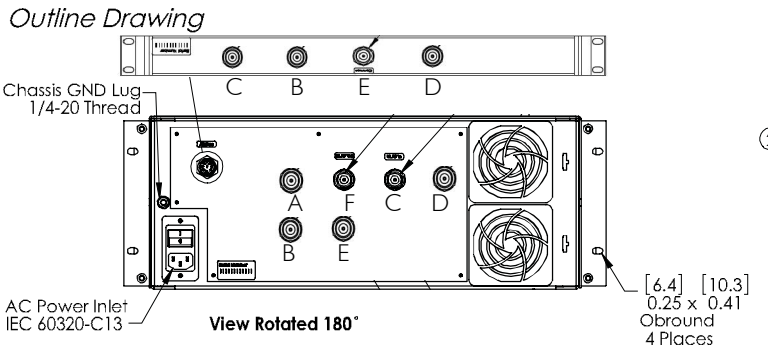
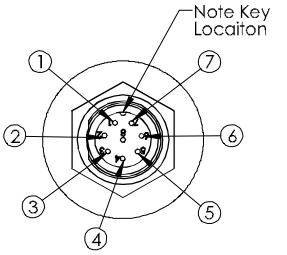
www.fiber-span.com | techinfo@fiber-span.com
Rev.:0215_1v1h

FS71C-85 | Outline Drawing

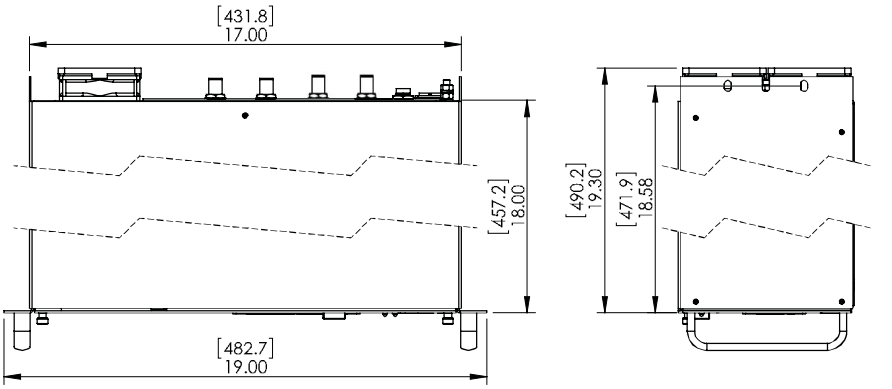


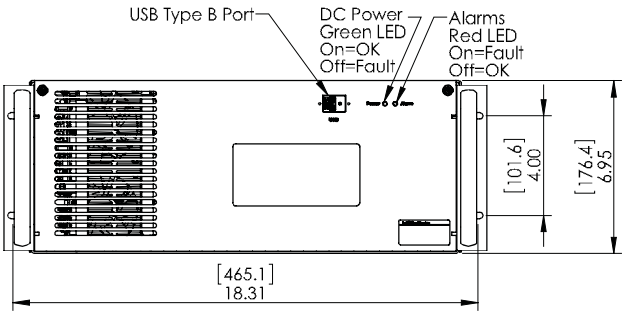
Block Diagram





Alarms Detail/Pinout





Pin	Desc.	Function
1	N.C.	Local Summary Alarm
2	Com.	
3	-	
4	-	
5	-	
6	-	
7	-	
8	-	
Dry Contact Normally Closed when Status is OK		

Outline Drawing

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