

CHERRY 
KEYBOARDS

CHERRY . . . over 25 years

CHERRY IS: Products available world-wide from Cherry manufacturing facilities, sales offices, distributors and licensees in major world markets.

CHERRY IS: Field Sales Representatives conveniently located to provide fast, efficient, personal service. **See listing on pages 32-33.**

CHERRY IS: Five manufacturing locations around the world to service you better.

Cherry Electrical Products Corp. (Headquarters) **U.S.A.**
3600 Sunset Avenue, Waukegan, Illinois 60087

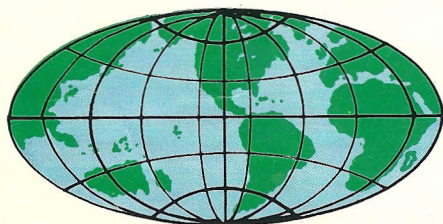
Cherry Semiconductor Corp. **U.S.A.**
2000 South County Trail, East Greenwich,
Rhode Island 02818

Cherry Electrical Products Ltd. **United Kingdom**
Coldharbour Lane, Harpenden, Herts AL5 4UN

Cherry Mikroschalter GmbH **Germany**
8572 Auerbach, Bavaria, Industriestrasse 19

Hirose Cherry Precision Co., Ltd. **Japan**
2139 Shukugawara, Kawasaki

Cherco Brasil Industria E Comercio Ltda. **Brazil**
Rua Lauera, 63, Santo Amaro, Sao Paulo CEP 04688



CHERRY IS: **Keyboards and Keyboard Switches . . . plus the following, growing product line:**

- Digital and Linear Integrated Circuits
- Lighted Pushbutton Switches
- PLASMALUX Gas Discharge Displays
- LEVERWHEEL and Thumbwheel Switches
- Matrix Selector Switches
- Low Energy Gold Crosspoint Contact Switches
- Precision Snap Action Switches
- Printed Circuits

See pages 34-35.

CHERRY IS: **Precision Engineered Quality Electrical and Electronic Components**

All Cherry's products are designed and manufactured under the technical guidance of an experienced staff of mechanical, electrical, tool, industrial and manufacturing engineers. Personnel trained in many skills operate advanced assembly and fabrication machinery to provide Cherry customers with the highest quality at prices that are truly competitive.

serving the needs of a growing industry.

KEYBOARDS AND KEYBOARD SWITCHES

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CHERRY IS:

The solid, responsible source for all your Keyboard needs.

When it comes to keyboards, Cherry can be your cost-effective headquarters. Cherry, long the leader in hard contact technology and innovation through 25 years of specialization, has become a major source of keyboards since the original success of our low energy switching units in 1967.

The creative engineering that first introduced gold crosspoint contacts to keyboard switches is working to bring new product developments to you. The latest is a new low profile Solid State Keyboard which utilizes capacitive switching technology.

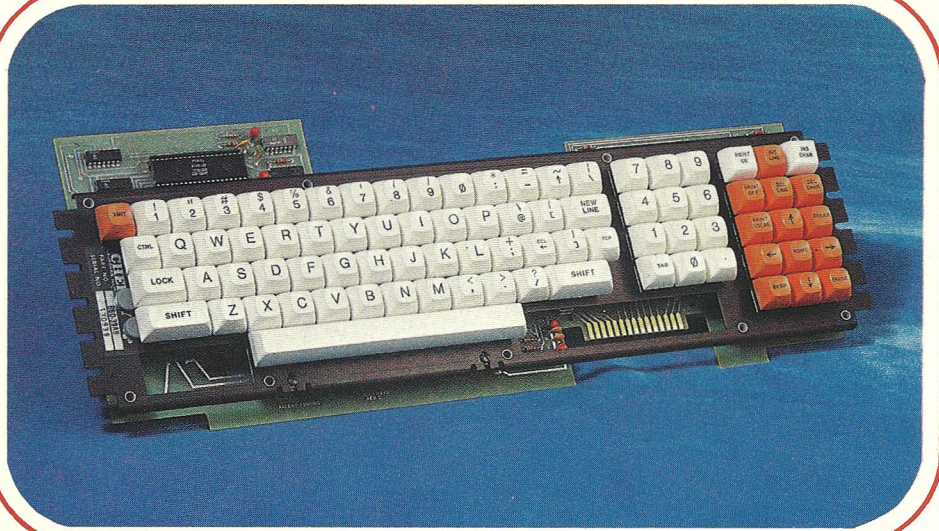
At Cherry we manufacture virtually all the components used in our products. We do our own printed circuit board fabrication . . . metal stamping . . . plating and molding, including 2 and 3 shot keycaps. This vertical integration enables Cherry to control quality at every step in the manufacturing process.

The result is a quality product . . . at lowest possible cost . . . delivered on schedule.

Specially designed machines and state-of-the-art equipment provide efficient, high speed, volume production so important to achievement of cost savings. In our modern world headquarters plant — which is even now undergoing massive expansion — we have made effective use of the latest manufacturing technology, including computer scheduling, tape and digital controlled stamping, micro processor controlled drilling, and automated precision plating.

The best way for you to evaluate our total capability is to schedule a visit to our plant. For those who can't do this at present, we invite you to check through this Keyboard Catalog. Then, contact the nearest Cherry Field Sales Representative (see listing on page 32) or call our special Keyboard Sales Group.

CUSTOM



Whatever your keyboard problem . . . Cherry will provide a solid state or hard contact solution. Our Keyboard Sales Group is ready and waiting to provide application and engineering assistance.

Cherry specializes in custom designed units and we make all our keycaps, standard or sculptured, in matte or smooth top finish. We also manufacture the switches, printed circuit boards and hardware. Our keyboard electronics utilize a scanning technique which readily adapts to any keyboard configuration or format.

Because of this in-house capability, we can provide a custom designed keyboard to meet your application requirements, often at less than the cost of a standard unit.

HOW TO GET CUSTOM DESIGNED ASSISTANCE

Just provide Cherry with your specs and we'll be glad to quote. To help you get started, we have included a handy, tear-out **Keyboard Designers' Work Sheet** on pages 7 and 8. It's specifically designed to make it easy for you to organize your specifications and to tell us what you want your keyboard to do and how you want it to do it. But first, take a look at pages 13 thru 23 where the standard keyboards available are described. If you don't see the keyboard you want among these standard units, a Cherry custom design may be appropriate.

WHEN SHOULD YOU CONSIDER A CUSTOM DESIGN?

As you probably know, custom designed keyboards are economically practical when purchased in production quantities. But, even if your quantity need is small we'll work with you and assist in evaluation.

After all, we have solved so many keyboard problems over the years that the "custom" you need just might be an "almost standard" for us!

A straightforward way out of the standard versus custom dilemma is to consider your keyboard requirements early in your design program, aiming toward the most cost-effective use of a Cherry standard keyboard in your application. We carry many keyboards as off-the-shelf items and, of course, there are no design or tooling charges involved.

Assuming, however, that you've decided on a custom designed keyboard, you may then expect to participate in a down-to-earth series of steps leading to production of your specific keyboard.

DESIGNED KEYBOARDS

FIVE STEPS TO A CUSTOM KEYBOARD

1. **Contact Cherry** . . . either our Cherry Keyboard Sales Group or your local Cherry Sales Representative.
2. **Get down to specifics** with a technical discussion between you and Cherry engineers aimed at establishing a complete understanding of your application requirements.
3. **Cherry submits a formal quotation** including unit prices at various quantities, tool and design charges, if any, and a statement as to contract duration.
4. **Cherry builds a prototype** proving out two things: Your spec and your design. Prototypes are rigorously evaluated by you before we at Cherry start actual production.
5. **Production and delivery of keyboards begins.**

HARD CONTACT OR SOLID STATE?

A question we are often asked is: "Should I use a hard contact gold crosspoint keyboard . . . or a solid state keyboard?"

Our answer is always the same: Use the keyboard that is best for your particular application . . . the keyboard that will do the job best . . . the one that is most cost-effective for you and your product.

How do you make the **specific** decision? Ask your Cherry Representative or the Cherry Keyboard Sales Group. Since Cherry makes **both** hard contact and solid state keyboards, we are in the ideal position to help you make the decision intelligently, efficiently, quickly.

This is in sharp contrast to most other keyboard manufacturers who make **only** solid state . . . or **only** hard contact units. Naturally, they know their products well. But, they may not know the capabilities, features and specific advantages that just might make "the other type" your best selection for your particular application.





HOW TO WORK WITH YOUR LOCAL CHERRY REPRESENTATIVE

(See pages 32-33 for listing.)

This, too, is simple. Just give him the story from the beginning. Describe in as much detail as possible what your keyboard objectives are. He will then work closely with you and the Cherry factory in coordinating samples, technical information and pricing.

ABOUT THE CHERRY KEYBOARD SALES GROUP

Our Keyboard Sales Group consists of inhouse keyboard specialists who are able and ready to (1) advise you what type of keyboard will prove to be the most efficient for your specific application, (2) offer design assistance, (3) provide price quotes and (4) provide every possible customer service. They guarantee fast response to your inquiries and requests.

HOW TO REACH THE KEYBOARD SALES GROUP

It's as easy as filling out and mailing the **Keyboard Designers' Work Sheet** on the following pages.

Or, better yet, call the Keyboard Sales Group at this special, direct telephone number:

312/689-7612

Either way — by writing or telephoning — you'll get informative, helpful response . . . and you'll get it **fast**.



keyboard designers' work sheet

Date _____

Title _____

Company _____

Address _____

City _____ State _____ Zip _____

Phone (_____) _____ Ext. _____
Area Code

NOTE: Highlighted features (*) described below are the lowest cost approaches.

Estimated Quantity/Year _____

Switching Technology:

- Capacitive
- Mechanical
- * Use Lowest-Cost Approach

Modes:

- Unshifted
- Alpha Lock
- Control
- Shift-Control
- Other _____

* 4 or less save cost

Termination:

- * Header (3M or equivalent)
- PCB Edge Card
 - Tin-Lead
 - Gold
- Other _____
- * Cherry Defines Codes
- Customer Defines Codes

Encoding:

Number of Encoded Keys (Including Spacebar) _____

Number of Non-Encoded Keys (Function) _____

Output:

1. * Parallel, _____ Bits Out
 - Serial: Serial, Out Only
 - Serial, In Only
 - On Board Clock _____
MHz \pm _____ %
2. Handshake Operation With
 - 3 BYTE FIFO
 - _____ BYTE FIFO
3. Down/Up Operation (Inverts 1 Bit and Provides Strobe Upon Key Release)
 - * All Encoded Keys OR Selected Keys
4. * N-Key Rollover (Free with capacitive switching technology).
 - * 2-Key Lockout
 - Other _____

DETACH HERE

work sheet continued

5. * Auto Repeat on Selected Keys
* No Repeat
 Separate Repeat Key

6. * Electronic Shift Lock With LED Indicator (Release From Either Shift Key)

OR

- Alternate Action Shift Lock Key (Released With 2nd Depression)

7. Audible Sound System _____
 _____ Lighted Keys
 _____ Additional Indicators
 _____ On-Board Drivers

8. PROMS _____
 3-State Output _____
 On-Board Alarm With Driver
 Ceramic ICs _____
 On-Board Voltage Regulator _____

Power Available:

+5VDC _____ mA Other _____

Keycaps:

* Stepped Sculptured

Please provide mechanical layout, keycap color and legends, output codes and additional electrical specifications.

MAIL TO:

Keyboard Sales Group
Cherry Electrical Products Corp.
3600 Sunset Avenue
Waukegan, Illinois 60087

DETACH HERE

CHERRY SOLID STATE CAPACITIVE KEYBOARDS



Solid state keyboards from a good solid source – CHERRY

BROADEST APPLICATION

This, the latest addition to the Cherry line of keyboards, is a solid state unit featuring capacitive keyswitches that provide a keyboard with unique capabilities. It gives you a keyboard ideal for any and all high speed data entry such as key-to-disc, key-to-tape, key-to-card, word processing and photo typesetting. The result? Cherry solid state keyboards are the ideal cost-effective answer to a broad range of applications.

STANDARD FEATURES

1. Low, low profile... measures .360" from bottom of face plate to bottom of PC board.
2. High reliability... long life.
3. Contactless design.
4. Custom designed NMOS encoder chip.
5. 128 keys in 16 by 8 matrix.
 - 8 key positions for discrete keys.
 - 5 standard mode key positions:
 - (1) Alpha Lock
 - (2 & 3) Shifts (separate Left Shift and Right Shift matrix positions available are treated identically)
 - (4) Shift Lock (output pin for lighted key)
 - (5) Control
 - One repeat key position.
 - 114 data key positions.
6. N-Key Rollover.
7. Optional Down/Up operation.
8. Optional Auto Repeat after ½ second delay.
9. External oscillator determines repeat rate.

10. Electronic hysteresis circuit eliminates keyswitch "teasing".
11. Anti-Tease timer—also functions as 50 msec debounce.
12. Only one power supply required (+5VDC).
13. Low stand-by current.
14. TTL compatible.
15. Encoder has capability of working with either solid state (capacitive) or mechanical (hard contact) switches.
16. Seven bit parallel out for data. (Eighth bit is for Up/Down operation.)
17. Software latches for Lock and Alpha Lock.
 - Left or Right Shift releases Shift Lock.
 - Alpha key toggles.
18. STROBE (active low) is 12 μ sec typical (with 666KHz clock).

PLUS options like these at little or no additional cost.

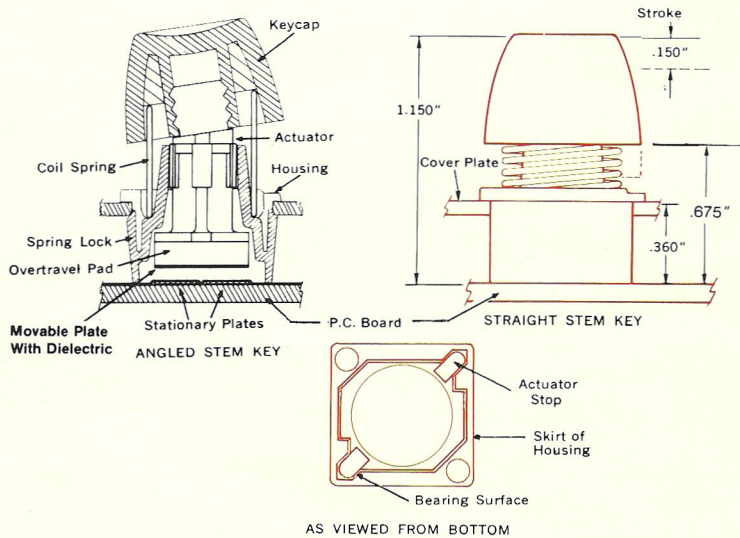
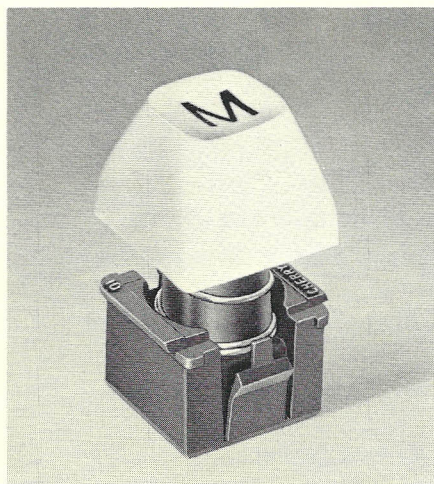
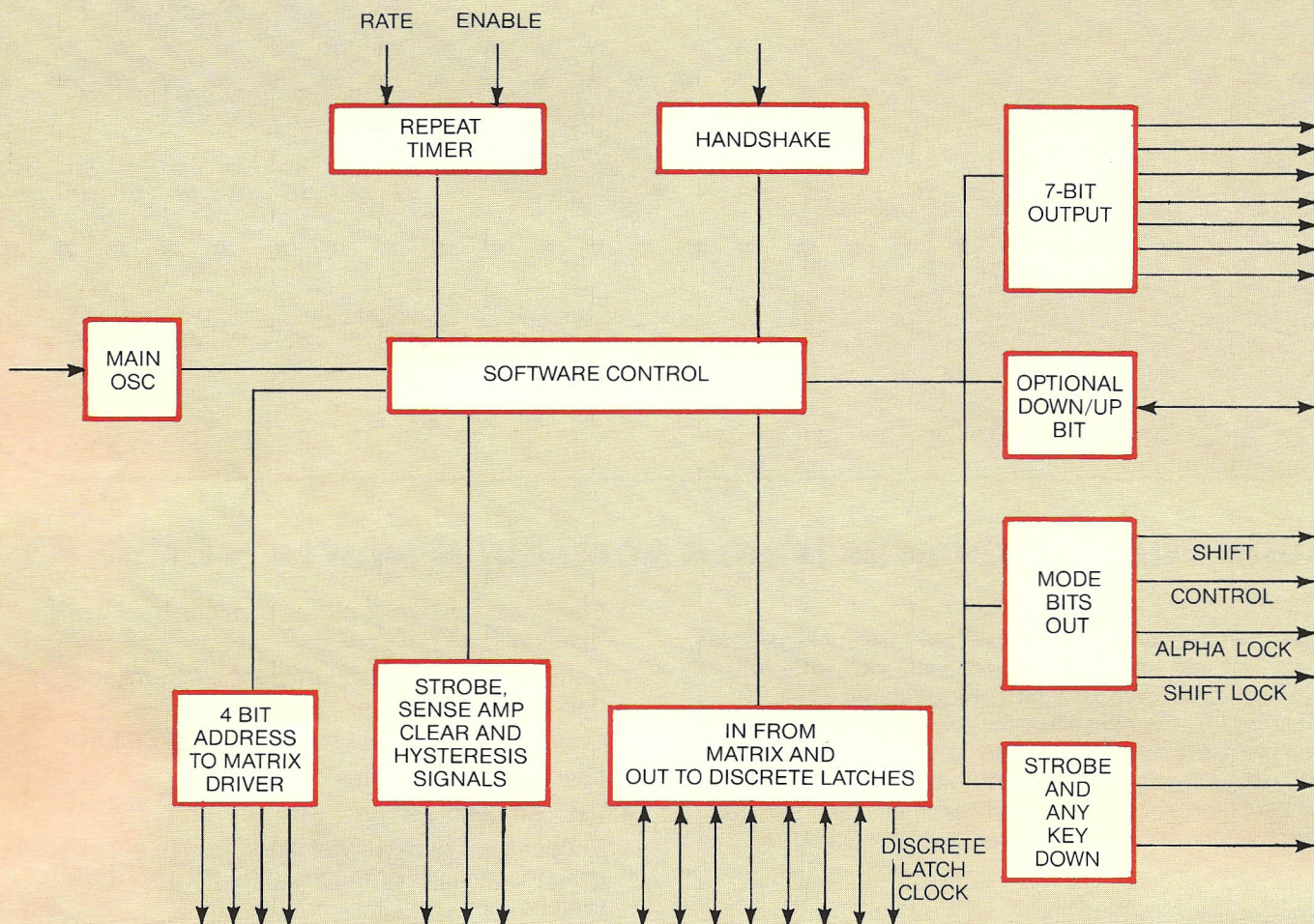
19. Three word deep FIFO.
20. Handshake to Control Data output.
21. Repeat may be furnished on all keys...no keys... selected keys.
22. Shift and Control available as either output or input.
23. Output flag or level whenever any key is depressed.
24. Pulse or level strobes available.
25. Data output is the key position (in matrix).
26. External look-up table PROM.

