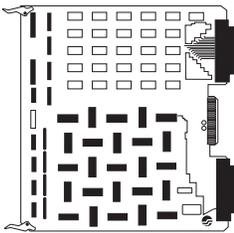


## 289H LSS Equipment

There are different combinations of integrated circuit boards and connector blocks that can be used with the 289H LSS™ and 289H-M LSS™ monitors. This section of the catalog describes these important components, as well as some of the mounting hardware. Please note that in addition to these items, a number of special application and miscellaneous accessories have been included.

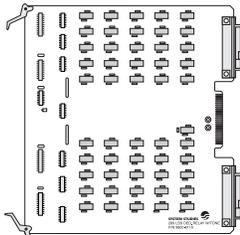
### 9800-6100 LSS, Subscriber Card



The subscriber relay card is the Loop Surveillance System's internal termination point for transducers installed on subscriber device circuits. Because of its architecture and relay configuration, it is also possible to use dedicated circuits with this card. The card accommodates a maximum of 25 devices.

ECI: 684835 CLEI: SUIUBB01AA CPR/OFC: A70907

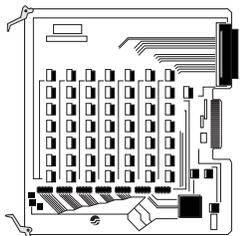
### 9800-6110 LSS, Dedicated Relay Card



This dedicated relay card is used by the 289H/H-M monitors to read data from transducers installed on dedicated circuits. The 9800-6110 will accommodate up to 50 devices, which must be installed on dedicated conductor pairs.

ECI: 684836 CLEI: SUIUAA01AA CPR/OFC: A70908

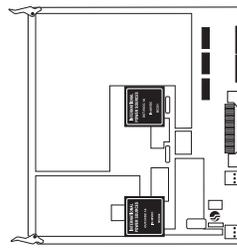
### 9800-6116 LSS, Sparton Dedicated Replacement Card (SPDR)™



The Sparton Dedicated Replacement Card (SPDR) streamlines the process of cutting over from a Sparton monitor to the 289H or 289H-M LSS. SPDR Cards can be configured to accept the Sparton dedicated block's A, B or C cables. No additional adapters or connectors are required.

ECI: 177235 CLEI: SUCUAB3KAA

### 9010-0004 LSS, Utility Card

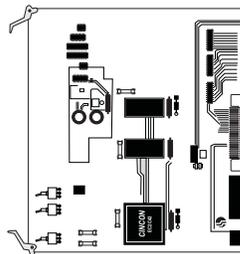


The utility card contains a 48 volt DC power supply, a micro-processor which contains the I/O circuitry for the 289H chassis, a power switch, and an alarm enable/disable switch. This card is supplied with the 289H and 289H-M monitors. It is also required when an expansion chassis is used with the 289H LSS. It provides the interface to

the main chassis. The card is available here as a replacement card.

ECI: 684841 CLEI: SUPQAABAAA CPR/OFC: A70910

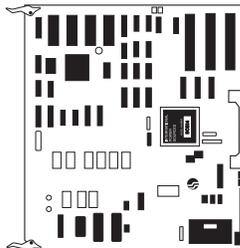
### 9010-0016 LSS, Tone Utility Card



This version of the 289H Utility Card makes it possible to transmit a pseudo-data tone or a selected tone frequency (locator tone) on the monitoring device pairs wired to the 289H monitor. Works in either capacity with all dedicated relay cards manufactured after December, 1998 (Rev. C and above). Locator tone capability only is available for subscriber cards.

ECI: 177236 CLEI: SUCUAB1KAA

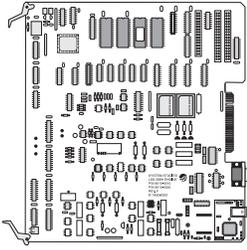
### 9010-0010 LSS, Controller Card



The controller card performs most of the tasks that direct the operation of the 289H and its interaction with the PressureMAP™ software. It is available here as a replacement card.

