



GEORGE RISK INDUSTRIES, INC.

*A Worldwide
Manufacturer
of Quality Keyboards*



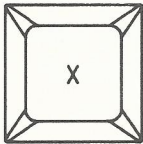
ENGRAVING

- Custom engraved to customer requirements
- Foreign character sets and graphic symbols supported
- Various color filling available

STANDARD SIZES FOR SINGLE CHARACTER

SMALL

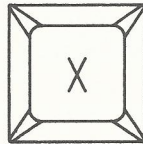
CHARACTER HEIGHT .090



LINE WIDTH .010

STANDARD

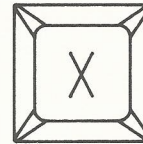
CHARACTER HEIGHT .175



LINE WIDTH .020

LARGE

CHARACTER HEIGHT .235

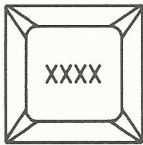


LINE WIDTH .025

STANDARD SIZES FOR MULTIPLE CHARACTERS

SMALL

CHARACTER HEIGHT .090

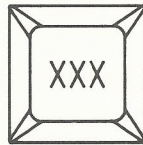


LINE WIDTH .010

MAX. 6 LETTERS ON 3 LINES

STANDARD

CHARACTER HEIGHT .135

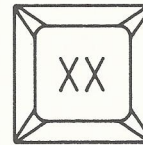


LINE WIDTH .020

MAX. 5 LETTERS ON 2 LINES

LARGE

CHARACTER HEIGHT .175



LINE WIDTH .025

MAX. 2 LETTERS ON 2 LINES

DOUBLE-SHOT AND SUBLIMATION PRINTING

- Double-Shot process most economical in quantities 50 to 500. Sublimation Printing most economical for quantities in excess of 500
- Various colors available for key legends
- Sublimation Printing process requires keycaps to be built with polyester material and key legend color to be darker than the keycap color
- Double-Shot character sizes available: 0.100, 0.125, 0.150, 0.187, 0.235 inches. Custom legends require tooling

Bulletin KB-38

ALL DIMENSIONS ARE IN INCHES



GEORGE RISK INDUSTRIES, INC.

GRI PLAZA • KIMBALL, NEBRASKA 69145-1599
TEL: 800-445-5218 FAX: 308-235-2609
800-523-1227
308-235-4645

KEYCAP ADAPTERS

ADAPTER	TO USE KEYCAP	WITH SWITCH
KBM-K KBM-KT	J, JT, GM, B, K	KBM, KBR KBM-LP
KBM-L KBM-LT	II, IJ, JJ, R, IJT, JJT F, HM, L, N, NNT, NNN	KBM, KBR KBM-LP
KBMD-K	J, JT, GM, B, K	KBM-DIN
KBMD-L	II, IJ, JJ, R, IJT, JJT F, HM, L, N, NNT, NNN	KBM-DIN
KB-CR	SCULPTURED	KB
KBLP-DS	SCULPTURED	KBLP

