

GigaXtend[™]

GigaXtend XS Series 2GHz Taps & Passives

INSTALLATION AND OPERATION MANUAL



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Symbol Usage

Throughout the manual, some symbols are used to call the readers attention to an important point. The following symbols are in use:



WARNING: This symbol usage will call the reader's attention to an important operation feature of the equipment which may be safety related or may cause a service outage.



NOTE: This symbol indicates that there is helpful related information available in this note or elsewhere in the guide.

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EU Declaration of Conformity

Declare under our sole responsibility that the following product:

Equipment: Extended Spectrum RF Taps and Passives

Brand name: GigaXtend XS

Model/type: XS Series (various)

is in conformity with Directive 2011/65/EU on the restriction of hazardous substances in electrical and electronic equipment.

The following Standards were applied:

EMC:

CISPR 32:2012/EN 55032:2012, CISPR 35:2016/EN 55035:207, FCC Part 15 Subpart B & ICES-003:2017. TUV Report # 7169006880E-001

Health and Safety:

IEC 62368-1-2014 (second addition). TUV Report # 7169006880-100

RoHS: EN IEC 63000:2018

Date and place of issue: 16.Oct.2020 Whitby

CE

IMPORTANT SAFETY INSTRUCTIONS

1. Important Safety Instructions

WARNING! FAILURE TO FOLLOW THE SAFETY PRECAUTIONS LISTED BELOW MAY RESULT IN PROPERTY DAMAGE OR PERSONAL INJURY.

1.1 General Safety Precautions

- Carefully read all safety and operating instructions contained in this user guide before operating this equipment, and retain them for future reference.
- Follow all installation and operating instructions. Pay attention to all warnings and cautions in the user guide.
- · Do not install or operate the device if damage to any components is suspected.
- Care should be taken to prevent entry of splashed or dripping water, other liquids, and physical objects through housing openings.
- The device should be installed and operated in compliance with all applicable local safety by-laws, codes and regulations.
- Avoid working on these products when there is a chance of local lightening storms for your own physical safety. The equipment is protected against lightning strike but you are not.

1.1 Electrical Safety



WARNING: To reduce risk of electric shock, perform only the instructions that are included in the operating instructions described in this manual. Refer all servicing to qualified adequately trained service personnel only.

- Only qualified, adequately trained service personnel are allowed to perform equipment installation or replacement, remove faceplate covers and access field-replaceable pluggable accessories.
- Do not touch any of the internal components that are covered by protective insulation barriers except fuses and signal conditioners as described in this manual. These components may be sensitive to ElectroStatic Discharge (ESD) which can result from a buildup of static electricity on the human body.

1.1 Grounding

- The connection to earth of the supplementary grounding conductor shall be in compliance with the appropriate rules for terminating bonding jumpers in Part V of Article 250 of the National Electrical Code, ANSI/NFPA 70, and Section 10 of Part I of the Canadian Electrical Code, Part I, CSA C22.1.
- This equipment must be grounded by attaching it to a cable suspension strand if installed aerially or a metal mounting plate or bracket that is driven into or otherwise connected to the earth if pedestal mounted. Alternately attach a minimum #14 wire between the housing and an available ground. This wire may be bare but if it is insulated it must have a green finish or green with yellow stripe.

1.1 Installation Site

GigaXtend line passives are designed for all environments that they are likely to be installed in. When installing equipment, comply with the following:

- Ensure that this equipment is operated in an environment that meets the requirements as stated in this equipment's environmental specifications.
- For aerially mounted equipment, attempt to mount the equipment with the faceplate down to provide extra protection against ingress of water from inadequately tightened faceplate installation.
- For pedestal mounted equipment, it is recommended to mount housings such that the faceplate faces down for extra protection from water ingress.
- · Do not install in such a manner that would put undue lateral stress on the line connectors. Bend cables carefully to

align with the natural axis of the hardline connector.

