Barnfind USA
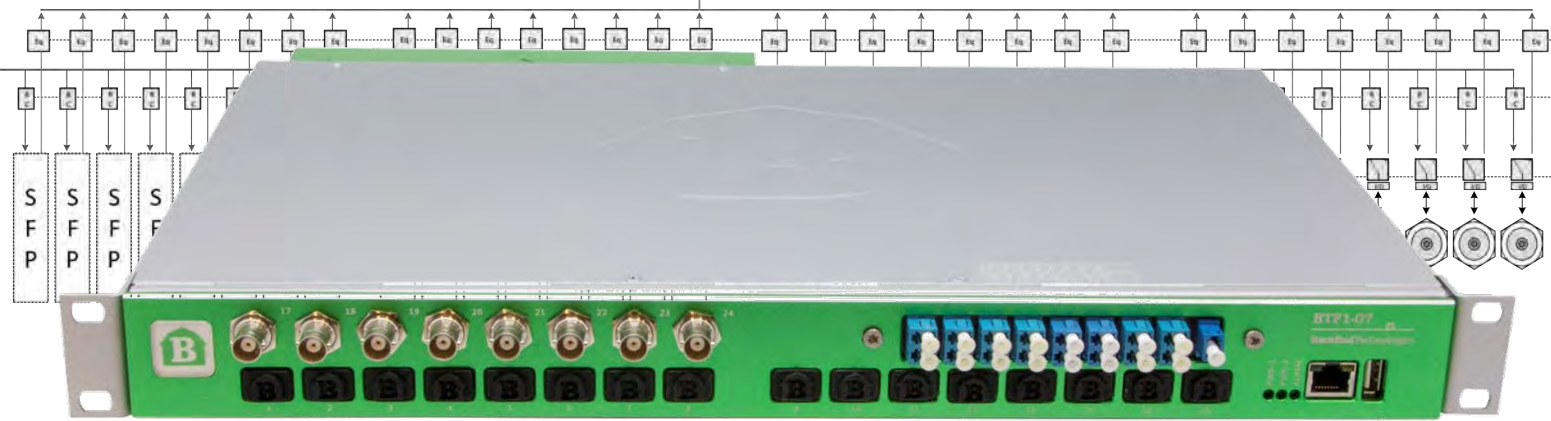## Fiber Transport Solutions

- Fiber Transport
- Multiplexing
- Routing
- Conversion

- Distribution
- IP / Ethernet
- 4K/60P Workflows
- CAM - CCU

The BarnOne Frame & Variants

BarnOne Frame Shown With 16 SFP cages, 8 BNC ports & 16-Channel CWDM Passive Mux/Demux As BTF1-07

A Frame Configured For Your Needs

Our frames were designed to be the most flexible, rack-space saving and affordable infrastructure platform in the video business. Highly compact and equipped with a 32 x 32 cross-point router, we offer a number of configurations to combine BNC, SFP and multiplexing (for CWDM operation) into a 1-RU package that can handle up to 32 inputs/outputs (depending on configuration). The BarnOne frames accept all kinds of SFPs following the MSA standard. From optical to copper, HDMI and Ethernet, the selection of SFPs in the industry is amazing; and, all MSA SFPs work with BarnOne frames allowing our users extreme selection of I/O options.

World-class redundancy handling with auto-switching to any chosen input makes BarnOne one of the most comprehensive component for critical transmissions.

With the technology we use you do not need hundreds of circuit boards anymore to achieve what we can using SFP's! Reduce your hardware footprint from 3-6RU to the multifunctional 1RU BarnOne!

A Multitude Of Tools In A Small Package

- A full 32 x 32 router in every BarnOne 1RU frame.
- Route any input to any output, distributed, converted, monitored and analyzed.
- Advanced signal redundancy with auto-switching to any chosen input.
- Every SFP port is bi-directional & hot-swappable. Works with any MSA SFP.
- Every BNC port is input or output selectable.
- All output ports are re-clocked.
- Multiple reference switching.
- Control via Web Server interface, through included BarnStudio or through 3rd party control systems: Ross OpenGear/DashBoard, Skyline/Dataminer, ScheduALL, LAWO/VSM, BFE/KSC, DNF Control, TSL, RASCULAR, Black Magic, Axon Cerebrum, SAM SW-P-08 etc. already integrated.
- The BarnOne platform supports numerous signals in one frame such as common video and telco formats including KVM, SDTI (e.g. EVS), SMPTE 2022-6, MADI, SDI to IP, Ethernet, 4K 60p workflows, HDMI, DVI, Serial, GPI/O, CVBS, CAM-CCU (including video, audio, tally, intercom, RCP) etc