Bulletin KB-38

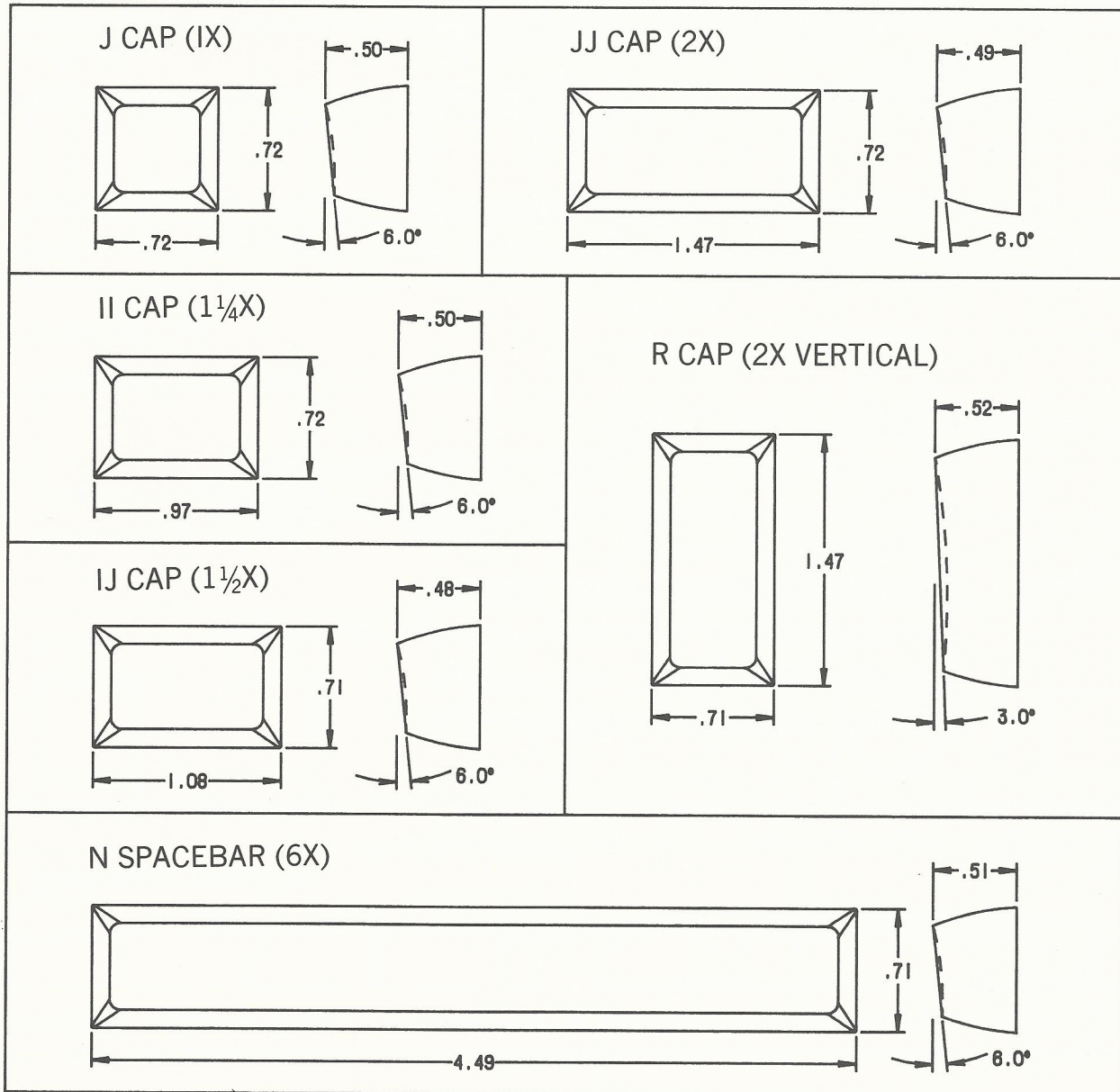


GEORGE RISK INDUSTRIES, INC.

GRI PLAZA • KIMBALL, NEBRASKA 69145-1599
TEL: 800-445-5218 FAX: 308-235-2609
800-523-1227
308-235-4645

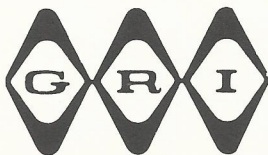
J FAMILY AND JT FAMILY

- Used with KB switches
- Also used with KBM, KBR, KBM-LP and KBM-DIN with optional adaptors
- Available in Lexan for illuminated switches and in ABS for non-illuminated switches