ECI: 684840 CLEI: SUPQAAAAAA CPR/OFC: A70909

**9800-0030 LSS, LAN Controller Card**



The controller card performs most of the tasks that direct the operation of the 289H and its interaction with the PressureMAP software. The latest version of the card includes an onboard local area network (LAN) adapter and over-voltage protection for the 289H's measurement circuit.

The LAN adapter replaces the modem circuitry on earlier Controller Cards with a TCP/IP protocol, making two way communications between PressureMAP and the 289H LSS equipment possible over the network. The LAN Controller Card is available here as a replacement card. It is supplied with P/N 9800-6002 standard DB9 straight-through serial cable to connect card to PC for setup configuration.

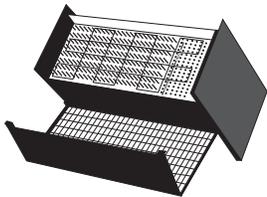
ECI: 177237 CLEI: SUCUAB2KAA

**9800-6046 LSS, Sparton Subscriber Line Adapter Module (SSLAM)<sup>TM</sup>**



This rack-mounted component simplifies the process of converting from a Sparton CPAMS to a 289H or 289H-M LSS. Designed for Sparton subscriber pairs, the SSLAM provides a cabling interface between the Sparton Telzon blocks and the 289H equipment. One SSLAM accommodates a total of two subscriber blocks (up to 72 monitoring pairs). Three 289H Subscriber Cards (P/N 9800-6100) are required for this 72-pair total.

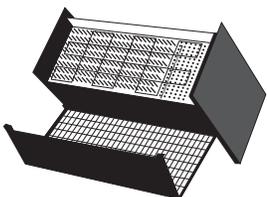
**9800-6055 LSS, Connector Block, Wire Wrap, Dedicated**



The dedicated connector block provides the means of connecting a maximum of 100 monitoring devices on dedicated pairs. Wire wrap termination pins are divided into two groups—each to accommodate 50 devices on dedicated circuits. The block is supplied with four female connectors to accommodate four 25-pair, male-to-male, cables.

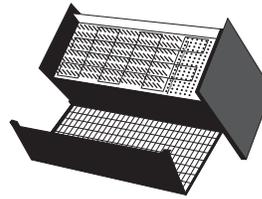
ECI: 418938 CLEI: SUAYAAEAAA CPR/OFC: 106308

**9800-6055-C LSS, Connector Block, Wire Wrap, Dedicated, Male/Female Connectors**



This version of our basic 100 pair dedicated connector block is supplied with four, pre-wired 25 pair, male connectors for use with 25 pair male/female cables.

**9800-6056 LSS, Connector Block, Wire Wrap, Subscriber**



The subscriber connector block is used to terminate field monitoring device pairs on subscriber circuits. It routes incoming jumpers from the vertical frame to the subscriber card in the 289H/H-M monitor and to the central office equipment. Wire wrap termination

pins are divided into two groups—each to accommodate 25 devices on subscriber circuits.

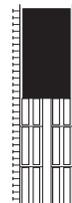
Please note that two cables are required for each subscriber card used with the block: one P/N 9800-6016 male/female cable and one P/N 9800-6017 male/male cable. Additionally, the block provides four auxiliary connectors which can be used with short lengths of male-to-male cable to bypass the 289H equipment during installation, troubleshooting and/or repair.

ECI: 418939 CLEI: SUAYAAFAAA CPR/OFC: 106309

**9800-6068 LSS, Connector Block, Wire Wrap, Dedicated, 50-Pair**

As an alternative to the standard, 100-Pair dedicated block (Part No. 9800-6055), this block provides wire wrap pins for a total of 50 dedicated conductor pairs. The block is supplied with two female connectors to accommodate two 25-pair, male to male cables.

