

PART A. INTRODUCTION

About FieldCast

FieldCast is manufacturer of robust fiber optic solutions for integration in any AV environment where live events registration is at the heart of the operation. Whether you are broadcasting, narrowcasting, or just want to transport AV data over longer distances, FieldCast comes with smart, easy to use, and affordable fiber optic solutions for studio, house of worship, conference room, medical room, theatre, residential system integration, outdoor stage, or OB van.

FieldCast is not just a fiber cable, it is designed as a complete fiber optic system, enabling you to implement fiber optics fast, easily and efficiently, indoor and outdoor, in the studio and in the field.

With FieldCast you don't have to be a system integrator, technician or engineer to bring it all to light. Start using it today, and be ready for tomorrow's parties.

The FieldCast system is robust, affordable, easy to use, available from stock, and based on latest technology.

Why fiber optics?

Traditional copper cabling technology has reached its ultimate limit, and we have to accept that it can't transport the higher resolutions and frame rate of today's digital video and cinema protocols over longer distances.

Fiber optic technology does not have these limitations, and is perfectly capable of transporting huge amounts of data over virtual any distance, maintaining signal integrity from start to finish without compromise.

Moreover, fiber optics is more than ready for the migration to Video over IP, and is paving the way for the IP roadmaps that are being drawn towards tomorrow's infrastructure.

PART B. THE FIELDCAST SYSTEM IN A NUTSHELL

The FieldCast System in its simplest form: about cables

You start by choosing a FieldCast **main cable**; a 100m or 200m robust fiber cable on drum that on both ends of the cable have the sturdy FieldCast connector.

Then you choose how you want the sturdy connectors on the main cable to connect to your equipment. You can do this with the so-called side cables as you are using these cables only for both ends of the main cable. The simplest solution is to use a FieldCast **chassis connector** on the one end of the cable and a FieldCast **adapter cable** on the other end of the cable (or use two of each for both ends). Both chassis connector and adapter cable have the sturdy FieldCast connector on the one side (to connect to the main cable) and a standard LC-duplex connector on the other side (to connect directly into the SFP of your fiber-optic device). Just click all FieldCast connectors together and there you are: a robust FieldCast fiber optic system in its simplest form.

Training video:

- FieldCast cables: https://www.youtube.com/watch?v=_U5VKAWbexw

But there is more than cabling: about adapters and panels to bridge to LC

Instead of the FieldCast chassis connector or the FieldCast adapter cable one can use more sophisticated solutions tailored to the specific equipment, making an even steadier connection

to fiber-optic devices by protecting its vulnerable LC connection. Consider the FieldCast panels or the FieldCast adapters, which are basically chassis connectors built in a panel or a box, meant for daily use in the field or in the studio.

FieldCast **Adapter Two** is especially developed to connect safely to the SFP of Blackmagic Studio Camera so that the camera man can freely move in the field while the robust FieldCast main cable is rolled out to the OB van. Or, in case of an SDI camera, the camera man can use FieldCast **Adapter One** to connect safely to the SFP of Blackmagic Camera Converter, and having complete freedom to move in the field, not worrying about loose connections. In the OB van, the long fiber cable can be plugged into FieldCast **Panel One**. This is a 19 inch rack unit which in the front has four chassis connectors to plug in four FieldCast main cables, and at the back has four standard LC-duplex connectors that for instance can be plugged into the four SFPs of ATEM Studio Converter that on its turn is connected to the switcher.

Training videos:

- FieldCast Adapter Two: <https://www.youtube.com/watch?v=5PhK9Q5gkr0>
- FieldCast Adapter One: <https://www.youtube.com/watch?v=Yvpv3OP7fXk>
- FieldCast Panel One: https://www.youtube.com/watch?v=ZJ2oW2sk_6E

And it also connects to SDI equipment: about standalone converters

Is your equipment not provided with fiber-optic connectivity but does have SDI? No worries. With FieldCast standalone converters you can convert SDI to fiber, fiber to SDI, or bidirectional in both ways, all with the robust FieldCast connector built-in, so you can directly connect to FieldCast main cable. Now you can connect your SDI equipment directly to the robust fiber cabling infrastructure of FieldCast, with no LC connections in between.

The standalone converters are mainly grouped as FieldCast **Converter One**, FieldCast **Converter Two** and FieldCast **Converter Three**.

Training video:

- FieldCast Standalone Converters: <https://www.youtube.com/watch?v=BrwsOFP--BE&t=30s>

Multiple sources over one fiber cable: about multiplexers

With FieldCast multiplexers you can transport multiple SDI and ethernet sources over one fiber optic cable. Up to 32 channels are available to transport signals, all over one cable. Imagine how this can safeguard you from a troubled tangle of cables.

