

Price List

Brunswick
Electronic Repair
U.S. Prices*

*For International Pricing, please contact your local Brunswick Distributor.

Revised October 2018 / CA16-5

Brunswick Electronic Repair U.S. Price List

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Reorder Part No. CA16-5

Notice: If available, updates to this manual can be found on-line at www.brunswickbowling.com.

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Brunswick Bowling Products
525 West Laketon Avenue
P.O. Box 329
Muskegon, MI 49441-2601
U.S.A.

231.725.4966

Brunswick Electronic Repair

Since 1968

Brunswick Bowling Products

October, 2018

We Appreciate Your Business

From the Brunswick Electronic Repair Center Team

Committed to Service

Brunswick Electronic Repair Center

We sincerely thank you for trusting Brunswick to repair your electronic bowling equipment. Our advantage of having direct access to the designers and manufacturers of our scoring systems is clearly to your benefit. We have access to supplies of obsolete components and assemblies enabling us to repair your items for many years after they were last manufactured. The goal is to quickly respond to your needs with the least cost solution—and Brunswick does just that.

Our Work is Guaranteed

Our goal is to ship you a high-quality, ready to use assembly. We back it up with a 90-day warranty on our rebuilt assembly materials, workmanship, along with technical support (USA1800-937-2695 or USA1-231-725-4966) if your item fails in that 90-day time period. We trust you won't need it.

Contacting Us

Here, when you need us!

In North America – Brunswick Electronic Repair

Brunswick Bowling Products
Electronic Repair: 8:00 a.m.-4:30 p.m. ET
525 West Laketon Avenue
Muskegon, MI 49441
Toll free 24 hrs - (800) 937-2695
Direct dial - (231) 725-3370
Fax: (231) 725-4778
E-mail: ERC@brunswickbowling.com
Website: <http://www.brunswickbowling.com>

In Canada - French/English spoken

Striker Bowling Solutions
#9 – 505 Iroquois Shore Road
Oakville, ON Canada L6H 2R3
Toll free - (800) 232-2369 ext. 5
Fax: (866) 789-2695

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Troubleshoot FIRST

Making sure it actually is defective

It's important to determine if your assembly is truly defective. Why? Because we must charge you the exchange price - even if it is in working condition.

The standard procedure for troubleshooting an electronic assembly is to place the suspect unit in a known good system. This verifies you have identified the proper assembly as having failed because the symptom will move with the suspect assembly.

Here are two methods that might help:

- 1) Read the Brunswick Service Manual for your system. It normally contains the theory of operation and troubleshooting information you will need.
- 2) If you cannot determine which assembly has failed, please contact Brunswick Technical Support at USA 1-800-937-2695, or USA 1-231-725-4966. There is no charge for technical support on your item during the 90-day warranty period.

FAST Repair

Send it to us – we repair it, and send it back

Standard Procedure

Brunswick Electronic Assembly Repair/Exchange Program

Here's what you need to do:

- 1) Complete the Electronic Assembly Repair Traveler. If you'd like your item (or the exchange item) shipped by priority freight, you may note this on the Traveler. The added freight cost of the priority shipment will be charged to your open account, and is not covered under Brunswick warranty.
- 2) Identify and note any specific software or firmware version unique to your assembly.
- 3) Carefully package your assembly so it cannot be damaged in shipment. Take special care with fragile, computer hard drive assemblies. All assemblies must be covered by a static-protective bag or material prior to placing in a shipping box.
- 4) Label the package with one of the shipping locations shown on page 1. Print your return address on the outside of the box.
- 5) Insure your shipment for the replacement value of the item(s) and request delivery tracking information. If the item is damaged or lost in delivery, you must make a claim to the carrier.

IMPORTANT: Assemblies must be in repairable condition. There must be no missing or broken parts. There will be an additional charge for severely damaged assemblies – broken flat screen displays, for example.

FASTER Exchange

Send it to us – we send a rebuilt unit right back

Please follow the same protocol outlined in the FAST Repair program outlined above.

FASTEST Pre-Ship

When you need it right away – we send to you first!

Sometimes you need us to send you a rebuilt assembly right away. You do not have time to wait. We have the answer. It's called a "pre-shipment."

Pre-shipments can be requested for most items in our inventory. Our goal is to ship it to you within two working days, if we have it in stock – we'll tell you. Just call, fax, or e-mail us at ERC@brunbowl.com.

With pre-shipments, there is a non-refundable charge of US \$60.00 for administration and stocking costs. This is not covered under manufacturer's warranty.

You must return your defective assemblies within 15 days or you will be charged the "full price" of the item.

When you have returned the items that have failed within the Brunswick Electronic Repair 90-day warranty, we will credit you the pre-shipment charges after the defective item(s) are returned.

Speeding Up Delivery

A great way to speed up the exchange process is to use one of the many overnight express freight/mail services. Brunswick recommends UPS. On your Repair Traveler form, indicate you want overnight return services. We'll do our best to arrange this upon return. Note: express freight service is not covered in the warranty, and will be at an additional charge. **See next page for Shipping Instructions.**

Brunswick 90-day Warranty

Brunswick offers a 90-day warranty on all rebuilt assemblies, regardless of manufacturer's warranty which includes technical support (USA 1-800-937-2695 or USA 1-231-725-4966) if your item fails within the 90-day time period. The 90-day repair/exchange warranty begins as soon as we send it back to you, not when you put it into service. So, put it in to use as soon as you get it. In other words, please DO NOT put exchange/repair units directly in your spare parts inventory. Put them in a working system, and put the known to be working assembly in your spare parts inventory.

Shipping Instructions

Here are a few tips for shipping items to Brunswick and receiving them back from being repaired.

