

# RF Spectrum Analysis Tools, Distribution, Combiners and Antennas

# e-catalog 2021

**Shawan** Stagecrafts (P) LTD.

### **About RF Venue**

### **RF Venue's customers drive its success Singular focus:**

♪ No RF dropouts or interference, so your message is heard

Proven technology: Over 10,000 global installations since 2011

ho Continuous innovation: RF Venue provides equipment unique in the industry, challenging old myths and assumptions with patented products that address the biggest challenges in RF

Broad applicability: RF Venue products work with most all wireless microphone or TEM systems

Trust: RF Venue's customer satisfaction score is twice as good as the average company's—few companies anywhere have a better one

Affordability and reliability: RF Venue products usually cost the same as or less than products from other companies. Example: Two antennas can be replaced with just one

C RF Venue Diversity Fin antenna — superior performance at lower cost

# **Mission of No Dropouts or Interference**

#### The RF Venue mission: helping people communicate without interference

RF Venue is on a mission to help businesspeople, performers, pastors, and anyone else who needs to speak, listen, or perform—inside or outside— communicate well without the distraction of RF dropouts or interference. RF can be complex, and many customers consider it to be mysterious. RF Venue takes the mystery out of RF so you don't have to worry about it.

#### In partnership with contractors, distributors, and e-commerce vendors

RF Venue sells products only through qualified partners who work on projects as small (and important) as the local church, up to companies that hold the biggest concerts, awards ceremonies and sporting events in the world. RF Venue customers like introducing RF Venue products to their customers: "We proudly uses many RF Venue products. They are reliable, work every single time, easy to set up and operate, and eliminate virtually all wireless dropout problems one might possibly have while on the show site. The audio crew is always excited when they pop open one of our kits and see that it contains RF Venue products."

#### RF Venue builds products that work, every time

In this industry, products must not fail—dropouts are not an option. They have to work as designed and they must last. RF Venue builds products that work for thousands of customers—every time. A customer said it best: "We use, sell, and support RF Venue products because of their durability, reliability, and ease of use. RF Venue is constantly raising the bar in wireless technology."

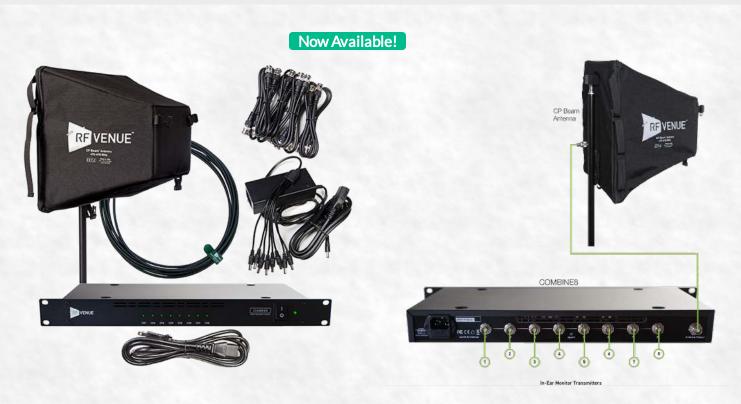
### Operating in the RF spectrum isn't getting any easier today, but RF Venue can help

The regulatory landscape for wireless spectrum will continue to change as more wireless devices compete for less available spectrum. Wireless microphones, in-ear monitors, two-way radios, and other live-event wireless systems are adversely affected by this spectrum-crowding trend. Here's what a customer said about using RF Venue products for its most challenging projects: "We choose RF Venue products because they allow us to handle the most challenging, unique, and interesting wireless projects while assuring our clients that their show reliability will be rock solid."

### RF Venue wants to hear about the problems it helps to solve in RF

RF Venue often innovates and invents by learning about customer challenges and then developing a way to overcome the problem. Let us hear your stories.

