ELF System
User Manual
ELF System

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About Telect

Telect offers complete solutions for physical layer connectivity, power, equipment housing and other network infrastructure equipment. From outside plant and central office to inside the home, Telect draws on more than 25 years of experience to deliver leading edge product and service solutions. Telect is committed to providing superior customer service and is capable of meeting the dynamic demands of customer and industry requirements. This commitment to customer and industry excellence has positioned Telect as a leading connectivity and power solution provider for the global communications industry.

Technical Support

E-mail: getinfo@telect.com
Phone: 888-821-4856 or 509-921-6161
# ELF System

## User Manual

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Chapter 1:  Descriptions

1.1 ELF Copper/Fiber System

Telect’s ELF System is a small “edge” connection system for use in locations where equipment density — maximum density with simplified monitoring — is important. The ELF System is ideal for a 3G wireless network at a base transceiver station (BTS), customer premises, controlled environment vault, co-location, or at any remote network terminal.

All ELF Systems consists of a chassis, wall brackets, or wall enclosures with DSX-1, DNI, DSX-3, Fiber ELF, and/or Ethernet/Data modules:

• ELF Chassis fit equipment cabinets, 19-in. or 23-in. EIA/WECO racks, or Telect’s Wall-Mount ELF Chassis Bracket. Each 1RU (1RU = 1.75 in.) chassis handles up to three, rear- and/or front-access ELF modules. DSX-1, DSX-3, fiber, and other ELF modules can be mixed in the same chassis.

• Single-Module ELF Wall Brackets mount to the walls. Each bracket accommodates one total-front-access ELF module

• Single-Module ELF Wall enclosures include a lockable access door. The enclosure mounts to the wall and accommodates one rear- and/or front-access ELF module. Ideal for a Fiber ELF module.

All chassis, brackets, and enclosures include shield ground pins for ITU G.703 compliance. ELF modules are passive devices and do not require power. All chassis, enclosure, brackets, and modules are mainly black.

1.2 ELF Modules

The cover shows a composite of all ELF modules and mounting options.

The following identifies all ELF DSX1, DSX3, fiber, and signal-manager modules offered by Telect, along with section and page references. Mounting options (chassis and wall mount) are covered in this section.
<table>
<thead>
<tr>
<th>ELF Module</th>
<th>Configuration</th>
<th>ELF Model No.</th>
<th>Pg.</th>
<th>Illustration</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>DSX-1</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8-Termination</td>
<td>REAR — Wire-Wrap I/O, FRONT — Wire-Wrap XC, 3-Port Bantam Patch Jacks</td>
<td>ELF-1008-1100</td>
<td>15</td>
<td></td>
</tr>
<tr>
<td></td>
<td>REAR — BNC I/O, FRONT — Wire-Wrap XC, 3-Port Bantam Patch Jacks</td>
<td>ELF-1008-1200</td>
<td>16</td>
<td></td>
</tr>
<tr>
<td></td>
<td>REAR — RJ48C I/O, FRONT — Wire-Wrap XC, 3-Port Bantam Patch Jacks</td>
<td>ELF-1008-1800</td>
<td>18</td>
<td></td>
</tr>
<tr>
<td>6-Termination</td>
<td>TOTAL FRONT ACCESS — Wire-Wrap I/O, Wire-Wrap XC, 3-Port Bantam Patch Jacks</td>
<td>ELF-3006-1100</td>
<td>19</td>
<td></td>
</tr>
<tr>
<td>(See Note.)</td>
<td>TOTAL FRONT ACCESS — RJ48C I/O, RJ48C XC, 3-Port Bantam Patch Jacks</td>
<td>ELF-3006-1800</td>
<td>20</td>
<td></td>
</tr>
<tr>
<td><strong>DNI-1</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4-Circuit Inter-</td>
<td>REAR — Wire-Wrap NE1 I/O, FRONT — RJ48C NE2 I/O, 3-Port Bantam Patch Jacks for all NEs</td>
<td>ELF-9704-1119</td>
<td>21</td>
<td></td>
</tr>
<tr>
<td>connect</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>TOTAL FRONT ACCESS (See Note.) — RJ48C NE1 I/O, RJ48C NE2 I/O, 3-Port Bantam Patch Jacks for all NEs</td>
<td>ELF-3004-1800</td>
<td>23</td>
<td></td>
</tr>
</tbody>
</table>