**9800-6062 LSS, Connector Block, Circuit Protection**



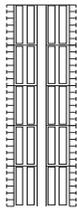
This connector block is used in conjunction with the 9800-6060 and 9800-3063 blocks when circuit protection is required for incoming device pairs. A typical application for this block is to terminate devices from a specially designated monitoring cable—one that bypasses the normal central office protection.

This block accommodates 25 incoming device pairs. An individual solid-state protector module (P/N 9800-6067) must be ordered for each terminated device pair.

**9800-6067 LSS, Connector Block 5-Pin Protector Module**

Designed to be used with the P/N 9800-6062 connector block, these circuit protector modules provide electrical protection to central office equipment from high voltages on incoming device pairs. The blocks and protector modules are recommended for use with monitoring cables or any incoming field facilities that are not terminated on protected central office equipment. One P/N 9800-6067 protector modules is required for each device pair.

**9800-6060 LSS, Connector Block, (Krone Disconnect), Female Connectors**



This Krone Disconnect Block is a pre-wired block that provides the ability to connect incoming device pairs from protected terminal blocks (P/N 9800-6062) via a 100 pair Type 66 block (P/N 9800-6063) to the 289H/H-M dedicated relay card. The block is also used for direct

wiring of central office panel transducer circuits to the 289H monitor.

Unlike the Type 66 blocks, the Krone Disconnect block provides the ability to isolate individual device pairs and test either the outside (facility) conductor or the inside (equipment) conductor. It is equipped with two female 25 pair connectors, located on the back of the block, to accommodate a maximum of 50 devices.

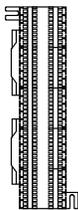
**9800-6063 LSS, Connector Block, Type 66, No Connectors**



This connector block provides the means of connecting a maximum of 100 monitoring devices to the 289H/H-M using punch-down, standard clips. The block is typically used between protected blocks (P/N 9800-6062) and one of the 9800-6076, 9800-6077 or 9800-6078 connectorized Type 66 blocks described in this catalog.

Note: Although not normally supplied with connectors, it can be specially ordered with connectors if desired for special applications.

**9800-6076-L LSS, Connector Block, Type 66, Top Entry, Left Male Connectors**



The 9800-6076-L Type 66 block accommodates 50 device pairs. It is equipped with standard punch-down, 66 clips and two 25 pair male connectors. The "L" designation indicates the position of the connectors on the left side of the block, one above the other. What designates this connector block model from the

9800-6077 and 9800-6078 blocks is the direction of the incoming cable: top cable entry.

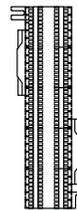
**9800-6076-R LSS, Connector Block, Type 66, Top Entry, Right Male Connectors**



The P/N 6076-R Type 66 block accommodates 50 device pairs. It is equipped with standard punch-down, 66 clips and two 25 pair male connectors. The "R" designation indicates the position of the connectors on the right side of the block, one above the other. What designates this model from the P/N

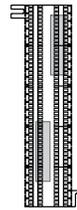
6077 and P/N 6078 blocks is the direction of the incoming cable: top cable entry.

**9800-6076-S LSS, Connector Block, Type 66, Top Entry, Side Male Connectors**



The P/N 6076-S Type 66 block accommodates 50 device pairs. It is equipped with standard punch-down, 66 clips and two 25 pair male connectors, one on each side of the block. What designates this model from the P/N 6077 and P/N 6078 blocks is the direction of the incoming cable: top cable entry.

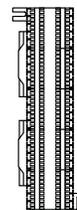
**9800-6076-B LSS, Connector Block, Type 66, Top Entry, Back Male Connectors**



The P/N 6076-B Type 66 block accommodates 50 device pairs. It is equipped with standard punch-down, 66 clips and two 25 pair male connectors, mounted one above the other on the back side of the block. This block is set up to accept the incoming cable from the top.