- Identify each assembly and its serial number. Log the entire shipment in a book by date for future reference. After shipping your package, log the shipping company's tracking number, in case it gets lost. (e.g. UPS tracking number)
- Package assemblies so they can survive the trip. More padding is better than not having enough. Heavier assemblies require more padding. Reason: If your assembly arrives damaged from shipping, we will return it to you un-repaired. It will be your responsibility to file a claim with your shipping company.
- Include written instructions in the box. The best thing to do is attach a Repair Traveler to EACH defective assembly, noting the failure and anything else you want us to know. (e.g. returning for exchange)
- Mark the outside of the box with the address of the location you are using. Make sure it says "Brunswick Electronic Repair Center" or it may get lost.
- If you are returning a "pre-shipment," indicate on the Repair Traveler that this is a return for pre-shipment. Include a copy of your invoice

Repairable or Not?

Not all electronic assemblies are repairable. The best way to know is to identify your part in the attached catalogue pages. If it's there, we will likely exchange it.

If the item is not in the catalogue, you must purchase a new replacement from a Brunswick service parts distributor (if the part is available).

Another reason an item might not be repairable is that it is too badly damaged. In this case, your assembly will be returned to you without being repaired. You must purchase a new replacement (if available) from a Brunswick distributor.

Manufacturer's Warranty

We take care of electronic warranty repairs

The warranty on your electronic product is in the original order, contract, or with the equipment itself. Most electronic products carry a one year warranty on materials and a 90-day warranty on labor. Your warranty covers defects in materials and workmanship as well as technical support on that assembly during the 90-day warranty period. It is always good to review this warranty before you need it. Warranty information for scoring systems is also contained in the Service and Support Guide provided at the time of your installation. To be covered, repairable items may only be exchanged for rebuilt items during the warranty period. So it is very important to know which items should be exchanged, and which items must be replaced.

Your warranty does not cover:

- Damage from product abuse, acts of god, and other conditions as described in your warranty policy.
- Repairs, replacements, or modifications made by anyone other than Seller or a Seller-certified installer.
- Abuse, misuse, accident, alteration, tampering, neglect, or lack of reasonable care, water, moisture, atmospheric conditions, storms, lightning, or from other causes over which Seller has no control.
- Buyer's failure to maintain products in accordance with applicable product manuals and service bulletins. Please refer to www.brunswickbowling.com for current publications.

Note that damage to assemblies from an electrical power surge of any type is not covered under Brunswick warranty. You must claim these repairs or replacements to your business insurers.

If a non-repairable assembly fails while under manufacturer's warranty, you should contact your Brunswick parts distributor. **For questions or warranty claims, contact the Brunswick warranty administrator at USA 1-800-937-2695.** Outside the USA, call USA 1-231-725-3494.

Importance of Failure Information

A key element to the Brunswick Electronic Repair Business is the sharing of resources. When one customer sends us an electronic circuit board to repair, they usually receive someone else's repaired unit as an exchange. Rarely is the same unit returned. This process allows quick turnaround as we carry an inventory of repaired units.

Since we share the pool of exchange units, it is in everyone's best interest to indicate as much information about the failure as possible. We request that you complete the Electronic Assembly Repair Traveler form (back cover) in as much detail as possible. Failure information helps the technician properly test the unit to the extent of the failure reported. Better failure data means our repair technicians have a better chance of detecting them.

Brunswick Technical Support

1-800-937-2695

Call us for Technical Assistance-24/7

READING YOUR INVOICE

There are several types of charges that could appear on your Brunswick open account invoice.

Exchange Price - This is the amount charged to exchange the defective board with a rebuilt assembly of the same model. The part numbers have an -8xx extension.

Full Price - If you had an item pre-shipped, and you fail to return the defective assembly within 15 days of receiving that item, you will be charged the full price of the item. These part numbers have a -7xx extension.

Pre-shipment Fee - This is the non-refundable fee.

Freight - the cost of mailing the assembly to your bowling center. If you would like the return item shipped faster, say priority or overnight freight, you may note this on the Repair Traveler. However, the additional freight cost of priority shipment will be charged to your open account, and is not covered under Brunswick warranty. Brunswick does not arrange for freight pickup on Electronic Repair items.

Software/Firmware

Something you can't see, so it's hard to troubleshoot

Most automatic scoring and office systems today operate on computers using software. When something appears wrong with a computer, software is something that can be misleading in the troubleshooting process. For that reason, it is always best to reset or reboot computers (and clear volatile memory) before concluding that any particular assembly is defective.

You may ultimately suspect the software itself. It resides on either EPROM chip(s) or a hard drive. Changing the chip(s) or hard drive will determine your suspicions. (Remember lane number assignments)

The most important thing to remember is to make sure the "version" of your software is compatible with your system, and the entire system is running compatible software. Typically, this means all assemblies have the same version.

Brunswick determines the most compatible version when exchanging your assemblies. It is your responsibility to verify this upon installation and update the software if required through the front desk.

ARRANGING FOR PAYMENT

You must arrange for payment of your repair charges in advance.

Open Account - The easiest method of payment is through an open account with Brunswick. Contact your Credit Manager for details. Note: If your account is overdue, we are not allowed to ship anything to you, even if you send it to us first. Even if your equipment is under manufacturer's warranty, we are not allowed to ship items to you if your balance or open account is overdue.

Cash in Advance - Include a cashier's check for the invoice when sending your assembly to us. If you need to pay by credit card we will call you for that information. We also accept -checks.

Purchase Order - Many companies are required to provide Brunswick a purchase order number. Put this number on your Repair Traveler form.

Failure to arrange for payment in advance of your repair will result in considerable delays.

Other electronic products bulletins:

1. GS-10 Red Box Electrical (out of warranty)

These are no longer repaired.

2. Wyse 185, and Digital VT-420 and VT-520 Terminals (out of warranty)

These units are no longer repaired. Some used product is available on the Internet.