1.1 Equipment Placement



WARNING: Allow only qualified adequately trained service personnel to install this equipment. The installation must conform to all local codes and regulations.



WARNING: Avoid personal injury and damage to this equipment. An unsuitable mounting surface may cause this equipment to fall.

1.1 Power Safety



WARNING: This equipment must be independently grounded when permanently installed. Do not rely on the hardline cables to provide the protective ground. The hardline cable provides RF and AC continuity only.

- Surge protection devices are present on every RF port; line ports and subscriber tap ports, which rely upon an excellent ground path to be effective. Observe grounding instructions.
- Connect this equipment only to the power sources identified on the equipment-rating specification.
- Overcurrent protection fuses, if installed, must be sized appropriately for the total current rating of the connected equipment.
- · Be sure to disconnect the power source before working on this equipment.
- Only connect the unit to a power supply of the type and capacity specified in the operating instructions.

1.1 Service

When servicing this unit, comply with the following:

- Do not open this equipment if there is a possibility of water or moisture entering while open.
- Do not attempt to service the device beyond procedures provided in these operating instructions. All other servicing should be referred to qualified adequately trained service personnel.
- Modifications should not be made to the device or any of its components for applications other than those specified in the operating instructions.
- Power must be disconnected from the area power supply before removing hardline cables or connectors for replacement or service.
- If a fuse is blown, identify and clear the condition that caused the original fuse failure before replacing the fuse.
- Always use a fuse of the correct type and rating as specified in this manual. The correct type is Automotive size **Micro2** as indicated in this manual. The correct rating depends on the location of the fuse.
- Ensure that any faceplates that have been removed are replaced in the correct orientation.
- Ensure that grounding shields have not been bent in such a manner to become ineffective.
- · Ensure RF gasket and weatherproof gasket is present and not damaged as to become ineffective.
- Ensure that metal plugs that are removed from 90° access ports have an intact gasket installed and properly
 positioned before replacing the plug.
- After accessing the inside of the Device, close the faceplate back up and secure it to the housing unit with the retention screws and ensure that all bolts have been tightened.

PRODUCT INTRODUCTION

2. **Product Introduction**

This chapter discusses general information about the GigaXtend products and this manual. For installation, see "3. Installation" on page 3-1.



Figure 2-1: GigaXtend Series

2.1 Document Scope

This manual details the installation and setup of the ATX GigaXtend series of high bandwidth, low loss, hardline passives for use in HFC architectures, covering the following families:

- GigaXtend 2 port Multitaps
- GigaXtend 4 port Multitaps
- GigaXtend 8 port Multitaps
- GigaXtend Hardline Splitters
- GigaXtend Hardline Couplers
- GigaXtend Hardline Power Inserters

2.2 Intended Audience

This manual's intended audience is a professional Cable Television Journeyman or Technician who has been trained in the Cable Television lineman's trade. In addition, planners who design Cable TV plant and engineering personnel responsible for maintenance or training will also find this information useful. This manual assumes that the audience is already fully trained or knowledgable in the general mechanical installation of line equipment used in HFC deployments.

2.3 Product Features

The GigaXtend series has many advanced features that make installation easy and operation flexible.

Multitap Features

- Available in 2 port, 4 port and 8 port designs which all use the same physical wide-body housing to allow easy future upgrade and adding subscribers.
- Swappable faceplate with installed weatherproof and EMI gaskets. New faceplates contain new weatherproof and EMI gaskets for port and bandwidth upgrades.
- Optional pluggable multitap tap port cable simulators and equalizers and return port attenuators allow customized setup of subscriber RF levels for any field location near or distant from node.
- RF and AC 'make before break' bypass switch for subscriber service continuity during faceplate removal or future upgrades.
- Bronze F-ports are permanently swaged for excellent port retention and EMI resistance with Nickel-Tin (NiSn) plating for best long term corrosion performance.