Please note that this is the recommended configuration when mounting multiple blocks to a mounting apparatus, such as the Type 66 Mounting Bar (P/N 9800-6065). Connectors must be located on the back of the block in order to place six blocks in a row.

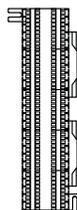
**9800-6077-L LSS, Connector Block, Type 66, Bottom Entry, Left Female Connectors**



The 9800-6077-L Type 66 block accommodates 50 device pairs. It is equipped with standard punch-down, 66 clips and two 25 pair female connectors. The "L" designation indicates the position of the connectors on the left side of the block, one above the other. What designates this model from the 9800-6076 and

9800-6078 blocks is the direction of the incoming cable: bottom cable entry.

**9800-6077-R LSS, Connector Block, Type 66, Bottom Entry, Right Female Connectors**



The 9800-6077-R Type 66 block accommodates 50 device pairs. It is equipped with standard punch-down, 66 clips and two 25 pair female connectors. The "R" designation indicates the position of the connectors on the right side of the block, one above the other. What designates this model from the 9800-

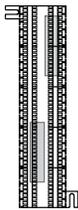
6076 and 9800-6078 blocks is the direction of the incoming cable: bottom cable entry.

**9800-6077-S LSS, Connector Block, Type 66, Bottom Entry, Side Female Connectors**



The 9800-6077-S Type 66 block accommodates 50 device pairs. It is equipped with standard punch-down, 66 clips and two 25 pair female connectors, one on each side of the block. What designates this model from the 9800-6076 and 9800-6078 blocks is the direction of the incoming cable: bottom cable entry.

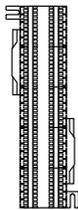
**9800-6077-B LSS, Connector Block, Type 66, Bottom Entry, Back Female Connectors**



The 9800-6077-B Type 66 block accommodates 50 device pairs. It is equipped with standard punch-down, 66 clips and two 25 pair female connectors, mounted one above the other on the back side of the block. This block is set up to accept the incoming cable from the bottom.

Please note that this is the recommended configuration when mounting multiple blocks to a mounting apparatus, such as the Type 66 Mounting Bar (P/N 9800-6065). Connectors must be located on the back of the block in order to place six blocks in a row.

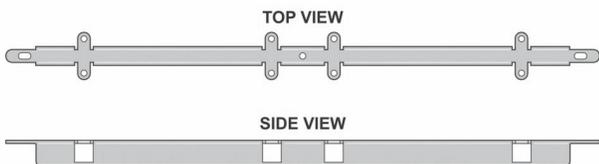
**9800-6078 LSS, Connector Block, Type 66, Bottom/Top Entry, Side Male/Female Connectors**



The 9800-6078 Type 66 block accommodates 50 device pairs. It is equipped with standard punch-down, 66 clips and both a 25 pair male and 25 pair female connector. The connectors are located on opposite sides of the block (male: top left, female: lower right). The incoming cable to the male connector is from

the top; it is routed from the bottom for the female connector.

**9800-6090 LSS, Connector Block Mounting Bar**



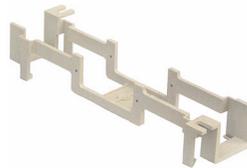
This mounting bar is designed to be used with the 9800-6055 and 9800-6056 connector blocks. The mounting device is designed to easily install on a standard 23-inch wide central office rack. One mounting bar holds two cross connect blocks.

**9800-6065 LSS, Connector Block Mounting Bar, Type 66**



Two 9800-6065 mounting bars provide the capability of mounting up to six, Type 66 (Krone) connector blocks. The blocks recommended for use with this mounting equipment are the 9800-6076-B and 9800-6077-B blocks (each has cable connectors located on the back of the block). Connector blocks are placed vertically on the mounting bars.