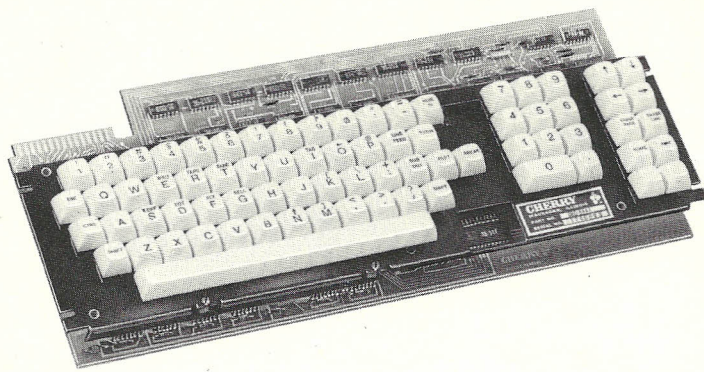
BLOCK DIAGRAM

This block diagram shows the basic functions of the standard Cherry encoder. This microcomputer has been programmed as a general purpose keyboard controller and can handle the needs of many of our customers. It can work with either Cherry gold cross-point or capacitive keyboard switches. For capacitive keyboard switches, two quad sense amplifiers are added to the output side of the key matrix.

A total of 128 keys can be processed, including function and discrete keys. A PROM can be added to translate key position outputs to customer-specific codes. N-Key Rollover is a standard feature.

If required, Cherry also offers custom programmed keyboard controllers tailored to virtually any customer need.





CHERRY GOLD CROSSPOINT CONTACT KEYBOARD

A UNIQUELY SIMPLE DESIGN, OFFERING:

- Low Cost
- Long Life
- Wire-"OR"-ability
- Low power consumption

Why are Cherry keyboards so reliable? One reason is our uniquely simple design that combines the most advanced technology with a minimum of component parts. This yields a product whose susceptibility to field failure is inherently low. This is substantiated by the remarkable record Cherry Gold Crosspoint Contact Keyboards have achieved in all kinds of environments and demanding applications.

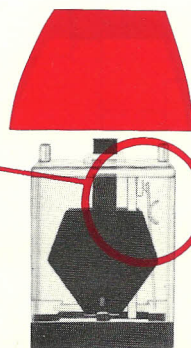
Another reason is the Cherry Gold Crosspoint Contacts. Still another reason for excellent field performance is that we build our keyboards from scratch. And, Cherry keyboards draw low power — both quiescent and in use — and generate clean IC logic signals. They are not temperature or humidity sensitive and can be designed to meet your specific requirements at surprisingly low cost.

STANDARD KEYBOARD UNITS INCLUDE:

- 66 Key Tri Mode ASCII, negative logic (with provision to add 4 extra keys).
- 53 Key Quad Mode ASCII (ASR33), positive logic.
- 12 Key Numeric, straight output.
- 16 Key Numeric, straight output.

SPECIAL FEATURES AVAILABLE

- Positive or negative logic resting low or high outputs.
- Open collector buffer outputs for hard wire-"OR"-ing available at no extra cost.
- Buffer output capable of driving terminated twisted pair or 90 ohm coaxial is optional.
- Pulse or level strobe available.
- Key locations may be geographically mixed.
- Special mono mode encoded keys may be added to configuration.
- Any parity and/or data outputs may be later changed for modest revision charges.



THE KEYBOARD SWITCH WITH A "HEART OF GOLD"

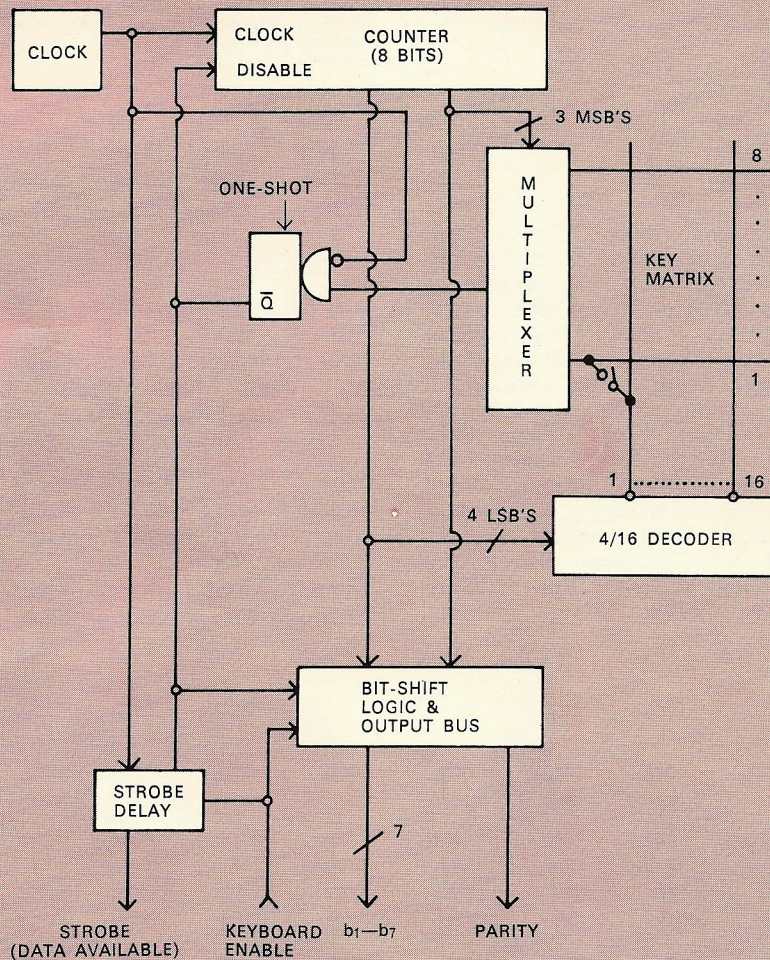
Cherry's unique Gold Crosspoint Contact Switch. For details, see page 24.

Keyboard Electronics Utilizes Scanning Technique

The keyboard encoding is based on a scanning technique employing an 8 bit counter, a multiplexer and a 4 to 16 line decoder. Encoded keys form a crosspoint matrix with each key connected to the decoder output and the multiplexer input. The decoder is addressed by the 4 least significant bits of the counter.

When a key is depressed a matrix connection between

the decoder and multiplexer is accomplished. When the counter reaches the appropriate key code, the multiplexer output goes high and a retriggerable one-shot is fired on the trailing edge of the counter clock stopping the counter. The one-shot is continually refreshed until the key is released. The bit-shift logic translates the counter address into an upper case data word if the shift and/or control key is depressed.

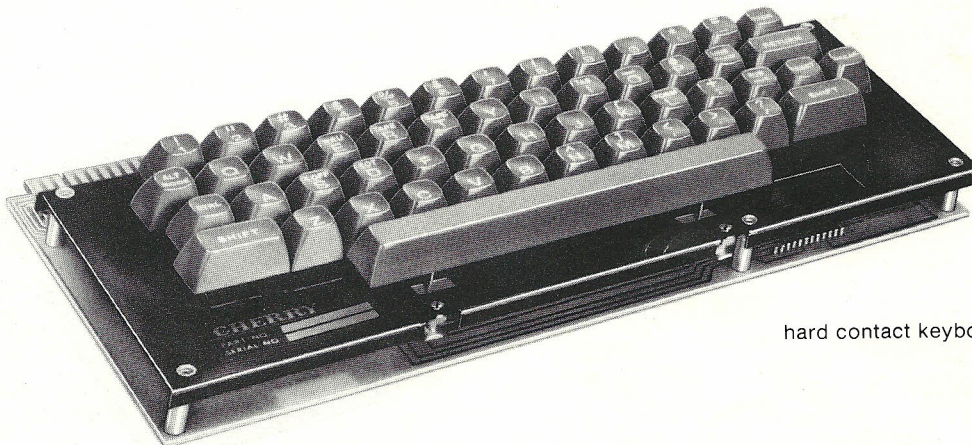


CHERRY STANDARD KEYBOARDS

5 Basic Types of Keyboards in 24 Variations
to Fill Most — or ALL — of Your Keyboard needs



solid state keyboard



hard contact keyboard

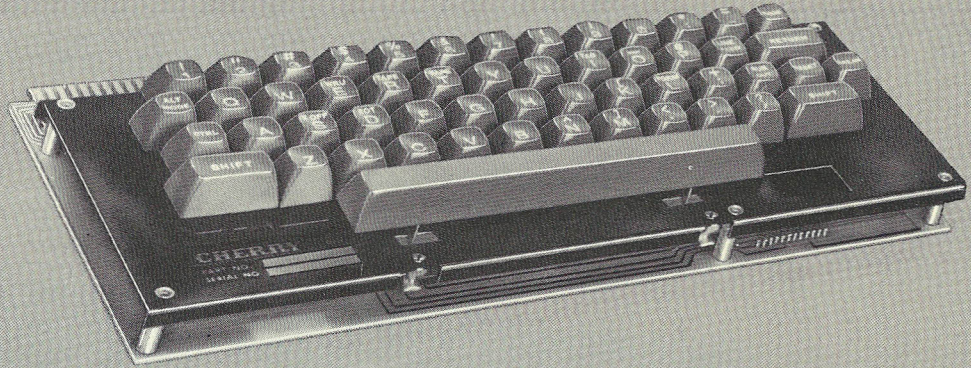
CHOICE OF SOLID STATE . . . OR HARD CONTACT

All available with many optional features at little or no additional cost. All available without tooling, artwork or set-up charges. Many available with or without housings, encoded or non-encoded, a wide variety of modes, etc.

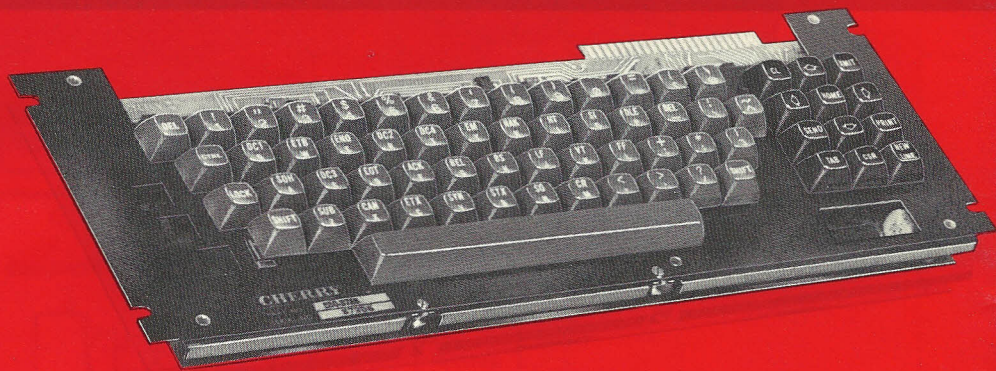
Many also available off-the-shelf.

From **CHERRY**: Industry's most

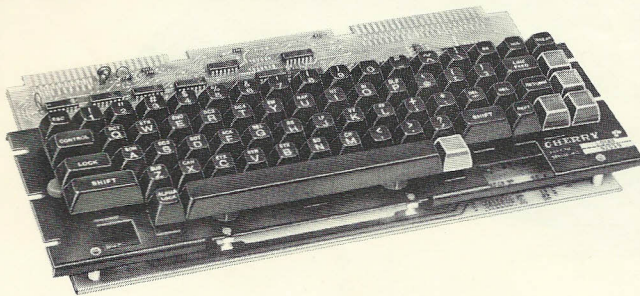
B70 ASR 33 Series



B80 ASCII Series



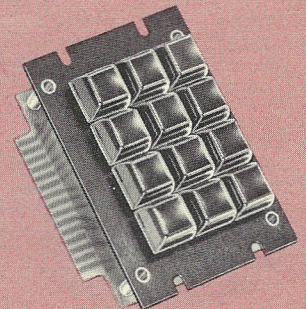
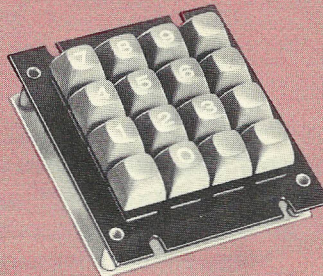
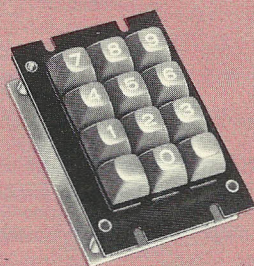
B70 "PRO" Series



B4V SOLID STATE Series



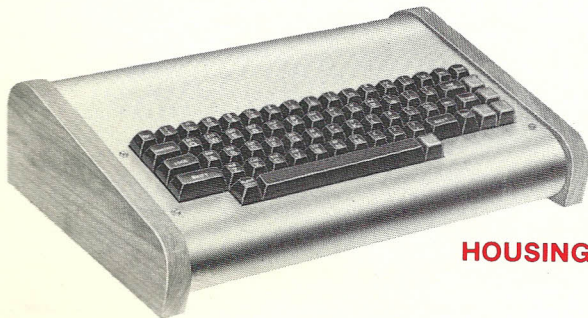
B65 NON-ENCODED Series



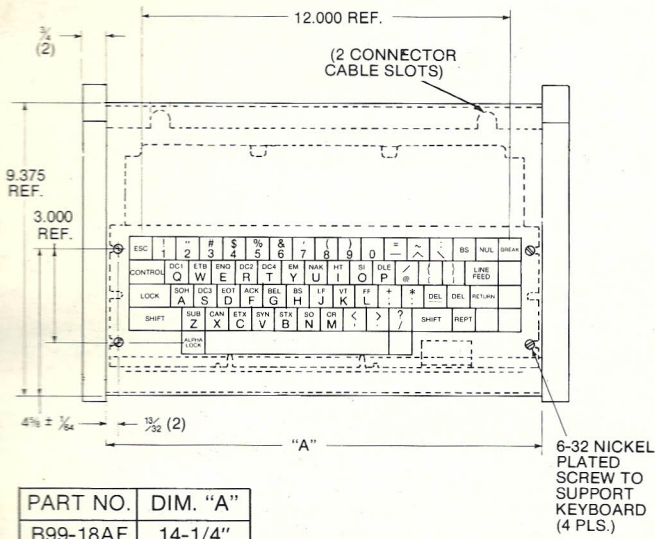
complete line of standard keyboards

KEYBOARD HOUSINGS

As shown in the Standard Keyboard Specifications Chart on the following page, most Cherry keyboards are available with an associated housing. This housing converts your keyboard to an attractive, stand-alone desk instrument, suitable for office or lab use. Color is clear anodized aluminum with unfinished walnut end-caps. The operating surface is sloped approximately 10° to the desk top.