- Extended F-ports allow installation of weatherproof glands to improve subscriber connection moisture resistance.
- · Multitap reversed faceplate options for reversing cable plant signal flow for field upgrades.
- Optionally, a single port (Port3) may be used to provide up to 3 Amps AC^[1] to local drop connected equipment by installing an internal fuse(not included <=3A) inside the multitap.
- Terminating Taps are designed by a 'T' suffix to part number. There is no OUT port or coupler; only the IN port to the plug in signal conditioner and splitter circuit is active. Power passing is not applicable on this tap.

Features for All Line Passives

- Designed to work with KS hard line connectors as per ANSI/SCTE 92 2017 Specification for 5/8-24 Plug, (Male), Trunk & Distribution Connectors. Center pin diameter spec. 0.065" to 0.073".
- Line ports with 90° screw-less 5/8-24 KS connector entrance capability for line and pedestal applications. Unused ports sealed with removable metal plug with o-ring.
- Housings are Type 4X enclosures and are all aluminum, environmentally hardened to 15 PSI and IP68 with Trivalent Chromate passivation treatment with a double baked polyurethane chip resistant powder coating for further corrosion resistance.
- · Connector center pin cut guides on rear of each housing.
- All port 6 kV/3kA surge protection protects against lightning strike and the resultant surge transients on distribution cables and drops.
- ESD (ElectroStatic Discharge) protection to 8kV on all ports and surfaces.
- All RF components sensitive to touch and damage when faceplates are removed are shrouded by a cover.
- Line ports are extended from housing with an embossed ridge for heat shrink tubing to provide excellent heat shrink adhesion and waterproofing performance.

2.4 About Power Inserters

The power inserter is rated at 20A AC power passing on the common power supply port giving it a good safety margin if the power supply loading is near maximum while each of the two line ports is rated at 15A AC, see Figure 2-2. Internal fuses equal to the automotive size **Micro2** serve to provide over-current protection for fault conditions if the operator chooses to install lower value fuses. Factory supplied 'fuses' are buss bars.



Figure 2-2: Power Inserter Schematic



Figure 2-3: Power Inserter Fuses



Figure 2-4: Power Inserter Housing

Drop power option not available until 2020

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2.5 About Multitaps

The multitap series is rated at 15 Amps AC power passing through the line ports, see Figure 2-5. The optionally available model with subscriber AC power tap^[1] port #3 may be configured to pass up to 3 Amps of AC power to supply a local equipment site such as cell site, 5G etc, see Figure 2-6. As supplied, there is no fuse installed. An automotive size **Micro2** fuse of up to 3 Amps may be installed internally on the tap plate, see Figure 2-7.

Port 3 (red)

AC power



Figure 2-5: Multitap Schematic



Figure 2-6: Multitap Port 3 Power



Figure 2-7: Fuse & Conditioner Position

2.5.1 Multitap Signal Conditioners

Plug in modules, see Figure 2-8, are available to condition forward and return path signals for taps installed very close or very far from nodes. Signal conditioners are available in a variety of forward path bandwidths to suit your network applications.



For more details on signal conditioners, see: "4.3 Multitap Cable Equalizers" on page 4-2 "4.4 Multitap Cable Simulators" on page 4-2 "4.5 Multitap Return Attenuators" on page 4-3

Figure 2-8: Typical Signal Conditioner

2.5.2 Multitap 0dB Shunt

As factory supplied, multitaps will be provided with a 0 dB jumper or shunt, see Figure 2-9, which does not affect the tap frequency response. This may be substituted with available signal conditioners where required.



2.5.3 Fuse - Buss Bar

Splitters and power inserters are factory supplied with buss bars inserted into fuse holders, see Figure 2-10. These buss bars will pass the maximum amount of current that the device is rated for. They may be removed and Micro2 automotive fuses substituted if more fine grained control of current is desired.