# \*\*New<sup>\*\*</sup> - 8 Channel IEM Combiner Pack



IEM transmitter combination is important for multi-channel systems to minimize intermodulation artifacts arising from multiple adjacent transmitters interfering with one another.

The effortless way to improve your wireless In-Ear Monitor (IEM) system is to run it like a pro by using a transmitter combiner driving a helical antenna. Just check any professional stage.

Combining IEMs together on one antenna always works better than using multiple antennas, which can interfere with each other and cause serious RF and audio signal problems. A helical antenna, unlike a whip or paddle antenna, also removes polarization fades, which is the leading cause of signal dropouts.

**Introducing the 8 channel In-Ear Monitor Upgrade Pack from RF Venue.** A complete system, engineered to work together to combine up to 8 IEM transmitters of any brand into a single helical antenna. The CP Beam helical antenna also steps up an IEM system's transmitting power by nearly 8X, focusing the signal directly on your performers and not scattering the signal where it isn't needed. This allows you to use the lowest possible setting of your transmitter's output power which greatly reduces intermodulation interference to both your wireless mics and your IEMs. An extra benefit that improves RF signal and audio quality!

The 8 Channel IEM Upgrade Pack is designed to work with all brands of IEM systems and maximize performance at low power settings 50 milliwatts or lower.

The COMBINE8 IEM combiner brings together up to eight in-ear monitor transmitter signals into a single rear panel mounted antenna connector. Any brand IEM set to transmit 50 mW or less may be used, as well as any type of directional antenna. It also provides DC power to up to 8 IEM transmitters with an external power supply, removing the need for wall warts.

The RF Venue 8 Channel In-Ear Monitor Upgrade Pack contains the CP Beam Helical Antenna, a 25 foot low loss RG8X Coaxial Cable, and the COMBINE8 in-ear monitor combiner.

### **Diversity Fin® Antenna**



The patented Diversity Fin® is a multi-purpose antenna for wireless microphones that reduces dropouts using a cross-polarized design. It combines one LPDA and one dipole antenna in an orthogonal...

The patented Diversity Fin® is a multi-purpose antenna for wireless microphones that reduces dropouts using a cross-polarized design. It combines one LPDA and one dipole antenna in an orthogonal (right angle) configuration. One element captures vertically polarized waves, and the other horizontally polarized waves—doing the same job as two "shark fin" paddles while greatly improving RF and audio performance.

To use, just connect both the A and B outputs on any antenna distributor or microphone receiver and point toward the stage.

The Diversity Fin has found widespread adoption across multiple pro audio segments for its performance, convenience, space, and cost benefits. From high profile live sound events, to film and TV productions, to routine installations in schools and churches, the Diversity Fin is the ideal all-purpose external antenna for diversity microphone systems of any brand. A parts kit is available to replace lost whip antennas and mounting blocks. For extra protection use we recommend this *acrylic dome*.



### **СР Веат<sup>тм</sup> Antenna**



The CP Beam<sup>™</sup> antenna is a high performance, directional UHF antenna in a lightweight, portable package. Unlike other bulky helicals that require flight cases, the CP Beam is quickly deployed and...

The CP Beam<sup>™</sup> antenna is a high performance, directional UHF antenna in a lightweight, portable package. Unlike other bulky helicals that require flight cases, the CP Beam is quickly deployed and stowed - fitting in a 3RU rack drawer and weighing just 2.5 lbs. 9 dBd of gain makes it an ideal choice for long range applications.

Widely used on major concert tours for monitoring and comms, the CP Beam connects to any brand IEM, wireless mic, or UHF intercom. A parts kit is available to replace connectors.



# **Diversity Fin Antenna & DISTRO4 Bundle**



Patented polarization diversity antenna system reduces signal dropouts 4 Channel antenna distribution with internal power supply and cascade ports, with Premium made in USA low loss double shielded coaxial cable...