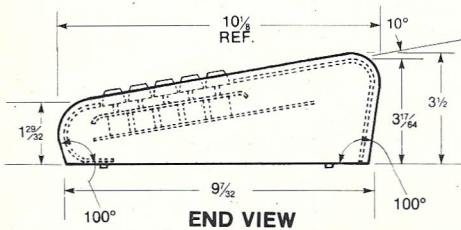


HOUSING



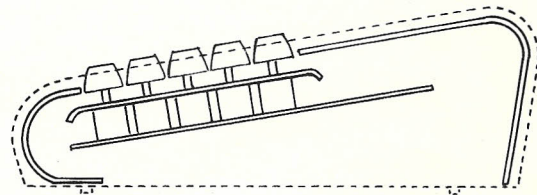
PART NO.	DIM. "A"
B99-18AF	14-1/4"
B99-19AF	19-3/4"

All dimensions shown above, except for Dim. "A," are the same for both housing sizes.

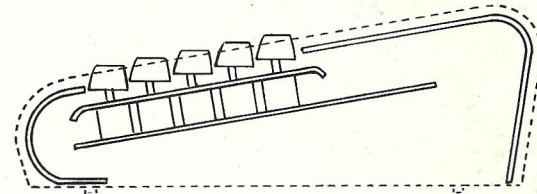


HOUSING DIMENSIONS

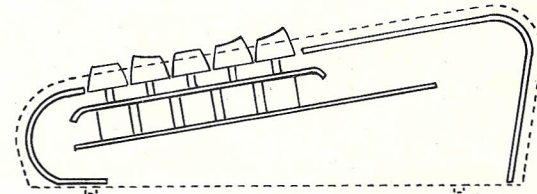
Your choice of four KEY ARRANGEMENTS



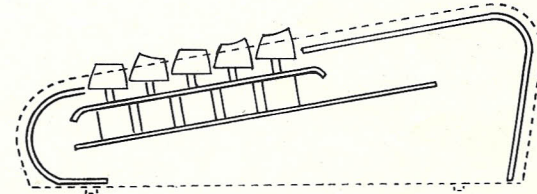
SLOPED
with straight plunger stem



STEPPED
with 10° angle plunger stem



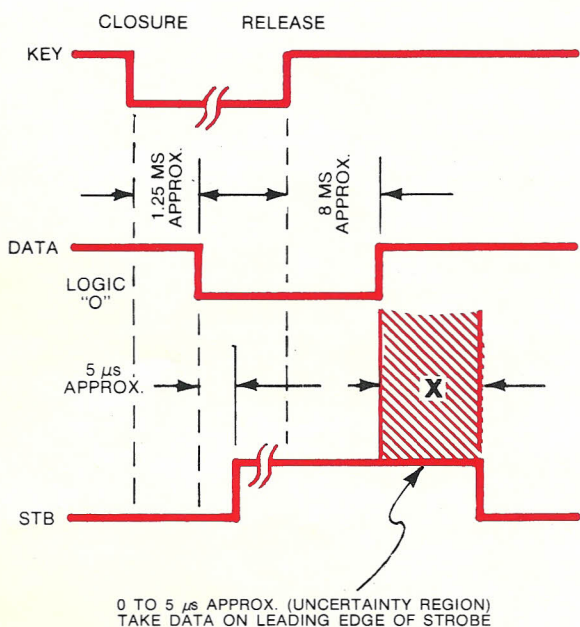
SCULPTURED
with straight plunger stem



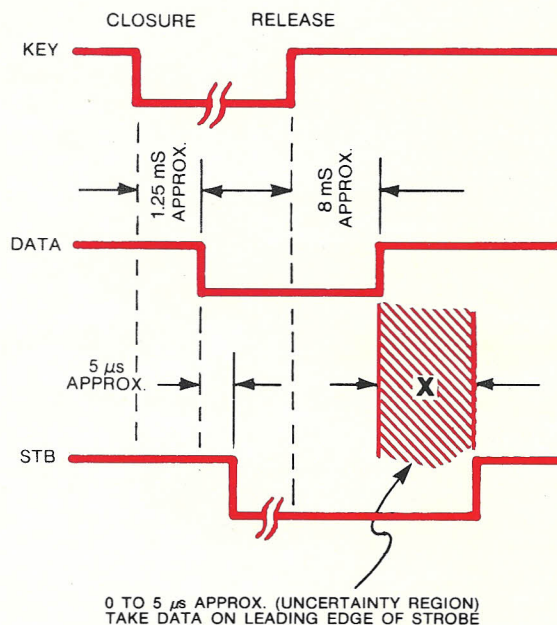
SCULPTURED
with 10° angle plunger stem

KEYBOARD TIMING CHARTS

TIMING DIAGRAM NO. 1



TIMING DIAGRAM NO. 2



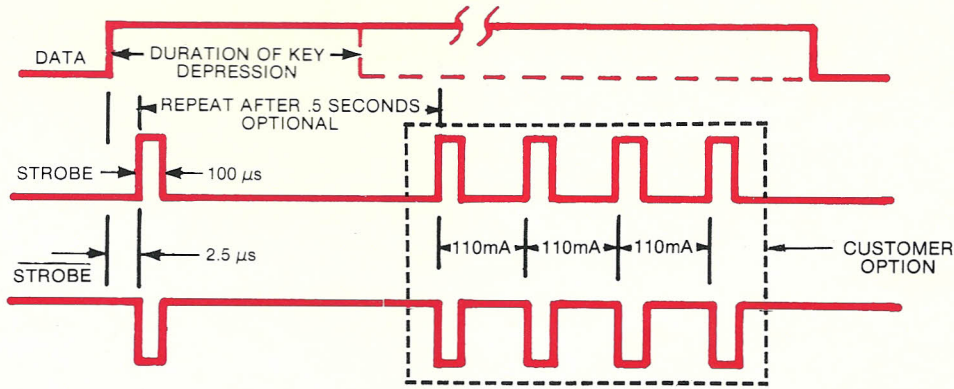
STANDARD KEYBOARDS

Keyboard No.	Timing Diag. No.	No. of Keys	Sloped (SL) Stepped (ST)	Associated Housing	Type of Code	No. of Modes	Data Bits	Strobe Goes	Logic Output
B70-4753	1	53	SL	B99-64AF	Teletypewriter	4	7	High	Positive Resting High
B70-60AA	1	53	ST	B99-64AF	Teletypewriter	4	7	High	Positive Resting High
B70-4754	1	53	SL	B99-64AF	Teletypewriter	4	7	High	Positive Resting High
B80-3766	2	66	SL	B99-66AF	ASCII	3	7	Low	Negative Resting High
B80-3767	2	66	SL	B99-66AF	ASCII	3	7	Low	Negative Resting High
B80-48AA	2	66	ST	B99-66AF	ASCII	3	7	Low	Negative Resting High
B80-65AA	2	67(R)	SL	B99-68AF	ASCII	3	7	Low	Negative Resting High
B65-1712	—	12	SL	—	None	—	—	—	—
B65-1716	—	16	SL	—	None	—	—	—	—
B65-64AB	—	12	SL	—*	None	—	—	—	—
B70-05AB	3	67	SL	B99-18AF*	ASCII	4	7	1 High 1 Low	Positive Resting Low
B4VE-9601	4	96	SL	B99-69AF	ASCII#	4	8	1 High 1 Low	Positive Logic Latched Outputs
B4VE-9501	4	95	SL	B99-69AF	ASCII##	4	8	1 High 1 Low	Positive Logic Latched Outputs

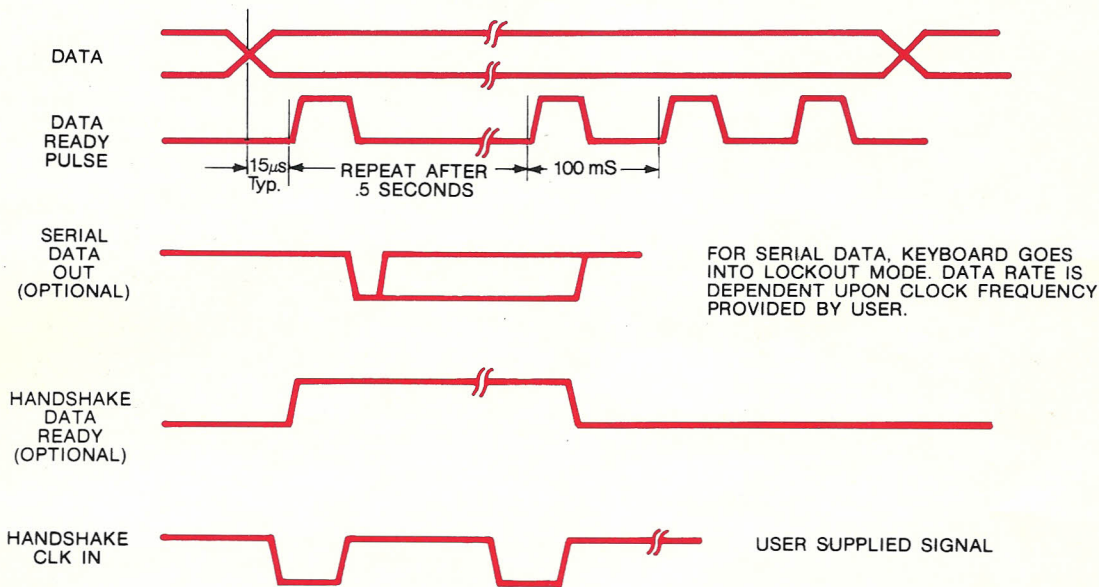
R = Repeat Key (Repeat Frequency 12 Hz.) #Communications standard ##Typewriter standard

*When B70-05AB and B65-64AB are combined the housing number is B99-19AF.

TIMING DIAGRAM NO. 3



TIMING DIAGRAM NO. 4



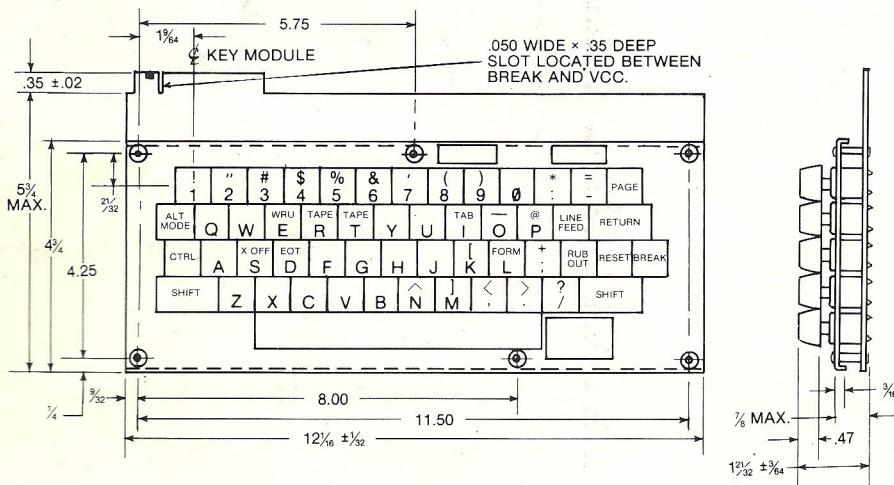
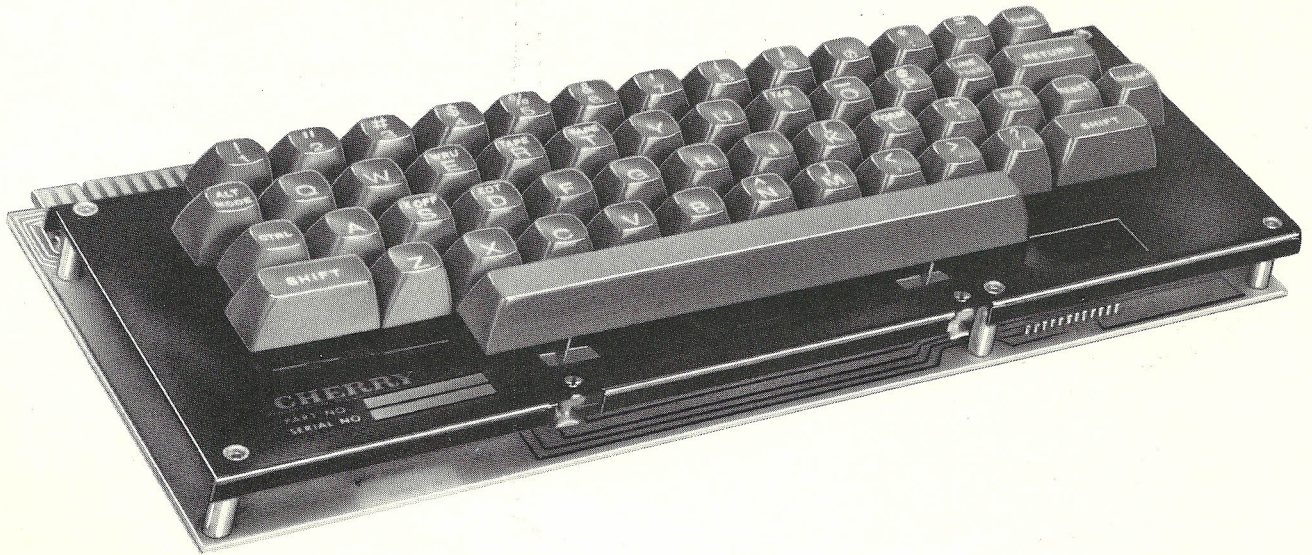
SPECIFICATIONS CHART

	Power Req.	Drive Capability	Rollover (RO) Lockout (LO)	Connection Mates With	Switching Technology	Keycap Finish	Schematic No.
	5V 350mA	10 STD TTL Loads	2 Key (LO)	Cinch 250-15-30-170	GC	S	120-0032
	5V 350mA	10 STD TTL Loads	2 Key (LO)	Cinch 250-15-30-170	GC	S	120-0032
	5V 350mA	10 STD TTL Loads	2 Key (LO)	Cinch 250-15-30-170	GC	M	120-0032
	5V 350mA	10 STD TTL Loads	2 Key (LO)	Cinch 250-22-30-211	GC	S	120-0044
	5V 350mA	10 STD TTL Loads	2 Key (LO)	Cinch 250-22-30-211	GC	M	120-0044
	5V 350mA	10 STD TTL Loads	2 Key (LO)	Cinch 250-22-30-211	GC	S	120-0044
	5V 350mA	10 STD TTL Loads	2 Key (LO)	Cinch 250-22-30-211	GC	S	120-0044
	—	—	—	Cinch 250-15-30-170 X	GC	S	120-0153
	—	—	—	Cinch 250-18-30-170	GC	S	
	—	—	—	Cinch 50-44C-10	GC	S	
	5V 350mA	10 STD TTL Load	2 Key (LO)	Cinch 50-44S-20	GC	M	120-0186
	5VDC 250mA	10 LS Loads	N Key (RO)	Cinch 50-44S-20	C	M	120-0357
	5VDC 250mA	10 LS Loads	N Key (RO)	Cinch 50-44S-20	C	M	120-0357

GC = Gold Crosspoint S = Smooth Finish Keycaps
 C = Capacitive M = Matte Finish Keycaps

