



FX9500/FX9600 Technical Accessory Guide




NOTE: FX9500 discontinued 11/2017 - see PMB 3037


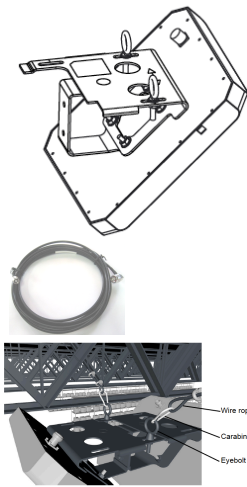
NOTE: This document is only for general reference. Solutions Pathway and related PMBs should be used for product availability, pricing, and final solution selection.

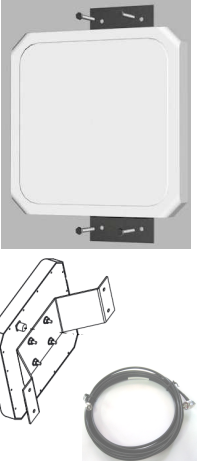


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Communication Cables




Part Number	Picture	Description	Notes	Required Items
25-64396-01R		USB Cable		





Antennas

Part Number	Picture	Description	Notes	Required Items
SR5502-SR01000SSNA (US frequency) SR5502-SR01000SSEU (European-ETSI frequency)		Overhead/Ceiling Mount Star Antenna kit - dual antennas	<ul style="list-style-type: none"> ▶ Designed to optimize tag reads as they move from aisle to aisle, room to room. ▶ Antennas are designed to be overhead/ceiling mounted. ▶ Includes two optimally angled antennas, two carabiners (for hanging antennas) and two 17 ft. / ~5 m. cables for connection to FX reader. ▶ Antennas are left hand circular polarized,, gain-max 9 dBic, gain linear max 6 dBil 	
SR5500-SR01000SSNA (US frequency) SR5500-SR01000SSEU (European-ETSI frequency)		Overhead/Ceiling Mount Star Antenna kit - single antenna	<ul style="list-style-type: none"> ▶ Designed to optimize tag reads as they move from aisle to aisle, room to room. ▶ Antenna is designed to be overhead/ceiling mounted. ▶ Includes one optimally angled antenna, two carabiners (for hanging antenna) and one 17 ft. / ~5 m. cable for connection to FX reader. ▶ Antenna is left hand circular polarized,, gain-max 9 dBic, gain linear max 6 dBil 	







<p>SR5200-SR01000SSNA (US frequency)</p> <p>SR5200-SR01000SSEU (European-ETSI frequency)</p>		<p>Wall Mount Star Antenna kit - single antenna</p>	<ul style="list-style-type: none"> ▶ Designed to optimize tag reads as they move from aisle to aisle, room to room. ▶ Antenna is designed to be wall mounted. ▶ Includes one antenna, antenna mounting bracket and one 17 ft. / ~5 m. cable for connection to FX reader. ▶ Antenna is left hand circular polarized, gain-max 9 dBic, gain linear max 6 dBil 	
<p>SP5504-SR01000SSNA (US frequency)</p> <p>SP5504-SR01000SSEU (European-ETSI frequency)</p>		<p>Localized (POS) Antenna kit</p>	<ul style="list-style-type: none"> ▶ Designed to track items through Point of Sale (POS) or other small footprint areas. ▶ Highly localized RFID antenna solution covers area approximately 2 ft. x 2ft. ▶ Antenna is designed to be overhead/ceiling mount suspended. ▶ Includes antenna, 20 ft. cable for connection to FX reader, and hang wire for suspending antenna. ▶ Antenna is left hand circular polarized gain-max 7.3 dBic, gain linear max 4.9 dBil ▶ Antenna can be suspended from ceiling using included hang wire or optional Mounting Pole (HN-001187-01 or HN-000537-01) can be used. ▶ Dimensions: 7 in. height x 7.3 in. diameter ▶ Weight: 2.2 lbs. 	
<p>AN510-CFCL60001US (US frequency)</p> <p>AN510-CFCL60002EU (European-ETSI frequency)</p>		<p>AN510 Ultra-Low Profile Indoor/Outdoor Antenna Kit (Flush Mount)</p>	<ul style="list-style-type: none"> ▶ IP67 rating allows antenna to be used in a wide range of indoor and outdoor environments ▶ Dimensions: 9.8 in. L x 9.8 in. W x 0.55 in. D (250 mm x 250 mm x 14 mm) ▶ Weight: 1.6 lbs. ▶ ~ 8.5 dB gain ▶ 68° vertical and 68° horizontal beam width. ▶ Flush mounting can be accommodated by attaching via screws or bolts through the corner holes in the housing. ▶ Polarization: RHCP ▶ Kit includes AN510 Antenna (AN510-FCL60001US or AN510-FCL60002EU) and IP67 Rated Pigtail Cable (CBLRD-7B8020140R) 	<p>One RF Antenna Cable (CBLRD-1B400...) OR N Female to Reverse-Polarity TNC Male Adapter for connecting directly to FX reader</p>