Figure 2-10: Fuse - Buss Bar

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Drop port power option not available until 2020

2.6 About Splitters & Couplers

The splitters and couplers all have line ports rated at 15 Amps AC. Internal fuses equal to the automotive size **Micro2** are on each active leg and are factory supplied with buss bars installed, see Figure 2-11. Removing any that are not needed in a given installation serves to direct power to only the necessary plant locations and installing Micro fuses may provide over-current protection to limit current if the operator chooses to install lower value fuses. Supplied 'fuses' are buss bars.





Figure 2-12: Splitter Housing

2.7 KS Connector Pin Cut Guides

The center pin of all KS connectors used for line port entry must be cut to 1.25" - 1.32" or 31.75mm 33.53mm long, reference the connector shoulder, see Figure 2-13. A cutting guide is embossed on each line port to allow accurate cutting of the pin. To use it, register the connector shoulder against the housing just like it will be once tightened. Cut the pin at the embossed line. A correctly cut pin will not be visible inside the housing, Figure 2-14.



WARNING: The design of the housing will NOT allow an uncut pin to be inserted without interference or short circuit and RF performance at high frequencies will be sacrificed.



Figure 2-13: Pin Cut Guides



Figure 2-14: Pin Cut Correctly

2.7.1 KS Connector Pin Cutting

You may cut the pin of the KS connector by measuring the length of the pin from the <u>connector shoulder</u> and cut it 1.25" - 1.32" or 31.75mm - 33.53mm long, see Figure 2-15. A KS cutting gauge XSA-TCG can be used to assist cutting the pin to right length and to check the diameter of the pin, see Figures 2-16 to 2-19. A pair of normal lineman's pliers can be used to cut the pin.



Figure 2-15: KS Connector Pin Cutting



WARNING: Re-use of KS connectors that have bent or deformed pins will result in poor connection and sacrifice of high frequency performance.



Figure 2-16: Accessory KS Cutting Gauge XSA-TCG



Figure 2-17: Top face has Go-NOGO size gauge . Some KS center pin diameters are out of SCTE specs. If too large they will not fit through cutting gauge. If too small they will fit in the 'NO GO' hole. Do not use adapters that do not meet SCTE Male KS specifications



Figure 2-18: Insert KS fitting and cut using normal lineman's pliers



Figure 2-19: KS Stinger should NOT fit into NO GO hole

INSTALLATION

3. Installation

This chapter provides a guide to get your GigaXtend Device installed and connected safely.

3.1 Tools Required

The following tools are recommended for working on this series of Hardline passives.

Tool	Used to
1/2" Nut Driver or 7/16" Nut Driver	Remove weatherproof plugs to utilize the 90° connector option on line ports.
3/8" Nut Driver	Remove or tighten the stainless steel rear mounting bracket bolt.
5/16" Nut Driver	Remove or tighten the faceplate bolts.
Pliers	Remove fuses from inside housings.
7/16" Open End Torque Wrench	Remove or tighten the multitap drop wire connectors.
1 1/2" Adjustable Wrench	Tighten KS connectors to housing.
Wire Cutters	Trim KS connector pin to correct length.

Table 3.1a: Recommended Tools

3.2 Equipment Installation

3.2.1 Preparation for Installation

Assemble all of the tools and connectors that will be required depending upon the equipment and application. These instructions are intended to be generic for all GigaXtend products and general in nature due to the multiple variations that may be encountered in the field. Be sure to trim KS connector pins before inserting into housing ports.

3.2.2 Generic GigaXtend Installation

1. Trim KS connector center pins using the embossed guides.

Use the KS connector pin cutting guide on the rear of each housing to trim the pin to the correct length, see "2.7 KS Connector Pin Cut Guides" on page 2-4 for details on cutting pins.



WARNING: Improper center conductor pin length can adversely affect frequency response.

WARNING: Re-use of KS connectors that have bent or deformed pins will result in poor connection and sacrifice of high frequency performance.