B70 Teletypewriter Series

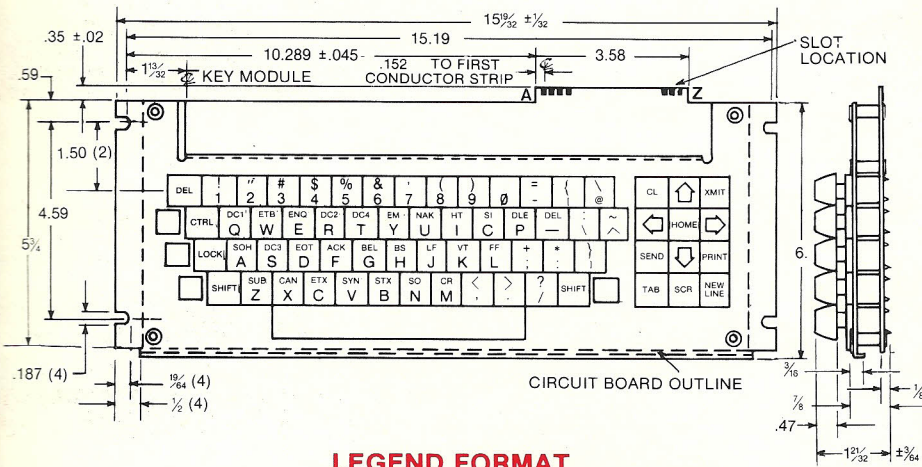
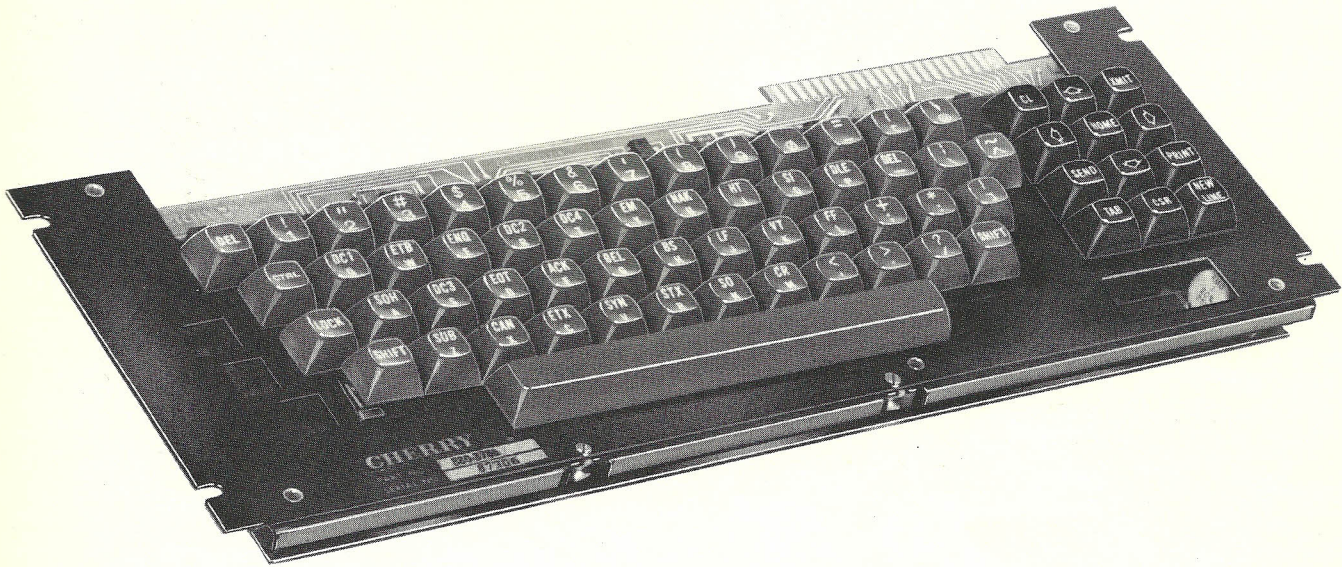
Cherry 53-Key Special Quad Mode Keyboards



LEGEND FORMAT

21		22	"	23	#	24	\$	25	%	26	&	27	'	28	(29)	30		31	1	32	2	33	3	34	4	35	5	36	6	37	7	38	8	39	9	40	0	41	.	42	/	43	:	44	;	45	'	46	<	47	>	48	?	49	/	50	.	51	SHIFT																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																				
01	SOH	02	STX	03	ETX	04	EOT	05	ENQ	06	ACK	07	BEL	08	BS	09	NAK	0A	LF	0B	VT	0C	FF	0D	CR	0E	SO	0F	SI	10	DLE	11	DC1	12	DC2	13	DC3	14	DC4	15	EM	16	GS	17	RS	18	CAN	19	STX	1A	SUB	1B	VT	1C	FS	1D	GS	1E	SO	1F	SI	20	SPACE BAR																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																		
21		22	"	23	#	24	\$	25	%	26	&	27	'	28	(29)	30		31	1	32	2	33	3	34	4	35	5	36	6	37	7	38	8	39	9	40	0	41	.	42	/	43	:	44	;	45	'	46	<	47	>	48	?	49	/	50	.	51	SHIFT																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																				
7D		7E	ALT	7F	WRU	80	TAPE	81	TAPE	82	Y	83	U	84	I	85	O	86	P	87	LINE	88	FEED	89	RETURN	90	CTRL	91	X OFF	92	EOT	93	R	94	FORM	95	+	96	RUB	97	OUT	98	RESET	99	BREAK	00	NUL	01	DLE	02	DC1	03	DC2	04	DC3	05	DC4	06	EM	07	NAK	08	LF	09	VT	0A	FF	0B	CR	0C	SO	0D	SI	0E	DLE	0F	DC1	10	DC2	11	DC3	12	DC4	13	EM	14	NAK	15	LF	16	VT	17	FF	18	CR	19	SO	1A	SI	1B	DLE	1C	DC1	1D	DC2	1E	DC3	1F	DC4	20	EM	21	NAK	22	LF	23	VT	24	FF	25	CR	26	SO	27	SI	28	DLE	29	DC1	2A	DC2	2B	DC3	2C	DC4	2D	EM	2E	NAK	2F	LF	30	VT	31	FF	32	CR	33	SO	34	SI	35	DLE	36	DC1	37	DC2	38	DC3	39	DC4	40	EM	41	NAK	42	LF	43	VT	44	FF	45	CR	46	SO	47	SI	48	DLE	49	DC1	4A	DC2	4B	DC3	4C	DC4	4D	EM	4E	NAK	4F	LF	50	VT	51	FF	52	CR	53	SO	54	SI	55	DLE	56	DC1	57	DC2	58	DC3	59	DC4	60	EM	61	NAK	62	LF	63	VT	64	FF	65	CR	66	SO	67	SI	68	DLE	69	DC1	6A	DC2	6B	DC3	6C	DC4	6D	EM	6E	NAK	6F	LF	69	VT	6A	FF	6B	CR	6C	SO	6D	SI	6E	DLE	6F	DC1	70	DC2	71	DC3	72	DC4	73	EM	74	NAK	75	LF	76	VT	77	FF	78	CR	79	SO	7A	SI	7B	DLE	7C	DC1	7D	DC2	7E	DC3	7F	DC4	80	EM	81	NAK	82	LF	83	VT	84	FF	85	CR	86	SO	87	SI	88	DLE	89	DC1	8A	DC2	8B	DC3	8C	DC4	8D	EM	8E	NAK	8F	LF	89	VT	8A	FF	8B	CR	8C	SO	8D	SI	8E	DLE	8F	DC1	90	DC2	91	DC3	92	DC4	93	EM	94	NAK	95	LF	96	VT	97	FF	98	CR	99	SO	9A	SI	9B	DLE	9C	DC1	9D	DC2	9E	DC3	9F	DC4	100	EM	101	NAK	102	LF	103	VT	104	FF	105	CR	106	SO	107	SI	108	DLE	109	DC1	10A	DC2	10B	DC3	10C	DC4	10D	EM	10E	NAK	10F	LF	109	VT	10A	FF	10B	CR	10C	SO	10D	SI	10E	DLE	10F	DC1	109	DC2	10A	DC3	10B	DC4	10C	EM	10D	NAK	10E	LF	10F	VT	109	FF	10A	CR	10B	SO	10C	SI	10D	DLE	10E	DC1	10F	DC2	109	DC3	10A	DC4	10B	EM	10C	NAK	10D	LF	10E	VT	10F	FF	109	CR	10A	SO	10B	SI	10C	DLE	10D	DC1	10E	DC2	10F	DC3	109	DC4	10A	EM	10B	NAK	10C	LF	10D	VT	10E	FF	10F	CR	109	SO	10A	SI	10B	DLE	10C	DC1	10D	DC2	10E	DC3	10F	DC4	109	EM	10A	NAK	10B	LF	10C	VT	10D	FF	10E	CR	10F	SO	109	SI	10A	DLE	10B	DC1	10C	DC2	10D	DC3	10E	DC4	10F	EM	109	NAK	10A	LF	10B	VT	10C	FF	10D	CR	10E	SO	10F	SI	109	DLE	10A	DC1	10B	DC2	10C	DC3	10D	DC4	10E	EM	10F	NAK	109	LF	10A	VT	10B	FF	10C	CR	10D	SO	10E	SI	10F	DLE	109	DC1	10A	DC2	10B	DC3	10C	DC4	10D	EM	10E	NAK	10F	LF	109	VT	10A	FF	10B	CR	10C	SO	10D	SI	10E	DLE	10F	DC1	109	DC2	10A	DC3	10B	DC4	10C	EM	10D	NAK	10E	LF	10F	VT	109	FF	10A	CR	10B	SO	10C	SI	10D	DLE	10E	DC1	10F	DC2	109	DC3	10A	DC4	10B	EM	10C	NAK	10D	LF	10E	VT	10F	FF	109	CR	10A	SO	10B	SI	10C	DLE	10D	DC1	10E	DC2	10F	DC3	109	DC4	10A	EM	10B	NAK	10C	LF	10D	VT	10E	FF	10F	CR	109	SO	10A	SI	10B	DLE	10C	DC1	10D	DC2	10E	DC3	10F	DC4	109	EM	10A	NAK	10B	LF	10C	VT	10D	FF	10E	CR	10F	SO	109	SI	10A	DLE	10B	DC1	10C	DC2	10D	DC3	10E	DC4	10F	EM	109	NAK	10A	LF	10B	VT	10C	FF	10D	CR	10E	SO	10F	SI	109	DLE	10A	DC1	10B	DC2	10C	DC3	10D	DC4	10E	EM	10F	NAK	109	LF	10A	VT	10B	FF	10C	CR	10D	SO	10E	SI	10F	DLE	109	DC1	10A	DC2	10B	DC3	10C	DC4	10D	EM	10E	NAK	10F	LF	109	VT	10A	FF	10B	CR	10C	SO	10D	SI	10E	DLE	10F	DC1	109	DC2	10A	DC3	10B	DC4	10C	EM	10D	NAK	10E	LF	10F	VT	109	FF	10A	CR	10B	SO	10C	SI	10D	DLE	10E	DC1	10F	DC2	109	DC3	10A	DC4	10B	EM	10C	NAK	10D	LF	10E	VT	10F	FF	109	CR	10A	SO	10B	SI	10C	DLE	10D	DC1	10E	DC2	10F	DC3	109	DC4	10A	EM	10B	NAK	10C	LF	10D	VT	10E	FF	10F	CR	109	SO	10A	SI	10B	DLE	10C	DC1	10D	DC2	10E	DC3	10F	DC4	109	EM	10A	NAK	10B	LF	10C	VT	10D	FF	10E	CR	10F	SO	109	SI	10A	DLE	10B	DC1	10C	DC2	10D	DC3	10E	DC4	10F	EM	109	NAK	10A	LF	10B	VT	10C	FF	10D	CR	10E	SO	10F	SI	109	DLE	10A	DC1	10B	DC2	10C	DC3	10D	DC4	10E	EM	10F	NAK	109	LF	10A	VT	10B	FF	10C	CR	10D	SO	10E	SI	10F	DLE	109	DC1	10A	DC2	10B	DC3	10C	DC4	10D	EM	10E	NAK	10F	LF	109	VT	10A	FF	10B	CR	10C	SO	10D	SI	10E	DLE	10F	DC1	109	DC2	10A	DC3	10B	DC4	10C	EM	10D	NAK	10E	LF	10F	VT	109	FF	10A	CR	10B	SO	10C	SI	10D	DLE	10E	DC1	10F	DC2	109	DC3	10A	DC4	10B	EM	10C	NAK	10D	LF	10E	VT	10F	FF	109	CR	10A	SO	10B	SI	10C	DLE	10D	DC1	10E	DC2	10F	DC3	109	DC4	10A	EM	10B	NAK	10C	LF	10D	VT	10E	FF	10F	CR	109	SO	10A	SI	10B	DLE	10C	DC1	10D	DC2	10E	DC3	10F	DC4	109	EM	10A	NAK	10B	LF	10C	VT	10D	FF	10E	CR	10F	SO	109	SI	10A	DLE	10B	DC1	10C	DC2	10D	DC3	10E	DC4	10F	EM	109	NAK	10A	LF	10B	VT	10C	FF	10D	CR	10E	SO	10F	SI	109	DLE	10A	DC1	10B	DC2	10C	DC3	10D	DC4	10E	EM	10F	NAK	109	LF	10A	VT	10B	FF	10C	CR	10D	SO	10E	SI	10F	DLE	109	DC1	10A	DC2	10B	DC3	10C	DC4	10D	EM	10E	NAK	10F	LF	109	VT	10A	FF	10B	CR	10C	SO	10D	SI	10E	DLE	10F	DC1	109	DC2	10A	DC3	10B	DC4	10C	EM	10D	NAK	10E	LF	10F	VT	109	FF	10A	CR	10B	SO	10C	SI	10D	DLE	10E	DC1	10F	DC2	109	DC3	10A	DC4	10B	EM	10C	NAK	10D	LF	10E	VT	10F	FF	109	CR	10A	SO	10B	SI	10C	DLE	10D	DC1	10E	DC2	10F	DC3	109	DC4	10A	EM	10B	NAK	10C	LF	10D	VT	10E	FF	10F	CR	109	SO	10A	SI	10B	DLE	10C	DC1	10D	DC2	10E	DC3	10F	DC4	109	EM	10A	NAK	10B	LF	10C	VT	10D	FF	10E	CR	10F	SO	109	SI	10A	DLE	10B	DC1	10C	DC2	10D	DC3	10E	DC4	10F	EM	109	NAK	10A	LF	10B	VT	10C	FF	10D	CR	10E	SO	10F	SI	109	DLE	10A	DC1	10B	DC2	10C	DC3	10D	DC4	10E	EM	10F	NAK	109	LF	10A	VT	10B	FF	10C	CR	10D	SO	10E	SI	10F	DLE	109	DC1	10A	DC2	10B	DC3	10C	DC4	10D	EM	10E	NAK	10F	LF	109	VT	10A	FF	10B	CR	10C	SO	10D	SI	10E	DLE	10F	DC1	109	DC2	10A	DC3	10B	DC4	10C	EM	10D	NAK	10E	LF	10F	VT	109	FF	10A	CR	10B	SO	10C	SI	10D	DLE	10E	DC1	10F	DC2	109	DC3	10A	DC4	10B	EM	10C	NAK	10D	LF	10E	VT	10F	FF	109	CR	10A	SO	10B	SI	10C	DLE	10D	DC1	10E	DC2	10F	DC3	109	DC4	10A	EM	10B	NAK	10C	LF	10D	VT	10E	FF	10F	CR	109	SO	10A	SI	10B	DLE	10C	DC1	10D	DC2	10E	DC3	10F	DC4	109	EM	10A	NAK	10B	LF	10C	VT	10D	FF	10E	CR	10F	SO	109	SI	10A	DLE	10B	DC1	10C	DC2	10D	DC3	10E	DC4	10F	EM	109	NAK	10A	LF	10B	VT	10C	FF	10D	CR	10E	SO	10F	SI	109	DLE	10A	DC1	10B	DC2	10C	DC3	10D	DC4	10E	EM	10F	NAK	109	LF	10A	VT	10B	FF	10C	CR	10D	SO	10E	SI	10F	DLE	109	DC1	10A	DC2	10B	DC3	10C	DC4	10D	EM	10E	NAK	10F	LF	109	VT	10A	FF	10B	CR	10C	SO	10D	SI	10E	DLE	10F	DC1	109	DC2	10A	DC3	10B	DC4	10C	EM	10D	NAK	10E	LF	10F	VT

B80 ASCII Series



LEGEND FORMAT

7F 7F 7F	31 21 31	1 ! 1	32 22 32	2 " # 2	33 3 3	34 \$ % 3	35 5 3	36 6 3	37 7 3	38 8 3	39 9 3	30 0 30	2D - 2D	1B ESC 7B 5B	00 NUL 60 40												
CTRL	11 51 71	DC1 Q q	17 57 77	ETB W w	05 45 65	ENQ E e	12 52 72	DC2 R r	14 54 74	DC4 T t	19 59 79	EM Y y	15 55 75	NAK U u	09 49 69	HT I i	0F 4F 6F	51 O o	10 50 70	DLE P p	1F 7F 5F	US DEL 5C	1C 7C 5C	FS \ 5C	1E RS 7E 5E	~ ↑ ↑	
LOCK	01 41 61	SOH A a	13 53 73	DC3 S s	04 44 64	EOT D d	06 46 66	ACK F f	07 47 67	BEL G g	08 48 68	BS H h	0A 4A 6A	LF J j	0B 4B 6B	VT K k	0C 4C 6C	FF L l	3B 2B 3B	3A 2A 3A	1D 7D 5D	GS) J					
SHIFT	1A 5A 7A	SUB Z z	18 58 78	CAN X x	03 43 63	ETX C c	16 56 76	SYN V v	02 42 62	STX B b	0E 4E 6E	SO N n	0D 4D 6D	CR M m	2C 3C 2C	.	2E 3E 2E	2F 3F 2F	?	SHIFT							
CONTROL		SHIFTED		UNSHIFTED		20		SPACE BAR		20		20															

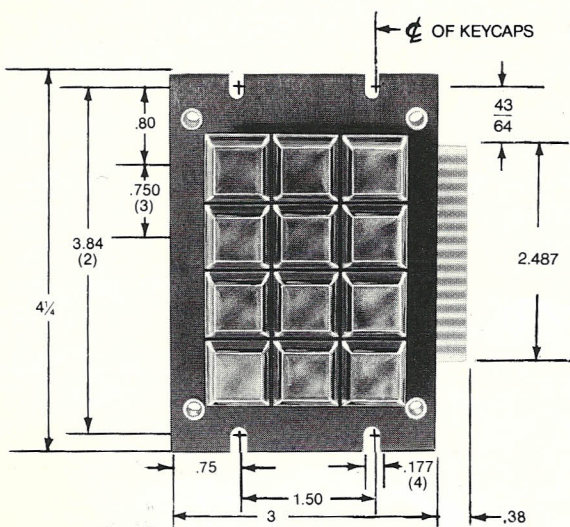
OUTPUT CODE

CONNECTOR PIN ASSIGNMENT

CONDUCTOR STRIP PIN IDENTIFICATION

PIN	OUTPUT	PIN	OUTPUT
1	bit 6	A	bit 6
2	bit 7	B	bit 7
3	bit 5	C	bit 5
4	b8 PARITY	D	b8 PARITY
5	K.B. ENABLE	E	K.B. ENABLE
6	STB	F	STB
7		H	
8	+5V	J	+5V
9	bit 1	K	bit 1
10	bit 4	L	bit 4
11	bit 2	M	bit 2
12	bit 3	N	bit 3
13	GND	P	GND
14		R	CL
15		S	←
16		T	SEND
17		U	TAB
18		V	↑
19		W	HOME
20	NEW LINE	X	↓
21	PRINT	Y	CSR
22	→	Z	XMIT

B65 NON-ENCODED Series



Key positions are shown for identification only.