Bulletin KB-37

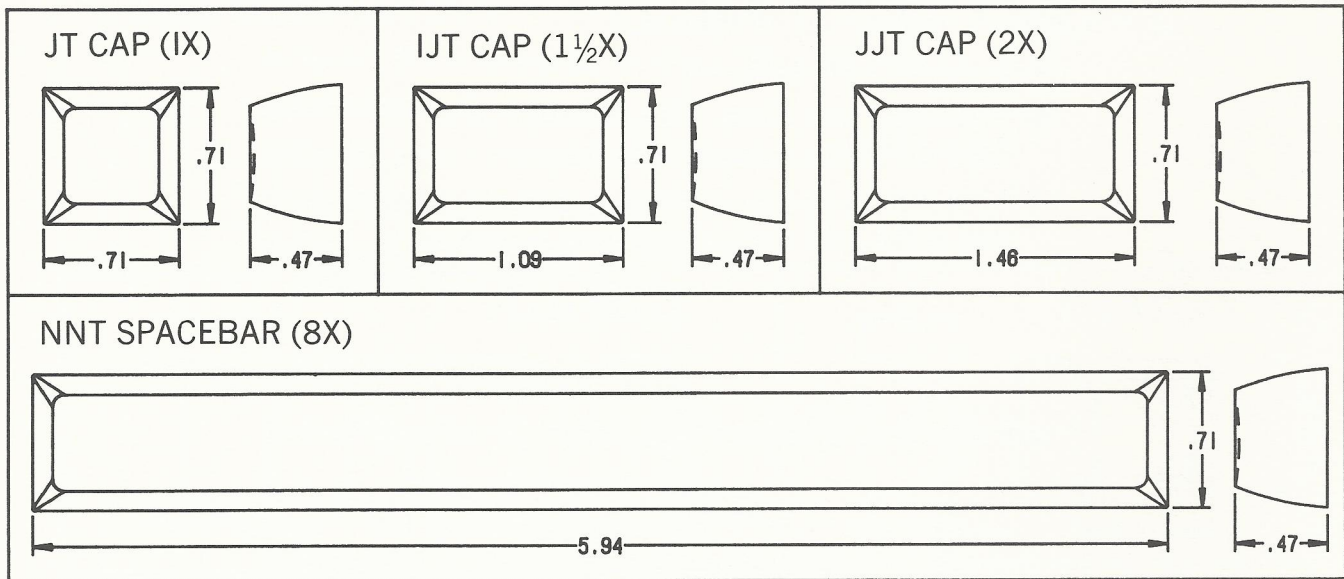
ALL DIMENSIONS ARE IN INCHES



GEORGE RISK INDUSTRIES, INC.

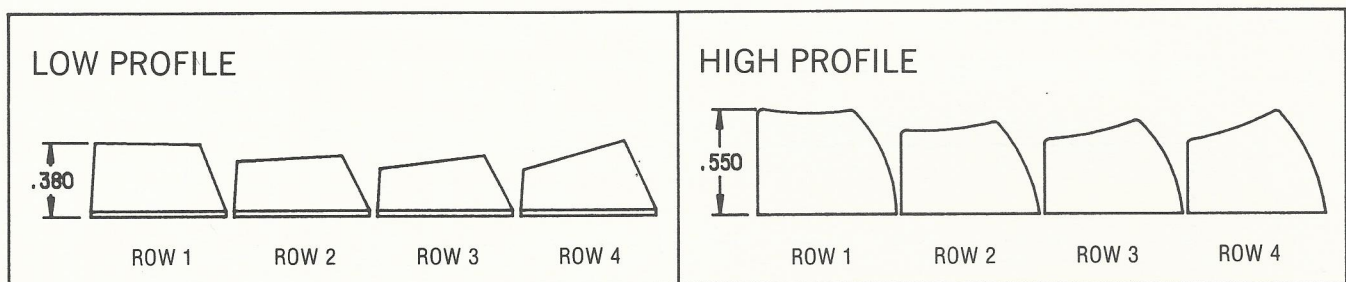
GRI PLAZA • KIMBALL, NEBRASKA 69145-1599
TEL: 800-445-5218 FAX: 308-235-2609
800-523-1227
308-235-4645

KEYCAPS



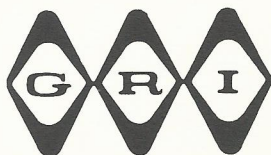
SCULPTURED KEYCAPS

- Used with KBM, KBR, KBM-LP and KBM-DIN switches
- Can be used with KB and KBLP switches with optional plungers
- Available in ABS or polyester material
- Available in many sizes, colors, and with LED windows
- Special shape "Return" keys available
- 8X AND 9X spacebars available in Row 4