2. Re-arrange any port sealing plugs as required.

Study the equipment housing to be installed and the physical installation location to ascertain which physical ports are best used for connector entrances. Move any port plugs that are not optimally located and replace them on the associated 90° ports, making sure the o-ring gasket is intact and that the plug is retightened. There are sometimes several ways in which equipment may be arranged for any application. Try to keep faceplates facing down once installed if that is an option, especially multitaps. Also consider the difficulty of removing or replacing a faceplate in future for each mounting option.

3. Install the KS Connectors.

Insert the KS connectors and firmly tighten according to best practice or published specifications. Any entrance port may be used as internal seizing mechanisms are bidirectional and the 1.7 mm center conductors inserted into any port are automatically correctly seized.

4. Prepare and insert hardline cables.

Cut and place heat shrink tubing on each hardline cable. Prepare and insert the cables into the KS connectors according to best practice or cable system guidelines. Tighten hardline connectors according to best practice.

5. Shrink the Tubing.

Once it is absolutely certain that all hardline cabling is installed correctly, connectors properly tightened, shrink the tubing according to the manufactures guidelines.

3.3 Removing the Faceplate

The faceplate is removed by the following steps:

- 1. Loosen the four 5/16" screws until the threads are disengaged from the threaded body but don't remove the screws from the faceplate. You should be able to lift the screws about 8mm or 3/8" when they are fully disengaged. It is intended by design to be difficult to unthread the screws from the faceplate for retention purposes.
- Hold the housing in both hands and using the built in lifting handles, lift the faceplate handles with your index fingers while prying down with your thumbs, see Figure 3-1, and gently lift the faceplate from the housing. Avoid lifting unevenly and racking the connectors.
- 3. If you fingers are not strong enough to lift the faceplate, use a small flat blade screw driver to gently and evenly pry the faceplate from the housing.
- 4. Lift the faceplate gently and evenly from the housing. Avoid bending the grounding shields.



Figure 3-1: Pry Open Housings



Figure 3-2: Alternately Use Small Screwdriver

3.4 Installing Signal Conditioners

Optional plug in Signal Conditioner modules are available, see Figure 3-3, to condition forward and return path signals for taps installed very close to or very far from nodes. These would be used principally on Node+0 architectures with long cable runs but may be utilized wherever the application demands signal tilt refinement. Signal conditioners are available in a variety of forward path bandwidths to suit your network applications. As purchased, all multitaps have a 0dB jumper installed, see Figure 3-4. For more information on signal conditioners, see "4. Specifications" on page 4-1.





Figure 3-3: Typical Signal Conditioner

- 1. Open the housing and remove the multitap faceplate, see "3.3 Removing the Faceplate" on page 3-2.
- 2. Pull the factory supplied jumper plug-in, Figure 3-4, from the Signal Conditioner socket, Figure 3-5.
- 3. Insert the signal conditioner plug-in into the socket by aligning the 3 pins. This plug-in is symmetrical and may be inserted in either orientation.
- 4. Close the housing, see "3.6 Install & Tighten Faceplate" on page 3-5.



Figure 3-5: Signal Conditioner

3.5 Install or Remove Fuses

3.5.1 Splitter and Coupler Fuses

Fuse holders are factory supplied with buss bars in all positions in splitters and couplers and may be changed to **Micro2** automotive sized fuses with values <=15 Amps as required. Fuses may be removed from any port to effect selective power distribution and avoid sending power where it is not required. Fuses in splitters are not always physically closest to the port



Figure 3-6: Splitter Fuses

they serve, but are labeled on the circuit board as FS1 thru FS4 relating to the external embossed port number.

3.5.2 Power Inserter Fuses

Fuse holders are factory supplied with buss bars in both positions in the power inserter and may be changed to **Micro2** automotive sized fuses with values <=15 Amps as required. Fuses may be removed from either port to effect selective power distribution and avoid sending power where it is not required. Fuses are adjacent to the port they serve, and are labeled on the circuit board as FS1 and FS2.