3. Digital or Dell, desk or office VGA Monitors (out of warranty)

Contact your Brunswick sales representative and order a new VGA monitor. Note: Standard VGA monitors may be purchased locally.

4. Monitors and office computers (in warranty)

First contact the Brunswick Customer Response Center at USA 1-800-937-2695, or USA 1-231-725-4966 for service instructions. If you call a local service dealer, you will be responsible for those charges.

5. Small Plug-in Power Supplies (out of warranty)

Most of these power supplies can be purchased locally, or from a Brunswick service parts distributor. Power and voltage ratings are listed on the unit being replaced. Make sure you get the proper connector and polarity on the "tip."

6. Printers (out of warranty)

Most printers used by Brunswick can be purchased locally. If you cannot find a dot matrix printer of the exact same model, look for one that supports "Epson emulation." When set to this mode, they support CMS printer outputs. CenterMaster and Classic printers may be any make or brand supported by Windows NT 4.0.

7. Speakers (out of warranty)

Speakers cannot be repaired. You must purchase new replacements.

8. DTS Cash Terminals (out of warranty)

Brunswick no longer supports DTS Cash Terminal repairs. Please contact your local DTS Cash Register Dealer, or Quality Retail, 18-2 Route 67, Schaghticoke, New York, 12154 phone: 800-753-7702.

9. Zot Repair Services may be contacted at 800-525-8116.

10. Ceronix Monitors – Ceronix, Inc. has discontinued the manufacturing of parts that are needed to repair the existing Ceronix CRT chassis units. Brunswick has a limited supply of spare parts, and expects to provide repaired units through 2018. For Frameworx Powerworx and Touchworx consoles, Brunswick Electronic Repair recommends upgrading to the 15" flat screen LCD replacement units. The new units are easy to install, industrial grade, and provide a 168-degree viewing angle with a crisper display image. There are no modifications to the pedestal and no specialty tools are required for installation (all hardware is included).

11. GS-Series Pinsetters - We no longer exchange complete electrical boxes. Instead, you must remove defective PCB assemblies and exchange them with the repair center. We have found most of the boxes are damaged beyond use during shipping and handling. This includes Consolidated Low/High Voltage and NexGen Boxes.

Obsolete Assemblies

In the past year many additional repair components have become obsolete. Every year, the speed of obsolescence in electronics is more rapid. The older a component is, the more difficult it is to procure replacement parts. Our ability to repair electronic assemblies is directly related to the age of the product's design. As a result, the types of older items we are still able to repair and the cost to repair them changes continuously.

Brunswick does everything possible to stretch the life of your electronic product investment by maintaining qualified and well-inventoried repair services. The best way to do this is to purchase obsolete products and assemblies when they are discontinued. This is a sizeable investment that has a time and financial limit. Please look closely at the list of items Brunswick repairs to see if you can still exchange them with us. If you have the need to repair a repairable electronic assembly that is not listed in the price pages, please contact us. If we can help you, we will simply charge you time and materials to repair it.

The list below serves as official notice of the "discontinuation of service" for these products. We no longer offer repairs or exchanges on the items in this list. You can contact your Brunswick Capital Equipment Sales Representative for exciting information on our newest Brunswick Scoring and Management System, Sync.

BowlerVision I and II Scoring Systems	Standard CMS, CenterMaster, and Classic Cash Drawers
AS80/AS-K/AS90/AS90C Scoring and Assemblies	AS80/90 Lower and Upper Monitors and Assemblies
MCC 1.5 Keyboard and Front Desk Assemblies	MC 1.5 Panasonic, Magnavox, and Roland Monitors
'79 and '86 Scanner PCBs and Assemblies	AS80 23" Black & White Overheads
'79 and '86 Scanner Testers	Instant Replay, BowlerTracker and Balltracker
Command Network SIU and LIU PCBs and Assemblies	Source Command PCBs and Assemblies
Zenith 25" CRTs, Overhead and PCB Assemblies	Digital and Wyse Office and Desk Terminal Keyboards
Zenith 27" CRTs, Overhead and PCB Assemblies	GS-3 Controller.
DTS Cash Registers	Ball Lift Control PCB Assemblies.
AS80 three and four board CPU PCB Assemblies.	B-2000 Pinfall Display, Player Control Station and PCB
Computone 6 and 8 Port PCB Assemblies	Frameworkx 13" CRT Monitors and Touchscreens.
All Classic Parts	Grundig Overheads

If an item is not listed in the price pages, we do not offer standard repair and/or exchange services. However, if you call us by telephone at 1-800–YES-BOWL we can tell you if we are able to repair your assembly on a time and materials basis.

Brunswick and the Brunswick Electronic Repair Center reserve the right to modify prices without notice.

We reserve the right to discontinue support of any assembly without written or verbal notice.

**BRUNSWICK ELECTRONIC REPAIR
SEPTEMBER 28, 2018**

Electronic Repair Part Number	Description	Exchange Price	Full Price
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Lower Monitor Video Assemblies - Frameworkx, Vector

57-215310-810	13" Ceronix PCB (1492)	\$125	No Preship
57-861631-800	13" Ceronix PCB (1493-4152)	\$160	\$500
57-300895-800	13" Ceronix PCB (1493-4203/4233)	\$125	\$500
57-215806-800	Ceronix Remote Adjustment PCB	\$25	\$25
57-300060-800	FW 15" LCD Replacement for CRT Monitor	\$250	\$788
57-300070-800	FW 15" LCD Touchscreen Replacement for CRT Monitor	\$275	\$912
57-861850-810	FW 13" LCD Flatscreen Touchscreen Monitor (Use w/Brick)	\$440	\$1,500
57-861892-800	FW 13" LCD Flatscreen Touchscreen Monitor (Use w/o Brick)	\$440	No Preship
57-500242-800	Vector LCD Flatscreen Power Supply	\$100	\$400
57-500363-800	Vector LCD Flatscreen Console Control PCB	\$100	\$250
57-500312-810	Vector 13" LCD Flatscreen Touchscreen Monitor (Sanyo)	\$440	\$1,500
57-500413-810	Vector 13" LCD Flatscreen Touchscreen Monitor (Sharp)	\$440	\$1,500
57-500476-800	Vector 13" LCD Flatscreen Touchscreen Monitor (Magic)	\$440	\$1,500
57-500718-800	Vector 13" LCD Flatscreen Touchscreen Monitor (Magic w/bright)	\$440	\$1,500
57-501026-800	Vector 13" LCD Flatscreen Touchscreen Monitor (Magic w/bright) RoHS	\$440	\$1,500
57-300877-800	LCD Inverter PCB	\$50	\$50