This turnkey bundle includes everything needed to configure up to 5 channels of wireless microphones: (1) Diversity Fin Antenna (DFIN, DFINW, OR DFINB) for Wireless Microphones, (1) DISTRO4 Antenna Distribution System, (2) RG8X25 Coaxial Cables BNC

DISTRO4 distributes diversity RF signals and DC power across four wireless microphone receivers of any brand. A true "distribution amplifier," DISTRO4 splits signals from two antennas (or one Diversity Fin) connected to the rear panel and amplifies them before delivering the signals to multiple receivers in a rack. An additional set of cascade ports is included for daisy chaining multiple DISTRO4 units together to accommodate up to 16 receivers per antenna pair.

DISTRO4 features a 2000 mA internal power supply (no wall wart) and compares to antenna distributors twice its price. It includes all RF and DC power cables needed to connect a 4 channel wireless microphone system as well as cascade to one additional DISTRO4.

Includes high quality made in USA, RF Venue tested RG8X low loss coaxial cables

### **Diversity Fin Antenna & DISTR09 Bundle**



Patented polarization diversity antenna system reduces signal dropouts High performance 9 channel multi-zone antenna distribution system, with Premium made in USA low loss double shielded coaxial cabling...

This turnkey bundle includes everything needed to configure up to 9 channels of wireless microphones: (1) Diversity Fin Antenna (DFIN, DFINW, OR DFINB) for Wireless Microphones, (1) DISTRO9-HDR 9 Channel RF Distributor, (2) RG8X25 Coaxial Cables BNC, (1) RG8X1.5-10 (10 pack interconnects), (1) RG8X2-10 (10 pack interconnects), (1) DC-KIT-D9 DC Power Distribution Kit for DISTRO9

The RF Venue DISTRO9 HDR represents a unique approach to high quality RF signal distribution for wireless microphones. A new and proprietary design eliminates old internal splitters most antenna distribution systems still use and replaces them with state of the art "divide by three" circuitry, providing up to 9 low-noise channels of diversity wireless. And each output is clean: DISTRO9 HDR employs low noise figure amplifiers and superior gain structure providing high dynamic range over the spectrum.

Any DISTRO9 HDR RF output can be cascaded to a second DISTRO9 HDR, eliminating the need for dedicated cascade ports and providing up to 17 wireless microphone channels in just two units of rack space. Multizone installations are easy with the DISTRO9 HDR's two zone antenna inputs, providing coverage for large areas or multiple rooms, each with DC power available for in-line amplifiers or active antennas.

Featuring a robust internal power supply, the DISTRO9 HDR can provide clean DC power to wireless microphone receivers with an optional DC cable kit, and can also be powered directly from a DC battery source for location sound cart applications. The DISTRO9 HDR is also ETL listed to meet bid specification requirements on municipal, government, and other high profile projects. An internal I/O section provides a range of future module add-on capabilities ranging from remote web-based spectrum monitoring to bandpass filtering, and more. As RF spectrum congestion grows and operating bands evolve worldwide, the DISTRO9 HDR is highly configurable to meet the current and future needs of any professional wireless microphone system.

# **CP Beam Antenna & COMBINE4 Bundle**



Patented circularly polarized diversity antenna system reduces signal dropouts 4 Channel In-Ear Monitor Combiner with internal power supply and DC power, with Premium made in USA low loss double shielded cabling...

This turnkey bundle includes everything needed to configure up to 4 channels of In-Ear Monitors:

(1) CP Beam Antenna (CPB) for In-Ear Monitors, (1) COMBINE4 transmitter combiner, (1) RG8X25 Coaxial Cables BNC

The COMBINE4 IEM transmitter combiner brings together up to four in-ear monitor transmitter signals into a single front panel mounted antenna connector. Any brand IEM may be used, as well as any type of directional antenna. It also provides DC power to up to four IEM transmitters to reduce cable clutter and wallwarts.

IEM transmitter combination is important for multi-channel systems to minimize intermodulation products arising from multiple adjacent antennas interfering with one another. COMBINE4 has a maximum input power of 100mW.