Various Frame Configurations To Suit Your Application

- BTF1-01 – 16x SFP port
- BTF1-02 – 16x SFP + 16x BNC
- BTF1-03 – 16x SFP + 8/16 CWDM
- BTF1-04 – 32x SFP
- BTF1-05 – 16x SFP + 2x 8/16 CWDM
- BTF1-06 – 24x SFP + 8x BNC
- BTF1-07 – 16x SFP + 8x BNC + 8/16 CWDM
- BTF1-08 – 24x SFP port + 8/16 CWDM

A New BarnOne Frame Coming

Available Early 2019 With Features The Industry Demanded.

The NEW BTF1-41 adds 4K, 12G-SDI and IP in a multi-format frame.

Barnfind's BTF1-41 Frame, our most advanced frame and the first BarnOne with multi-format 12GBps capacity and built-in SDI to IP processing. The frame's future-proof technology addresses emerging formats such as 4K and IP with a network of functions that support multi-viewers, signal processing and compression. All of the features of the legacy BarnOne frames are retained. An optional mid-board section with high-speed connectors allows third-party vendor technology to be integrated into the platform, guaranteeing its longevity, and that functionality can be upgraded constantly, preventing obsolescence.

The BarnOne Frame & Audio

BTF-10-AA Featuring 8-Ch Analog Audio I/O with Integrated MADI Router

The BTF1-10-AA includes all of the features of the BarnOne frame series but adds a top board with AD/ DA converters for 8x balanced analog line level audio and a 264x264 channel audio matrix with 4 bi-directional MADI interfaces and connects the audio board to the main 32 x 32 matrix of the BarnOne frame.

The audio matrix offers single channel routing be tween all 4 MADI interfaces and the 8 analog ports. This makes the card a powerful MADI -Router on a per channel basis with analog interfaces.

In conjunction with the main matrix of BTF1 -10-AA it can be used for MADI electrcial - optical conversion and/or distribution. You can simply use it to connect analog audio equipment directly to an audio console or matrix. The interface to the console can be optical by single mode or multimode fiber or electrical by coax cable (BNC).
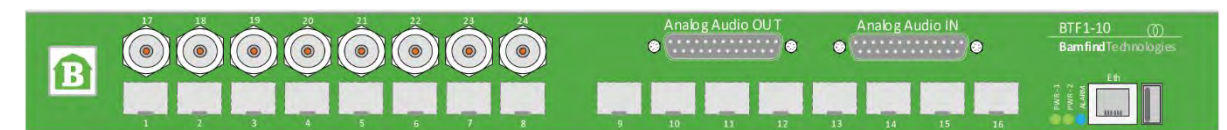
Flexibility At Your Fingertips!

Analog Ports
- 8x balanced analog line inputs (DB25), individually configurable +18dBu/+24dBu (default setting: +18dBu)
- 8x balanced analog line outputs (DB25), individually configurable +18dBu/+24dBu (default setting: +18dBu)

A/D Converter
- THD -115dB •SNR -115dB unweighted •THD+N -108dB

D/A Converter
- SNR -115dB •THD+N -107dB

MADI Ports
- 4x MADI (AES10) I/O internally connecting to main matrix
- Sample rate 44.1kHz/48kHz (1FS), 2FS supporting 88.2kHz/96kHz
- Synchronization to one of the MADI ports or to internal clock 44.1kHz/48kHz
- Single channel routing for all MADI ports and analog I/O

Barnfind USA
Fiber Transport Solutions

BARNFIND SFPs (Small Form-Factor Pluggable)

MSA SFPs Available Everywhere

Barnfind products use MSA SFPs. The form factor and electrical interface are specified by a multi-source agreement (MSA). As a result, SFPs are available from a wide range of manufacturers and can be used interchangeably in BarnOne frames or in our BarnMinis.

BARNFIND-USA carries a wide variety of MSA SFPs to satisfy our customers' applications. Our SFPs are rigorously tested by our engineering department and we guarantee interoperability with our BarnOne frames and BarnMinis. However, we do recommend and encourage our customers to use other brand SFPs especially for applications where we have not yet fully investigated. One of the benefits of our products using MSA SFPs is they are widely available from a number of reputable manufacturers.