Overhead Monitor Video Assemblies - Frameworkx, Vector

57-300041-800	FW Video Receiver PCB	\$70	\$125
57-300123-810	FW TV-Only PCB	\$75	\$200
57-300120-800	FW & Vector 27" Ceronix PCB	\$160	\$500
57-860787-800	FW & Vector 27" CRT Only (w/Yoke)	\$300	\$300
57-300539-800	FW 27" Overhead w/o Shell (Ceronix)	\$500	\$1,200
57-300540-800	FW 27" TV Only w/o Shell (Ceronix)	\$500	\$1,200
57-860922-800	FW 27" Overhead Monitor-Complete	\$600	No Preship
57-500291-800	Vector Overhead Display Interface PCB	\$150	\$300
57-500316-810	Vector TV-Only Monitor PCB	\$125	\$250
57-301027-810	FW & Vector 36" Ceronix PCB	\$140	\$500
57-500032-800	Vector 27" Overhead (Ceronix)	\$500	\$1,200
57-500322-810	Vector 27" TV Only (Ceronix)	\$500	\$1,200

GS-X Pinsetter Assemblies (NexGen)

47-142666-800	GS-X Nexgen LCD Display Assy	\$75	\$150
47-142708-800	GS-X Nexgen ESD I/O PCB	\$99	\$200
47-142116-800	GS-X Safety Controller (Pilz)	\$500	\$1,200
47-142868-800	CE Power Controller	\$995	\$1,995
47-142750-800	GS-X Rear Display Assy	\$200	\$500
47-142736-820	GS-X Nexgen CPU PCB	\$270	\$500
47-142977-800	GS-X Nexgen to AS-90 Interface PCB	\$100	\$150
47-862852-810	GS-X Nexgen HV PCB (Mod)	\$212	\$500

Scanners & Pin Sensing Assemblies

57-860407-800	CCD Camera Assembly	\$351	\$1,000
57-860408-800	CCD Processor Assembly (Software Version)	\$357	\$1,000
57-860376-800	CCD Camera Tester No LCD Replacement	\$313	No Preship
57-860376-801	CCD Camera Tester W/LCD Replacement	\$400	No Preship
57-300667-800	VPS Ball Detect	\$75	No Preship
57-300710-800	VPS Camera Only	\$100	No Preship
57-300704-800	VPS Assembly - Video Pin Sensor (Software Version)	\$332	\$1,000

**BRUNSWICK ELECTRONIC REPAIR
SEPTEMBER 28, 2018**

Electronic Repair Part Number	Description	Exchange Price	Full Price
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SYNC Scorer Assemblies

57-863732-800	SYNC Display Controller	\$500	\$1,200
57-863811-800	S5 SYNC Tablet	\$599	\$965
57-863796-800	SYNC Digital Sign, Dual Output	\$500	\$1,200
57-501265-800	SYNC Pinfall Camera	\$300	\$650
57-501348-800	Peripheral Controller	\$585	\$1,000
57-501292-800	S5 Interface PCB SYNC Pedestal	\$75	\$150