Bulletin KB-37

ALL DIMENSIONS ARE IN INCHES



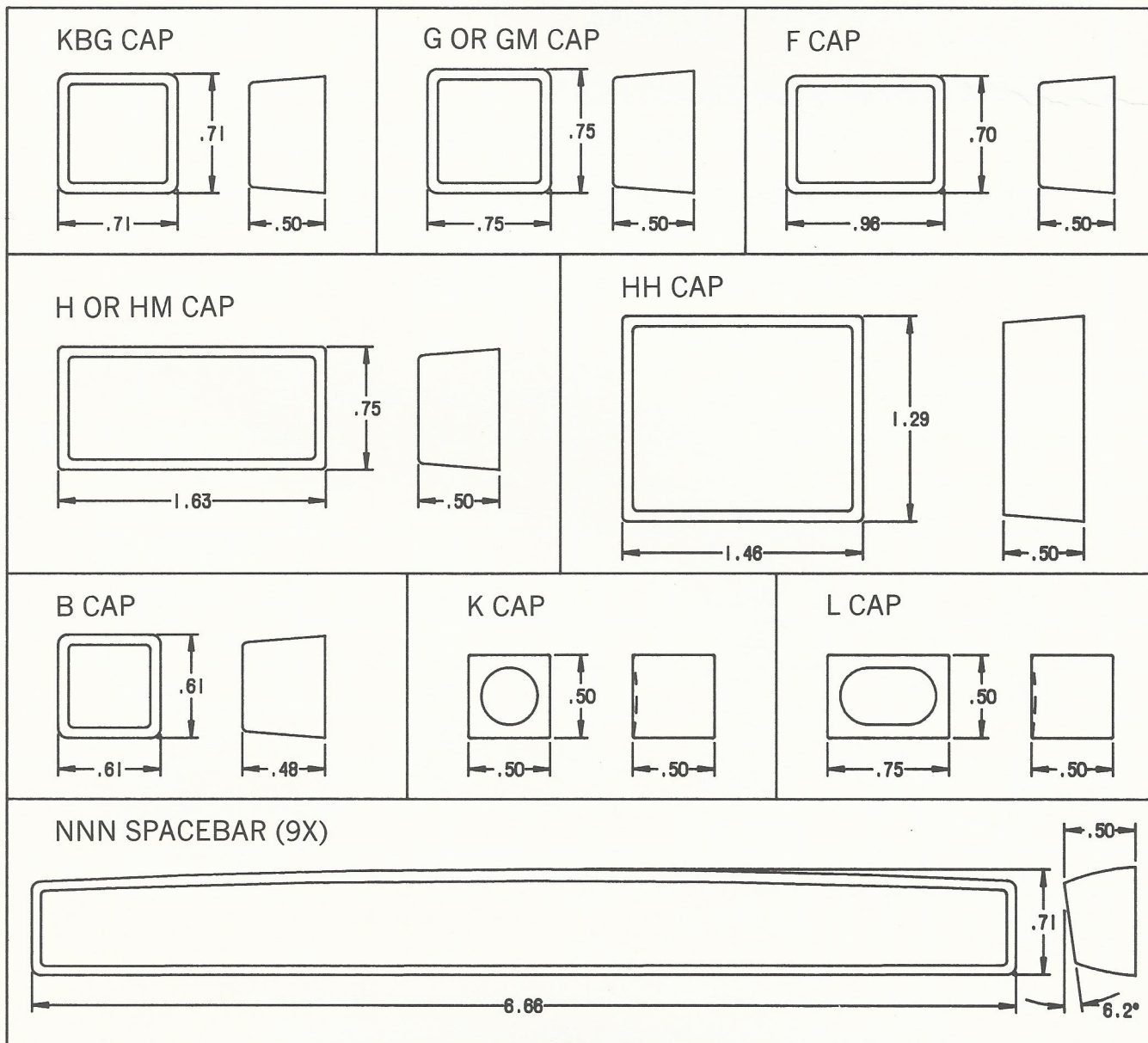
GEORGE RISK INDUSTRIES, INC.

GRI PLAZA • KIMBALL, NEBRASKA 69145-1599
 TEL: 800-445-5218 FAX: 308-235-2609
 800-523-1227
 308-235-4645

KEYCAPS

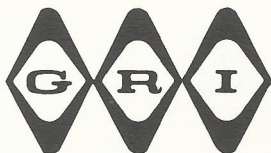
ASSORTED

- Used with KB switches
- Also used with KBM, KBR, KBM-LP and KBM-DIN with optional adaptors
- Available in Lexan for illuminated switches and in ABS for non-illuminated switches



Bulletin KB-37

ALL DIMENSIONS ARE IN INCHES



GEORGE RISK INDUSTRIES, INC.