FieldCast multiplexers are by default delivered in Mux/Demux pairs containing 4, 8 or 16 unidirectional SDI channels. Bidirectional SDI and ethernet functionality can be build on request.

FieldCast multiplexers are mainly grouped as **Mux/Demux One**, **Mux/Demux Two**, and **Mux/Demux Three**.

Training videos:

- FieldCast multiplexers: <https://www.youtube.com/watch?v=iXjFy7IHSho>
- FieldCast at ISE2018 presenting: Mux & Demux:
<https://www.youtube.com/watch?v=u01UYibZzbU&t=9s>

Power and AV data over one cable: about small form factor hybrid solutions

With FieldCast **hybrid main cable** you can transport low voltage DC power (24V) over the same cable as your audiovisual data. You can power converter and camera from a 100m distance allowing you to move freely in the field with your camera without the need to carry heavy battery packs while transporting the video signals over the same hybrid cable to the OB van.

FieldCast hybrid main cable has small form factor connectors, is relatively light weighted, and is convenient for small cameras and camcorders in the field and in the studio.

Power can be supplied by **FieldCast Power Box One**. When connected to **FieldCast Power Panel One**, 24V power is conveyed to each of the four FieldCast hybrid main cables that can be plugged in at the front side of the patch panel. Inside Power Panel One power and AV data are split up, ending at the backside in 4 XLR connectors for power and 4 LC connectors for AV data.

FieldCast Power Station One is a new FieldCast product where the functionality of Power Box One and Power Panel One is combined in one product.

Training video:

- FieldCast Power Solutions: <https://www.youtube.com/watch?v=ddhVJbYgY3w>

High Voltage Power and AV data over one cable: about SMPTE cable

For longer distances, in theory up to 2 kilometers, FieldCast provides **SMPTE 311M/304 cable** to transport high voltage AC power and AV data over the same cable. SMPTE 311M/304 is a heavyweight solution with big connectors appropriate for the heavier and bigger cameras in the range.

A word on SFPs

FieldCast delivers converters with built-in 3G, 6G or 12G SFPs, but also offer the SFPs as separate products so you can put this in other devices that have video SFP ports built-in. FieldCast SFPs are bidirectional 1310nm video SFPs, compatible with a wide range of optical fiber video equipment. Available in 3G, 6G, and 12G against competitive pricings.

The importance of fiber optic cleaning: about Cleaning Starter Kits

Dust is the biggest enemy when dealing with fiber optic connections. The slightest confrontation with dirt can be enough to weaken the transport of signals over fiber. It is unpredictable when connectors become dirty. Some people are confronted with dirt immediately when the cable comes out of the box while others use the cables for months, or even years, and then found out that the cables don't work anymore. In eight out of ten cases, the problem can be solved by cleaning the fiber connectors.

FieldCast provides affordable **Cleaning Starter Kits** to clean FieldCast main connectors, LC connectors and FieldCast chassis connectors.

Training video:

- Why you need to clean fiber optic connections:
<https://www.youtube.com/watch?v=ccPDOrlejxQ&t=17s>

PART C. SOME QUESTIONS ABOUT THE CABLES

Which type of fiber optic main cable should I use?

Single mode fiber optic cable is the most advanced fiber cable, fitting modern devices. In most cases the 2Core variant is sufficient to do the task but you can also choose the 4Core variant if you want to transport more channels over one fiber cable. FieldCast 2Core single mode main cable is the most used fiber optic cable in the field. Some older equipment can only handle multimode fiber, so make sure you choose the right type of fiber cable. After having decided to go for single mode versus multimode, and 2Core versus 4Core, the

next option you have is to go for Ultra Light cable or Heavy Duty cable. Both cables are robust but if you use the cables for outdoor events where uncontrollable things might happen, it is safer to use the Heavy Duty cable. For controlled environments in studio settings, Ultra Light should be more than enough to do the task.

Then the final decision is on how long you want the cables to be. FieldCast main cables are delivered on drums in 100m or 200m. If you want longer lengths you can use a FieldCast coupler cable to cascade two or more main cables and double, triple, quadruple etc. the total cable length at will.

A special type of cable is the 2Core single mode hybrid main cable. It is a 100m cable on drum in Heavy Duty quality. Besides 2 strands of fiber, the cable has also two copper wires to transport low voltage power. So you can power your converter, camera or other equipment from a distance as power and video data are transported over the same long distance fiber cable.

How can I see on the outside what type of fiber cable I have?

To make sure that you don't mix up the wrong type of cables, all FieldCast connectors are color coded. Here's the code. Two rings means 2Core, four rings means 4Core. Yellow is single mode and blue is multimode. So for instance, two yellow rings on the connector means you have a 2Core single mode main cable, chassis connector, or adapter cable in your hand. A 2Core single mode hybrid connector is marked by two yellow rings on the innerside and two red rings (for copper) on the outside.