

Table 1. Chinese Text.
TEXT ON THE CASE OF THE GONG SI HE YING (JOINT STATE PRIVATE OWNERSHIP)
SHANGHAI DING FENG INSTRUMENT FACTORY 5471
(FROM LIU QINGLIN)



In 1954 many slide rule factories started using plastic bodies. However, Xue Shi 1572-K3, an exact copy of the K&E 4083-3 scale set 4 (1954/72), including the wood inlaid wood top and bottom edges, was obviously made in 1954 at the earliest, and may be among the last of the laminated wood body construction.

In 1958 a number of small slide rule factories merged into the Sida slide rule factory. These were Xuesh, Qiufan, Henong, Xinhe, Dingfeng, and other unknown names. Sida manufactured slide rules with the Sida name and Ruyi icon. The Sida name and its Ruyi icon, an S-shaped ornamental object symbolizing good luck, is shown in Figure 2.



Figure 2. Shanghai Sida slide rule factory Ruyi icon and Sida text.

However, in 1966 the Sida name and Ruyi icon was dropped when Sida became the Shanghai Slide Rule Factory. For a while slide rules with no icon, only the Shanghai Slide Rule Factory name, were produced. The Flying Fish icon, Figure 3, was introduced in around 1968 and was used on all Shanghai Slide Rule Factory slide rules and slide rule cases until the end of their slide rule era in the 1980s.



Figure 3. Flying Fish 1003 icon and Shanghai slide rule factory text.

K&E was not the only Vector manufacturer that influenced Chinese designs. The Beijing Slide Rule Factory Haiou Pai, or Seagull Brand, 6513 has the same scale set as the Aristo 971, which was introduced in Europe in 1954. The Flying Fish 1018, Figure 4, which is only one of the three known slide rules with Gudermannian hyperbolic scale sets (the other two being the Hemmi 153 and Post 1461) was obviously influenced by the Hemmi 153, using the same scale nomenclature. *For Figure 4 see page 64.*

The following discussion focuses on the various Vector manufacturers, their models, and our best guess as to the sequential order of introduction.

Discussion

The first Chinese Vector, as discussed earlier, was the paper-on-wood slide rule shown in Figure 1. No manufacturer is known. However, as mentioned, the Shanghai Sida Slide Rule Factory is a reasonable guess. The pertinent attributes are listed in Table 2.

Table 2. Paper On Wood.

PAPER ON WOOD-POSSIBLY SHANGHAI SIDA SLIDE RULE FACTORY

SLIDE RULE	BODY	END	CURSOR		ICON	CASE	COMMENTS
	CONSTRUCTION	BRACKETS	FIXED PLASTIC	LINES	NONE	NONE	
NO #	√	√	√	0/0	√	√	K&E 4083-3 SCALE SET 1 (1939/47)

The Gong Si He Ying Shanghai Ding Feng Instrument Factory produced at least three Vectors as shown in Table 3 and labeled as A (Table 3 includes all the known factories that joined into the Shanghai/Sida Slide Rule Factory and illustrates the evolutionary development in Shanghai

from the mid/late 1940s until the end of slide rule production). Only the 5810, which has the K&E 4083-3 scale set 1 (1939/47), has the icon shown in Figure 5a; however, the case flaps of the others have it.

TABLE 3

SHANGHAI SLIDE RULE FACTORY VECTOR EVOLUTIONARY SEQUENCE

SLIDE RULE	CONSTRUCTION		END BRACKETS		CURSOR			ICON TRADE MARK				CASE		COMMENTS
	LAM. WOOD	PLASTIC	ADJ. METAL	FIXED PLASTIC	METAL FRAMED	NON FRAMED	LINES	RUYI 	NONE	FLYING FISH 	OTHER	CARD.	PLASTIC	
^A 5471	√		√		√		0/0		√			√		
^B 1083	√		√		√		0/0					√		K&E 4083-3 SCALE SET 1 (1939/47)
^B 1083	√		√		√		0/0	T				√		K&E 4083-3 SCALE SET 1 (1939/47)
^A 5810	√		√			√	0/0					√		ICON ON BOX FLAP OF ALL DENG FENG'S (A)
^A 5571	√		√			√	0/0		√			√		
^C 1002		√	√			√	1/1	B				√		
^C 1009		√	√			√	1/0	B					√	
^C 1015-1		√		√		√	2/0	S					√	
^D 1009		√		√		√	2/0		√				√	
^D 1200		√		√		√	2/0		√					POCKET
^E 1003		√		√		√	0/0			S				
^E 1015		√		√		√	2/0			S			√	
^E 1002		√		√		√	2/0			B				
^E 1004		√		√		√	2/0			B			√	
^E 1200		√		√		√	2/0			B			√	POCKET
^E 1018		√		√		√	0/2			B			√	GUDERMANNIAN

ICON LOCATION : T=TOP RAIL S=SLIDE
B=BOTTOM RAIL.

(A) GONG SI HE YING SHANGHAI DING FENG INSTRUMENT FACTORY.

(B) GONG SI HE YING SHANGHAI SIDA SLIDE RULE FACTORY.

(C) SHANGHAI SIDA SLIDE RULE FACTORY-RUYI ICON.

(D) SHANGHAI SIDA SLIDE RULE FACTORY-NO ICON.