Various SFP Types Available From BARNFIND

OPTICAL SFP TRANSCEIVERS SINGLE MODE
- Available for 1G, 2.1G, 3G, 6G, 10G & 12G bandwidths (bps).
- Operating frequencies of 1310nm or 1550nm.
- Various distance coverage selections from 1.2 miles to 50 miles.

OPTICAL SFP TRANSCEIVERS MULTI MODE
- Available for 1G & 3G bandwidths (bps).
- Operating frequencies of 850nm or 1550nm.
- Various distance coverage selections from 900ft to 1.2 miles.

BIDIRECTIONAL OPTICAL SFP TRANSCEIVERS – SINGLE MODE
- Available for 1.25G, 2.25G & 3G bandwidths (bps).
- Operating frequencies of 1310nm, 1450nm or 1550nm for transmit/receive.
- Various distance coverage selections from 12 to 50 miles.

CWDM OPTICAL SFP TRANSCEIVERS, SINGLE MODE
- Available for 1.25G, 2.5G, 3G & 10G bandwidths (bps).
- Operating frequency selection for transmit between 1270nm and 1610nm (18 frequencies).
- Various distance coverage selections from 16 to 50 miles.

DWDM OPTICAL SFP TRANSCEIVERS – SINGLE MODE
- Available for 1.25G & 2.5G bandwidths (bps).
- Distance coverage selections from 50 to 75 miles.

HiLo OPTICAL SFP TRANSCEIVERS – SINGLE MODE
- Available for 1.25G & 2.5G bandwidths (bps).
- Operating frequency selection from 1270nm – 1610nm.
- Distance coverage of 6.2 miles.

MEDIA SFP CONVERTERS
- RJ45 for Ethernet; various speeds.
- HDMI to SDI conversion and visa-versa.
- HD-BNC for SDI
- HD-BNC for CVBS conversion to SDI.

Passive Optical Products

The BARNFIND LGX Series: Optical Solutions You Can Depend On

BARNFIND-USA offers a range of passive optical products needed for our most popular applications. Splitting fiber optic feeds, multiplexing and de-multiplexing CWDM or DWDM feeds and providing optical changeover to manage redundancy are key applications for most fiber transport systems. Our free collection of applications notes included in our BarnGuide (free download and available on request) outlines some of these applications and how these passive components can be used to enhance operations, save fiber optic space and provide a more robust and efficient signal transport operation. The LGX series can be used as standalone modules or can be housed into our 1RU frame, BT-HOUS-LGX-1RU. This frame has a capacity for up to 4 pcs of any of the LGX modules. You can chose among different CWDM multiplexers, splitters and optical changeover switches.

Available Passive Optical Products

Multiplexers & De-Multiplexers
- BT-WDM-LGX: CWDM, 2-Channels
- BT-CWDM-08-LGX: CWDM, 8-Channels
- BT-CWDM-16-LGX: CWDM, 16-Channels
- BT-CWDM-18-LGX: CWDM, 18-Channels
- BT-DWDM-MUX-32-1RU: DWDM, 32 Channels
- BT-DWDM-MUX-44-1RU: DWDM, 44 Channels

Optical Spitters
- BT-SPLIT-2-LGX: 1 In, 2 Out
- BT-SPLIT-4-LGX: 1 In, 4 Out
- BT-SPLIT-8-LGX: 1 In, 8 Out

Optical Change-Over Switch
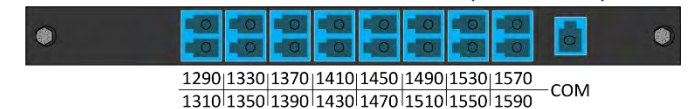- BT-OSC-2-LGX: Optical ChangeOver 2 - 1

BT-CWDM-MUX-08-LGX: 8-Channel Optical Multiplexer

1290 1330 1370 1410 / 1310 1350 1390 1430 — COM

BT-CWDM-MUX-16-LGX: 16-Channel Optical Multiplexer

1290 1330 1370 1410 1450 1490 1530 1570 / 1310 1350 1390 1430 1470 1510 1550 1590 — COM

BT-CWDM-MUX-18-LGX: 18-Channel Optical Multiplexer

1270 1310 1350 1390 1430 1470 1510 1550 1590 / 1290 1330 1370 1410 1450 1490 1530 1570 1610 — COM

BT-SPLIT-1:2: 2-Channel Splitter
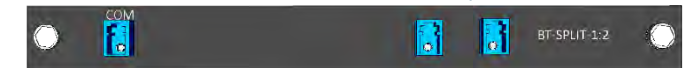
BT-SPLIT-1:4: 4-Channel Splitter