<p>AN510-CSCL60003US (US frequency)</p> <p>AN510-CSCL60004EU (European-ETSI frequency)</p>		<p>AN510 Ultra-Low Profile Indoor/Outdoor Antenna Kit (VESA/Studded Mount)</p>	<ul style="list-style-type: none"> ▶ IP67 rating allows antenna to be used in a wide range of indoor and outdoor environments ▶ Dimensions: 9.8 in. L x 9.8 in. W x 0.55 in. D (250 mm x 250 mm x 14 mm) ▶ Weight: 1.6 lbs. ▶ ~ 8.5 dB gain ▶ 68° vertical and 68° horizontal beam width. ▶ Includes 4 Studded mounts in 100mm VESA pattern allowing antenna to be mounted using common brackets. ▶ Polarization: RHCP ▶ Kit includes AN510 Antenna (AN510-SCL60003US or AN510-SCL60004EU) and IP67 Rated Pigtail Cable (CBLRD-7B8020140R) 	<p>One RF Antenna Cable (CBLRD-1B400...)</p> <p>OR</p> <p>N Female to Reverse-Polarity TNC Male Adapter for connecting directly to FX reader</p>
<p>AN520-FCL60010US (US frequency)</p> <p>AN520-FCL60011EU (European-ETSI frequency)</p>		<p>AN520 Ultra-Rugged Low Profile Indoor/Outdoor Antenna</p>	<ul style="list-style-type: none"> ▶ IP68 rating allows antenna to be used in a wide range of indoor and outdoor environments ▶ Dimensions: 5.9 in. L x 5.9 in. W x 0.55 in. D (150 mm x 150 mm x 14 mm) ▶ Weight: .55 lbs. ▶ ~ 5.5 dB gain ▶ 115° vertical and 115° horizontal beam width. ▶ Flush mounting can be accommodated by attaching via screws or bolts through the corner holes in the housing. ▶ Polarization: RHCP 	<ul style="list-style-type: none"> ▶ IP67 Rated Pigtail Cable (CBLRD-7B8020140R) ▶ One RF Antenna Cable (CBLRD-1B400...) <p>OR</p> <p>N Female to Reverse-Polarity TNC Male Adapter for connecting directly to FX reader</p>
<p>AN610-SCL71129US (US frequency)</p> <p>AN610-SCL71128EU (European-ETSI frequency)</p>		<p>AN610 Slim General Purpose Indoor Antenna</p>	<ul style="list-style-type: none"> ▶ Designed for carpeted space and customer-facing environments (i.e. under POS counter) ▶ Dimensions: 10.8 in. L x 8.5 in. W x 0.3 in. D ▶ Weight: 1.1 lbs. ▶ ~ 3 dB gain ▶ 60° vertical and 80° horizontal beam width. ▶ Has integrated mounting holes within ABS plastic frame and includes 1 ft pigtail cable ▶ Uses Zebra's standard antenna cables ▶ Polarization: LHCP ▶ Rev C version of antenna (top picture) has a thinner profile by removing the gray border/frame that surrounds the antenna on Rev A and B versions (bottom picture) - see PMB 3121. 	<p>One RF Antenna Cable (CBLRD-1B400...)</p> <p>OR</p> <p>N Female to Reverse-Polarity TNC Male Adapter for connecting directly to FX reader</p>