**NOTE:** All DS1 and DS3 Total Front Access and 12x4 Alarm Pin Block ELF Modules fit Telect’s ELF Wall Bracket (ELF-000-0600).
<table>
<thead>
<tr>
<th>ELF Module</th>
<th>Configuration</th>
<th>ELF Model No.</th>
<th>Pg.</th>
<th>Illustration</th>
</tr>
</thead>
<tbody>
<tr>
<td>DSX-3</td>
<td>2-Termination • BNC I/O &amp; XC • 6-Port Mini-WECO Jacks</td>
<td>ELF-3206-1200</td>
<td>25</td>
<td><img src="image1" alt="Image" /></td>
</tr>
<tr>
<td></td>
<td>1-Termination (See Note.) • BNC I/O &amp; XC • 6-Port Mini-WECO Jacks</td>
<td>ELF-3206-1900</td>
<td>27</td>
<td><img src="image2" alt="Image" /></td>
</tr>
<tr>
<td>Fiber</td>
<td>12-Termination Patch • Fiber Jumpers from NEs • Fiber Adapters</td>
<td>ELF-PC12-SC00</td>
<td>29</td>
<td><img src="image3" alt="Image" /></td>
</tr>
<tr>
<td></td>
<td>12-Termination Splice/ Patch • Subunit Entrance • Fiber Adapters</td>
<td>ELF-SP12-SCPT</td>
<td>30</td>
<td><img src="image4" alt="Image" /></td>
</tr>
</tbody>
</table>

**NOTE:** All DS1 and DS3 Total Front Access and 12x4 Alarm Pin Block ELF Modules fit Telect’s ELF Wall Bracket (ELF-000-0600).
1.3 ELF Mounting Options

1.3.1 ELF Chassis (Model ELF-0000-2400)

- High-density 1RU chassis accommodates three ELF modules.
- Fully enclosed environment provides robust RF protection.
- Reversible mounting brackets available for 19-in. or 23-in. EIA/WECO racks. (Rack-mounting hardware included.) Chassis brackets also fit Telect’s Wall-Mount ELF Chassis Bracket.
- Total termination capacity per chassis:
  - 18 or 24 DSX-1
  - 12 DNI
  - 3 or 6 DSX-3
  - 36 fiber splices/patches

<table>
<thead>
<tr>
<th>ELF Module</th>
<th>Configuration</th>
<th>ELF Model No.</th>
<th>Pg.</th>
<th>Illustration</th>
</tr>
</thead>
<tbody>
<tr>
<td>16-Circuit Patch</td>
<td>REAR — 16, RJ45Cs, FRONT 16, RJ45Cs</td>
<td>ELF-9716-1900</td>
<td>34</td>
<td></td>
</tr>
<tr>
<td>12 x 4 Alarm Pin Block (See Note.)</td>
<td>Bulkhead-Style Pin Block</td>
<td>ELF-0005-0001</td>
<td>36</td>
<td></td>
</tr>
</tbody>
</table>

NOTE: All DS1 and DS3 Total Front Access and 12x4 Alarm Pin Block ELF Modules fit Telect’s ELF Wall Bracket (ELF-000-0600).
- 48 RJ45C-to-RJ45C patches
- 36 alarm interconnects

Figure 1 - ELF Chassis Mounting Options
The following illustrations show a typical installation.
1.3.2 Wall-Mount ELF Chassis Bracket (ELF-0000-0900)

Telect’s Wall-Mount ELF Chassis Bracket is designed to hold one ELF Chassis (ELF-0000-2400) against a wall or side of a cabinet. The chassis bracket allows an ELF chassis with either rear- and/or front-access modules to either extend from a wall or cabinet using a minimum wall “footprint” or to hug the wall or cabinet with a minimum profile. Wall-mounting hardware is not included.
Figure 5 - Wall-Mount ELF Chassis Bracket Dimensions

Typical wall installations are shown in the following illustrations. Telect recommends that the tie bar on the rear of the ELF Chassis be removed when installing in the Wall-Mount ELF Chassis Bracket. Also, when installing rear-access ELF modules, Telect recommends including a minimum 2-ft (600-mm) service loop for any cabling or wiring intended for the rear of the ELF module(s). Don’t forget to install a ground wire on the ELF Chassis, as shown on Page 6.
1.3.3 ELF Wall Bracket (Model ELF-0000-0600)

Wall-mount bracket for one, total front access ELF module (ELF-3006-1100, ELF-3006-1800, ELF-3004-1800, or ELF -0005-0001). Wall-mounting hardware is not included.
Figure 7 - ELF Wall Bracket Dimensions

The following illustration shows a typical installation.