BT-SPLIT-1:8: 8-Channel Splitter

BT-OCS-2LGX: Optical Change-Over Switch

CWDM Frequency Chart

CWDM Channels		Wavelength
	1	1270
	2	1290
	3	1310
	4	1330
	5	1350
8 CH.	6	1370
	7	1390
	8	1410
	9	1430
	10	1450
16 CH.	11	1470
	12	1490
	13	1510
	14	1530
	15	1550
18 CH.	16	1570
	17	1590
	18	1610

Operating frequencies for the 8 channel, 16 channel and 18 channel mux/demux shown in the chart on the left.
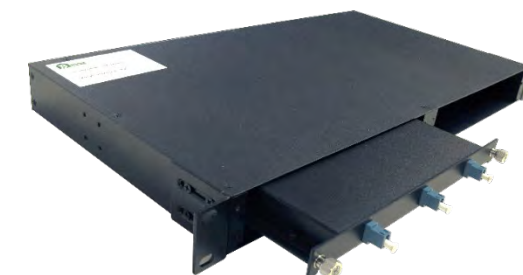
The BT-HOUS-LGX-1RU is a 1 RU rackmount for the Barnfind Passive Optical products. Each module is secured with a thumbscrew for easy and quick replacement. These LGX modules are often delivered together with a BarnOne system where you chose to have the optical modules separate from the BarnOne frame. Certain BarnOne frames are also designed to accommodate these products.

Barnfind USA
Fiber Transport Solutions

BarnStudio Software & Control

Control Your System Your Way!

Our philosophy is to make control available, predictable, reliable and easy to understand and use. Our BarnOne frames can be controlled via BarnStudio, our own software provided free or charge, via Webserver included in our hardware, via popular hardware panels like DNF controls and by practically every 3rd party software provider including:

- OpenGear / DashBoard / ROSS • Skyline (Dataminer)
- BFE, Commander and control panels
- LAWO, VSM and control panels
- Probel / Snell protocol, SW-P-08
- TSL • Crestron • Rascular • BlackMagic
- Axon Cerebrum • DNF Control • HiTech Systems