Vector Scorer Assemblies

57-500156-810	Vector Distribution PCB 5.0 (Software Version)	\$159	\$250
57-500729-810	Vector Distribution PCB 6.0 (Software Version)	\$159	\$250
57-500203-800	Vector Camera Only	\$125	\$200
57-500204-800	Vector Camera Assembly - v1	\$250	\$450
57-500587-800	Vector Camera Assembly - v2	\$275	\$450
57-500842-800	Vector Camera Assembly - v3	\$275	\$450
57-501088-800	Vector Camera Assembly - v4	\$275	\$450
57-500887-800	Vector BNC Camera PCB	\$100	\$150
57-501059-800	Vector Ball Detect v2 - (1) Only (w/o plate assembly)	\$52	\$150
57-501060-800	Vector Ball Detect v2 - (2) w/plate assembly	\$99	\$200
57-300883-800ER	Vector Keypad Mounting Plate (No Kypd)	NA	\$84
57-500367-810	Vector Keypad Interface PCB	\$159	\$200
57-500304-800	Vector Keypad & Mounting Plate (No PCB)	\$106	\$300
57-500371-810	Vector Keypad Assembly (Complete)	\$292	\$500
57-500861-800	Vector Keypad Interface PCB-ESD	\$159	\$200
57-500862-800	Vector Keypad Assembly-ESD (Complete)	\$292	\$500
57-500229-800	Vector 3com Ethernet PCB 10/100	\$50	\$150
57-501072-800	Vector Scoring Computer Power Supply ATX12V V2.X	\$53	\$134
57-500248-800	Vector LCD Interface PCB	\$150	\$300
57-500283-800	Vector Video 3 PCB	\$423	\$1,000
57-500329-800	Vector Primary Patch Panel PCB w/sound	\$250	\$500
57-500703-800	Vector Primary RJ-45 Panel PCB (used w/ 57-500709-800)	\$285	\$450
57-500826-800	Vector Combined Secondary RJ-45 Panel	\$200	\$500
57-500709-800	Vector Primary Differential Video Processor (used w/ 57-500703-800)	\$159	\$400
57-500763-800	Vector Primary Sub-D Panel PCB (used w/ 57-500770-800)	\$200	\$400
57-500767-800	Vector Secondary Sub-D Panel PCB	\$200	\$400
57-500770-800	Vector Primary Single-Ended Video Processor (used w/ 57-500763-800)	\$100	\$300
57-500269-800	Vector Motherboard v1 - CS65EC or GCS65E	\$500	No Preship
57-500742-800	Vector Motherboard v2 - G4S601-B-G	\$500	No Preship
57-501075-800	Vector Motherboard v3 - BL630-D	\$500	\$900
57-863762-800	Vector Motherboard v4 - HD630	\$650	\$1,250
57-500295-810	Vector Hard Drive w/bracket v1 MB CRT Overhead	\$159	\$400
57-500295-820	Vector Hard Drive w/bracket v1 MB LCD Overhead	\$159	\$400
57-500748-800	Vector Hard Drive w/bracket- v2 MB/CRT Overhead	\$159	\$400
57-500748-810	Vector Hard Drive w/bracket- v2 MB/LCD Overhead	\$159	\$400
57-500751-800	Vector Hard Drive w/ "L" bracket - v2 MB/CRT Overhead	\$159	\$400
57-500751-810	Vector Hard Drive w/ "L" bracket - v2 MB/CRT Overhead embedded XP	\$159	\$400
57-500845-800	Vector Hard Drive w/ "L" bracket - v2 MB/LCD Overhead	\$159	\$400
57-500845-810	Vector Hard Drive w/ "L" bracket - v2 MB/LCD Overhead embedded XP	\$159	\$400
57-501237-800	Vector Solid State Drive - v2 W/L BRACKET embedded XP	\$200	\$400
57-501090-850	Vector Solid State Drive - v3 MB LCD Overhead	\$200	\$400
57-501097-800	Vector Solid State Drive - v3 MB CRT Overhead	\$200	\$400
57-501138-800	Vector Solid State Drive - v4	\$215	\$400
57-500347-810	Vector Scoring Computer LCD Lowers	\$1,500	No Preship
57-500348-810	Vector Scoring Computer Keypad Lowers	\$1,500	No Preship
57-863548-800	Vector HD Display Controller	\$500	\$1,200
57-501128-800	Vector HD Display Controller Power Supply	\$75	\$200
57-500818-800	RS 232/485 Converter	\$50	\$100

**BRUNSWICK ELECTRONIC REPAIR
SEPTEMBER 28, 2018**

Electronic Repair Part Number	Description	Exchange Price	Full Price
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Vector/Frameworkx LCD Overhead Video Assemblies

57-500436-800	Vector Synch Separator PCB	\$100	\$250
57-500441-810	Vector Serial Communications Controller PCB	\$100	\$250
57-500454-800	Vector Bridging Tapoff Amplifier PCB	\$55	\$75
57-500469-800	Vector Triple Output Power Supply Assy	\$100	\$200
57-500700-800	Vector VGA Adapter Module	\$100	\$200
57-301187-800	FW LCD OH Interface PCB Assy	\$125	\$500
57-501000-800	FW LCD Interface PCB Assy	\$350	\$1,000
57-301208810	FW LCD Interface PCB	\$175	\$325
57-500921-810	AS80/90 LCD Interface PCB	\$100	\$250
57-500964-810	Octal VGA Converter Assy	\$300	\$750
57-863033-800	Vector 40" NEC LCD4010 Monitor	\$500	No Preship
57-863048-800	Vector 32" NEC LCD3210 Monitor	\$400	No Preship
57-863574-800	Samsung 40" LED Monitor	\$500	\$1,000
57-863718-800	Samsung 48" LED Monitor	\$550	\$1,250
57-863359-801	Samsung 46" LCD Monitor	\$500	\$1,000
57-863355-801	Samsung 40" LCD Monitor	\$500	No Preship
57-863582-800	Samsung 32" LED Momitor	\$500	\$1,000
57-863356-801	Samsung 32" LCD Monitor	\$400	\$900
57-863327-800	Vector 42" Olevia LCD Monitor	\$400	\$1,000
57-863328-800	Vector 37" Olevia LCD Monitor	\$350	\$1,000
57-863329-800	Vector 32" Olevia LCD Monitor	\$300	\$1,000

Vector, Vector Plus, and Frameworkx Center Management Systems Assy. - Front Desk and Back Office

57-300183-800	FW Cms Handset PCB	\$90	\$150
57-300184-800	FW Cms Intercom/Handset	\$155	\$275
57-300361-800	FW Cash Drawer Adaptor PCB Assy	\$125	\$350
57-301174-810	Vector A/V Box Assy	\$209	\$500
57-300490-810	FW Cms A/V Box Assy.	\$209	\$750
57-300490-811	FW Cms A/V Box Transformer Assy	\$75	\$125
57-300487-810	FW Cms A/V Audio PCB	\$90	\$300
57-300080-800	FW Cms A/V Composite/RGB PCB (Analog)	\$75	\$250
57-300956-800	FW Cms A/V Composite/RGB PCB (Digital)	\$100	\$500
57-300400-800	FW Cms Beep Speaker Assembly	\$80	\$200
57-861017-800	Okidata 320 Turbo Printer	\$250	No Preship
57-861017-810	Okidata 320 Turbo Printer w/USB	\$250	No Preship
57-861410-800	Cm Receipt Printer (220V) (White or Black)	\$335	\$968
57-863408-800	Cm Receipt Printer (110V) (White or Black)	\$335	\$968
57-863527-800	CTS-2000 USB Receipt Printer	\$315	\$500
57-861968-800	Epson TM-U230 Receipt Printer (old model)	\$315	\$968
57-862059-800	Epson TM-U220B Receipt Printer (new model)	\$315	\$968
57-861662-800	Elo 17" LCD Flatscreen Monitor	\$530	\$1,500
57-863195-800	Elo 19" LCD Flatscreen Monitor	\$530	\$1,500
57-863195-850	Elo Power Supply	\$75	\$150
57-861591-800	3Com 905B-Tpo Ethernet Lan Card	\$135	\$227
57-861657-800	Siig 2-Db9 Serial Port PCB	\$70	\$128
57-863183-800	Vector 8-Port Ethernet Switch	\$200	\$500
57-862037-800	VX810 Pinpad	\$200	\$700
57-862062-800	VX805 CREDIT ONLY PINPAD	\$285	\$500
57-862062-802	VX805 CREDIT ONLY PINPAD with Mercury Encryption	\$285	\$500
57-863626-800	1080i Digital Modulator	\$1,000	\$2,000
57-863628-800	480i Analog Modulator	\$250	\$450
57-863629-800	RF Amplifier	\$75	\$200