Figure 8 - Typical ELF Wall Bracket Installation
1.3.4 ELF Lockable Wall-Mount Enclosure (Model ELF-0000-0800)

Wall-mount enclosure, designed initially for one fiber ELF module, accommodates any rear- and/or front-access ELF module. Model ELF-000-0800 includes a lockable access door, ideal for co-locations. Wall-mounting and grounding hardware are not included.

The following illustration shows a typical installation.

Figure 9 - ELF Lockable Wall-Mount Enclosure
Figure 10 - ELF Lockable Wall-Mount Dimensions

Note: Dimensions are in mm (in.).
1.4 System-Level Applications

- Fiber Optic Splice/Patch Modules: Manage modest fiber count bundles being delivered to base stations in high-capacity wireless networks.
- DSX-3 Modules: Deliver advanced services outward to the edge of the network, whether wireless or wireline.
- DSX-1 Modules: Gain industry-leading density and options for T1/E1 signal management at the network’s edge.
- RJ-TJ Patch Module: In remote HUTs, CEVs, and cabinets, takes T1/Ethernet equipment interface from inaccessible rear connection to front of equipment rack.
- T1 Interconnect RJ45 Modules: Ideal for handoff applications in customer premise environments.

1.5 Installation Considerations

⚠️ CAUTION

CAUTION! Only qualified technicians may install and maintain this product.

⚠️ ALERT

ALERT! These instructions presume you have verified that the Telect equipment being installed is compatible with the rest of the system, including power, ground, circuit protection, signal characteristics, equipment from other vendors, and local codes or ordinances.

1.5.1 Location and Space

- The ELF Chassis mounts in a 19 in. or 23 in. equipment rack (EIA or WECO) or inside an equipment cabinet. On an EIA rack, it takes up one RU of space (1RU = 1.75 in.).
- The Wall-Mount ELF Chassis Bracket requires approximately 20 in. (503 mm) by slightly more than 2 in. (52 mm) if a minimum wall “footprint” is desired. If hugging the wall, reserve approximately 20 in. by 8.25 in. (210 mm) of space.
- The ELF Wall Bracket requires approximately 6 in. (155 mm) by approximately 2 in. (45 mm) or 4 in. (102 mm) of wall space, depending on mounting orientation.
- The ELF Wall-Mount Enclosure requires approximately 10 in. (255 mm) by approximately 7 in. (180 mm) of wall space.

1.5.2 Tools and Equipment

- common hand tools
- wire-wrap tools for pinfields
- a chassis ground wire—14 AWG minimum with ring terminal
Use listed components (UL-recognized, CSA, ETL, TUV agency) and crimping tools.

1.5.3 Inspection

Compare the contents of the ELF shipping container(s) with the packing list. Call Telect if you are missing anything.

Telect is not liable for shipping damage.

If the shipping container is damaged, keep it for the carrier’s inspection. Notify the carrier and call Telect’s Customer Service Department: 1-800-551-4567 or 1-509-926-6000

Keep the container until you have checked equipment operation. If you experience any kind of problem, call Telect’s Customer Service Department. Use the original, undamaged container if you are instructed to return the ELF equipment to Telect.

1.5.4 Technical Support (USA)

By e-mail: getinfo@telect.com                    By phone: 888-821-4856 or 509-921-6161

1.6 Specifications

Table 1 - DS1 Electrical

<table>
<thead>
<tr>
<th>Specification</th>
<th>E1 Specification</th>
<th>T1 Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Return Loss</td>
<td>12 dB 51 kHz to 102 kHz</td>
<td>26 dB 772 kHz</td>
</tr>
<tr>
<td></td>
<td>18 dB 102 kHz to 2048 kHz</td>
<td></td>
</tr>
<tr>
<td></td>
<td>14 dB 2048 kHz to 3073 kHz</td>
<td></td>
</tr>
<tr>
<td>Insertion Loss</td>
<td>0.5 dB at bit rate (2.048 Mbps)</td>
<td>0.5 dB at bit rate (1.544 Mbps)</td>
</tr>
<tr>
<td>Monitor Level</td>
<td>−20 dB ± 1.5 dB at bit rate (2.048 Mbps)</td>
<td>−20 dB ± 1.5 dB at bit rate (1.544 Mbps)</td>
</tr>
<tr>
<td>Contact Resistance</td>
<td>&lt;0.01 Ohms</td>
<td></td>
</tr>
<tr>
<td>Characteristic Impedance</td>
<td>100/120 Ohms</td>
<td></td>
</tr>
<tr>
<td>Adjacent Channel Crosstalk</td>
<td>−60 dB at bit rate (2.048 Mbps)</td>
<td>−60 dB at bit rate (1.544 Mbps)</td>
</tr>
<tr>
<td>Interchannel Crosstalk</td>
<td>−60 dB at bit rate (2.048 Mbps)</td>
<td>−60 dB at bit rate (1.544 Mbps)</td>
</tr>
</tbody>
</table>