# RF Spotlight™ Antenna



The RF Spotlight<sup>™</sup> antenna is a low profile floor pad antenna that enables wireless mics to function reliably in the most crowded RF environments. Perfect on stages, in hotel breakout rooms, at...

The RF Spotlight<sup>™</sup> antenna is a low profile floor pad antenna that enables wireless mics to function reliably in the most crowded RF environments. Perfect on stages, in hotel breakout rooms, at conventions, or church sanctuaries, the RF Spotlight is effective where multiple wireless systems must inter-operate across facilities and open channels are limited.

Its elliptically polarized element is molded into a durable 7mm thin PVC disc with a 10' 50 lb tensile strength rated cabled connector lead. Operating range is determined by several factors including transmitter power, coaxial cable type and length, and nearby obstructions. Typical range at 10 mW is a diameter of 100' and several hundred feet at 30 mW.

It can be placed under wood stages, offstage, under a carpet, or wherever convenient to limit foot traffic and maximize signal-to-noise ratio.



### 2.4 GHz CP Beam<sup>тм</sup> Antenna



Inspired by the popular UHF CP Beam antenna, this lightweight, miniaturized version is built for maximum gain in the 2.4 GHz band.

Painstakingly designed and tested in our laboratory, it provides significant performance improvements over other 2.4 GHz directional antennas intended for networking devices—antennas that make many compromises.

The 2.4 GHz CP Beam is well-suited for use with Line 6® digital wireless microphones, ClearCom® Tempest intercoms, and Zaxcom® Zaxnet devices. It is also equally at home extending Wi-Fi networks or other 2.4 GHz ISM devices like phones, tablets, and (yes) drones.

With 12 dBd of gain, it significantly increases useable range, indoors or out. The 2.4 GHz CP Beam's circularly polarized element also reduces signal dropouts and improves link quality.

The element is protected by a durable ABS enclosure, and includes a mounting block with 1/4-20, 3/8-16, and 5/8-27 threads.

# **Band-pass Filters**



RF Venue band-pass filters help eliminate "out of band" signals that can saturate the front end of wireless microphone receivers and can greatly improve dynamic range by reducing noise and third party interference outside the range of operation.

Featuring industry standard BNC connectors and a small 3" x 1.75" footprint, these hand-tuned band-pass filters require no power or user configuration and can be easily connected in-line with wireless microphone antennas to reduce noise and improve wireless system performance.

#### 470-530 MHz Band-pass Filter Compatibility

- Shure G50, G1
- Audio-Technica DE2

#### 470-560 MHz Band-pass Filter Compatibility

- Shure G50 and H5
- Sennheiser A and A1 & Sennheiser 6000/9000 Low Band
- Lectrosonics Blocks B19, B20 and B21

#### 530-590 MHz Band-pass Filter Compatibility

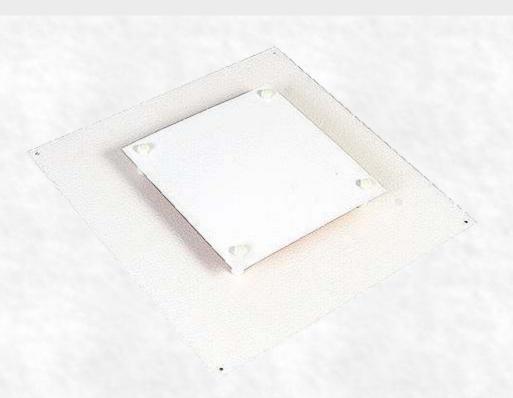
- Audio-Technica EE1
- Shure H50

#### 560-608 MHz Band-pass Filter Compatibility

- Shure J1 and J3
- Sennheiser G and Sennheiser 6000/9000 High Band
- Lectrosonics Blocks B22 and B23

Simply connect the band-pass filter in-line with your wireless microphone remote antenna connections for 40 dB of side rejection. Note: Two (2 No.) required for diversity wireless microphone systems.