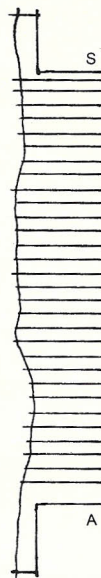
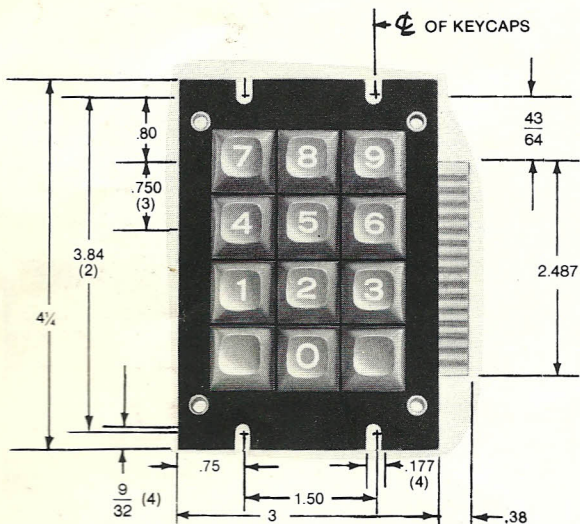
A1	A2	A3
B1	B2	B3
C1	C2	C3
D1	D2	D3



EDGE CONNECTOR IDENTIFICATION			
COMPONENT (TOP) SIDE		SOLDER (BOTTOM) SIDE	
PAD #	SIGNAL	PAD #	SIGNAL
A	SPARE	1	SPARE
B	NOT USED	2	NOT USED
C	NOT USED	3	NOT USED
D	NOT USED	4	(A1)
E	NOT USED	5	(A1)
F	NOT USED	6	(A2)
H	NOT USED	7	(A3)
J	(A3)	8	(A2)
K	NOT USED	9	NOT USED
L	(C1)	10	(B1)
M	(C1)	11	(B1)
N	(C2)	12	(B2)
P	(C2)	13	(B3)
R	NOT USED	14	NOT USED
S	NOT USED	15	(B2)
T	(D1)	16	(B3)
U	(D1)	17	(C3)
V	(D2)	18	(C3)
W	(D2)	19	(D3)
X	NOT USED	20	(D3)
Y	NOT USED	21	NOT USED
Z	SPARE	22	SPARE

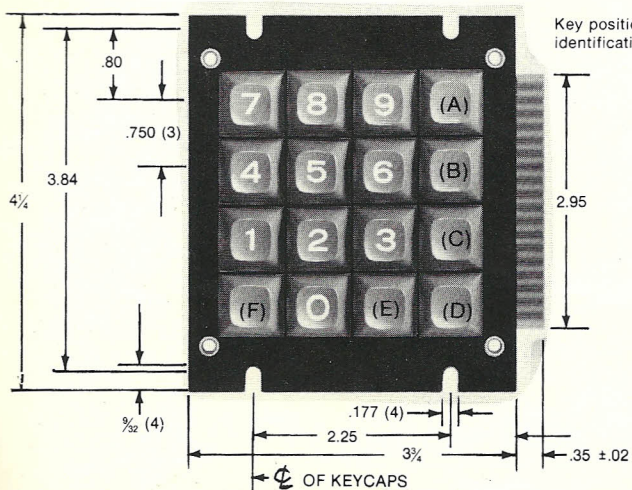
PC BOARD WILL ACCEPT 3M 44 PIN HEADER

B65-64AB

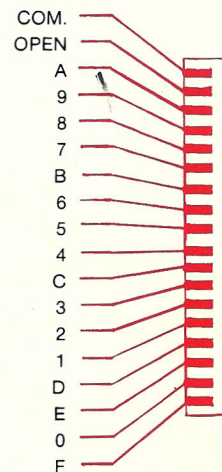
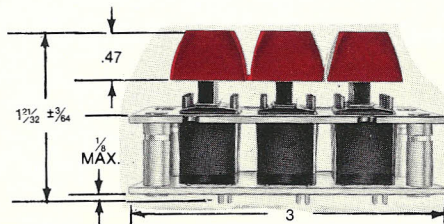


EDGE CONNECTOR IDENTIFICATION	
PAD #	SIGNAL
15	9
14	—
13	COM
12	—
11	8
10	7
9	6
8	5
7	4
6	3
5	2
4	1
3	BLANK RIGHT KEY
2	0
1	BLANK LEFT KEY

B65-1712



Key positions A-F are shown for identification only. Keycaps are blank.



B65-1716

B70 "PRO" Series

A versatile, reliable PROfessional style keyboard. Ideal for personal computer and hobbyist applications. Modifiable to add total obsolescence protection. Versatile enough to grow as your system grows.

NOTE: Request brochure PRO-977-2 for detailed information and specs.

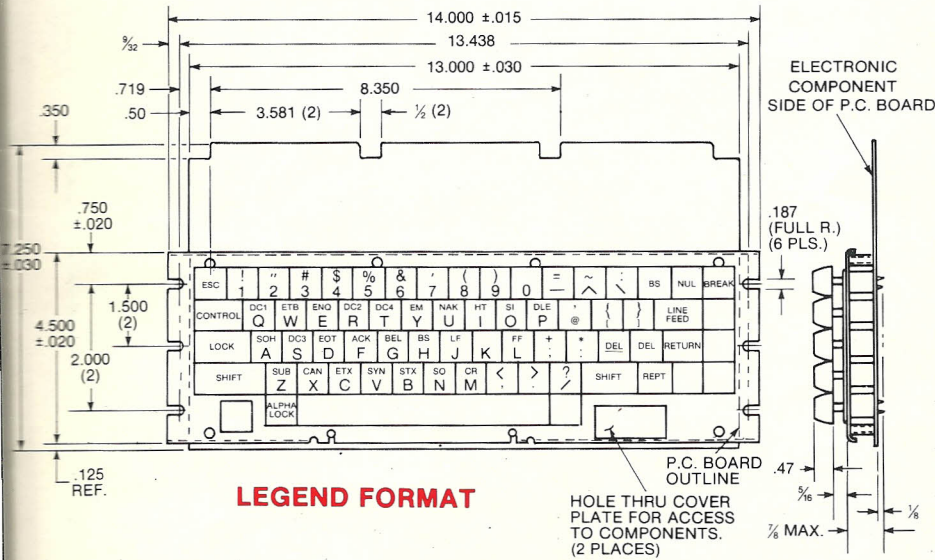
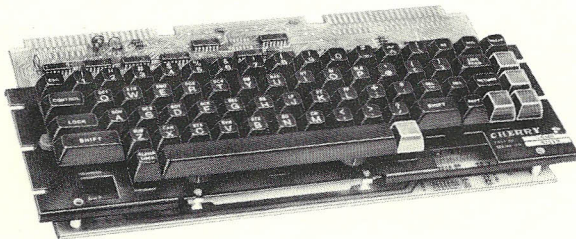
UNIQUE STANDARD FEATURES

- Full 67 key array
- Five user-definable spare keys with keycaps that have "quick change" clear plastic tops. These keyswitches are not connected electrically, but can be conveniently hard-wired so as to output any code.
- Only one power supply voltage required: +5 volts at 325 ma. max.
- TTL and DTL compatible output circuitry.
- Positive logic with outputs resting low.
- Four mode keyboard offers (1) lower case mode, (2) upper case mode, (3) control case mode and (4) teletypewriter alpha lock configuration (alpha lock depressed).

UNIQUE SPECIAL FEATURES

that are easily accomplished at your location.

1. **Negative Logic** in which the output code will be the complement of the code shown.
2. **Tri State - Positive Logic** to let you use two or more PRO keyboards in parallel.
3. **High voltage output — CMOS compatible.**
4. **Non Encoded Outputs.**
5. **Encoded Outputs.**
6. **Flexible key assignments** lets you change the code of a key which came factory wired.
7. **Provisions for an auxiliary keyboard.**
8. **Auxiliary keyboards available from Cherry.**
9. **Automatic repeat.**
10. **Strobe pulse width** can be varied.
11. **Optional parity bit.**
12. **Output latch** can be provided by an auxiliary circuit.
13. **Optional Shift-Control mode** can be added external to the keyboard.



LEGEND FORMAT

1B	31	32	33	34	35	36	37	38	39	30	2D	1E	1C	0B	00	BREAK
1B	21	22	23	24	25	26	27	28	29	30	3D	7E	7C	0B	00	
1B	31	32	33	34	35	36	37	38	39	30	2D	7E	7C	0B	00	
1B	31	32	33	34	35	36	37	38	39	30	2D	7E	7C	0B	00	
CONTROL	11	17	05	12	14	19	15	09	0F	10	00	1B	1D	0A	0A	
	51	57	45	52	54	59	55	49	4F	50	60	7B	7D	0A	0A	
	51	57	45	52	54	59	55	49	4F	50	60	7B	7D	0A	0A	
	71	77	65	72	74	79	75	69	6F	70	40	5B	5D	0A	0A	
SHIFT LOCK	01	13	04	06	07	08	0A	0B	0C	3B	3A	1F	7F	0D	0D	
	41	53	44	46	47	48	4A	4B	4C	2B	2A	7F	7F	0D	0D	
	41	53	44	46	47	48	4A	4B	4C	2B	2A	7F	7F	0D	0D	
	81	73	64	66	67	68	6A	6B	6C	3B	3A	5F	7F	0D	0D	
SHIFT	1A	1B	03	05	02	0E	0D	2C	2E	2F		SHIFT	REPEAT	SPARE	SPARE	
	5A	5B	43	45	42	4E	4D	3C	3E	3F						
	5A	5B	43	45	42	4E	4D	3C	3E	3F						
	7A	7B	63	65	62	6E	6D	2C	2E	2F						
ALPHA LOCK	20							CONTROL								
	20							SHIFT								
	20							ALPHA LOCK								
	20							UNSHIFTED								
	20							SPACE BAR								

OUTPUT CODE

CONNECTOR PIN ASSIGNMENT

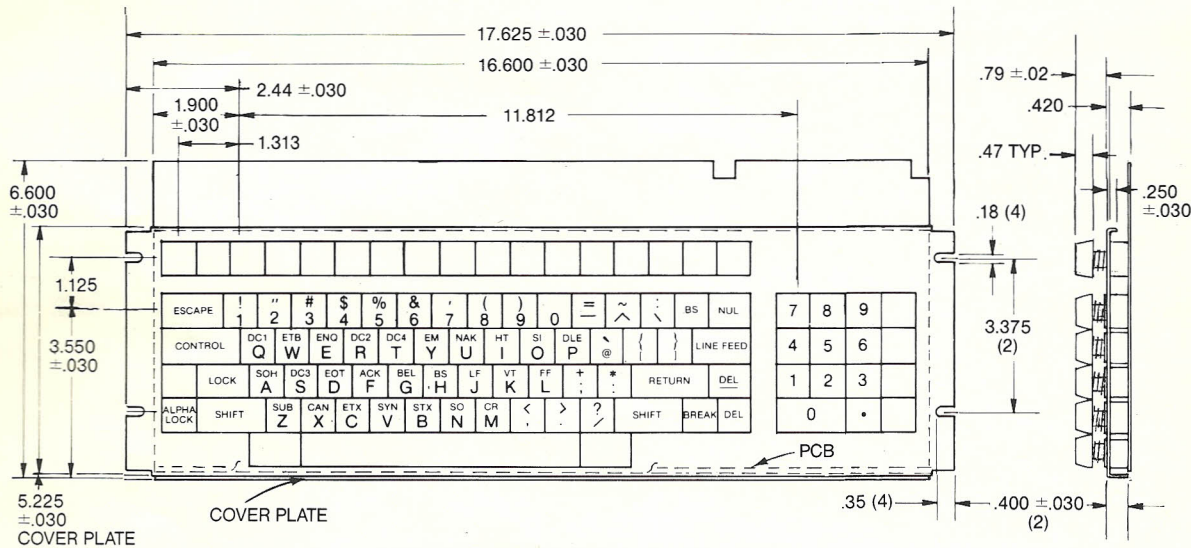
PIN NO.	MAIN CONNECTOR J1	MATRIX EXPANSION CONNECTOR J2
1	BIT 1 (OUT)	SPARE
2	BIT 2	E6
3	BIT 3	E4
4	BIT 4	E2
5	BIT 5	E9 (1)
6	BIT 6	E11 (3)
7	BIT 7	E13 (5)
8	BIT 8	SPARE
9	STROBE (OUT)	SPARE
10	REPEAT (IN/OUT)	+5 VDC
11	+5 VDC (IN)	E14 (6)
12	NOT USED	E1
13	GROUND (IN)	D0
14	SPARE	D2
15	SPARE	GROUND
16	STROBE (OUT)	D15 (F)
17	CONTROL (IN/OUT)	D13 (D)
18	K.B. LOCKOUT (IN)	D11 (B)
19	SPARE	D4
20	SPARE	D6
21	SHIFT (IN/OUT)	D8
22	BREAK (OUT)	D10 (A)
A	SPARE	SPARE
B		E7
C		E5
D		E3
E		E8 (0)
F		E10 (2)
H		E12 (4)
J		SPARE
K		SPARE
L	SPARE	+5 VDC
M	+5 VDC (IN)	SPARE
N	NOT USED	E15 (7)
P	GROUND (IN)	E0
R	SPARE	D1
S		GROUND
T		SPARE
U		D14 (E)
V		D12 (C)
W		D3
X		D5
Y		D7
Z	SPARE	D9

G, I, O and Q PIN DESIGNATIONS ARE NOT USED.

B4VE SOLID STATE Series



B4VE-9601 COMMUNICATIONS



CONNECTOR PIN ASSIGNMENT	
B4VE-9601 and B4VE-9501	
PIN	OUTPUT
*1	UART CLK IN/OUT
2	bit 7
3	bit 6
4	bit 5
5	bit 4
6	bit 3
7	bit 2
8	bit 1
9	bit 0
10	
*11	HANDSHAKE DATA READY
*12	HANDSHAKE DATA READY
*13	UART SERIAL DATA OUT
14	
15	
16	
*17	HANDSHAKE CLK IN
18	
19	
20	
21	GROUND
22	+5 VDC

LEGEND FORMAT

80	81	82	83	84	85	86	87	88	89	8A	8B	8C	8D	8E	8F	A6
1B	31	22	33	34	35	36	37	38	39	30	2D	1E	1C	86	00	
	51	57	45	52	54	59	55	49	4F	50	00	1B	1D	6A		
	71	77	65	72	74	79	75	69	6F	70	40	7B	7D	5A		
90	SHIFT	01	13	04	06	07	08	0A	0B	0C	3B	3A	0D	1F		
	LOCK	41	53	44	46	47	48	4A	4B	4C	2B	2A	00	7F		
		61	73	64	66	67	68	6A	6B	6C	3B	3A	00	5F		
ALPHA	SHIFT	1A	18	03	16	02	0E	0D	2C	2E	2F		SHIFT	FF	7F	
LOCK		5A	58	43	56	42	4E	4D	3C	3E	3F					
		7A	76	63	76	62	6E	6D	2C	2E	2F					
		91	29													

OUTPUT CODE

Codes are contained in EPROM and may be changed to suit—contact factory.

OPTIONAL FEATURE PROVISION: In place of single key, two separate outputs may be obtained with proper connections. Consult factory.