GRI PLAZA • KIMBALL, NEBRASKA 69145-1599
 TEL: 800-445-5218 FAX: 308-235-2609
 800-523-1227
 308-235-4645

KEYCAPS

RELEGENDABLE

- Same dimensions as model KBG keycap
- Used with KB switch
- Clear Lexan material
- Includes light diffuser
- Max. film chip (legend area) size
0.54 X 0.54 X 0.01 inches

SPACEBAR ASSEMBLIES

- Available for KB, KBM, KBR and KBM-DIN switches

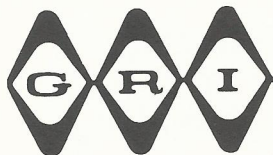
STANDARD KEYCAP COLORS

- Available in ABS material for non-illuminated and Lexan material for illuminated switches

GRI COLOR NUMBER	COLOR	GRI COLOR NUMBER	COLOR
09	WHITE	13CL	DARK BLUE
09A	STELMA GRAY	14	DARK GRAY
09BL	WHITE	14A	MEDIUM GRAY
10	BLACK	14B	LIGHT GRAY
11	RED	15	EXECUTIVE GOLD
11BL	RED	16	BROWN
12	GREEN	16A	TURF BROWN
12BL	GREEN	16B	BEIGE
13	DARK BLUE	17	YELLOW/GOLD
13A	LIGHT BLUE	17AL	CANARY YELLOW
13BL	LIGHT BLUE		

Note: Color numbers with "L" indicate keycaps are made out of Lexan material to be used with illuminated switches.

Bulletin KB-37



GEORGE RISK INDUSTRIES, INC.

GRI PLAZA • KIMBALL, NEBRASKA 69145-1599
TEL: 800-445-5218 FAX: 308-235-2609
800-523-1227
308-235-4645

GEORGE RISK INDUSTRIES

Instructions on filling out the Keyboard Information Sheet.

The keyboard information sheet should be filled out every time a quote is needed for a custom keyboard. If properly filled out this sheet helps the Engineer preparing the quote, resulting in a faster turn around time. This document attempts to describe and also provide the instructions on filling out the Keyboard Information Sheet. If there are any questions or comments please address them to G.R.I. Engineering.

The first section "CUSTOMER INFORMATION" is self explanatory. We need the customer's company name, address, name and telephone number of the purchaser, name and telephone number of a technical or engineering contact (to call if we have any questions) and a brief description of the application. The description of the application will help us understand the customer's needs and we may be able to come up with a better solution or ways of cutting costs.

The next section "GENERAL INFORMATION" requests the quantities per release. This is the number of units per shipment. If there are any blanket order requirements they should be included here. The first question is "First Article Required". This means that does the customer want a prototype unit to be shipped and approved by them before production starts. Answer Yes or No. The next question "Source Inspection Required" means that is the customer going to send their own or a government inspector to check every unit shipped? Again answer Yes or No. The next question is on the maximum size of the keyboard. If the customer needs an enclosure write down the dimensions including the enclosure otherwise write down the dimensions of the keyboard assembly. When writing down the height, make sure the dimension is from the top of the keycaps to the bottom of the enclosure or the PWB (Printed Wire Board). Keep in mind that on a sloped enclosure the height in the front and at the back will be different. The next question "Total Number of Keys" is self explanatory. The next question "Keys That Modify Keycodes" refers to keys like "Shift" and "Control". Check the boxes that apply. The next question is regarding Trackball. If one is required then fill in the size and whether or not the trackball interface is separate from the keyboard interface.

The next question is on the type of switch. Select which switch is desired. Refer to the catalogs for details. The next question on "LAMP/LED CONTROL" has basically two options. Select the one that applies.

The next section "KEYCAP INFORMATION" asks for the different color keycaps needed, the color of the legends and the legend sizes. Please note standard legend sizes are as follows:

	Small	Medium	Large
Engraved	0.090 inch	0.175 inch	0.235 inch
Double Shot	0.100 inch	0.187 inch	0.230 inch

This section also asks for the type of key legends, profile of the keycaps and if any keys have LED windows. (NOTE: Keycaps with LED windows are always engraved. The LED window is considered as the second shot). Please note that some combinations in this section like Relegendable and Sculptured are not possible.

The second page starts with information on "KEYCODES". The "Make Only" option means that the keyboard will send a code once for every key press. The "Make and Autorepeat" option sends a code when a key is pressed and if the key is held down for a certain amount of time it will start sending the same code repeatedly. The "Make and Break" option (used on IBM XT/AT/EAT keyboards) sends a code when a key is pressed and another code when it is released. The last option "Multiple Bytes" is when each keycode is two bytes or longer.