(E) SHANGHAI SLIDE RULE FACTORY-FLYING FISH ICON.

Table 4. Xue Si.

XUE SHI-NO OTHER INFORMATION AVAILABLE

SLIDE RULE	BODY CONSTRUCTION	END BRACKETS	CURSOR		ICON	CASE	COMMENTS
	LAMINATED WOOD/ INLAYED WOOD TOP/BOTTOM	ADJ. METAL	NON FRAMED	LINES	NONE	CARDBOARD	
1572-K3	√	√	√	0/0	√	√	K&E 4083-3 SCALE SET 4 (1954/72)
?	√	√	√	0/0	√		K&E 4083-3 SCALE SET 4 (1954/72)

Table 5. Haiou Pai.

BEIJING SLIDE RULE FACTORY
ICON-HAIYOU PAI (SEAGULL BRAND)

SLIDE RULE	BODY CONSTRUCTION	END BRACKETS	CURSOR		ICON SEAGULL	CASE	COMMENT
	PLASTIC	ADJ. METAL	NON FRAMED	LINES		CARDBOARD	
6531	√	√	√	1/3	√	√	ARISTO 971 SCALE SET (1954)
6681	√	√	√	1/3	√		

The Gong Si He Ying Sida Slide Rule Factory produced the 1083, labeled B in table 3. This Vector also has the K&E 4083-3 scale set 1 (1939/47) and may be of similar date as the Ding Fengs. Two 1083s are listed in table 3. Both have the same scales, but with different icons, Figures 5b and 5c.



Figure 5. Gong Si He Ying Ding Feng Instrument Factory 5810 icon (a), Sida Factory early 1083 icon (b), and the later Ruyi icon and text (c).

On the Xue Shi we have no information as to factory name or location; 1572-K3 has the K&E 4083-3 scale set 4 (1954/72). The attributes of this laminated wood slide rule are given in Table 4. There are no identifying marks on this Vector, and the one labeled “?”, which has the same scales, may be a 1572-K3.



Figure 6. Beijing Haiou Pai, Seagull brand icon and text

The Beijing Slide Rule Factory Haiou Pai, or Seagull Brand, Figure 6, produced the 6531 and the 6681 Vectors. As noted earlier, the 6531 has the same scale set as

the 1954 Aristo 971, so a production date of the mid/late 1950s isn't unreasonable. Table 5 lists the Haiou Pai attributes.

As noted earlier, in 1958 several slide rule manufacturers merged. Table 3, C, D, and E shows the evolution from the Ruyi icon, no icon, and finally the Flying Fish icon, which was used until the end of China's slide rule era in the 1980s. It should be mentioned that, although they may have had different names, the slide rules with the same model number have the same scales.

Table 6⁷ is a listing of all known Chinese Vector slide rules. This includes additional names that were not discussed here. The list shows the scales, gauge marks, cursor lines, etc., for the slide rules in the authors' collections. Partial information is shown for other slide rules that are known to exist. This listing on the Oughtred Society website (www.oughtred.org) will be updated as new Chinese Vectors come to light.

If this article stimulates you to collect Chinese Vectors, please let the authors know of any information as to dates, models, factories, etc., not shown here that you come across.

Acknowledgements

The authors would like to thank two eBay sellers of Chinese slide rules for their continued help and support: Liu Qinglin, *eBay cnbjliuql*, and Ni Wei juan, *eBay old14753*. This article would not have been possible without them. Liu Qinglin is also currently translating various Chinese slide rule manuals in English.

References

- [1] Hume, Ted and Bob Koppany, Editors, *The Oughtred Society Slide Rule Reference Manual*, Palo Alto, CA, The Oughtred Society, 2005, p99.
- [2] Robinson, William K., "Slide Rules With Hyperbolic Functions", *Journal of the Oughtred Society*, 14:1, 2005, p55.
- [3] Hughes, Richard Smith, "On The Evolution Of K&E Vector Slide Rules", *Journal of the Oughtred Society*, 14:1, 2005, p41.

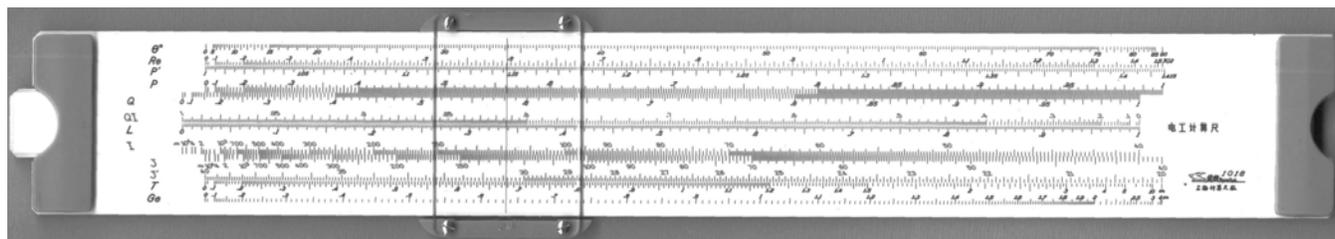


Figure 4. Flying Fish 1018 Gudermannian

⁷(A JOS Plus item. See Footnote 1, on page 61)