* = OPTION

Cherry Fully Encoded Solid State Capacitive Keyboards

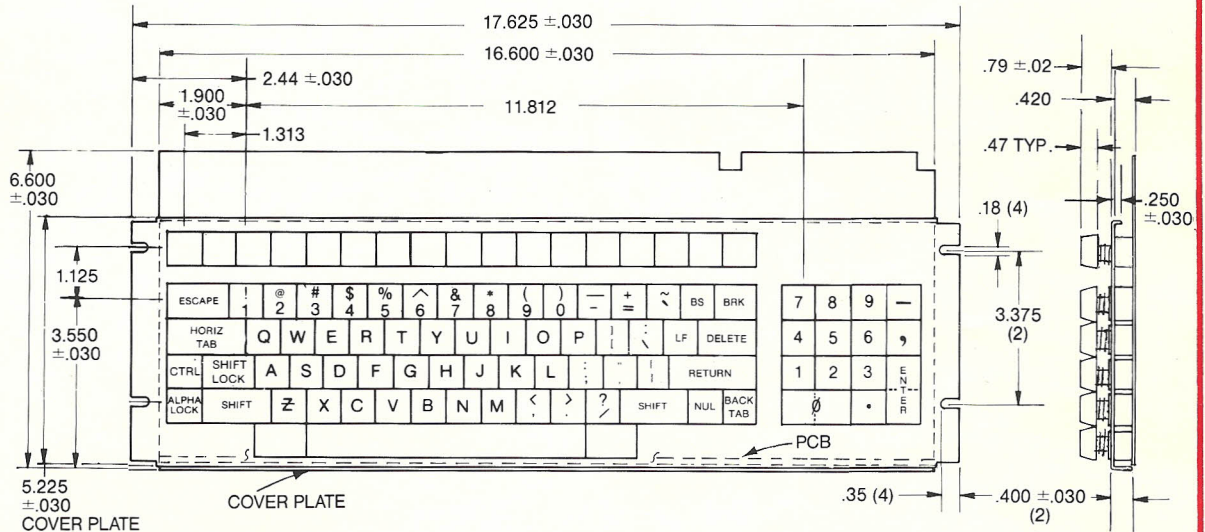


B4VE-9501 SECRETARIAL

CONNECTOR PIN ASSIGNMENT

B4VE-9601 and
B4VE-9501

PIN	OUTPUT
A	
B	
C	
D	
E	
F	
H	
J	
K	
L	
M	
N	
P	
R	
S	ALPHA LOCK LEVEL
T	
U	DATA READY PULSE
V	DATA READY PULSE
*W	BREAK
X	DATA BUS CONTROL
Y	GROUND
Z	+5 VDC



LEGEND FORMAT

89	81	82	83	84	85	86	87	88	89	8A	8B	8C	8D	8E	8F	A6
89	81	82	83	84	85	86	87	88	89	8A	8B	8C	8D	8E	8F	A6
89	81	82	83	84	85	86	87	88	89	8A	8B	8C	8D	8E	8F	A6
89	81	82	83	84	85	86	87	88	89	8A	8B	8C	8D	8E	8F	A6

1B	31	32	33	34	35	36	37	38	39	3A	3B	3C	3D	6A	6B	6C	6D	6E	6F	6G	6H	6I	6J	6K	6L	6M	6N	6O	6P	6Q	6R	6S	6T	6U	6V	6W	6X	6Y	6Z																					
1B	21	22	23	24	25	26	27	28	29	2A	2B	2C	2D	5F	5G	5H	5I	5J	5K	5L	5M	5N	5O	5P	5Q	5R	5S	5T	5U	5V	5W	5X	5Y	5Z	5A	5B	5C	5D	5E	5F	5G	5H	5I	5J	5K	5L	5M	5N	5O	5P	5Q	5R	5S	5T	5U	5V	5W	5X	5Y	5Z
1B	31	32	33	34	35	36	37	38	39	3A	3B	3C	3D	6A	6B	6C	6D	6E	6F	6G	6H	6I	6J	6K	6L	6M	6N	6O	6P	6Q	6R	6S	6T	6U	6V	6W	6X	6Y	6Z																					
1B	31	32	33	34	35	36	37	38	39	3A	3B	3C	3D	6A	6B	6C	6D	6E	6F	6G	6H	6I	6J	6K	6L	6M	6N	6O	6P	6Q	6R	6S	6T	6U	6V	6W	6X	6Y	6Z																					

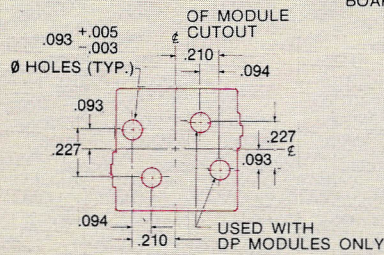
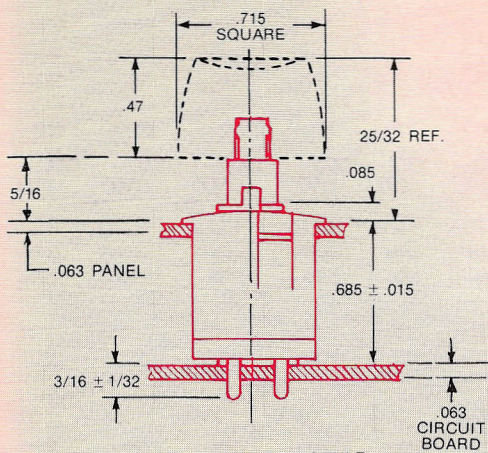
B7	B8	B9	AD
B7	B8	B9	AD
B7	B8	B9	AD
B4	B5	B6	AC
B4	B5	B6	AC
B4	B5	B6	AC
B1	B2	B3	A7
B1	B2	B3	A7
B1	B2	B3	A7
B1	B2	B3	A7
A8	B9	AE	8D
A8	B9	AE	8D
A8	B9	AE	8D
A8	B9	AE	8D

OUTPUT CODE

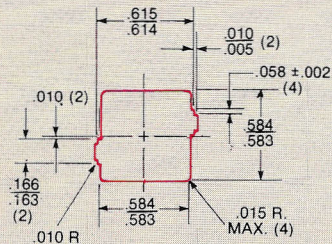
* = OPTION

Codes are contained in EPROM and may be changed to suit—contact factory.

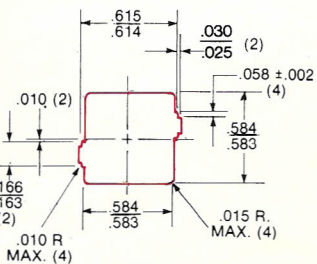
STANDARD MODULE



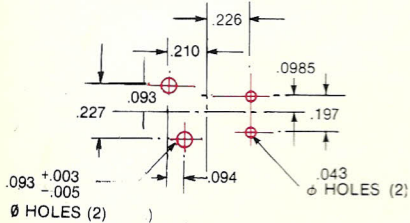
PC BOARD LAYOUT A



PANEL CUTOUT DETAIL A

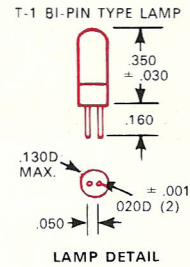
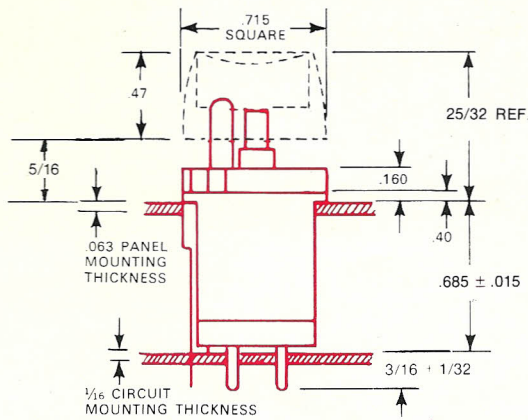


PANEL CUTOUT DETAIL E

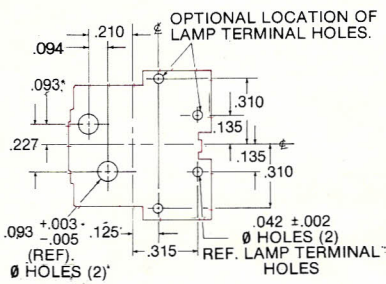


PC BOARD LAYOUT E

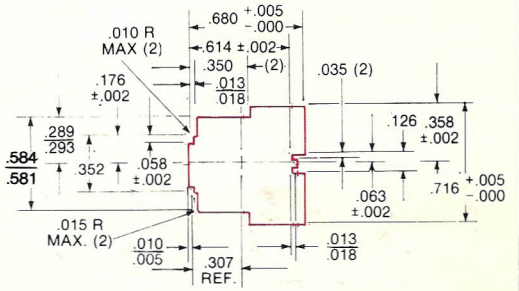
LIGHTED MODULES



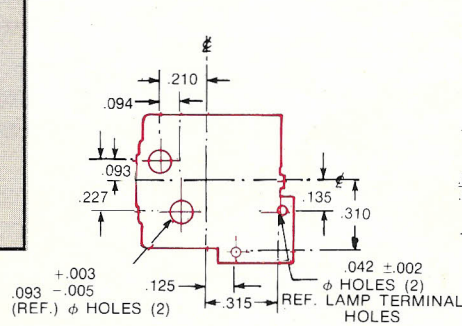
M41-0103



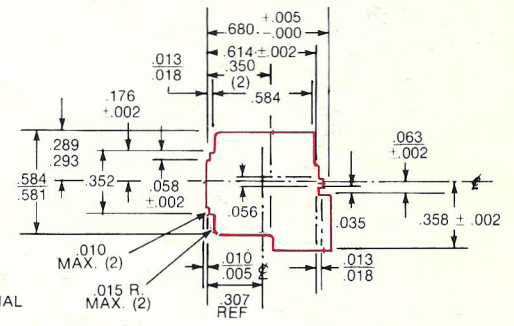
**FOR EITHER LAMP LOCATION
PC BOARD LAYOUT B**



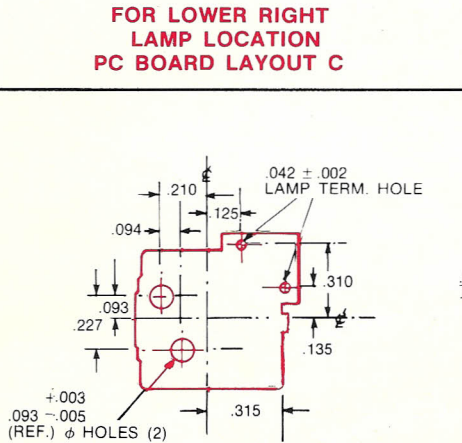
**FOR EITHER LAMP LOCATION
PANEL CUTOUT B**



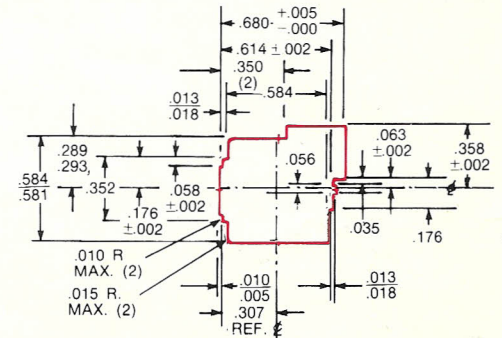
**FOR LOWER RIGHT LAMP LOCATION
PC BOARD LAYOUT C**



**FOR LOWER RIGHT LAMP LOCATION
PANEL CUTOUT C**



**FOR UPPER RIGHT LAMP LOCATION
PC BOARD LAYOUT D**



**FOR UPPER RIGHT LAMP LOCATION
PANEL CUTOUT D**

CHERRY®

ORDERING INFORMATION FOR GOLD CROSSPOINT KEYBOARD SWITCHES

Style	Part No.	Stem Design	Operating Force	Stem Angle	Contact Style	Operating Style	Comment	Figure †
	M61-0120	T	2½ oz. nom.	0°	1A	momentary	non-lighted	A
	M51-0182	T	2½ oz. nom.	10°	1A	momentary	non-lighted	A
	M51-0143	T	6 oz. nom.	0°	1A	momentary	non-lighted	A
	M51-0226	T	6 oz. nom.	10°	1A	momentary	non-lighted	A
	M62-0900	straight	2-4½ oz.	0°	1A-1B	momentary	non-lighted	A
	M62-0100	straight	2-4½ oz.	0°	2A	momentary	non-lighted	A
Spacebar	M51-0106	straight	2½-4½ oz.	0°	1A	momentary	(paddle type)*	A
Spacebar	M51-0107	straight	2½-4½ oz.	10°	1A	momentary	(paddle type)*	A
Spacebar mech.	B99-0003	straight	1×6 thru 1×10				(paddle type)*	‡
Spacebar mech.	B99-0004	10° stems	1×6 thru 1×10				(paddle type)*	‡
Spacebar mech.	B99-0005	straight	1×3 only				(paddle type)*	‡
Spacebar mech.	B99-0006	10° stems	1×3 only				(paddle type)*	‡
Spacebar	M51-0227	T	2½-4½ oz.	0°	1A	momentary	(wire form type)	A
Spacebar	M51-0228	T	2½-4½ oz.	10°	1A	momentary	(wire form type)	A
Spacebar mech.	B99-29AF	1×3 0°					(wire form type)	‡
Spacebar mech.	B99-40AF	1×3 10°					(wire form type)	‡
Spacebar mech.	B99-32AF	1×6 0°					(wire form type)	‡
Spacebar mech.	B99-43AF	1×6 10°					(wire form type)	‡
Spacebar mech.	B99-35AF	1×8 0°					(wire form type)	‡
Spacebar mech.	B99-46AF	1×8 10°					(wire form type)	‡
	M61-0800	straight	2-4½ oz.	0°	1A	alt. action	non-lighted	A
	M61-0810	straight	2-4½ oz.	10°	1A	alt. action	non-lighted	A
	M61-0805	straight	6 oz. nom.	0°	1A	alt. action	non-lighted	A
	M61-0806	straight	6 oz. nom.	10°	1A	alt. action	non-lighted	A
Tactile	M51-0229	T	3 oz. nom.	0°	1A	momentary	non-lighted	A
Shift	M61-0025	straight	2½ oz. nom.	0°	1A	momentary	non-lighted	A
Shift	M61-0026	straight	2½ oz. nom.	10°	1A	momentary	non-lighted	A
Shift lock	M61-0027	straight	2½ oz. nom.	0°	1A	momentary	non-lighted	A
Shift lock	M61-0028	straight	2½ oz. nom.	10°	1A	momentary	non-lighted	A
Shift lock kit	B99-51AF	3/16 offset						‡
Shift lock kit	B99-52AF	3/8 offset						‡
Lighted	M41-0103	round	2½ oz. nom.	0°	1A	momentary	full top lighted*†	B*
Lighted	M41-0802	round	2-4½ oz.	0°	1A	alt. action	full top lighted*†	B*
Lighted	M71-0100	dual	2-4 oz.	0°	1A	momentary	top & sides lighted	E
Lighted	M41-0104	straight	2½ oz. nom.	10°	1A	momentary	lens lighted**	B
Lighted	M41-0123	straight	2½ oz. nom.	10°	1A	momentary	lens lighted**	B
Lighted	M41-0822	straight	2-4½ oz.	0°	1A	alt. action	lens lighted**	B
Lighted	M41-0803	straight	2-4½ oz.	10°	1A	alt. action	lens lighted**	B
Lighted	M41-0125	straight	2½ oz. nom.	0°	1A	momentary	lens or top lighted	C
Lighted	M41-0126	straight	2½ oz. nom.	0°	1A	momentary	lens or top lighted	D
Lighted	M41-0127	straight	2½ oz. nom.	10°	1A	momentary	lens or top lighted	C
Lighted	M41-0128	straight	2½ oz. nom.	10°	1A	momentary	lens or top lighted	D

*Discontinued — listed for replacement purposes only.

† See preceding page.

**Light Source not included.

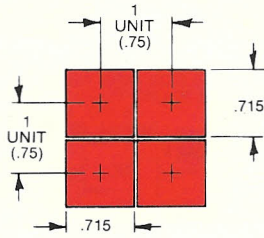
‡ Hardware only. No module included.

these are handled here!

12mm style K.C. not available for this type switch. Go thru KeySource

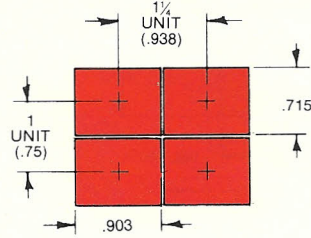
CHERRY

KEYCAP ASSEMBLY DRAWINGS



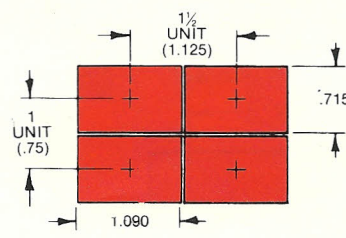
1x1 KEYCAP

AVAILABLE IN 1ST, 2ND, 3RD OR 4TH ROW SCULPTURE. (RELEGANDABLE IN 3RD ROW SCULPTURE ONLY) CAPACITIVE OR GOLD CROSS POINT. STRAIGHT OR 10° STEM MATTE OR GLOSS FINISH.



1 x 1 1/2 KEYCAP

BLANK ONLY NO LEGEND AVAILABLE. AVAILABLE IN 1ST, 2ND, 3RD AND 4TH ROW SCULPTURE. CAPACITIVE OR GOLD CROSS POINT. STRAIGHT OR 10° STEM MATTE OR GLOSS FINISH.