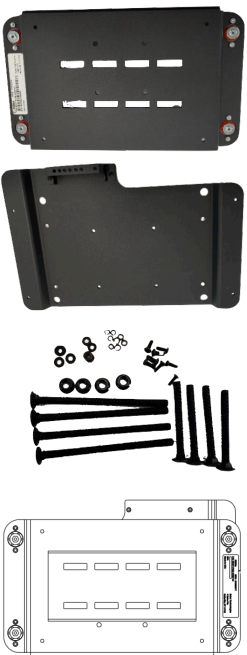

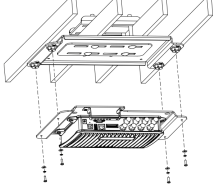
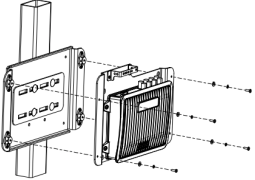
<p>SP5505-SR00000SSNA (US frequency)</p> <p>SP5505-SR00000SSEU (European-ETSI frequency)</p>		<p>AN610 Slim General Purpose Indoor Antenna Under Counter KIT</p>	<ul style="list-style-type: none"> ▶Kit allows AN610 to be mounted under counter. Typically used in retail environments with SmartLens solution. ▶~ 3 dB gain ▶60° vertical and 80° horizontal beam width. ▶Kit includes: <ul style="list-style-type: none"> - AN610 antenna (AN610-SCL71129US or AN610-SCL71128EU) - 20 ft. white antenna extension cable - Under counter mounting tray - Screws for mounting tray - self stick clips for routing antenna cable to FX reader. 	
<p>AN620-SCL71131US (US frequency)</p> <p>AN620-SCL71130EU (European-ETSI frequency)</p>		<p>AN620 Slim General Purpose Indoor Antenna</p>	<ul style="list-style-type: none"> ▶ Designed for carpeted space and customer-facing environments (i.e. under POS counter) ▶ Dimensions: 15.4 in. L x 10.8 in. W x 0.47 in. D ▶ Weight: 2.2 lbs. ▶ ~ 3 dB gain ▶ 48° vertical and 75° horizontal beam width. ▶ Has integrated mounting holes within ABS plastic frame and includes 1 ft pigtail cable ▶ Uses Zebra's standard antenna cables ▶ Polarization: LHCP 	<p>One RF Antenna Cable (CBLRD-1B400...) OR N Female to Reverse-Polarity TNC Male Adapter for connecting directly to FX reader</p>
<p>AN650-FCL71325US (US frequency)</p> <p>AN650-FCL71324EU (European-ETSI frequency)</p>		<p>AN650 Ultra-Low Profile Ground/Mat Antenna</p>	<ul style="list-style-type: none"> ▶ Antenna is optimized for RFID deployments involving moving products, assets and people. Antenna is ideal for applications where traditional side antennas are unsuitable or not optimized for the application. ▶ At just 8 mm / 0.3 in. thick, the durable, high performance AN650 is uniquely capable of lying flat on the ground within a doorway sized footprint and can withstand payloads of over 200 kg (440 lbs). ▶ Dimensions: 915 mm x 305 mm x 8 mm (36 in x 12 in x .3 in) ▶ Weight: 4.4 lbs. ▶ ~ 9 dB gain ▶ beam width 20° in XZ, 80° in YZ beam width ▶ Uses Zebra's standard antenna cables ▶ Polarization: Circular 	<p>One RF Antenna Cable (CBLRD-1B400...)</p>