**BRUNSWICK ELECTRONIC REPAIR
SEPTEMBER 28, 2018**

Electronic Repair Part Number	Description	Exchange Price	Full Price
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Frameworkx Scorer Assemblies

57-300044-810	FW I/O PCB (1995-2001)	\$135	\$400
57-300671-800	FW I/O PCB (2001+ w/lane ID Switch)	\$159	\$400
57-300106-810	FW Console Video PCB	\$135	\$400
57-861167-810	FW Remote Video PCB	\$135	\$400
57-301081-800	FW Remote Video PCB 2002+	\$135	\$500
57-300160-800	FW Primary Power Supply Assy	\$135	\$200
57-300278-800	F/X Secondary Power Supply	\$125	\$200
57-300392-810	FW 3Com Lan Card (Scorer)	\$53	\$200
57-300391-800	FW 486 CPU PCB w/16MB Ram	\$335	\$1,200
57-300164-810	FW Console Audio PCB (Standard)	\$105	\$200
57-300164-820	FW Console Audio PCB (Modified)	\$105	\$200
57-300195-810	FW Console Control PCB	\$105	\$200
57-300192-810	FW Console Option PCB (Except LCD Flatscreen)	\$86	\$200
57-300249-800	FW Console Option PCB LCD Flatscreen)	\$86	\$200
57-300377-800	FW Microtouch Controller	\$200	\$500
57-300815-800	FW Touchworx Power Supply PCB (In Brick)	\$74	\$125
57-300856-800	FW Touch Control Unit (Brick)	\$325	\$900
57-300368-800	FW Sound Card PCB	\$125	\$250
57-300478-810	FW CMOS Maintenance PCB	\$75	\$100
57-300178-810	FW Pinsetter I/O PCB Only	\$118	\$250
57-300199-810	FW HDLC Converter PCB (Pinsetter Interface Add-On)	\$100	\$200
57-300554-810	FW HDLC Pinsetter Interface PCB	\$80	\$500
57-300565-810	FW Pinsetter Interface Box (GS Single Board)	\$100	No Preship
57-860950-810	FW Pinsetter Interface Box Assy. (A-2)	\$175	No Preship
57-860951-810	FW Pinsetter Interface Box Assy. (GS)	\$175	No Preship

GS-10/GS-92/GS-96/GS-98 Silver Box, Smart Shark and Consolidated Electronics Assemblies

47-142806-800	GS-92 Gamesetter CPU PCB	\$250	No Preship
47-142815-800	GS-92 Gamesetter I/O PCB	\$250	No Preship
47-142839-800	GS-92 Gamesetter Assy	\$400	No Preship
47-142807-810	GS-92 Smart Shark CPU PCB	\$250	No Preship
47-142825-800	GS-92 Smart Shark Gamesetter I/O PCB	\$250	No Preship
47-862711-800	GS-92 Smart Shark Gamesetter	\$400	No Preship
47-172903-800	GS-92 Universal Common Box PCB	\$195	No Preship
47-162809-800	GS-92 High Voltage PCB	\$230	No Preship
47-162839-800	GS-92 Smart Shark High Voltage PCB	\$110	No Preship
47-142530-800	GS-98 Consolidated I/O PCB	\$270	No Preship
47-142533-810	GS-98 Consolidated CPU PCB - Indirect (Software Version 2.4)	\$340	No Preship
47-142533-820	GS-98 Consolidated CPU PCB - Direct (Software Version 3.0)	\$340	No Preship
47-142781-800	GS-98 Consolidated Rear Display PCB	\$125	\$200

String Pin, 5 Pin String, & Duckpin Assemblies

55-860064-800	StringPin, Controller,Slide Out	\$685	\$1,200
57-215213-810	Model "M" 5 Pin PCB Assy	\$175	No Preship
57-215235-810	Model "S" Duckpin PCB Assy	\$175	No Preship
57-215299-810	Model "P" 5 Pin PCB Assy	\$175	No Preship
57-215299-811	Model "P" 5 Pin PCB Assy (Modified)	\$175	No Preship
57-215587-810	Model "CA-1" 5 Pin PCB Assy	\$225	No Preship
57-500902-800	String Pinsetter Interface PCB 24-48V	\$150	\$300
57-500911-800	String Pinsetter Interface Assembly 24-48V	\$250	\$500
57-500911-810	String Pinsetter Interface Assembly 5-15V	\$250	\$500
55-200775-800	SES String HV PCB Assy 208V 3 Phase	\$350	\$700
55-200752-800	SES String HV PCB Assy 400V 3 Phase	\$350	\$700
55-200753-800	SES String CPU PCB Assy	\$400	\$800

**BRUNSWICK ELECTRONIC REPAIR
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Electronic Repair Part Number	Description	Exchange Price	Full Price
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Telefoul / Ball Detect / Electronic Triggering /Lightworx / Miscellaneous Assemblies