Table 2 - DS3 Electrical

<table>
<thead>
<tr>
<th>Specification</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Return Loss</td>
<td>&lt;−26 dB at DS3, STS-1, and E3 signal rates</td>
</tr>
<tr>
<td>Insertion Loss</td>
<td>&lt;1.00 dB at DS3 signal rates for modules with one monitor network</td>
</tr>
<tr>
<td>Monitor Level</td>
<td>21 dB ± 1.5 dB below signal level</td>
</tr>
<tr>
<td>Contact Resistance</td>
<td>&lt;0.01 Ohms</td>
</tr>
<tr>
<td>Characteristic Impedance</td>
<td>75 Ohms</td>
</tr>
<tr>
<td>Specification</td>
<td>Value</td>
</tr>
<tr>
<td>---------------------</td>
<td>------------------------------</td>
</tr>
<tr>
<td>Return Loss</td>
<td>&gt;55 dB</td>
</tr>
<tr>
<td>Insertion Loss</td>
<td>&lt;0.5 dB</td>
</tr>
<tr>
<td>Mode</td>
<td>Single</td>
</tr>
<tr>
<td>Bandpass</td>
<td>1310/1550 ± 20 nm</td>
</tr>
</tbody>
</table>
Chapter 2: ELF DS1 Modules

Telect offers five DSX-1 and two DNI-1 ELF Modules:

- All three ELF DSX-1 8-Termination Modules feature network element RJ45, BNC, or wire-wrap connections on the rear and Telect’s Bantam patch/monitor jacks and wire-wrap cross-connections on the front.

- Both ELF DSX-1 6-Termination Modules are total front access modules. Wire-wrap network element, wire-wrap cross-connections, and Bantam patch/monitor jacks are all on the front.

- Both ELF DNI-1 4-Circuit Modules contain RJ48C termination on the front along with 4 sets of Bantam patch/monitor jacks for the NE interconnections. One DNI-1 module is total front access with all Bantam interconnections between RJ48C NE-1/NE-2 terminations; the other module interconnects four NE-2 RJ48C termination on the front with wire-wrapped NE-1 termination on the rear.

2.1 ELF 8-Termination DSX-1, Wire-Wrap I/O (Model ELF-1008-1100)

Eight-circuit network element I/O wire-wrap pinfield on the rear and corresponding cross-connect pinfield and Bantam-style patch and monitor jacks on the front. Both pinfields provide individual shield grounds for each set of jacks. Screws for mounting module to an ELF chassis or lockable wall-mount enclosure are included.

![8-Termination Module Diagram](image)

**Figure 11 - Model ELF-1008-1100 Dimensions**
2.2 ELF 8-Termination DSX-1, BNC I/O (Model 1008-1200)

Eight-circuit network element BNCs on the rear and corresponding cross-connect pinfield and Bantam-style patch and monitor jacks on the front. Pinfield provides shield grounds for each
circuit. Screws for mounting module to an ELF chassis or lockable wall-mount enclosure are included.

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**Figure 13 - Model 1008-1200 Dimensions**

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**Figure 14 - Model 1008-1200 Reference Schematic**
2.3 ELF 8-Termination DSX-1, RJ48C I/O (Model ELF-1008-1800)

Eight-circuit network element RJ48Cs on the rear and corresponding cross-connect pinfield and Bantam-style patch and monitor jacks on the front. Pinfield provides shield grounds for each circuit. Screws for mounting module to an ELF chassis or lockable wall-mount enclosure are included.