<p>AN720-L51NF00WUS (US frequency) - AN720-L51NF00WEU (European-ETSI frequency)</p>		<p>AN720 Compact Rugged Indoor-Outdoor Antenna</p>	<ul style="list-style-type: none"> ▶ Designed to withstand exposure to rain, snow and extreme temperature - ideal for the receiving dock doors or outdoor shopping areas ▶ Dimensions: 5.2 in. L x 5.2 in. W x 0.7 in. D ▶ Weight: 0.8 lbs. ▶ IP67 rated ▶ ~ 3 dB gain ▶ 100° beam width - for even wider coverage ▶ Comes complete with an articulating mount ▶ Uses Zebra's standard antenna cables ▶ Polarization: LHCP 	<p>One RF Antenna Cable (CBLRD-1B400...)</p>
<p>AN480-CL66100WR (Left circular polarization) - AN480-CR66100WR (Right circular polarization)</p>		<p>AN480 High-Performance Worldwide Indoor Antenna</p>	<ul style="list-style-type: none"> ▶ This single port indoor antenna offers the maximum flexibility and performance required to meet the needs of enterprises around the world. ▶ Dimensions: 10.2 in. L x 10.2 in. W x 1.98 in. D ▶ Weight: 3 lbs. ▶ Polarization: LHCP or RHCP 	<p>One RF Antenna Cable (CBLRD-1B400...) OR N Female to Reverse-Polarity TNC Male Adapter for connecting directly to FX reader</p>
<p>AN440-CPDFQ915WR</p>		<p>AN440 High Performance Area Antenna</p>	<ul style="list-style-type: none"> ▶ Dimensions: 28.3 in. L x 12.5 in. W x 1.5 in. D ▶ Weight: 8 lbs. ▶ Polarization: Two circular polarized patch array 	<p>Two RF Antenna Cables (CBLRD-1B400...)</p>
<p>Jamison RFID Portal antennas (3rd party) *</p> <p>http://jamisondoor.com/product-families/rfid-portals/</p>		<p>Portal Antennas</p>		



Antenna Accessories


(3rd party) *		<p>N Female to Reverse-Polarity TNC Male Adapter</p>	<ul style="list-style-type: none"> ▶ Allows antennas with pigtail cable to be directly connected to FX reader ▶ Allows for compact installations where the reader and antenna will be mounted close to each other (i.e. under counter installations) 	
http://www.amazon.com/gp/product/B00IE7PAEW?keywords=reverse%20tnc%20end%20connector&qid=1445460516&ref=ssr_1_1&sr=8-1				
CBLRD-7B8020140R		<p>IP67 Rated RF Pigtail Antenna Cable</p>	<ul style="list-style-type: none"> ▶ This cable normally connects AN510 Indoor/Outdoor antennas to standard Zebra RFID antenna cables. ▶ Normally included with each AN510 antenna Kit. ▶ Cable is IP67 rated. ▶ Cable length is approx 14 in. 	
CBLRD-1B4000680R		<p>RF Antenna Cable (68\"/~5.5 ft. long)</p>	<ul style="list-style-type: none"> ▶ Cable connects RFID antenna to reader. ▶ Type LMR240 cable 	
CBLRD-1B4001800R		<p>RF Antenna Cable (180\"/15 ft. long)</p>	<ul style="list-style-type: none"> ▶ Cable connects RFID antenna to reader. ▶ Type LMR240 cable 	
CBLRD-1B4002400R		<p>RF Antenna Cable (240\"/20 ft. long)</p>	<ul style="list-style-type: none"> ▶ Cable connects RFID antenna to reader. ▶ Type LMR240 cable 	
CBLRD-1B4003600R		<p>RF Antenna Cable (360\"/30 ft. long)</p>	<ul style="list-style-type: none"> ▶ Cable connects RFID antenna to reader. ▶ Type LMR240 cable 	

BRKT-70661-01R		Standard RFID Antenna Mounting Kit.		
BRKT-70662-01R		Heavy Duty RFID Antenna Mounting Kit	▶ Has 16" extension arm	
HN-001187-01		Standard Length Mounting Pole for POS Antenna	▶ Designed to allow POS Antenna (SP5504) to be suspended from ceilings ▶ Pole is 6 ft. long and is intended to be used for ceilings that are 14 ft. or under in height.	
HN-000537-01		Extended Length Mounting Pole for POS Antenna	▶ Designed to allow POS Antenna (SP5504) to be suspended from ceilings ▶ Intended to be used for ceilings that are more than 14 ft. in height. ▶ Includes two 6 ft. long poles which can be nested together to form varying lengths of +6 ft to under 12 ft. (one pole is the HN-001187-01 Standard Length Mounting Pole)	
Mounting Hardware and Accessories				
Part Number	Picture	Description	Notes	Required Items