Figure 3-7: Power Inserter Fuses

3.5.3 Drop Powering Multitap Fuses^[1]

If a drop power tap faceplate was ordered there will be a single fuse position which, as factory supplied, is unoccupied. This fuse, when installed, may provide up to 3 amps of AC power output through tap port 3 for powering field equipment. The fuse rating should match the field equipment requirements with adequate margin but in no case higher that a 3 amp rating. Use pliers to assist in gently removing the fuse if required. Figure 3-8 shows the tap port fuse installed.



WARNING: Do not use a buss bar for this fuse position. Use a 3 Amp maximum Micro2 size fuse (not included with purchased tap).



Figure 3-8: Multitap Port 3 Fuse Position

Drop port power option not available until 2020

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3.6 Install & Tighten Faceplate

Place the faceplate back on the housing and align the position with internal connectors being careful to not bend the ground shields which should be lightly engaged with the housing.



WARNING: It is important to evenly tighten the faceplate screws to avoid racking of the faceplate and reducing the shielding and waterproofing effectiveness.

- 1. Re-engage the screws by finger until you are confident they are not cross threaded as they should begin threading with no interference. Forcing the screws against their will may cross thread the aluminum housing, reducing the shielding and waterproofing effectiveness.
- 2. See Figure 3-9. Tighten the 5/16" screws evenly until they are lightly but evenly engaged to the faceplate surface by tightening opposing screws in sequence. Do not fully tighten any screws until all are lightly tightened first. This will avoid racking the faceplate, reducing effectiveness of shielding and waterproof gaskets.
- 3. Final tightening should be by hand with a nut driver only by tightening opposing screws until firmly but evenly tight.



WARNING: Do not over tighten by using a ratchet wrench.



Figure 3-9: Faceplate Tightening Sequence



Warning: Please make sure not to bend the grounding fingers when the faceplate is out of the housing. Bent fingers may not provide proper grounding and may cause RF performance issues. If some grounding fingers are bent accidentally, bend them back before replacing the faceplate.



Figure 3-10: Bent grounding fingers in a passive module



Figure 3-11: Proper grounding fingers in a passive module



Figure 3-12: Bent grounding fingers in a tap



Figure 3-13: Proper grounding fingers in a tap

3.7 Installing the Tap Housing on a Strand

The strand-mounted configuration has the feeder cable entering one side of the unit and exiting the other side. The unit has one strand clamp with a strand clamp bolt and uses a standard cable strand for mounting. Follow these steps to install a tap housing on a strand.

- 1. Begin this procedure with the faceplate removed. Refer to "3.3 Removing the Faceplate" on page 3-2.
- 2. Using a 3/8-in. wrench, loosen the strand clamp bolt, see Figure 3-14.
- 3. Attach the housing to the strand making sure that the strand enters the strand clamp.
- 4. Secure the strand clamp to the strand by tightening the strand clamp bolt with a 3/8-in. wrench from 30 in-lb to 40 in-lb (3.4 Nm to 4.5 Nm).



Figure 3-14: Install Tap on Strand

 Thread the prepared KS-connectors into the housing at the cable side entry port locations as shown in Figure 3-15. Make sure to tighten the connector according to the manufacturer's recommended torque specification, typically 15 ft-lb to 25 ft-lb (20.3 Nm to 33.9 Nm), but not to exceed 60 ft-lb (81.3 Nm).



Figure 3-15: KS Connector Entry - Strand Mounting

- 6. Replace the end plugs on the unused entry ports if they were removed and torque with a 3/8-in. hex wrench from 50 in-lb to 60 in-lb (5.6 Nm to 6.8 Nm).
- 7. Attach the faceplate to the housing. Refer to "3.6 Install & Tighten Faceplate" on page 3-5.
- 8. Attach the drop cable (RG-6 or RG-59) to the tap faceplate.