### CX-22™ Antenna

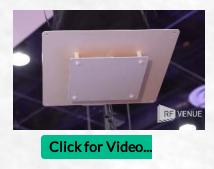


The CX-22<sup>™</sup> provides remote antenna coverage for installed wireless microphones in diverse architectural environments.

Designed for wideband UHF, it also features strong sensitivity in the 216 MHz range to accommodate assistive listening systems.

The CX-22 is mounted in a low-profile, 14" X 14" form factor for ceiling installation. Popular in training facilities, classrooms, lecture-halls, houses of worship, and boardrooms, the CX-22 is an ideal tool for maximizing signal where aesthetic considerations make placement of traditional directional antennas impossible, as well as for distributed antenna systems (DAS) in large facilities with drop-ceiling environments.

The CX-22 ships in matte white and can be painted to match any interior. \*Paints that contain carbon black, lead, or metallic powder may affect performance.



# DISTRO4<sup>TM</sup> - With Cascade



DISTRO4 distributes diversity RF and DC power across four wireless microphone receivers of any brand. A true "distribution amplifier."

DISTRO4 splits signals from two antennas (or one Diversity Fin) connected to the rear panel and amplifies them before delivering the signals to multiple receivers in a rack. An additional cascade port is included for daisy chaining multiple units together to accommodate up to 16 receivers per antenna pair.

DISTRO4 features a 2000 mA internal power supply (no wall wart) and compares to antenna distributors twice its price. It includes all RF and DC power cables needed to connect a 4 channel wireless microphone system as well as cascade to one additional DISTRO4.

The DISTRO4 is also sold bundled with a Diversity Fin antenna and coax cables. Replacement power cables are available.



# **DISTRO9 HDR**



### DISTRO9 HDR Multi-Zone Antenna Distribution System... Highest Quality RF Signal Distribution for Wireless Microphones

- Connect up to 9 receivers in 1RU
- High dynamic range for lowest IMD for more usable spectrum
- Two zones of antenna coverage built-in
- Superior gain flatness and stability across VHF, T-Band, and UHF
- Dedicated DC power port for receivers and accessories
- High end RF performance at a competitive price

The RF Venue DISTRO9 HDR represents a unique approach to high quality RF signal distribution for wireless microphones. A new and proprietary design eliminates old internal splitters most antenna distribution systems still use and replaces them with state of the art "divide by three" circuitry, providing up to 9 low-noise channels of diversity wireless. And each output is clean: DISTRO9 HDR employs low noise figure amplifiers and superior gain structure providing the high dynamic range over the spectrum.

Any DISTRO9 HDR RF output can be cascaded to a second DISTRO9 HDR, eliminating the need for dedicated cascade ports and providing up to 17 wireless microphone channels in just two units of rack space.

Multizone installations are easy with the DISTRO9 HDR two zone antenna inputs, providing coverage for large areas or multiple rooms, each with DC power available for in-line amplifiers or active antennas.

Featuring a robust internal power supply, the DISTRO9 HDR can provide clean DC power to wireless microphone receivers with an optional DC cable kit, and can also be powered directly from a DC battery source for location sound cart applications. The DISTRO9 HDR is also ETL listed to meet bid specification requirements on municipal, government, and other high profile projects.

An internal I/O section provides a range of future module add-on capabilities ranging from remote web-based spectrum monitoring to bandpass filtering, and more. As RF spectrum congestion grows and operating bands evolve worldwide, the DISTRO9 HDR is highly configurable to meet the current and future needs of any professional wireless microphone system.



### COMBINE4<sup>TM</sup>



### The COMBINE4 IEM transmitter combiner brings together up to four in-ear monitor transmitter signals into a single rear panel mounted antenna connector.