![Diagram of ELF 8-Termination DSX-1, RJ48C I/O](image)

**Figure 15 - Model ELF-1008-1800 Dimensions**
2.4 ELF 6-Termination DSX-1, Wire-Wrap I/O (Model ELF-3006-1100)

Six-circuit NE I/O and cross-connect pinfields and Bantam-style patch and monitor jacks are all on the front. Both pinfields provide individual shield grounds for each set of jacks. Screws for
mounting module to an ELF chassis, wall-mount bracket, or lockable wall-mount enclosure are included.

**6-Termination Module**

![Diagram of 6-Termination Module]

**Figure 17 - Model ELF-3006-1100 Dimensions**

**Figure 18 - Model ELF-3006-1100 Reference Schematic**

**2.5 ELF 6-Termination DSX-1, RJ48C I/O (Model ELF-3006-1800)**

Six-circuit network element and cross-connect RJ48Cs, along with Bantam-style patch and monitor jacks, are all on the front. Screws for mounting module to an ELF chassis, wall-mount bracket, or lockable wall-mount enclosure are included.
Figure 19 - Model ELF-3006-1800 Dimensions

Figure 20 - Model ELF-3006-1800 Reference Schematic

2.6 ELF 4-Circuit DNI-1, Wire-Wrap I/O to RJ48C I/O (Model ELF-9704-1119)

This ELF DNI-1 4-Circuit Module contains 4, NE-1 wire-wrap termination on the rear. Four, NE-2 RJ48C termination are on the front along with 4 sets of Bantam-style patch and monitor jacks for interconnections and testing. Shields for all cable connectors are connected internally to chassis ground along with a shield ground pin for the wire-wrapped NE-1 cable. Screws for mounting module to an ELF chassis or lockable wall-mount enclosure are included.
Figure 21 - Model ELF-9704-1119 Dimensions
2.7 ELF 4-Circuit DNI-1, RJ48C I/O to RJ48C I/O (Model ELF-3004-1800)

The ELF DNI-1 4-Circuit Total Front Access Module contains 4, NE-1 and 4, NE-2 RJ48C terminations on the front along with 4 sets of Bantam-style patch and monitor jacks for interconnections and testing. Shields for all cable connectors are connected internally to chassis ground. Screws for mounting module to an ELF chassis, wall-mount bracket, or lockable wall-mount enclosure are included.
Figure 23 - Model ELF-3004-1800 Dimensions

Figure 24 - Model ELF-3004-1800 Reference Schematic
Chapter 3: ELF DS3 Modules

Telect offers two DSX-3 ELF Modules. Both feature 6-port mini-WECOs for temporary I/O and cross-connect patching, testing, and monitoring, along with BNC connectors for normal NE I/O and cross-connections:

- ELF 2-Termination DSX-3 (Model ELF-3206-1200) has the NE BNCs on the rear, and
- ELF 1-Termination DSX-3 (Model ELF-3206-1900) is total front access (TFA).

Both modules fit the ELF chassis and Lockable Wall-Mount Enclosure. Mounting screws for installing on the chassis or enclosure are included.

3.1 ELF 2-Termination DSX-3, Rear BNC I/O (Model ELF-3206-1200)

![Diagram of ELF 2-Termination DSX-3, Rear BNC I/O (Model ELF-3206-1200)](image)

Figure 25 - Model ELF-3206-1200 Dimensions
Figure 26 - Model ELF-3206-1200 Reference Schematic
3.2 ELF 1-Termination DSX-3, TFA BNC I/O (Model ELF-3206-1900)

Figure 27 - Model ELF-3206-1900 Dimensions

Figure 28 - Model ELF-3206-1900 Reference Schematic
Chapter 4: ELF Fiber Modules

Telect manufactures two Fiber ELF platforms for patching, and patching with splicing:

- ELF Fiber Patch (Models ELF-PC12-SC00 and ELF-PC12-FC00)
- ELF Fiber Splice/Patch (Models ELF-SP12-SCPT and ELF-SP12-FCPT)

All modules are available with either 12, SC/UPC or FC/UPC adapters.

All modules fit the ELF chassis and lockable wall-mount enclosure. Mounting screws for installing on the chassis or enclosure are included. Telect supplies dust covers for all open fiber adapters.

4.1 ELF Fiber Patch Modules (Model Series ELF-PC12)

The following illustration shows an ELF-PC12-SC00.

![Figure 29 - ELF-PC12-SC00](image)

You can purchase Fiber Patch Modules with factory-installed 2-mm fiber jumpers, as shown below.
4.2 ELF Fiber Splice/Patch Modules (Model Series ELF-SP12)

The following illustration shows an ELF-SP12.