Note: Be sure to provide strain relief for the coax drop cable per manufacturer's recommendation, and terminate all unused F-ports with 75 Ω terminators.

3.8 Installing the Tap Housing in a Pedestal

The pedestal-mounted configuration has the feeder cable entering and exiting the unit from the bottom. The tap without traps or filters fits in a 6-in. round or square pedestal. A larger pedestal is needed if traps or filters are installed. Follow these steps to install a tap housing in a pedestal.

- 1. Begin this procedure with the faceplate removed. Refer to "3.3 Removing the Faceplate" on page 3-2.
- 2. Using a 3/8-in. wrench, remove the strand bolt and clamp from the housing.
- 3. Mount the housing to the pedestal-mounting bracket using the strand bolt, see Figure 3-16. Use the strand clamp as a spacer, if necessary.
- 4. Using a 3/8-in. wrench, tighten the strand bolt from 30 in-lb to 40 in-lb (3.4 Nm to 4.5 Nm).



Figure 3-16: Strand Bolt - Pedestal Installation

 Thread the prepared KS-connectors into the housing at the cable bottom entry port locations as shown in Figure 3-17. Make sure to tighten the connector according to the manufacturer's recommended torque specification, typically 15 ft-lb to 25 ft-lb (20.3 Nm to 33.9 Nm), but not to exceed 60 ft-lb (81.3 Nm).



Figure 3-17: KS Connector Entry - Pedestal Installation

- Replace the end plugs on the unused entry ports if they were removed and torque with a 3/8-in. hex wrench from 50 in-lb to 60 in-lb (5.6 Nm to 6.8 Nm).
- 7. Attach the faceplate to the housing. Refer to "3.6 Install & Tighten Faceplate" on page 3-5".
- 8. Attach the drop cable (RG-6 or RG-59) to the tap faceplate.



Note: Be sure to provide strain relief for the coax drop cable per manufacturer's recommendation, and terminate all unused F-ports with 75 Ω terminators.

SPECIFICATIONS

4. Specifications

4.1 Hardline Center Pin Size

The recommended connector for all hardline ports is the standard 1.7 mm pin style KS connector. It is allowable to use a center pin size of between 1.65 mm and 1.85 mm (0.065" to 0.073").



WARNING: Re-use of KS connectors that have bent or deformed pins will result in poor connection and sacrifice of high frequency performance.

4.1.1 Bolt Torque Specifications

Table 4.1a: Bolt and Nut Torque Specs

Parameter	Specification
Faceplate Bolts 5/16"	30 in-lbs to 40 in-lbs
Metal Port Plug 7/16" or 1/2"	50 in-lbs - 60 in-lbs
Mounting Bolt 3/8"	30 in-lbs to 40 in-lbs
Drop Cable Connector	20 in-lbs
KS-connector	Tighten according to manufacturer's recommended torque specifications

4.2 Multitap AC & RF Bypass Switch

A built in switch bypasses the RF and AC between input and output ports when the GigaXtend faceplate is removed, see Figure 4-1. The switch is designed as 'make before break' so the housing is in bypass mode **before** the tap plate is fully removed, ensuring that there is **no** interruption of service further downstream on the distribution cable, even for a millisecond. Switch operation specs are included in Table 4.2a.



Table 4.2a: Multitap AC & RF Bypass Switch Operation

Parameter	Specification
Current Capacity in Bypass Mode	15 Amps AC @ 50 or 60 Hz
Voltage of Operation	30 to 90 Volts AC quasi square wave
Frequency Response	5 MHz to 3000 MHz

4.3 Multitap Cable Equalizers

Cable equalizer plug-ins are available for multitaps to modify the subscriber port RF levels to exhibit a forward path flatness characteristic of a shorter plant position. These plug-ins exhibit loss characteristics which are the reverse of cable loss and tend to flatten the overall response tilt introduced by cable.

