

DATE 10/5/54  
SH. 1 OF 4  
COMPILED BY  
E.A.M.

TMC SPECIFICATION NO. S-225  
Revised 1/11/55

TITLE: Crystal Unit Specification Report, AF30(635)2384 JOB

APPROVED

CRYSTAL UNIT SPECIFICATION REPORT

Item 1 TMC Model XFK Frequency Shift Exciter

1. This equipment is supplied to U.S.A.F. under subject contract, less crystals.
2. Provisions are provided for use and access from the front panel of crystal units using either HC-6/U (under MIL-C-3098) or FT-243 (former Signal Corps standard) type holders.
3. The equipment utilizes Crystal Unit type CR-27/U under MIL-C-3098 or the same crystal mounted in FT-243 type holders, within the range of 1 to 15 Mcs as stated in the specification.

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Item 3 TMC Model VOX Variable Frequency Oscillator

1. This equipment utilizes crystal units as follows:

- A. Y101, 102 BFO Crystal - Uses Crystal Unit CR-25/U, Frequency 455 Kcs, in accordance with Specification MIL-C-3098. This crystal unit IS NOT supplied with the equipment under subject contract.
- B. Y201 IFO Crystal - Uses Crystal Unit CR-18/U Frequency 3.5 Mcs, in accordance with Specification MIL-C-3098, except with wire leads 3" long in lieu of standard pins. This crystal unit IS supplied with the equipment under subject contract, TMC Part No. CR-18-3.500W.
- C. Y202, 203, 204, HFO Crystal - Uses Crystal Unit CR-18/U, within range of 1 to 15 Mcs in accordance with Specification MIL-C-3098. These crystal units ARE NOT supplied with the equipment under subject contract.
- D. Y301, 100 Kcs Osc. Crystal - Uses commercial Bliley type KV3 Crystal Unit, assigned TMC part number CR--100, and which is described on the Drawing CR-100 attached hereto. This crystal unit IS supplied with the equipment under subject contract. For information, the following table LX data is submitted:
- a. (1) The crystal unit has silver electrodes plated to its major surfaces and is wire mounted.
- (2).Type of operation is parallel resonant.
- (3) The unit oscillates on its fundamental mode.
- (4) Not applicable.
- (5) Type of cut - DT
- (6) Non

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(Item 3 Continued)

b. (1) The holder is a Bliley commercial unit, consisting of a metal cover clamped over a phenolic base, with connecting pins protruding. Drawing CR-100 attached describes the unit fully, See Page 4 of 4.

(2) See Above

c. Frequency - 100 Kcs

d. Frequency Tolerance  $\pm .005\%$ , 0 to 50°C.

e. Temperature Range - 0 to 50° C.

f. Operating Range - same as (e) See \* below

g. Effective Resistance - not applicable

h. Effects of Vibration - unknown

i. Capacitance - See Bliley letter Oct. 5, 1954.

j. Load capacitance - Same as i. above

k. Drive level - Same as i. above

Test Set - Bliley commercial test set is utilized

m. Humidity - not applicable

n. Marking - commercial, See Dwg. CR-100

o. Additional data - none

\* This Crystal Unit operates within a double-temperature controlled (70°C.  $\pm .2^\circ\text{C}$ ) oven.

CR-100 A

USED ON

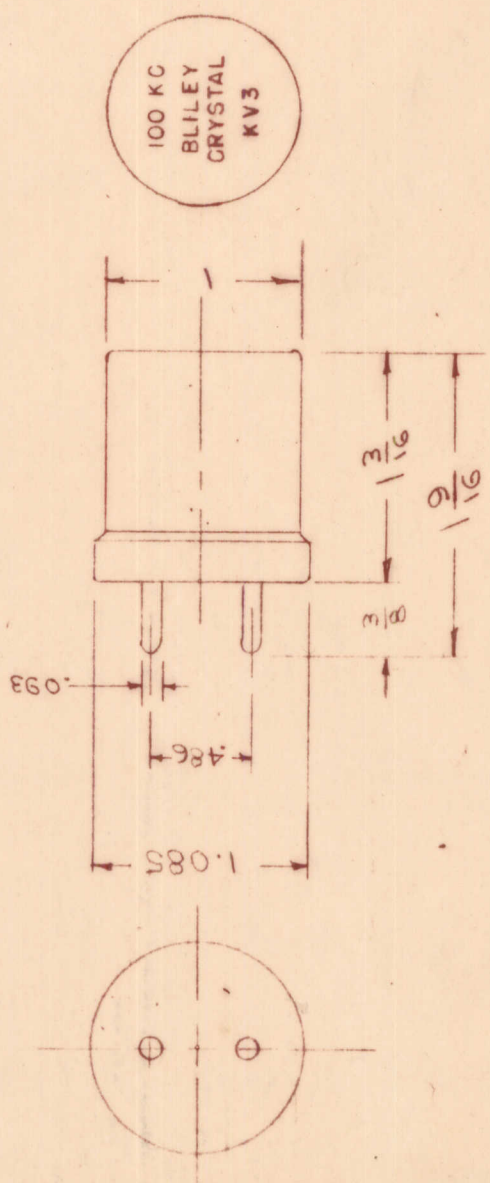
MODEL	PROJECT NO.	ASSY. NO.	DATE
VOX	101	A-585	10/30/52
DVM			8/26/52
PMD-2			12/28/54

IF IT IS FOUND DESIRABLE TO CHANGE ANY TOLERANCE OR OTHER DETAIL SPECIFIED ON THIS DRAWING NOTIFY THE PURCHASER PROMPTLY.

MAXIMUM ALLOWABLE TOLERANCES HAVE BEEN DETERMINED AND DEVIATIONS WILL BE CAUSE FOR REJECTION. REMOVE ALL BURRS AND SHARP EDGES

CHARACTERISTICS -

1. FREQ. - 100 KCS
2. TOL. -  $\pm 0.05\%$
3. OPER. TEMP. - 0 TO 50°C
4. TYPE OF OPER. - PARALLEL RESONANT
5. MODE - FUNDAMENTAL
6. CASE - ALUM. CAN, UNSEALED.



DIMENSIONS FOR REF. ONLY.

REF: BLILEY ELECTRIC CO. KV3 CODE E10C

REQ. ITEM	PART NO.	DESCRIPTION	SYMBOL
	//	THE TECHNICAL MATERIEL CORP. MAMARONECK. NEW YORK	
	//	CRYSTAL UNIT	
	//	100 KC	
	//	STOCK SIZE	
	//	MATERIAL	
	//	WEIGHT PER PC.	
	//	TYPE & TEMPER	
	//	ELEC. DES. APP.	AJT
	//	MECH. DES. APP.	
	//	CHECKED	
	//	DATE	10/30/52
	//	HEAT TREAT. SPEC.	
	//	FINISH & SPEC. NO.	
		FINAL APPROVAL	
		CR-100	A

ISSUE ITEM	CHANGED FROM	DATE	CN. NO.	DRAFTS CHECKER	ENG. APP.
A 1	CHARACTERISTICS ADDED	10/30/52	1	JAWORSKI	A.J.J.
TOLERANCES					
SCALE					
DEC. DIM. $\pm$					
FRAC. DIM. $\pm$					
ANGULAR DIM. $\pm$					
DRILL, PUNCH, COMMERCIAL STOCK SIZES AND MANUFACTURERS TOLERANCES ARE NOT INCLUDED.					