Figure 30 - ELF Patch Module (Model ELF-PC12-SCxx, Typical Cabling)

Figure 31 - Model Series ELF-SP12 Parts & Dimensions
The module consists of a splice cassette mounted atop a subunit entrance compartment. (See the following illustrations.) The splice cassette is covered by a transparent plastic cover.
You can purchase Fiber Splice/Patch Modules with factory-installed 12,900 µm pigtails for splicing to fiber strands from an incoming IFC/OSP subunit. The opposite ends of factory-installed pigtails are terminated on the rear face of the fiber adapter at the front of the module.

The illustration on the right shows a finished installation with 12 fiber strands (Model ELF-SP12-SCPT).

![Figure 34 - ELF Splice/Patch Module (Model ELF-SP12-SCPT Typical Cabling)
Chapter 5: ELF Multi-Purpose Modules

Telect manufactures three multi-purpose signal manager modules for RJ45C and pin-block signals.

All signal manager modules are straight feed-through:

- The ELF RJ45C to RJ45C Patch Module (Model ELF-9716-1900) contains 16 RJ45C connectors on the rear which interconnect with 16 RJ45C connectors on the front.
  The module fits the ELF chassis and lockable wall-mount enclosure.

- The ELF RJ45 to IDC Patch Module (Model ELF-9716-1700) contains 16 RJ45 connectors on the front which interconnect to T568A-coded IDC punch-down blocks for 100-Ohm cable on the rear.
  The module fits the ELF chassis and lockable wall-mount enclosure.

- The ELF 12 x 4 Alarm Pin Block Module (Model ELF-0005-0001) is a bulkhead pin block primarily intended for interconnecting alarm signals.
  ELF-0005-0001 fits the ELF chassis, the wall-mount bracket, and the lockable wall-mount enclosure.

Mounting screws for installing on the chassis, bracket, or enclosure are included.
5.1 ELF RJ45C to RJ45C Patch Module (Model ELF-9716-1900)

Figure 35 - Model ELF-9716-1900 Parts & Dimensions

Figure 36 - Model ELF-9716-1900 Schematic
5.2 ELF RJ45-IDC Patch Module (Model ELF-9716-1700)

A schematic illustration is shown on the right and a finished cable and wiring illustration is shown in the following illustration.

Please see Telect Publication 129039 for detailed instructions on installation and wiring.

Figure 38 - Model ELF-9716-1700 Schematic
5.3 ELF 12 x 4 Alarm Pin Block Module (Model ELF-0005-0001)

Figure 39 - Example of Model ELF-9716-1700 finished cable and wiring

Figure 40 - Model ELF-0005-0001 Parts & Dimensions
CAUTION

CAUTION! Only qualified technicians may install and maintain this product.

6.1 Owner Maintenance

Telect’s ELF chassis, enclosures, and modules do not need preventive maintenance.

6.2 Service

Contact Technical Support (USA):

By e-mail: getinfo@telect.com
By phone: 888-821-4856 or 509-921-6161

6.2.1 In-Warranty Service

Contact your Telect equipment distributor, or call a Telect Customer Service Representative:

1-800-551-4567
1-509-926-6000

Telect will repair or replace defective products within the limits of the warranty. See “Repacking for Shipment” in this section.

Call a Customer Service Representative for a Return Material Authorization (RMA) before returning any equipment.

6.2.2 Out-Of-Warranty Service

The procedure for out-of-warranty service is the same as for in-warranty service, except that Telect charges a processing fee, and you must submit a Purchase Order along with a Return Material Authorization (RMA) before returning equipment. Call a Customer Service Representative for help getting these forms.

The processing fee guarantees a repair estimate and is credited against actual material and labor costs.

6.3 Repacking For Shipment

1. Tag the equipment showing owner’s name, address, and telephone number, together with a detailed description of the problem.

2. Use the original shipping container if possible. If you do not have it, package the equipment in a way to prevent shipping damage. Include the RMA inside the container and legibly print the RMA number on the outside of the package, near the shipping address.
3. Insure the package.