1 x 1 1/2 KEYCAP

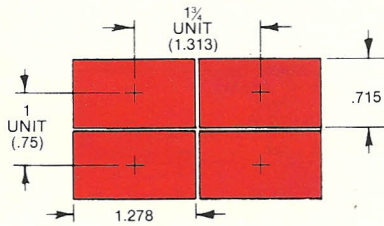
RELEGANDABLE APPLICATION IN 3RD ROW GLOSS, OR MATTE. AVAILABLE IN 1ST, 2ND, 3RD, OR 4TH ROW SCULPTURE, GLASS CAPACITIVE OR GOLD CROSS POINT. STRAIGHT OR 10° STEM MATTE OR GLOSS FINISH.



.357

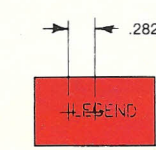
1 x 1 1/2 ALTERNATE DESIGN

AVAILABLE IN 1ST, 2ND, 3RD, OR 4TH ROW SCULPTURE. GOLD CROSS POINT ONLY. STRAIGHT OR 10° STEM MATTE OR GLOSS FINISH. REPLACEMENT ONLY!

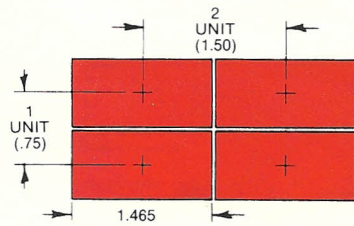


1 x 1 1/2 KEYCAP

AVAILABLE IN 1ST, 2ND, 3RD, OR 4TH ROW SCULPTURE. CAPACITIVE OR GOLD CROSS POINT. STRAIGHT OR 10° STEM MATTE OR GLOSS FINISH.

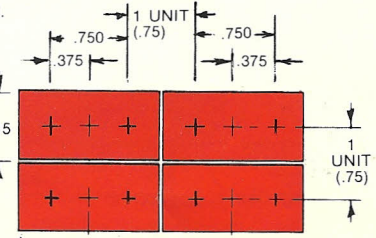


ADDITIONAL SOCKET LOCATIONS

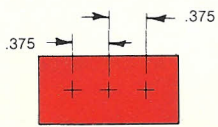


1 x 2 KEYCAP

RELEGANDABLE APPLICATION—3RD ROW GLOSS. AVAILABLE IN 3RD ROW SCULPTURE ONLY. CAPACITIVE OR GOLD CROSS POINT. STRAIGHT OR 10° STEM MATTE OR GLOSS FINISH.



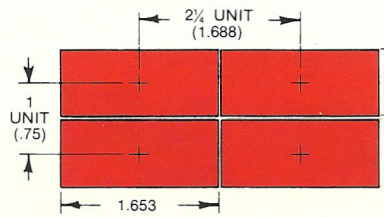
1 x 2 KEYCAP



ADDITIONAL SOCKET LOCATIONS

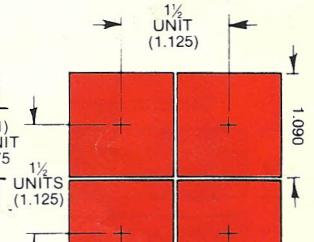
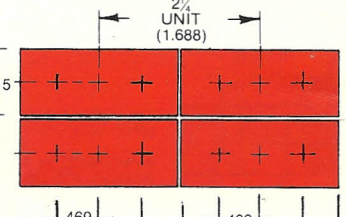
1 x 2 KEYCAP

AVAILABLE IN 3RD ROW SCULPTURE ONLY. GOLD CROSS POINT ONLY. STRAIGHT OR 10° STEM MATTE OR GLOSS FINISH. REPLACEMENT ONLY!



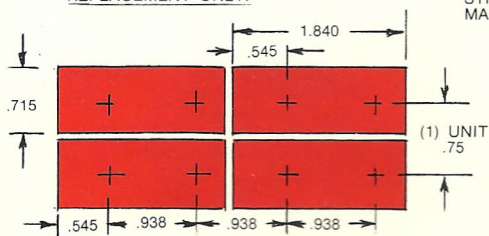
1 x 2 1/2 KEYCAP

AVAILABLE IN 3RD ROW SCULPTURE ONLY. CAPACITIVE OR GOLD CROSS POINT. STRAIGHT OR 10° STEM MATTE FINISH.



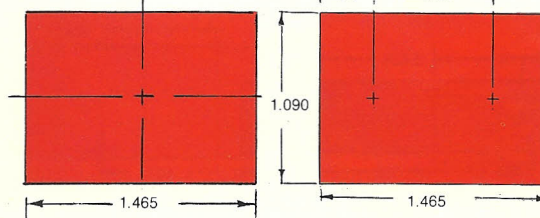
1 1/2 x 1 KEYCAP

BLANK ONLY NO LEGEND AVAILABLE. AVAILABLE IN 3RD ROW SCULPTURE ONLY. GOLD CROSS POINT ONLY. STRAIGHT OR 10° STEM GLOSS FINISH ONLY. (PROTOTYPE QUANTITIES ONLY).



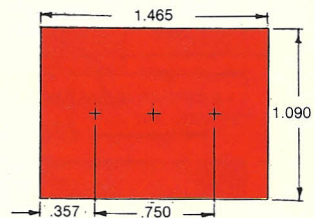
1 x 2 1/2 KEYCAP

AVAILABLE IN 3RD ROW SCULPTURE ONLY. CAPACITIVE OR GOLD CROSS POINT. STRAIGHT OR 10° STEM MATTE OR GLOSS FINISH.



1 1/2 x 2 KEYCAP

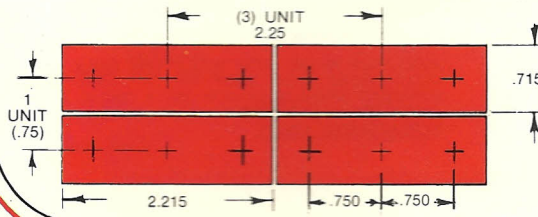
2 SHOT. AVAILABLE IN 3RD ROW SCULPTURE ONLY. CAPACITIVE OR GOLD CROSS POINT. STRAIGHT OR 10° STEM MATTE FINISH ONLY.



1 1/2 x 2

(ENG. REF. 028-9000)

2 SHOT. AVAILABLE IN 3RD ROW SCULPTURE ONLY. GOLD CROSS POINT ONLY. STRAIGHT OR 10° STEM MATTE FINISH ONLY. REPLACEMENT ONLY!

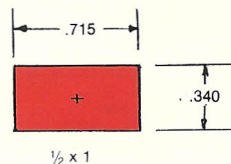
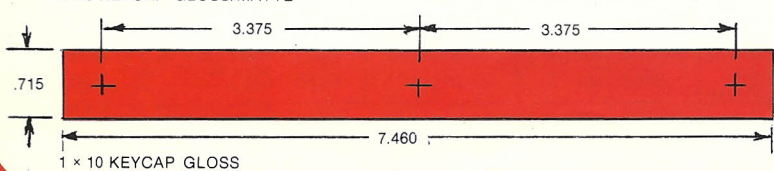
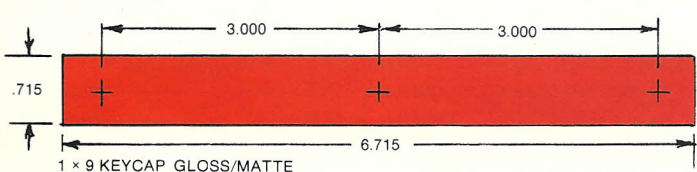
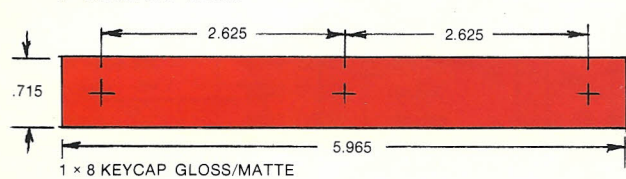
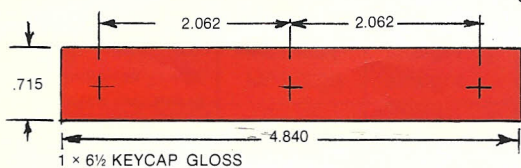
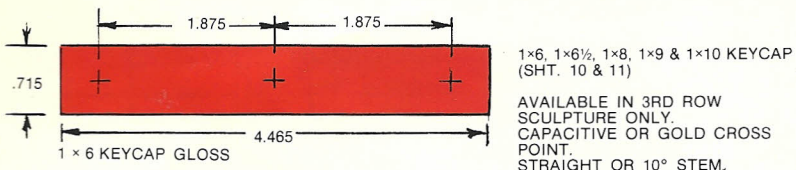
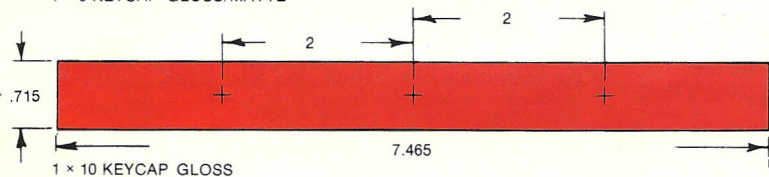
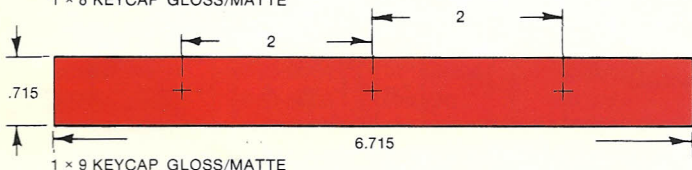
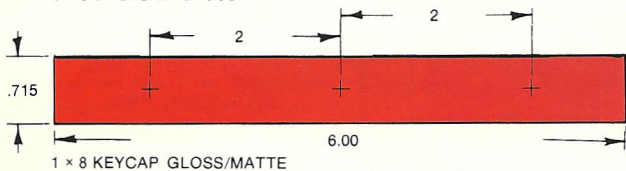
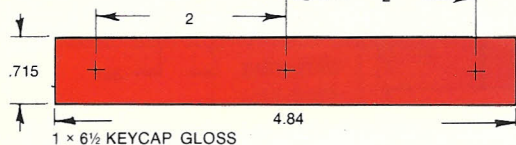
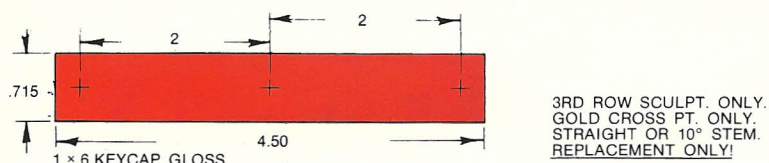


1 x 3 KEYCAP

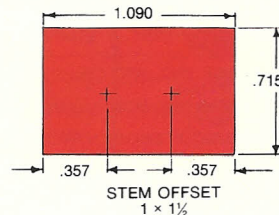
AVAILABLE IN 3RD ROW SCULPTURE ONLY. CAPACITIVE OR GOLD CROSS POINT. STRAIGHT OR 10° STEM MATTE OR GLOSS FINISH.

1 OR 2 SWITCHES ONLY, SPACE BAR MECHANISM

KEYCAP ASSEMBLY DRAWINGS

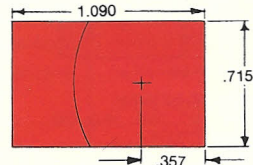


AVAILABLE IN 3RD ROW SCULPTURE ONLY.
GOLD CROSS POINT ONLY.
STRAIGHT OR 10° STEM.
MATTE FINISH ONLY.



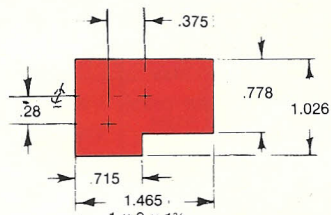
(ENG. REF. 028-851)

AVAILABLE IN 1ST ROW SCULPTURE ONLY.
GOLD CROSS POINT ONLY.
STRAIGHT OR 10° STEM.
MATTE FINISH ONLY.
REPLACEMENT ONLY!



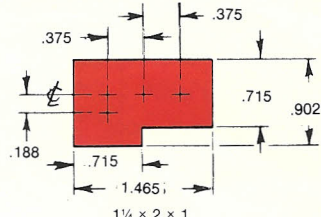
ALSO 1 x 2 KEY (1.465)
STEM SAME POSITION
(ENG. REF. 028-1251)

AVAILABLE IN 3RD ROW SCULPTURE ONLY.
GOLD CROSS POINT ONLY.
MATTE OR GLOSS FINISH.
STRAIGHT OR 10° STEM.



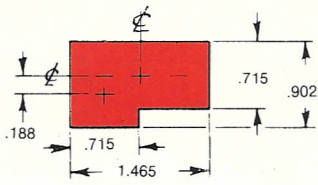
(ENG. REF. 028-2860)

AVAILABLE IN 3RD ROW SCULPTURE ONLY.
CAPACITIVE OR GOLD CROSS POINT.
GLOSS FINISH ONLY.
STRAIGHT OR 10° STEM.

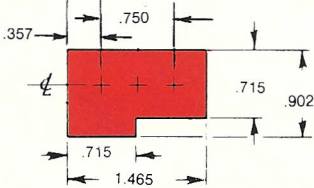


AVAILABLE IN 3RD ROW SCULPTURE ONLY.
GOLD CROSS POINT ONLY.
STRAIGHT STEM ONLY.
MATTE OR GLOSS FINISH.
REPLACEMENT ONLY!

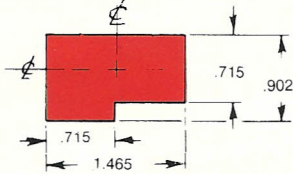
KEYCAP ASSEMBLY DRAWINGS



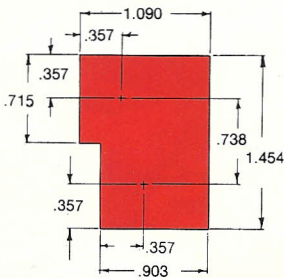
1/4 x 2 x 1 "L" SHAPED KEYCAP
AVAILABLE IN 3RD ROW SCULPTURE ONLY.
CAPACITIVE OR GOLD CROSS POINT.
STRAIGHT STEM ONLY.
MATTE OR GLOSS FINISH.



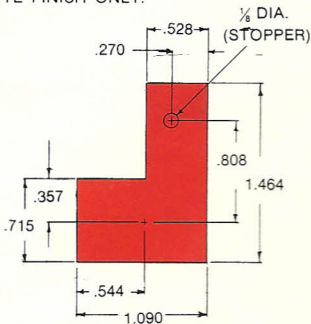
1/4 x 2 x 1 "L" SHAPED KEYCAP
AVAILABLE IN 3RD ROW SCULPTURE ONLY.
CAPACITIVE OR GOLD CROSS POINT.
STRAIGHT STEM ONLY.
MATTE OR GLOSS FINISH.



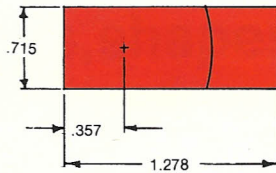
1/4 x 2 x 1 "L" SHAPED KEYCAP
AVAILABLE IN 2ND & 3RD ROW SCULPTURE.
CAPACITIVE OR GOLD CROSS POINT.
STRAIGHT STEM ONLY.
MATTE OR GLOSS FINISH.



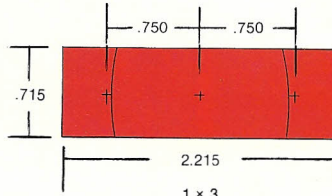
"L" SHAPED SCULPTURED 2ND & 3RD ROW
1/4 x 2 x 1/2
(ENG. REF. 023-5452)
AVAILABLE IN 2ND & 3RD ROW SCULPTURE ONLY.
CAPACITIVE OR GOLD CROSS POINT.
10° STEM ONLY.
MATTE FINISH ONLY.



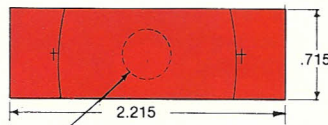
"L" SHAPED SCULPTURED 2ND & 3RD ROW
1/2 x 2 x 3/4
(ENG. REF. 023-5001)
AVAILABLE IN 2ND & 3RD ROW SCULPTURE ONLY.
CAPACITIVE OR GOLD CROSS POINT.
10° STEM.
MATTE FINISH ONLY.



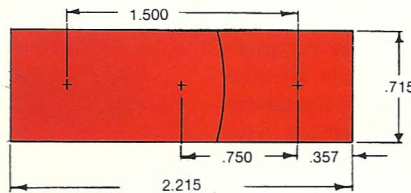
1 x 1 1/2 SCULPTURED END STEPPED
(ROW 3)
AVAILABLE IN 3RD ROW SCULPTURE ONLY.
CAPACITIVE OR GOLD CROSS POINT.
STRAIGHT OR 10° STEM.
MATTE OR GLOSS FINISH.