**9800-6066 LSS, Connector Block Standoff Bracket, For Type 66**



This plastic standoff bracket is designed to be used with Type 66 Connector Blocks (Part Nos. 9800-6076 and -6077) to enable the blocks to be flush mounted on equipment racks that are populated with circuit protected blocks or other blocks that extend out farther from the panel's

mounting bars. The standoff bracket extends the face of the block an additional one inch (2.5 cm) out from the connector block mounting bar.

**MISCELLANEOUS 289H LSS ACCESSORIES**

The equipment described below is used with the System Studies 289H and 289H-M Loop Surveillance System monitors. It includes replacement boards, expansion chassis, spare parts kits, etc. 289H LSS cabling information is supplied on a separate page entitled "289H LSS Cables."

**9800-6071 LSS, Kit, Spare Parts**



The 289H LSS Spare Parts Kit includes a PC board case, spare fuses, cable tags and ties, controller board, utility board, installation and operations manual, static control wrist strap, RJ11 to RJ11 cable (6 feet), and a jack to IDC connector.

**9800-6073 LSS, Kit, Spare Fuses**

The accessory kit contains replacement fuses for the 289H LSS utility and controller boards. A total of five fuses is supplied:



**Controller Card**

- 1 AMP SLO
- 1.6 AMP Fast Acting

**Utility Card**

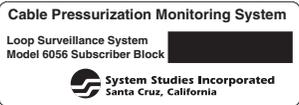
- 0.5 AMP SLO
- 1.6 AMP SLO
- 3.15 AMP Fast Acting

**6514-0053 LSS, Connector Block, Label, Dedicated**



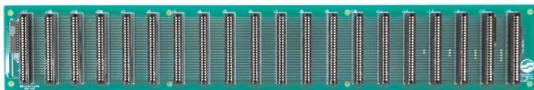
This label is designed to be used with the 9800-6055 wire wrap dedicated block. It includes a space for listing the pin assignments for the dedicated block.

**6514-0054 LSS, Connector Block, Label, Subscriber**



This label is used with the 9800-6056 wire wrap subscriber block. Like Part Number 6514-0053 above, it also includes a space for listing pin assignments.

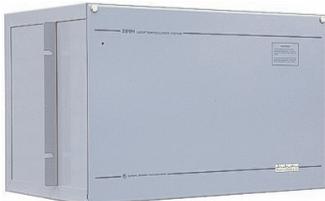
**9010-0003 LSS, Backplane Panel**



The 289H LSS backplane panel contains 20 female card connector slots to accommodate the various 289H boards. The backplane panel makes it possible to transmit data from the individual relay cards to the 289H LSS controller card. Supplied as standard equipment on all 289H LSS monitors, the backplane panel designated here is used as a replacement part.

ECI: 418940 CLEI: SUAYAAGAAA CPR/OFC: 106310

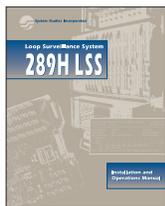
**9010-0110 LSS, Replacement Chassis**



Unlike the Expansion Chassis, which is an older-style enclosure with larger rear cable cutouts to facilitate the routing of connector cables to the primary chassis, the Part No. 9010-0110 Replacement Chassis is the newest System Studies

chassis design. It has been built to comply with more recent central office equipment requirements for fire safety and improved operability. As opposed to the card cage design of the original 289H LSS, this chassis is a more securely sealed card enclosure.

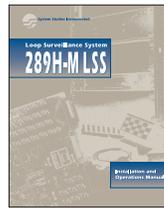
**9800-1491 LSS, Manual, 289H**



This manual explains the procedure for installing and operating the 289H LSS, covering both new installations and conversions from existing systems. It addresses the components of the 289H, site planning, installation, connector block wiring, start up and card replacement procedures, troubleshooting, expansion chassis installation, alert modem status codes, and ordering information.

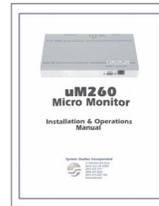
expansion chassis installation, alert modem status codes, and ordering information.