<p>BRKT-FX96-SVMP-01</p>		<p>FX9600 Forklift Mounting Bracket</p> 	<ul style="list-style-type: none"> ▶ Bracket allows the FX9600 to be mounted to a forklift, or any other vehicle that doesn't have rubber, inflatable wheels/tires and experience excessive volumes of shock. ▶ Includes brackets and necessary hardware to mount FX9600 in various forklift vehicle locations: <p>(1) On forklift roof cross bars</p>  <p>(2) On forklift square post</p>  <ul style="list-style-type: none"> ▶ Only compatible with FX9600, not FX9500. ▶ Bracket is not certified for railway use cases. ▶ FX9600 can be powered from forklift using Power Supply Kit for Vehicle Installations (KT-FX96-PWRS-9-60VDC) 	
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Wireless Communications Adapters

Part Number	Picture	Description	Notes	Required Items
<p>various (3rd party) *</p> <p>TP-Link: AC 1200 - Realtek RTL8812AU ASUS: USB-AC56 - Realtek RTL8812AU ALFA Network: AWUS036AC - Realtek RTL8812AU ALFA Network: AWUS036H - Realtek RTL8187L CCrane: Versa Wifi USB Adapter II - Realtek RTL8187L</p>		<p>USB WiFi Adapter for FX9600</p>	<ul style="list-style-type: none"> ▶ FX9600 natively supports USB WiFi adapters with the Realtek chipset RTL 8187 or RTL 8812AU. ▶ Adapters listed have been tested by Zebra 	
<p>various (3rd party) *</p> <p>various: Bluetooth 4.0 dongle - Qualcomm CSR8510 various: Bluetooth 3.0 dongle - Ralink RT5370L Asus: Mini Bluetooth 2.1 Dongle USB-BT211 MediaLink: Bluetooth 4.0 Dongle MUA-BA3</p>		<p>USB Bluetooth Adapter for FX9600</p>	<ul style="list-style-type: none"> ▶ FX9600 natively supports certain Bluetooth adapters. ▶ Adapters listed have been tested by Zebra 	


<p>RV50X (3rd party) *</p> <p>https://www.sierrawireless.com/</p>		<p>Sierra Wireless AirLink® RV50X Cellular Modem</p>	<ul style="list-style-type: none"> ▶ Allows FX reader to be connected to LTE cellular networks for mobile usage. ▶ Provides a great way to use the FX's Network Connect for EtherNet/IP (connection to PLCs) feature in a distributed environment. ▶ Also includes GPS radio to capture location of RFID reads. ▶ Connects to FX reader via Ethernet port. 	
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GPIO devices

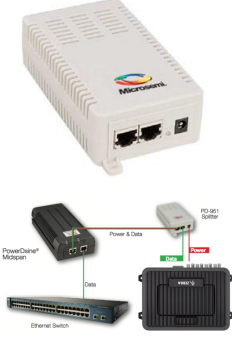


Part Number	Picture	Description	Notes	Required Items
<p>SM312D (3rd party) *</p> <p>http://www.bannerengineering.com/</p>		<p>Photo Eye</p>		
<p>PREF-301-RYG (3rd party) *</p> <p>http://eng.menics.co.kr/</p>		<p>Light Stack</p>		

Power Cords/Power Supplies

NOTE: FX9600 supports either 24V Power Supply, 802.3af (PoE) or 802.3af (PoE+). PoE/PoE+ will only power the FX9600, not any auxillary GPIO devices (i.e. alarms, light stacks, motion sensors, etc.) attached to it.

Part Number	Picture	Description	Notes	Required Items
<p>PWR-BGA24V78W1WW</p>		<p>Power Supply for FX7400/FX7500/FX9500 and FX9600</p>	<ul style="list-style-type: none"> ▶ 24V, 3.25A, 78W ▶ Uses locking connector. Connect to FX reader and rotate clockwise 1/4 turn to lock power cable into reader. ▶ Provides US DOE Level VI compliance for power efficiency. ▶ Has increased operating temperature range vs. PWR-BGA24V78W0WWW - 20C to +55C. This matches the operating temperature spec of the FX9600. PWR-BGA24V78W0WWW is typically used with the FX7400/FX7500. 	<p>23844-00-00R</p>