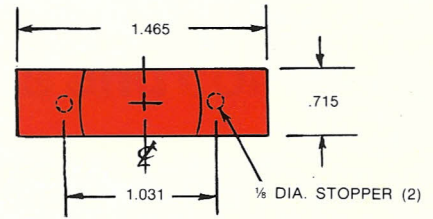
1 x 3 RELENDABLE
STYLE I
AVAILABLE IN 3RD ROW SCULPTURE ONLY.
CAPACITIVE OR GOLD CROSS POINT.
STRAIGHT OR 10° STEM.
GLOSS FINISH ONLY.



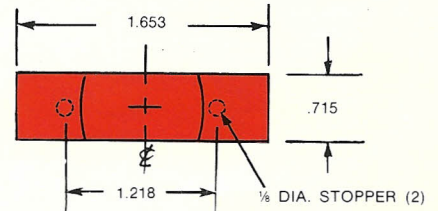
NO STEM
DETAIL IN
POSITIONS
SHOWN
.400 DIA. MIN.
.200 DEEP MIN.
STYLE II
1 x 3 CENTER
STEPPED
3RD ROW SCULPTURE ONLY.
GOLD CROSS POINT ONLY.
STRAIGHT OR 10° STEM.
GLOSS FINISH ONLY.
REPLACEMENT ONLY!



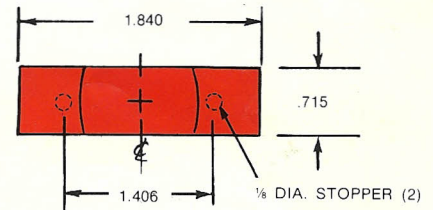
1 x 3 END STEPPED
3RD ROW SCULPTURE ONLY.
CAPACITIVE OR GOLD CROSS POINT.
MATTE FINISH ONLY.
STRAIGHT OR 10° STEM.



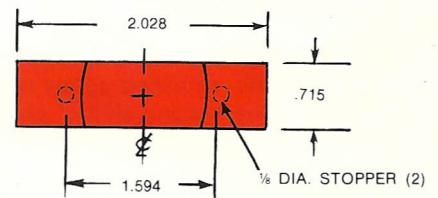
1 x 2 CENTER
STEPPED
AVAILABLE IN 2ND OR 4TH ROW SCULPTURE.
CAPACITIVE OR GOLD CROSS POINT.
STRAIGHT OR 10° STEM.
MATTE OR GLOSS FINISH.



1 x 2 1/2 CENTER
STEPPED
AVAILABLE IN 2ND OR 4TH ROW SCULPTURE.
CAPACITIVE OR GOLD CROSS POINT.
STRAIGHT OR 10° STEM.
MATTE OR GLOSS FINISH.



1 x 2 1/2 CENTER
STEPPED
AVAILABLE IN 3RD ROW SCULPTURE ONLY.
CAPACITIVE OR GOLD CROSS POINT.
STRAIGHT OR 10° STEM.
MATTE & GLOSS FINISH.



1 x 2 3/4 CENTER STEPPED
AVAILABLE IN 3RD ROW SCULPTURE ONLY.
CAPACITIVE OR GOLD CROSS POINT.
STRAIGHT OR 10° STEM.
MATTE & GLOSS FINISH.

CHERRY.

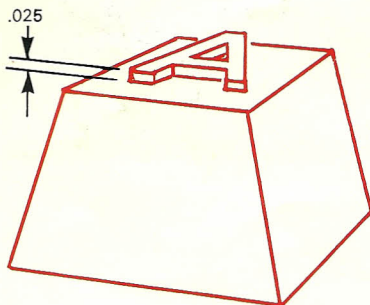
Cherry has two-shot and three-shot molded keycaps in a variety of sizes, shapes, colors and legends to fill any need you can name. If your application calls for a "special", we have in-house design plus fabrication facilities to fill your most demanding needs.

There are scores of standard — plus custom — characters, sizes and shapes in the Cherry "library" of keycaps. Available in a broad selection of colors for both buttons and legends.

ABOUT TWO AND THREE COLOR MOLDING

The best way to make keycaps in two or three colors is to automatically mold them. This technique is called two-shot or three-shot molding, which provides a permanent smooth legend. At Cherry, several different keycaps are molded simultaneously in a multi-cavity mold and the machine attendant devotes full time to inspecting and sorting the output. The process is 100% automatic through the ejection step.

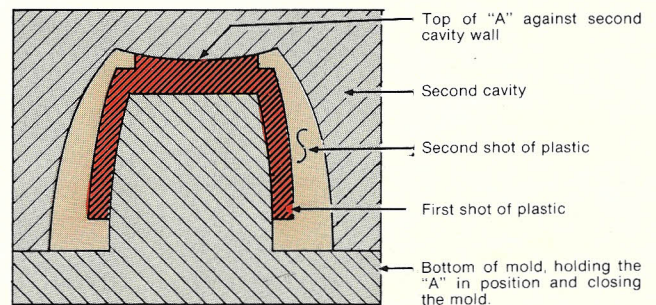
A two color keycap consists of two molded parts . . . the inner part — the character itself — and the outer part — which envelopes all but the very top surface of the character.



This is a simplified view of an inner or first shot. The "A" is raised about .025" from the surface around it. The pyramid-like portion is completely hollow, with walls about .020" thick.

After molding the "A", the two-shot machine automatically inserts it into a second cavity. The upper surface of the letter is pushed tightly against the top of the cavity to keep the second shot of plastic from covering it. The second shot enters the cavity, enveloping all of the part except the top of the "A".

SIMPLIFIED VIEW OF SECOND SHOT BEING MOLDED



HOW CHERRY TOOLS A NEW LEGEND

New legends for two-shot keycaps require new legend artwork and insert tooling which is quickly accomplished in the following steps:

1. An artist prepares an art master at four-to-one scale.
2. A technician photographically converts the art to a template, still at four-to-one scale.
3. A machinist, using a 3-dimensional pantagraph mill, transfers the legend from the template to a small steel block, reducing the legend in the process by a factor of four. The small steel block is called an insert.
4. The insert is hardened and ground.
5. The insert is mounted in a universal first shot mold which is designed to accept replaceable legends.

... MOLDED KEYCAPS

...in a "library" of sizes, shapes, legends and colors



Your Cherry representative or the Cherry Keyboard Sales Group can quickly determine if we have tooling available for a particular legend. In many cases, an appropriate legend can be found among the 5,000 we have tooled in the Cherry "library". If it is necessary to tool a new one, your Cherry representative can quickly supply you with a cost quotation.

CHERRY KEYBOARDS are already

Applied Digital Data Systems Inc.'s Regent 200 CRT Terminal. R. C. Allen 900 Series Cash Register.



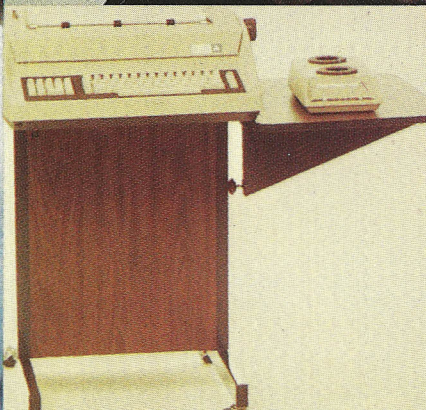
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Anderson Jacobson AJ 832 Keyboard Printer Terminal.



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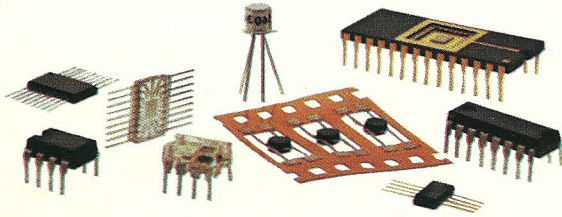
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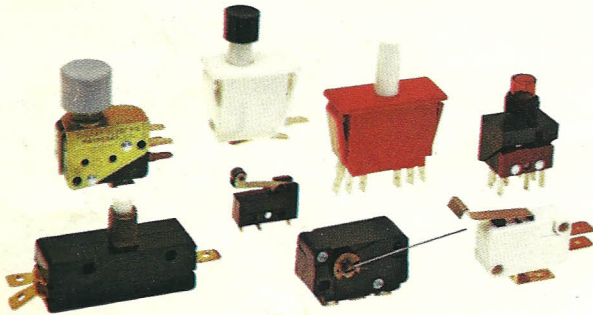
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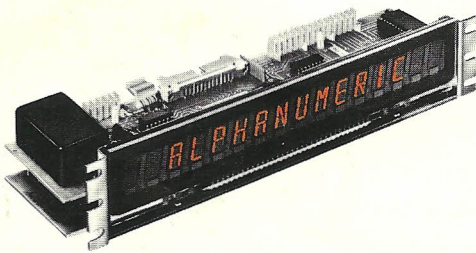
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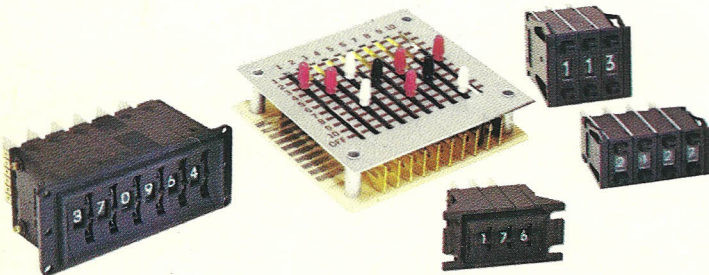
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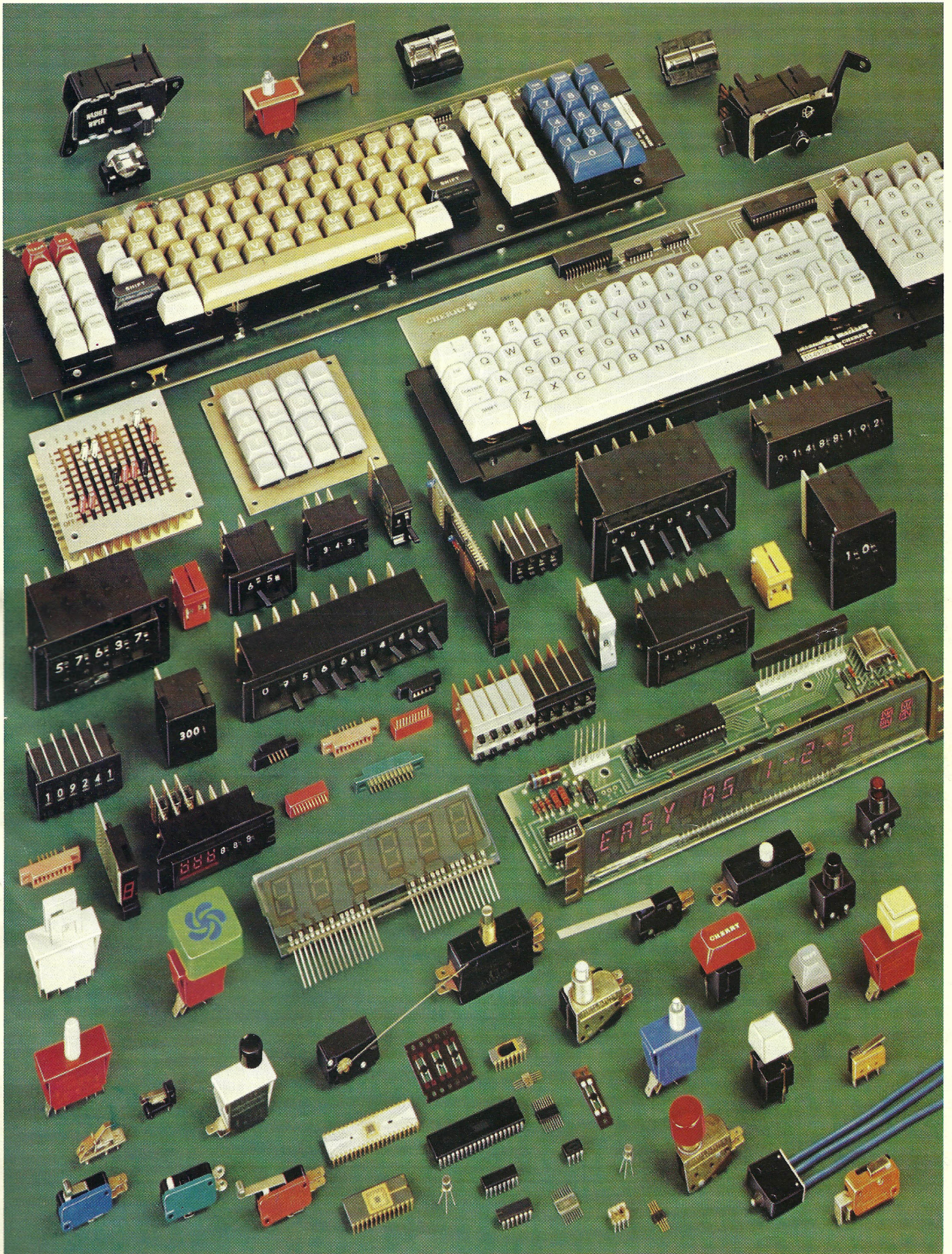
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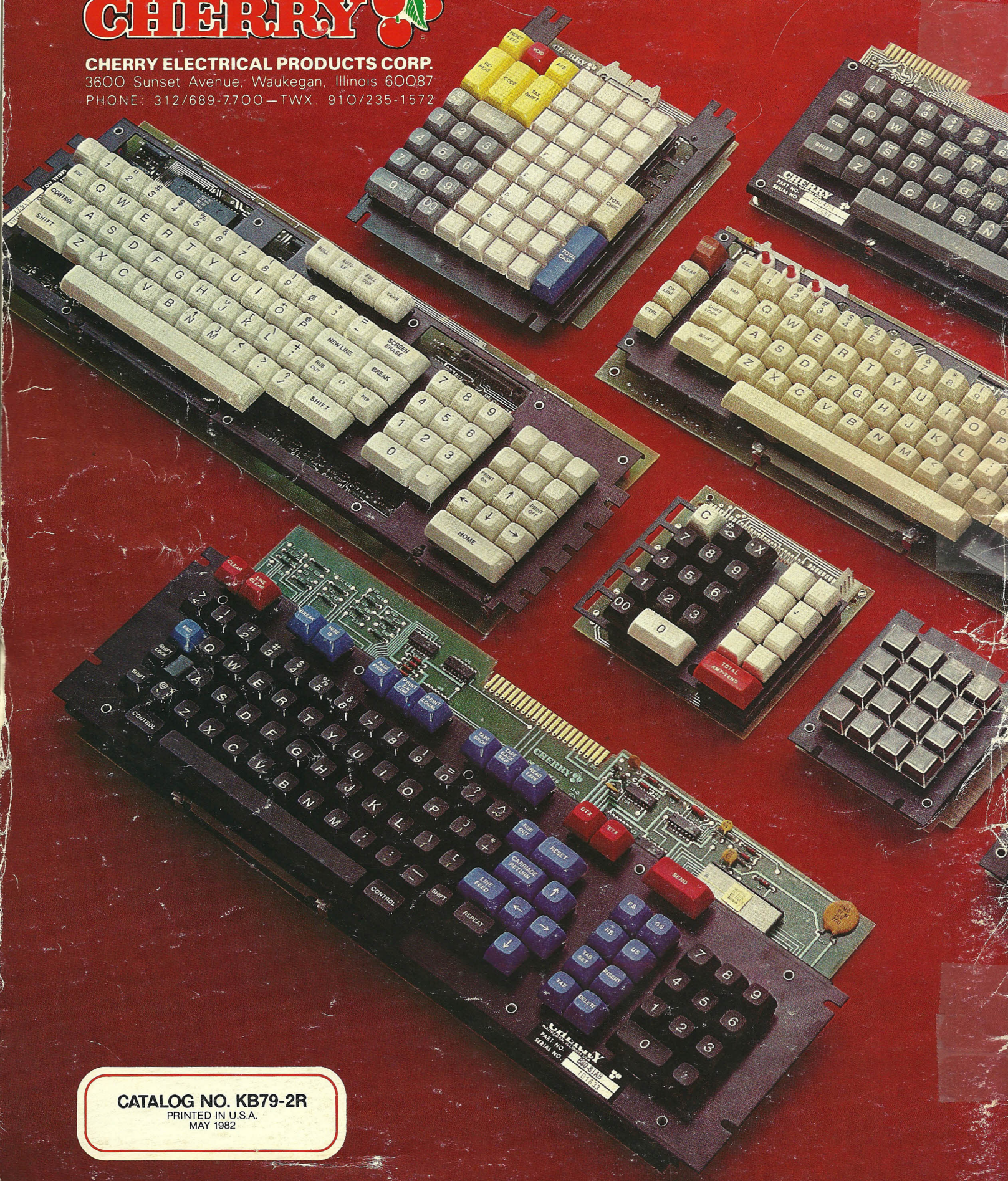
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