BarnStudio gives you a quick and easy control setting, an overview of the input and output ports, re-clocking configurations, alarms, full matrix control, cable compensation on the input side, auto SFP detection and full diagnostic information.
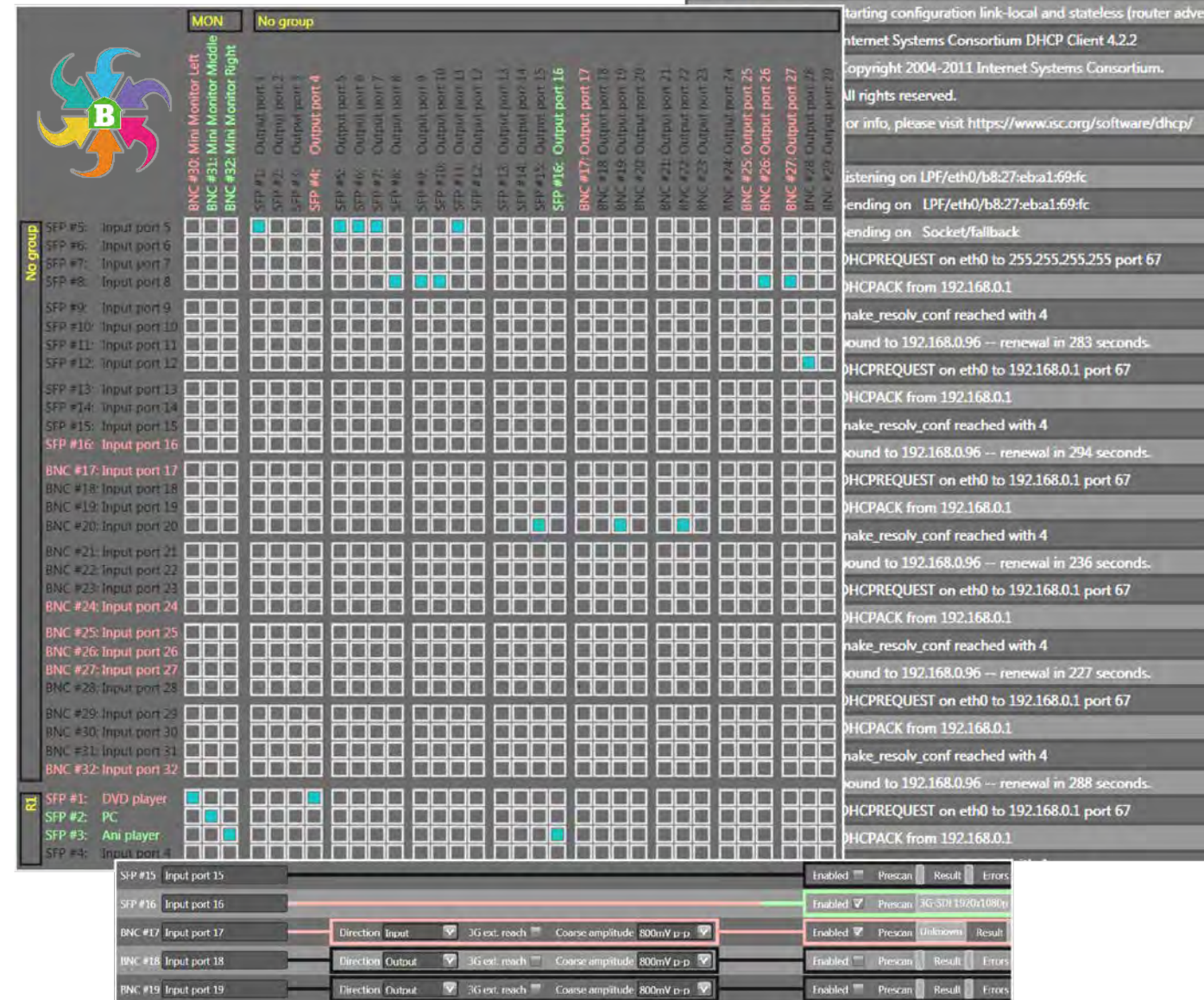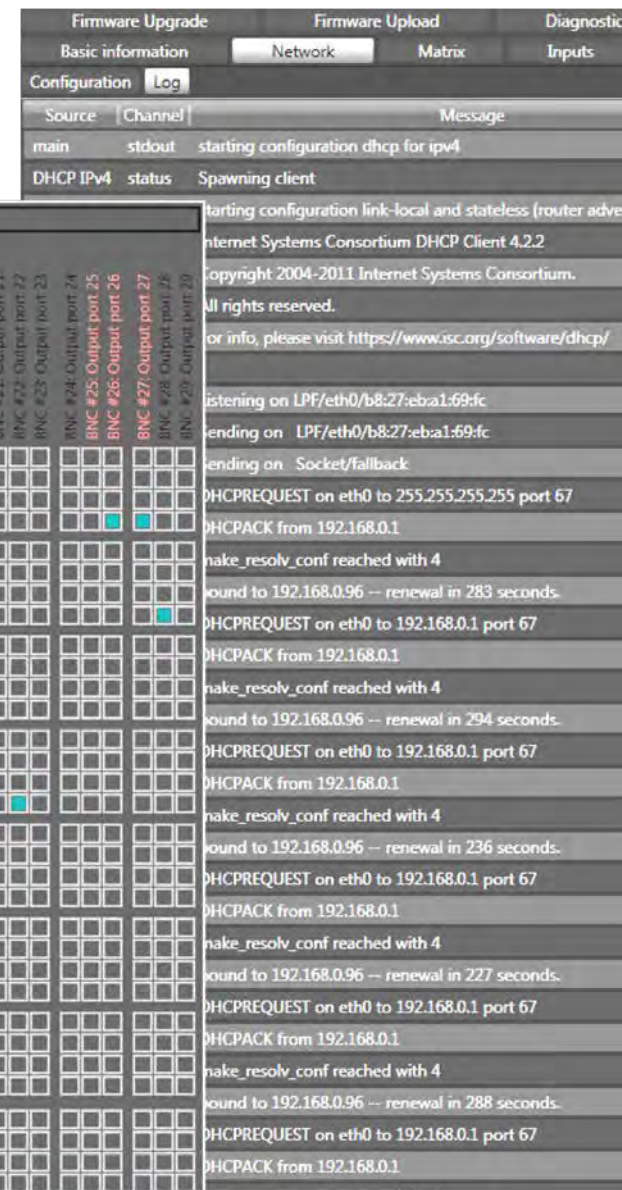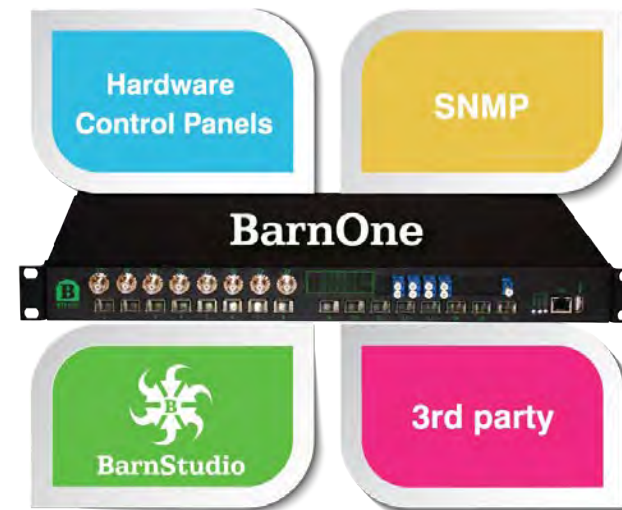
The BarnMini Series