*NOTE:* Telect is not liable for shipping damage.
# Chapter 7: Accessories

<table>
<thead>
<tr>
<th>Description</th>
<th>Catalog No.</th>
<th>Illustration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blank Face Plate (Includes Mounting Screws)</td>
<td>ELF-0000-0001</td>
<td></td>
</tr>
</tbody>
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## Bantam

<table>
<thead>
<tr>
<th>Description</th>
<th>Catalog No.</th>
<th>Illustration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bantam Patch Cord, Single Plug</td>
<td>040-1000-xxx  where xxx is the length in ft.</td>
<td><img src="image1" alt="Diagram" /></td>
</tr>
<tr>
<td>Bantam Patch Cord, Dual Plug</td>
<td>040-2000-xxx  where xxx is the length in ft.</td>
<td><img src="image2" alt="Diagram" /></td>
</tr>
<tr>
<td>Bantam Circuit Guards</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Circuit Guard, BLK</td>
<td>101222-2</td>
<td><img src="image3" alt="Diagram" /></td>
</tr>
<tr>
<td>Circuit Guard, RED</td>
<td>101222-3</td>
<td><img src="image4" alt="Diagram" /></td>
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## BNC

<table>
<thead>
<tr>
<th>Description</th>
<th>Catalog No.</th>
<th>Illustration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single RG59 without messenger wire</td>
<td>043-0111-xxx  where xxx is length in ft</td>
<td><img src="image5" alt="Diagram" /></td>
</tr>
<tr>
<td>Single 735A without messenger wire</td>
<td>043-0911-xxx  where xxx is length in ft</td>
<td><img src="image6" alt="Diagram" /></td>
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<tr>
<td>BNC Insertion &amp; Removal Tool</td>
<td>097197</td>
<td><img src="image7" alt="Diagram" /></td>
</tr>
<tr>
<td>Description</td>
<td>Catalog No.</td>
<td>Illustration</td>
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<tr>
<td>------------------------------------</td>
<td>-------------</td>
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<tr>
<td><strong>Mini-WECO</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>RG59</td>
<td>043-0122-xxx where xxx is length in ft</td>
<td><img src="image1.png" alt="Image" /></td>
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<tr>
<td>735A</td>
<td>043-0922-xxx where xxx is length in ft</td>
<td><img src="image2.png" alt="Image" /></td>
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<tr>
<td>Mini-WECO Looping Plug</td>
<td>301291</td>
<td><img src="image3.png" alt="Image" /></td>
</tr>
<tr>
<td>Mini-WECO Terminating Plug</td>
<td>100293</td>
<td><img src="image4.png" alt="Image" /></td>
</tr>
<tr>
<td>Mini-WECO Circuit Guard Plugs (Black or White)</td>
<td>PLG-MW-BLK or PLG-MW-WHT</td>
<td><img src="image5.png" alt="Image" /></td>
</tr>
<tr>
<td><strong>RJ48C Jumpers</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CAT 5 Patch Cords, Modular Plugs, RJ48C USOC Straight-Thru Wiring, Shielded</td>
<td>904-23DD-0004-xxx where xxx is length in ft</td>
<td><img src="image6.png" alt="Image" /></td>
</tr>
<tr>
<td>CAT 5 Patch Cords, Modular Plugs, RJ48C USOC X-Over Wiring, Shielded</td>
<td>904-23DD-0016-xxx where xxx is length in ft</td>
<td><img src="image7.png" alt="Image" /></td>
</tr>
<tr>
<td>Description</td>
<td>Catalog No.</td>
<td>Illustration</td>
</tr>
<tr>
<td>-----------------------------------</td>
<td>-------------</td>
<td>--------------</td>
</tr>
<tr>
<td><strong>Fiber Jumpers</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Single mode or 62.5/125 Multimode</td>
<td>123958</td>
<td><img src="image" alt="Fiber Jumper Illustration" /></td>
</tr>
<tr>
<td>2 mm Simplex SC or ST Connector on one end; SC or ST Connector on the other Mega-Wave or GigaWave Any length up to 999.0 ft or mm</td>
<td>See telect.com to access cable configurator</td>
<td></td>
</tr>
<tr>
<td><strong>Circuit Designations</strong> (Self-adhesive circuit designation labels are provided with modules. Order the labels list here as replacements.)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8 Terminations</td>
<td>123958</td>
<td><img src="image" alt="8 Terminations Illustration" /></td>
</tr>
<tr>
<td>1 to 4 Terminations</td>
<td>129396</td>
<td><img src="image" alt="1 to 4 Terminations Illustration" /></td>
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<td>12 Fiber Terminations</td>
<td>127380</td>
<td><img src="image" alt="12 Fiber Terminations Illustration" /></td>
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