**9800-1492 LSS, Manual, 289H-M**



This comprehensive manual explains the procedure for installing and operating the 289H-M LSS. It addresses the components of the 289H-M, site planning, installation, connector block wiring, start up and troubleshooting, and alert modem status codes.

**9800-0260 LSS, Manual, uM260**



The *uM260 Micro Monitor Installation and Operations Manual* describes how to install the monitor and fulfill the device wiring and cabling requirements. It also explains how to program the two types of micro monitors (modem version and LAN version) and set them up for either stand-alone operation

or for use with PressureMAP.

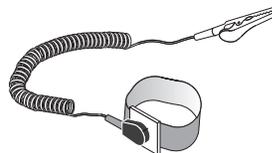
**9800-6075 LSS, PC Board Case**



This rugged equipment case is ideal for storing and transporting 289H LSS Utility, Controller and Relay cards. Provided as the storage case with our LSS Spare Parts Kit (Part No. 9800-6071), it can also be purchased as a separate item without contents under

this part number. Case is supplied with foam insert for storing up to eight 289H/H-M LSS cards.

**9800-6080 LSS, Static Control Wrist Strap**



Recommended for all 289H LSS installations, the static control wrist strap prevents electrostatic discharge which can seriously damage electronic components. This wrist strap is also supplied with the LSS Spare Parts Kit (Part No. 9800-6071).

**9800-6061 LSS, Krone Block Cover**



This plastic Krone Connector Block Cover helps protect jumper connections by sealing out dust, dirt, and liquids. It also prevents potential damage from occurring if the block is subjected to physical impact.

**9800-6079 Tool, Insertion, for Krone Block**



The 50 pair, Krone Disconnect Block (Part No. 9800-6060), which is equipped with standard punch-down clips, requires this tool to complete the wiring process.

The tool has been optimally designed to simplify wiring and ensure lasting wire connections.

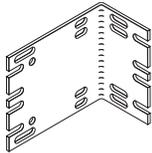
**9800-6064 Tool, Impact, for Type 66 Blocks**



This hand-held impact tool is used to terminate wires on the Type 66 blocks (Part Nos. 9800-6063, 6076, 6077 and 6078). The tool is spring loaded and fully adjustable—features that are helpful when working with wires of varying thickness.

It also has a bayonet style mount which allows the blades to be changed easily and quickly. A compartment in the handle contains is used to store an extra blade.

**6510-0062 LSS, 289H-M Mounting Bracket**



This versatile mounting bracket enables the 289H-M LSS monitor to be installed in standard 19 inch (48.3 cm), 21 inch (53.3 cm), and 23 inch (58.4 cm) equipment racks. Multiple mounting holes are provided to enable offset or flush mounting of the 289H-M in most rack configurations.

**9800-3096 Panel, Power Supply, 117V AC to -48V DC**



This power supply panel provides a convenient means of mounting a 289H LSS™ power source in an equipment rack near the 289H or

289H-M monitor. The panel, which measures 23" (58.4 cm) wide and 7" (17.8 cm) high, can be bolted to most standard equipment racks. Mounted on the back of the panel is a 289H LSS -48V DC Power Supply (Part No. 9800-6094), which uses 117V AC input to provide an output of -48V DC at 3 amps. The 9800-3096 Power Supply Panel is also used with a P/N 9800-3196 DC to DC Converter to power our Digital Pipe and Distribution Panels.

**9800-5516 LSS, Remote Power Control, RPC-1 MD01**

In the event of a power disruption to your monitoring equipment, the Remote Power Control allows you to turn on, turn off, or reboot connected equipment. The unit has six individual relay-controlled AC power receptacles. It accepts commands sent via terminal, computer, or by modem. These commands include: on, off, configure, reboot and status. If there is a power failure to the unit itself, the RPC-2 retains the most current operational status for each outlet in non-volatile memory.

The words 289H LSS™, 289H-M LSS™, and PressureMAP™ are trademarks of System Studies Incorporated.