The BarnMini Series: Tiny solutions to huge challenges.

These standalone solutions are ideal for smaller jobs where the BarnOne frames may not be required – they represent the "Swiss army knife" of the conversion and signal transport part of our industry.

A rackmount solution is available allowing you to mount several units together or, you can use these little boxes as "throw-downs" behind racks and inside ceilings and floors to solve conversion and signal transport challenges as needed.

The BarnMinis are ideal standalone solutions where no control is required and solve everything from a simple task to more comprehensive solutions where the BarnMinis are used in conjunction with BarnOne' frames to empower complete distributed systems in lager facilities.

Challenge Solvers In A Small Package

- BARNMINI-12: 12Gbps SFP – SFP Converter
- BARNMINI-11: 12Gbps Coaxial To SFP Converter
- BARNMINI-08: Optical Splitter
- BARNMINI-07: Optical Multiplexer
- BARNMINI-06: Optical Changeover
- BARNMINI-05: GPIO & Serial Data To Ethernet Converter
- BARNMINI-04: SFP – HDMI Converter
- BARNMINI-03: HDMI – SFP Converter
- BARNMINI-02: 3Gbps SFP – SFP Converter
- BARNMINI-01: #Gbps Coaxial To SFP Converter

BARNMINI General Features

- Use any SFPs from Barnfind or any other SFP supplier as long as they are MSA compatible.
- All BNCs and SFP outputs are re-clocked.
- Unique HDMI to SDI solutions with any fiber distance depending on SFP selection.
- Multimode to Singlemode conversion in one Mini.
- BarnMini Housing in 2.5RU for up to 16 x different BarnMinis.
- All BarnMini modules are operational from 5V to 24V.
- Can be used as a standalone box or in advanced systems with BarnOne or any 3rd party solution.
- AC adapter is included.
- Rock solid mechanics and technology. The BarnMinis are designed to work in harsh environments.

BTF-Mini-16 Houses Up To 16 BarnMinis & Provides Power Supply For All 16 Units. Power Supply Is Included; Redundant Power Supply Is Optional.

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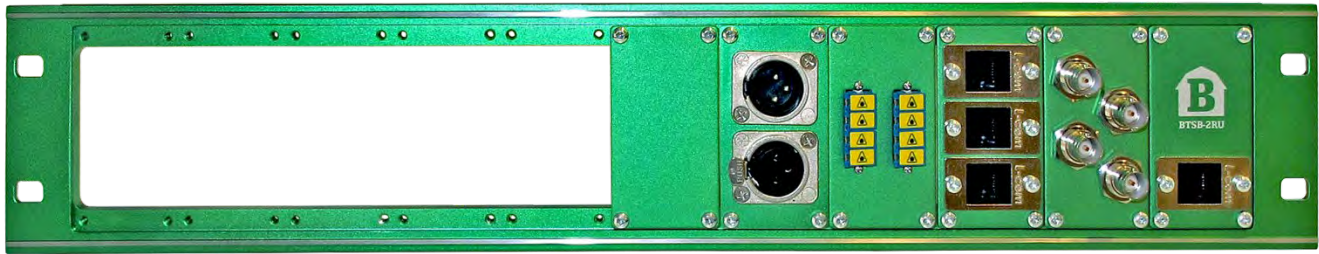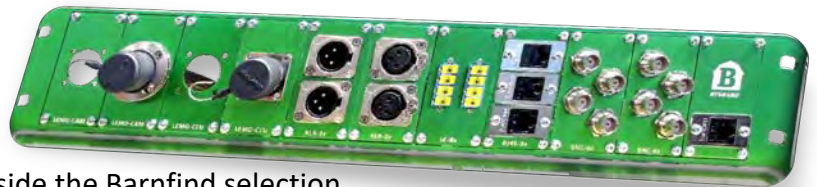
Stage Box Break-Out