<p>KT-FX96-PWRS-9-60VDC</p>		<p>Power Supply Kit for FX9600 Vehicle Installations</p>	<ul style="list-style-type: none"> ▶ Allows FX9600 reader to be powered from a vehicle. ▶ Can be used with electric or gas fork lifts. ▶ Support FX9600 4-Port readers, not 8 port readers. ▶ 9-60VDC input, 12VDC output, Up to 10A ▶ Uses the same vehicle power supply used by the VC70. ▶ Kit includes Power Supply (PWRS-9-60VDC-01R), DC Power Cable to vehicle (25-159551-01), Power Cable to FX9600 for Vehicle Installations (25-159554-01) 	
<p>PWRS-9-60VDC-01R</p>		<p>Power Supply for FX9600 Vehicle Installations - bare wire connector</p>	<ul style="list-style-type: none"> ▶ 9-60VDC input, 12VDC output, Up to 10A ▶ Can be used with electric or gas fork lifts. 	<ul style="list-style-type: none"> ▶ DC Power Cable (25-159551-01) ▶ Power Cable to FX9600 for Vehicle Installations (25-159554-01)
<p>25-159551-01</p>		<p>DC Power Cable (9-60 VDC)</p>	<ul style="list-style-type: none"> ▶ Cable connect vehicle battery to DC Power Supply ▶ Works with gas and electric vehicles (9-60VDC) ▶ Includes vehicle ignition sense wire. Wire must be connected to positive terminal of vehicle battery if not connected to ignition. ▶ 10 ft. long cable ▶ Includes fuse. 	<ul style="list-style-type: none"> ▶ DC Power Supply (PWRS-9-60VDC-01R) ▶ Power Cable to FX9600 for Vehicle Installations (25-159554-01)
<p>25-159554-01</p>		<p>Power Cable to FX9600 for Vehicle Installations</p>	<ul style="list-style-type: none"> ▶ Cable connects Vehicle Power Supply (PWRS-9-60VDC-01R) to FX9600. ▶ 6.5 ft. long cable 	<ul style="list-style-type: none"> ▶ Power Supply (PWRS-9-60VDC-01R) ▶ DC Power Cable to vehicle (25-159551-01),
<p>ZE2435-4932 (3rd party) * https://lindelectronics.com/</p>		<p>Vehicle Power Supply for FX7500/FX7400 and FX9600/FX9500 - Cigarette Lighter adapter</p>	<ul style="list-style-type: none"> ▶ Allows FX reader to be powered from a 12V vehicle cigarette lighter adapter. 	
<p>ZE2435I-4946 (3rd party) * https://lindelectronics.com/</p>		<p>Vehicle Power Supply for FX7500/FX7400 and FX9600/FX9500 - bare wire connector</p>	<ul style="list-style-type: none"> ▶ Allows FX reader to be powered from a vehicle. ▶ Isolated adapter is rated for 20-60V input. 	

<p>PD-AS-951/12-24 (PoE Splitter) (3rd party) *</p> <p>https://www.microsemi.com</p>		<p>24V PoE Power Supply solution for FX9600</p>	<ul style="list-style-type: none"> ▶ Used to power FX9600 via Power over Ethernet (PoE) at full 24V power. Not supported by FX9500. ▶ PoE will power FX9600 AND additional auxiliary devices via the GPIO port (i.e. alarms, light stacks, motion sensors, etc.). ▶ Requires two components: <ol style="list-style-type: none"> 1. Midspan/Power Injector that will provide power on Ethernet switch end. Exact model of Midspan is customer/installation specific. 2. PoE Splitter that will separate data from power on FX9600 end and connect to barrel jack power connector and Ethernet port on FX9600. 	<p>Will require DC Line cord (barrel jack connector) to connect PoE Splitter to FX9600</p>
<p>50-16000-221R</p>		<p>AC Line Cord</p>	<ul style="list-style-type: none"> ▶ Used to power Direct Connect power supplies (i.e. PWRS-14000-260R). ▶ This AC Line Cord is for use in North America. See the AC Line Cords by Country TAG for comparable line cords to use in other countries. 	
<p>23844-00-00R</p>		<p>AC Line Cord</p>	<ul style="list-style-type: none"> ▶ Used to power Direct Connect power supplies (i.e. PWR-BGA24V78W1WW) and 802.3at Power Injector. ▶ This AC Line Cord is for use in North America. See the AC Line Cords by Country TAG for comparable line cords to use in other countries. 	