Any brand IEM may be used, as well as any type of directional antenna. It also provides DC power to up to four IEM transmitters to reduce cable clutter and wall warts.

IEM transmitter combination is important for multi-channel systems to minimize intermodulation products arising from multiple adjacent transmitters interfering with one another.

The CP Beam antenna is a recommended accessory for the COMBINE4 and is available in a bundled package. Replacement power cables are available.

### 4 ZONE<sup>TM</sup>



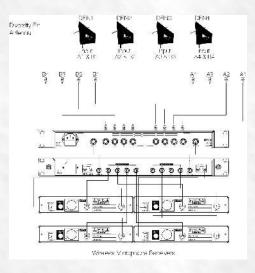
#### 4 Zone Antenna Combiner for Multi-Purpose Rooms

The 4 ZONE antenna combiner takes the complexity out of multi-zone wireless microphone projects. 4 ZONE combines together up to four separate pairs of diversity antenna connections for multi-purpose rooms, indoor-outdoor configurations, or main stages with secondary breakout rooms.

For fine tuning RF levels in each coverage area, 4 ZONE provides individual channel RF signal attenuation control down to -31dB in 1 dB steps. And for active antennas or in-line amplifiers, it features selectable 12V DC power to accommodate long cable runs.

With selectable ON/OFF inputs, 4 ZONE also allows for quick control of coverage zones for roaming microphone transmitters, so you can choose which zones are active as a live event or location sound project progresses, saving setup and breakdown time onsite.

When used in conjunction with up to four Diversity Fin Antennas and one or more DISTRO4 antenna distributors, 4 ZONE completes a turnkey package for any multi-zone wireless microphone project.



**RF VENUE**☆RF Spectrum Analysis Tools, Distribution, Combiners and Antennas☆**Dhawan Stagecrafts (P) Ltd.**Page 16

### **RG8X Coaxial Cables**



Coaxial cabling can make the difference between flawless RF performance and total system failure. Even the slightest crimp or ding in coaxial cable can cause signals to drop sharply or short out.

RF Venue provides premium made in USA low loss,  $50\Omega$  RG8X coaxial cable with BNC male connectors for wireless audio applications. Our cables are custom run to our specifications: double shielded braid over foil with a perfect balance between loss and flexibility. We terminate in-house and QC on calibrated Agilent network analyzers for guaranteed performance.

We stock a variety of lengths from 5' to 150'.

Custom lengths available, contact us for pricing.

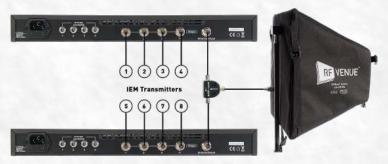
# **2x1SPLIT**

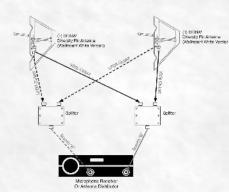


Use the 2x1Split to make an 8 channel IEM combiner, create a distributed antenna system, or to tap into your spectrum analyzer to get more insight into your setup.

#### 8 Channel IEM combiner

This setup effectively creates an eight channel combiner for much, much less than a standalone active 8 channel transmitter combiner. Route both outputs of two four channel IEM transmitter combiners through a single passive 2X1SPLIT, and finally into a helical antenna.



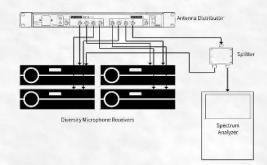


#### **Diversity Fin DAS**

Here's a request we get all the time: "we want the same wireless microphone to function across two or more rooms." We use two Diversity Fins and two 2X1SPLITs to accommodate those requests. In effect we create a simplified DAS, or distributed antenna system. In a DAS, talent freely wanders through a series of coverage "zones" without fear of losing reception. Signal sent to the same receiver(s) or different receivers depending on the engineer's design.