Perfect For System Integration

The Barnfind Stage Box break-out panel allows you to customize your own front panel based on your setup's required connectors. The various selection of modules enables connection points to other equipment. The system consists of a frame that can be rackmounted and modules where connectors can be mounted that hold BNCs, XLRs, RJ45 connectors etc. The picture above depicts a frame with 4 modules installed, a blank panel and 5 open module spots where other modules can be installed.

The Stage Box helps organize your connections and produces a neat and easily manageable connections system.
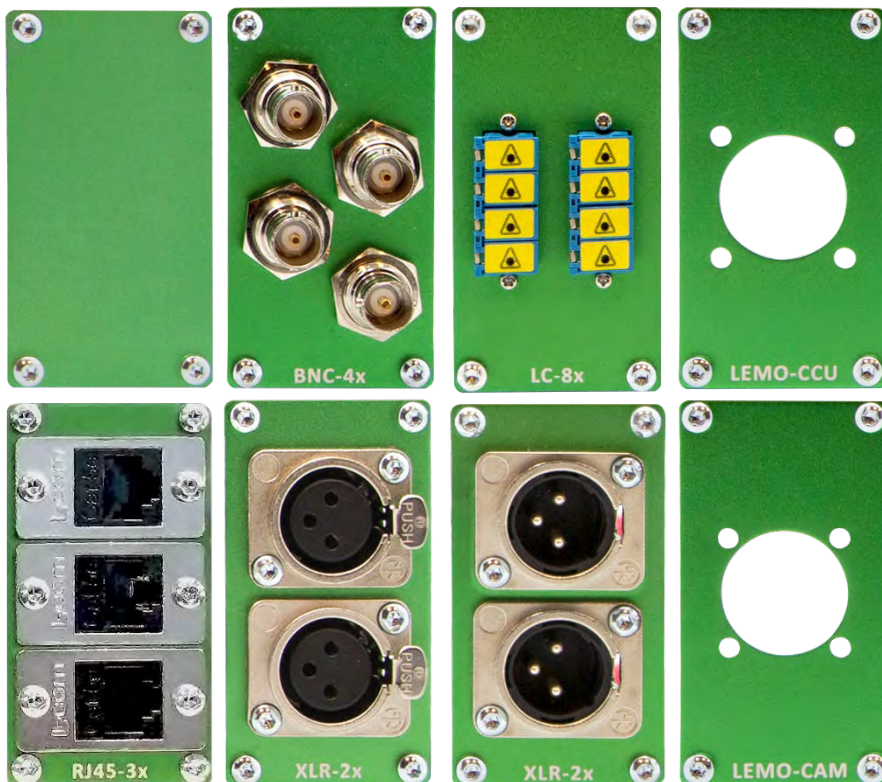
All modules are made of solid aluminum, with high performance connectors.

Please note:

1. The BTSB-BASE blind cover can be customized to fit any other connector outside the Barnfind selection.
2. Cables between break-out panel and frames are not included.

Stage Box Break Out Components

- o **Above:** BTSB-2RU Frame.
  From Left to Right (top):
- o BTSB-BASE: Blank Panel
- o BTSB-BNC-4x: 4 x BNC Panel
- o BTSB-LC-8x: Panel Mounted LC Connectors.
- o BTSB-LEMO-CCU: Panel Mounted EDW Connector; Connector Not Included.
  From Left to Right (top):
- o BTSB-RJ45-3X: Panel Mounted 3 RJ45 Connectors.
- o BTSB-XLR-F2X: Panel Mounted XLR Female Connectors.
- o BTSB-XLR-M2X: Panel Mounted XLR Male Connectors.
- o BTSB-LEMO-CAM: Panel Mounted FXW Connector; Connector Not Included.