12-752400-810	Universal Electronic Trigger PCB	\$125	No Preship
12-752408-810	Universal Electronic Trigger PCB	\$80	No Preship
12-862585-810	Universal Diagnostic Trigger PCB	\$80	\$200
12-862890-800	Time Delay PCB	\$98	\$200
17-300237-800	ABW Control Center	\$250	\$750
17-300226-800	PBW Automated Bumper Controller PCB	\$125	\$250
84-860803-800	PBW II Automated Bumper Controller ASSY	\$150	\$250
53-600173-800	S.S. Telefoul PCB	\$114	\$250
53-600177-800	Infrared Telefoul Assy - Narrow	\$96	\$400
53-600177-803	Infrared Telefoul Sensor Block	\$53	\$100
53-600179-801	Infrared Telefoul PCB - Narrow	\$193	\$400
57-214199-800	AMF Interface PCB	\$57	\$250
99-087140-800	Ball Detect Assy V2	\$59	\$150
57-861237-800	Dual Output Ball Detect	\$106	\$300
57-500561-800	Billiards Control AC Power PCB	\$300	\$500
61-860160-800	Computer Lane Monitor	\$380	No Preship
84-200292-800	Lightworx Addressable Lane Module	\$55	\$190
84-200330-800	Lightworx Control Center	\$275	\$600

Authority22 Lane Machine Electronic Assemblies

14-100089-800	A22 Motor Controller PCB Assy	\$212	\$600
14-100110-800	A22 Machine Controller PCB Assy (Software V0.33 or V1.01)	\$395	\$1,000
14-100129-800	A22 Injector Driver PCB	\$100	\$600
14-100154-815	A22 Electrical Control Enclosure Assy 115V	\$895	\$2,500
14-100154-830	A22 Electrical Control Enclosure Assy 230V	\$895	\$2,500
14-100157-800	A22 Power Supply-Meanwell SP-500 Series	\$199	\$400
14-100175-800	A22 Keypad for GUI	\$150	\$150
14-100176-800	A22 LCD Module	\$295	\$500
14-100177-800	UPS Assy - GUI (A22/Envoy)	\$150	\$400
14-100178-800	A22 Viper PC104 PCB - V2.3	\$295	\$900
14-100179-800	A22 Inverter PCB	\$150	\$500
14-100180-800	A22 Adapter PCB for Viper	\$150	\$500
14-100181-800	A22 Ethernet PCB	\$150	\$500
14-100285-815	A22 Regenerative Drive - 115V	\$317	\$400
14-100285-830	A22 Regenerative Drive - 230V	\$317	\$400
14-100362-800	A22 Graphical User Interface Assy (New Style: Software V1.03 or V2.0)	\$1,095	\$5,000
14-100466-800	A22 Machine Controller PCB Assy (Software V1.01)	\$395	\$1,500
14-100596-800	A22 Motor Controller PCB Assy 2	\$250	\$1,000
14-100971-800	A22 Machine Controller PCB Assy 2	\$395	\$1,500
14-100972-815	A22 Electrical Control Enclosure Assy 115V 2	\$895	\$2,500
14-100972-830	A22 Electrical Control Enclosure Assy 230V 2	\$895	\$2,500

Envoy Lane Machine Electronic Assemblies

14-100583-800	Envoy Injector PCB Assy	\$100	\$600
14-100610-800	Envoy Motor Controller PCB Assy	\$212	\$600
14-100750-810	Envoy Machine Controller PCB Assy	\$420	\$1,000
14-100775-810	Envoy Electrical Enclosure	\$895	\$2,500
14-100822-800	Envoy Variable Speed Motor Control PCB Assy	\$505	\$505
14-100177-800	UPS Assy - GUI (A22/Envoy)	\$150	\$400
14-100842-810	Envoy Graphical User Interface (GUI)	\$1,095	\$5,000
14-100857-810	Envoy Avantech PCB Assy	\$295	\$900
14-100934-800	Envoy Inverter-LCD	\$150	\$500
14-100984-800ER	Envoy Inverter-LED	\$150	\$500
14-100948-800	Envoy 24V/50A Output Power Supply Assy	\$250	\$800

**BRUNSWICK ELECTRONIC REPAIR
SEPTEMBER 28, 2018**

Electronic Repair	Description	Exchange	Full
Part Number		Price	Price

Discontinued 7/1/15

Classic Scorer Assemblies-discontinued 7/1/15

57-500039-800	Classic Keyboard Controller PCB	\$57	\$85
57-500802-800	Classic Lane Server Hard Drive (GS or non-GS)	\$150	\$400
57-500804-800	Classic Camera Chassis	\$225	No Preship
57-500805-800	Classic/Viking Photocell/Ball Detect	\$66	\$100
57-500807-810	Classic Camera Processor PCB	\$163	\$325
57-500809-800	Classic Pet-48 PCB	\$100	\$245
57-500810-800	Classic 4-Port Moxa PCB C104P (ISA)	\$90	\$230
57-500810-810	Classic 8-Port Moxa PCB C168P (ISA)	\$113	\$245
57-500810-820	Classic 4-Port Moxa PCB C104H/PCI	\$113	\$240
57-500814-800	Classic/Viking Camera Only	\$188	No Preship
57-500816-800	Classic Scorer Lane Server Mother Board	\$375	\$750
57-500817-800	Classic Scanner Distribution Board	\$150	\$186
57-500820-800	Classic 8-Port Video Output PCB	\$500	\$800
57-500828-800	Classic Patch Panel PCB	\$200	\$800
57-861567-800	Cm Customer Display (110V) (White or Black)	\$250	No Preship
57-861659-800	Cm Customer Display (220V) (White or Black)	\$250	No Preship
57-863139-800	Classic Client PCI Serial Card (Low Profile)	\$125	\$200
57-863143-800	Classic Lane Server - GS - Complete	\$1,195	\$2,500
57-863152-800	Classic Lane Server - Non GS - Complete	\$1,195	\$2,500