#### Spectrum analyzer "wiretap"

If you have a spectrum analyzer, you can "tap" your antenna feed or, even better, one of the outputs on an antenna distributor, using the 2X1SPLIT. Simply place the splitter in-between one branch of one output of a distributor. Feed one of the splitter's outputs to the analyzer, and return the other output to the receiver. The goal is visualize RF from the perspective of the receivers. The nearer the tap is to the final destination of the signal, the better the data the analyzer can retrieve for you, since it is seeing what the system is seeing.



# **In-Line Amplifier**



This in-line amplifier is designed to compensate for signal loss on long coax runs.

One in-line amplifier can compensate 10dB of cable attenuation which is about 20 meters of RG-58 cable. Can be powered by power output from an antenna distributor/receiver or DC adapter (+12V/0.5A). The red light indicates the unit is getting power. Up to two can be cascaded.

A BNC female to BNC female adapter or coax jumper is required for cascade (not included). Two are required for diversity applications.

A Wall mount adapter is included.



# **RF Explorer<sup>®</sup> Pro Audio Edition**



The RF Explorer® Pro Audio Edition is an all-new portable RF spectrum analyzer designed specifically for use with wireless microphones and in-ear monitor systems.

Available exclusively through RF Venue dealers and distributors, the RF Explorer Pro Audio Edition is the perfect addition to any audio pro's toolkit. With a 50 ohm BNC input connector designed to interface directly with wireless audio systems and accessories such as remote antennas, antenna distribution systems, or RF over fiber modules, the Pro Audio Edition spectrum analyzer is the ideal tool to troubleshoot, optimize, and commission your next wireless system.

Compatible with third party software, the Pro Audio Edition comes packed with a range of new features.

- ▶15-2700 MHz Wideband scanning range
- Configurable Low Noise Amplifier
- Save / Load Presets for fast setup and recall
- Configurable Input Attenuator
- One-Click WiFi Analyzer mode displays 2.4 GHz channels
- ▶16 hour lithium-ion rechargeable battery
- >-120 dB Sensitivity and auto-configurable resolution bandwidth (RBW)

The RF Explorer Pro Audio Edition's easy-to use interface takes the complexity out of RF spectrum analysis for audio, empowering audio engineers and wireless audio system managers to better monitor, manage, and configure their systems in today's ever-changing RF spectrum landscape.

Carrying case, UHF band articulating whip antenna, and shielded USB cable included

# **Premium BNC Interconnect Cables**



RF Venue Certified Interconnect Cables offer improved system performance when used where cables may be in close proximity, especially inside equipment racks. They provide superior ingress resistance that can greatly minimize cross-talk and are highly recommended for connecting DISTROs to receivers when digital equipment is present.

•Available in 1 foot (0.3 m), 1.5 foot (0.5 m), and 2 foot (0.6 m) lengths.

- •Tough crush and kink resistant jacket.
- •100% braid-over-foil shield.
- •Very low loss.
- May be used in transmit or receive applications

# About Us

### Thankan Stagecrafts (P) LTD.

Our company **Dhawan Stagecrafts (P) Ltd.,** having successfully completed **60 years**, is based out in Delhi believes in offering the products that are designed and built to the highest quality standards and without any compromise in components and equipments.

We are engaged in offering prominent range of luminaries and sound equipments that are used for both indoor and outdoor application for international and professional shows.

Some of the products offered by us are "**D.LED**" LED lights – for Stage / Theatre / TV Studio / Concerts, Water Screen/Curtain, Trussing, "**Liteputer**" DMX Dimmer Systems, RGB & Green Laser Projectors, "**Pangolin**" Laser Software & Hardware, LED Video Screens, Hi-Power Audio Systems, UHF Wireless Microphones, RF Antennas, Distribution & Combiner Systems from "**RF Venue**" and other Project Equipment and Services.

Our well trained team of professionals keeps themselves abreast with the emerging market trends so that they can assist us in providing products and services that matches with the industry. It is with the support and dedication of our team that we have been able to achieve and maintain strong customer base.





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