The first option on "MOUNTING" is "Mounting Frame with Fingers". This is used on our Model 8095 keyboard and is the most preferred mounting method. The next option "PWB" is used on our Model 9062 keyboard. The next option "PWB/Mounting Blocks" is available for keypads using KB switch only and is used on our Model 9016 illuminated keypad. The last option "Top Plate (Bezel)" is when a mounting plate is used to install the keyboard in a desktop or panel.

The "ENCLOSURE" option should be used to select the type of enclosure required. Please note that G.R.I. has two basic structural foam enclosures available. They are the ones used with our Model 9062/56 keyboards and Model 8095 keyboards. Custom foam enclosure tooling costs are very high. If a customer requires a custom enclosure attach a drawing or sketch to help us understand the requirements.

The next section is on the "INTERFACE". The first option is whether the interface is "unidirectional" or "bidirectional". Unidirectional means that the keyboard does not receive any data or commands from the host and bidirectional means that it does. If bidirectional interface is selected attach a sheet that includes all the commands the host sends and the action to be taken for each command. For IBM AT/AT/EAT interface leave these options blank. The "N-Key Rollover/Two Key Lockout" are options that determine what happens when a second key is pressed before the first one is released. If N-Key Rollover is selected the second key is recognized. If Two Key Lockout is selected the second key will be ignored until the first one is let up. Select the desired option. The next option "Jumper Options Needed" asks whether or not any configuration changes can be made to the keyboard. Examples of Jumper options is Baud Rate selection. If jumper options are required check this box. The next line covers the IBM XT/AT and Enhanced AT Interface. If only one of these interfaces is required check the box next to it. If more than one of the interfaces are desired check all of them and the "Jumper Options Needed" box as well. The next two lines cover all the other interfaces available and the Number Data Bits, Parity and Strobe (parallel interface only) options. For Serial Interfaces also select the Baud Rates and Number of Stop Bits

The next section "ELECTRONICS" allows the selection of Commercial, CERDIP (ceramic IC's are usually Extended Temperature), or MIL-883/JAN components. The "CONNECTOR" option allows the selection of the type of connector desired and whether it mounts on the PWB, enclosure or on a cable. If it is on the end of a cable then enter the length of the cable desired.

The next section "POWER PROVIDED" should be complete to reflect the power (voltage and current) that the host system can provide to the keyboard. The "MISC." section allows the selection of an overlay seal, conformal coating or any other requirements not covered earlier. The last (but not least important) section requires the applicable MIL SPECS that must be met by the keyboard. This section is very important as it has a great impact on the price quoted. Once this section is filled out the Keyboard Information sheet is complete.

GEORGE RISK INDUSTRIES

Keyboard Information Sheet (Page 1 of 2)

CUSTOMER INFORMATION:

Company: _____

Address: _____

Purchasing Contact: _____ Ph. No.: _____

Technical Contact: _____ Ph. No.: _____

Application: _____

GENERAL INFORMATION:

Quantities per release: _____

First Article required: _____ Source inspection required: _____

Max. Size: _____ L X _____ W X _____ H Total Number of keys: _____

Keys that modify keycodes: Shift Caps Lock Shift Lock Control
 Alt None _____Trackball Size: _____ Separate Interface: Yes No**SWITCH TYPE:**

- KB With _____ V Incandescent Lamp
- KB Without Lamp
- KBM KBM Reed KBMLP
- KBM-DIN _____

LAMP/LED CONTROL:

- Keyboard Controlled
- Host Controlled
(include list of commands)
- _____

KEYCAP INFORMATION:

Keycap Colors: _____

Keylegend Colors: _____

Keylegend Sizes: _____

Keys with LED windows: _____

KEYLEGENDS:

- Engraved
- Double Shot
- Relegendable
- Sublimated

PROFILE:

- Flat
- Sculptured
- _____

GEORGE RISK INDUSTRIES

Keyboard Information Sheet (Page 2 of 2)

<p>KEYCODES:</p> <ul style="list-style-type: none"> ◦ Make Only ◦ Make & Autorepeat ◦ Make & Break ◦ Multiple Bytes ◦ _____ 	<p>MOUNTING:</p> <ul style="list-style-type: none"> ◦ MF W/Fingers ◦ PWB ◦ PWB (Mntng. blks.) ◦ Top plate (Bezel) ◦ _____ 	<p>ENCLOSURE:</p> <ul style="list-style-type: none"> ◦ None ◦ Metal ◦ Struc. foam ◦ Custom (attach dwng.) ◦ _____
---	---	---