Overhead Monitor Video Assemblies - Classic discontinued 7/1/15

57-500815-800	Classic 28" ST70-782 Grundig Monitor - Complete	\$300	No Preship
57-500815-810	Classic 28" ST70-284/8 Grundig Monitor - Complete	\$300	No Preship
57-500822-800	Classic 33" M84/211-8 Grundig Monitor - Complete	\$800	No Preship
57-500823-800	Classic 28" ST70-782 NIC/TOP Grundig Chassis	\$200	No Preship
57-500824-800	Classic 28" ST70-284/8 DOLBY Grundig Chassis	\$200	No Preship
57-500825-800	Classic 33" M84/211-8 IDTV Grundig Chassis	\$200	No Preship

SERVICE AND SUPPORT - Getting you up and running *fast* with Pre-Ship exchange, assembly exchange & assembly repair

Electronic Repair Center Assembly Traveler Form

<u>Center Information</u> Name _____ Address _____ City _____ State _____ Zip _____ Customer No. _____ Install Date _____		<u>Ship To:</u> Brunswick Bowling Products Electronic Repair Center 525 West Laketon Avenue Muskegon, MI 49441-2601 email: erc@brunswickbowling.com Telephone: 231-725-3370 Fax: 231-725-4778 _____ Sent By _____
Part Name _____ Serial No. _____ Part No. _____ Lanes Affected ___ Odd ___ Even ___ Both Malfunction ___ Constant ___ Intermittent - How often? _____ Lightning Strike / Power Surge? _____		
Failure Type (Check all that apply. Please be specific.)		
<i>Consoles / Keypads / Bricks</i> <input type="checkbox"/> No intercom audio to scorer <input type="checkbox"/> No intercom audio to desk <input type="checkbox"/> No communication to scorer <input type="checkbox"/> Console will not reboot <input type="checkbox"/> Hard drive failure <input type="checkbox"/> No power <input type="checkbox"/> No or wrong keyboard entry <input type="checkbox"/> No console video <input type="checkbox"/> Local LAN failure <i>CRT Video Displays</i> <input type="checkbox"/> No video display <input type="checkbox"/> Incorrect color <input type="checkbox"/> Incorrect horizontal output <input type="checkbox"/> Incorrect vertical output <input type="checkbox"/> Distorted picture <input type="checkbox"/> No TV video <i>Pinsetter Interface</i> <input type="checkbox"/> Pinsetter will not turn on <input type="checkbox"/> Local LAN failure <i>Foul Units</i> <input type="checkbox"/> Continuous foul <input type="checkbox"/> Continuous buzzer <input type="checkbox"/> No foul <i>LCD Flat Screen Displays</i> <input type="checkbox"/> Broken bracket <input type="checkbox"/> Broken touch screen <input type="checkbox"/> Broken LCD display <input type="checkbox"/> No video display <input type="checkbox"/> No touch screen action <input type="checkbox"/> No power	<i>Control Desk</i> <input type="checkbox"/> Comline failure - can't clear <input type="checkbox"/> No intercom audio to scorer <input type="checkbox"/> No intercom audio to desk <input type="checkbox"/> No keyboard entry <input type="checkbox"/> Fails to print correctly <input type="checkbox"/> No LRS communications <input type="checkbox"/> Incorrect video display <input type="checkbox"/> No video display <input type="checkbox"/> Power supply malfunction <input type="checkbox"/> Loss of memory <input type="checkbox"/> No scorer control <input type="checkbox"/> No pinsetter control <i>Back Office</i> <input type="checkbox"/> No communication on port _____ <input type="checkbox"/> Ethernet LAN failure <input type="checkbox"/> Hub failure <input type="checkbox"/> Port failure <i>A & A-2 Pinsetter</i> <input type="checkbox"/> No trigger, first ball <input type="checkbox"/> No trigger, second ball <input type="checkbox"/> Wrong time delay <i>GS-Series Pinsetter</i> <input type="checkbox"/> Gamemaker / Gamesetter trouble code <input type="checkbox"/> Solenoid malfunction <input type="checkbox"/> Motor malfunction <i>Pinball Wizard</i> <input type="checkbox"/> No Communication <input type="checkbox"/> No Bumpers	<i>Scanners & Cameras</i> <input type="checkbox"/> All LEDs lit (locked up) <input type="checkbox"/> No new pin solenoid operation <input type="checkbox"/> No foul signal <input type="checkbox"/> Failed to score <input type="checkbox"/> Incorrect score <input type="checkbox"/> No take data signals <input type="checkbox"/> Blurry pins <input type="checkbox"/> Trips circuit breaker <input type="checkbox"/> Impact damage <input type="checkbox"/> No video on tester <input type="checkbox"/> No power <input type="checkbox"/> Constant ball detect <input type="checkbox"/> No ball detect signal <input type="checkbox"/> No data from scanner <input type="checkbox"/> Unable to calibrate/align <input type="checkbox"/> Can't adjust gain/bias pots <input type="checkbox"/> No scanner start <input type="checkbox"/> Incorrect motor operation <i>Lane Machine</i> <input type="checkbox"/> GUI battery dead <input type="checkbox"/> No communication <input type="checkbox"/> No power to GUI <input type="checkbox"/> Burnt traces on circuit board <input type="checkbox"/> No forward <input type="checkbox"/> No reverse <input type="checkbox"/> No duster motor <input type="checkbox"/> No buffer motor <i>Hard Drives</i> <input type="checkbox"/> Lock up / No Operation <input type="checkbox"/> Unable to Update <input type="checkbox"/> No Boot / Reboot

Additional Detail of Problem Observed

This form may be copied or you may call the Repair Center for additional forms. rev 11/2017