Not intended to replace the spec sheet values, these charts, Figure 4-2 and Figure 4-3, are included to provide illustrative guidance about the typical response of the Cable Equalizer plug-ins available to affect output response of the local subscriber tap ports. They do not affect levels on the distribution line. Find the actual Equalizer Specifications here: https://atx.com/wp-content/uploads/ANW1403-GigaXtend-Taps.pdf



4.4 Multitap Cable Simulators

Cable simulator plug-ins are available for multitaps to modify the subscriber port RF levels to exhibit a forward path carrier flatness characteristic of a more distant plant position. These plug-ins exhibit loss characteristics which are the same as cable loss and tend to tilt the overall response in a similar manner to that introduced by cable loss.

Not intended to replace the spec sheet values, this chart gives you illustrative guidance about the typical response of the Cable Simulator plug-ins available to affect output response of the local tap ports. Find the actual Cable Simulator Specifications here: https://atx.com/wp-content/uploads/ANW1403-GigaXtend-Taps.pdf



4.5 Multitap Return Attenuators

Find the Return Path Attenuator Specifications here: https://atx.com/wp-content/uploads/ANW1403-GigaXtend-Taps.pdf

Return Path Attenuators are available to plug in to multitaps to allow the subscriber port RF return path levels for taps installed close to a node to exhibit a return path carrier attenuation characteristic of a more distant plant position. These plug-ins exhibit loss characteristics which primarily attenuate the return path according to the unit value and only slightly attenuate forward path signals.

Not intended to replace the spec sheet values, this chart gives you guidance about the typical response of the Return Attenuator plug-ins available to install in the GigaXtend to affect output response of the local tap ports.



4.5.1 Standards Compliance

The GigaXtend family of hardline passives adheres to recognized industry standards for all relevant aspects of this product. The main standards are listed in Table 4.5a.

Standard	Specification
RoHS Directive	RoHS Directive 2011/65/EU – RoHS 2.
ANSI/SCTE 81 2007	Surge Withstand Test Procedure.
ANSI/SCTE 158 2009	Recommended Environmental Condition Ranges for Broadband Communications Equipment.
ANSI/SCTE 01 1996	Specification for "F" Port, Female, Outdoor.
ANSI_SCTE 91 2015	Specification for 5/8-24 RF & AC Equipment Port, Female.
ANSI_SCTE 92 2017	Specification for 5/8-24 Plug, (Male), Trunk & Distribution Connectors.
EN50083-2:/A1:2006	Electromagnetic compatibility specification for passive wide band equipment for coaxial cable networks.
EN60529: 1992 (IP)	IP68 Ingress Protection Rating.
GR-63-CORE	Vibration testing of GR-63-CORE.
CSA C22.2 No. 94.2/UL 50E.	Type 4X enclosure

Table 4.5a: Standards Adherence

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SERVICE & SUPPORT

5. Service & Support

5.1 Contact ATX Networks

Please contact ATX Technical Support for assistance with any ATX products. Please contact ATX to obtain a valid RMA number for any ATX products that require service and are in or out-of-warranty before returning a failed module to ATX.

TECHNICAL SUPPORT

 Tel:
 289.204.7800 – press 1

 Toll-Free:
 866.YOUR.ATX (866.968.7289) USA & Canada only

 Email:
 support@atx.com

SALES ASSISTANCE

 Tel:
 289.204.7800 - press 2

 Toll-Free:
 866.YOUR.ATX (866.968.7289) USA & Canada only insidesales@atx.com

FOR HELP WITH AN EXISTING ORDER

 Tel:
 289.204.7800 - press 3

 Toll-Free:
 866.YOUR.ATX (866.968.7289) USA & Canada only orders@atx.com

 Web:
 www.atx.com

5.2 Warranty Information

All ATX products have a 1-year warranty that covers manufacturer's defects or failures.



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