INTERFACE:

- Unidirectional
- Bidirectional (include list of commands)
- N-Key Rollover
- Two Key Lockout
- Jumper Options needed
- IBM XT ◦ IBM AT
- IBM Enhanced AT
- 20 Mil- Current Loop
- X/Y ◦ 1 of _____
- TTL Parallel w/ _____ Strobe
- RS232C ◦ RS422
- TTL Serial

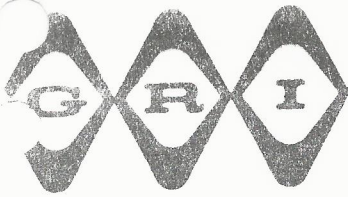
Baudrate/s (serial only): _____

Data Bits: _____ Stop Bits (serial only): _____ Parity: _____

◦ _____

<p>ELECTRONICS:</p> <ul style="list-style-type: none"> ◦ Commercial ◦ CERDIP (Xtended temp) ◦ Mil-883/JAN ◦ _____ 	<p>CONNECTOR:</p> <ul style="list-style-type: none"> ◦ Cardedge ___ pins ◦ D Shell ___ pins ◦ PWB/ Enclosure Mount ◦ Cable _____ long 	<p>POWER:</p> <ul style="list-style-type: none"> ◦ _____ VDC ◦ _____ mA ◦ None ◦ _____ 	<p>MISC:</p> <ul style="list-style-type: none"> ◦ Overlay Seal ◦ Underlay Seal ◦ ConformalCoating ◦ _____
--	--	---	--

APPLICABLE MIL SPECS AND OTHER CONSIDERATIONS: (attach copies where applicable)



GEORGE RISK INDUSTRIES, INC.

GRI PLAZA • KIMBALL, NEBRASKA 69145-1599
TELEPHONE (308) 235-4645
TWX 910-620-9040 FAX 308-235-2609

CREDIT APPLICATION

DATE _____ CREDIT LIMIT DESIRED \$ _____

PLEASE LIST YOUR TAX EXEMPT NUMBER _____

INDIVIDUAL OR
COMPANY NAME _____

ADDRESS _____

CITY STATE, ZIP _____

APPLICATION FOR CREDIT IS HEREBY MADE AND THE FOLLOWING REFERENCES GIVEN. IT IS UNDERSTOOD THIS INFORMATION WILL BE HELD IN STRICTEST CONFIDENCE AND USED ONLY BY YOUR CREDIT DEPARTMENT.

----- Supply Account Numbers if Applicable -----

LIST ONE PRINCIPAL OWNER OR OFFICER

NAME _____ PHONE NO. (____) _____

HOME ADDRESS _____

BUSINESS REFERENCES WHERE CREDIT NOW EXTENDED

NAME _____

NAME _____

ADDRESS _____

ADDRESS _____

CITY, STATE _____

CITY, STATE _____

PHONE NO. (____) _____

PHONE NO. (____) _____

ACC'T. NO. _____

ACC'T NO. _____

NAME _____

ADDRESS _____

CITY, STATE _____

PHONE NO. (____) _____

ACC'T NO. _____

FINANCE CHARGE ON PAST DUE is computed by a "Periodic Rate" of 1% per month which is an ANNUAL RATE of 12%, applied to the previous balance after deducting current payments and/or credits.

BANK _____

ADDRESS _____

CITY, STATE _____

PHONE NO. (____) _____

ACCOUNT NO. _____

WE UNDERSTAND YOUR TERMS AND AGREE TO ABIDE BY THEM. IN MAKING THIS APPLICATION FOR CREDIT, I ALSO UNDERSTAND THAT AN INVESTIGATIVE CONSUMER REPORT MAY BE MADE. WE HEREBY AUTHORIZE THE RELEASE OF ANY INFORMATION FROM THE ABOVE BUSINESS REFERENCES AND OUR BANK.

SIGNED _____ TITLE _____ DATE _____

FOR CREDIT DEPARTMENT USE ONLY

[] CREDIT O.K.'D MAXIMUM AMOUNT _____

[] CREDIT REFUSED REASON _____

SIGNED _____