



T E N T A T I V E

DESCRIPTION:

THE F-7173 IS A 4 INCH IATRON (DIRECT VIEW STORAGE CATHODE-RAY TUBE) THAT PRODUCES A BRIGHT VISUAL DISPLAY OF ELECTRICALLY STORED INFORMATION. IT IS ELECTROMAGNETICALLY FOCUSED AND DEFLECTED. THE TUBE DISPLAYS BRIGHT IMAGES ON A DARK BACKGROUND, CAN BE VIEWED IN DIRECT SUNLIGHT, AND FEATURES THE ABILITY TO WRITE, STORE, AND ERASE INFORMATION AT WILL. GREY SHADES ARE PRODUCED IN ACCORDANCE WITH AMPLITUDE VARIATIONS OF THE INPUT SIGNAL. THE TUBE HAS TWO ELECTRON GUNS, A WRITING GUN, WHICH WRITES THE INPUT SIGNAL ON A STORAGE MESH, AND A FLOOD GUN WHICH ILLUMINATES THE PHOSPHOR IN ACCORDANCE WITH THE STORED SIGNAL.

GENERAL:

DIMENSIONS	SEE OUTLINE AND FUNCTIONAL SCHEMATIC
NOMINAL TUBE DIAMETER	4 INCHES
MINIMUM USEFUL DISPLAY DIAMETER	3 INCHES
PHOSPHOR	P-20 ALUMINIZED
OPERATING POSITION	ANY
CATHODE PRE-HEATING TIME	60 SECONDS
FOCUS	MAGNETIC
DEFLECTION	MAGNETIC

DIRECT INTERELECTRODE CAPACITANCES WITHOUT EXTERNAL SHIELD (APPROX.)

GRID #1 TO ALL OTHER ELECTRODES	2.5 UUF
WRITE CATHODE TO ALL OTHER ELECTRODES	8.0 UUF
FLOOD CATHODE TO ALL OTHER ELECTRODES	3.0 UUF

MAXIMUM RATINGS:

VIEWING SCREEN	10 KV DC
BACKING ELECTRODE	25 VDC
COLLECTOR	200 VDC
ANODE #2	75 VDC
GRID #3	INTERNALLY CONNECTED TO ANODE #2
GRID #2	250 VDC RESPECT WRITE CATHODE
GRID #1	0 VDC RESPECT WRITE CATHODE
WRITE CATHODE	-1000 VDC
HEATER-CATHODE	125 VDC
FLOOD CATHODE	200 VDC

* TRADEMARK OF THE INTERNATIONAL TELEPHONE & TELEGRAPH CORPORATION

TYPICAL OPERATING VALUES:

	<u>FLOOD SECTION</u>	
VIEWING SCREEN	7	KV DC 700 UA MAXIMUM
BACKING ELECTRODE	10	VDC AND ERASE PULSES
COLLECTOR	125	VDC
ANODE #2	44	VDC
ANODE #1	60	VDC
CATHODE	0	VDC
HEATER	6.3	V AC OR DC 1.4 A

	<u>WRITE SECTION</u>	
HEATER	6.3	V AC OR DC .6A
CATHODE	-450	VDC 3 MA
GRID #1 (NOTE 1)	-40	VDC RESPECT WRITE CATHODE
GRID #2	150	VDC RESPECT WRITE CATHODE
GRID #3	INTERNALLY CONNECTED TO ANODE #2	

RANGE OF OPERATING ADJUSTMENTS:

ANODE #2	35 TO 50	VDC ADJUST FOR BEST COLLIMATION
GRID #1 (CUTOFF - NOTE 1)	-32 TO -45	VDC RESPECT WRITE CATHODE
ERASE PULSES	4-10 VOLTS	100-5000 PRF .5 U/SEC. WIDE

TYPICAL PERFORMANCE:

RESOLUTION (NOTE 2)		
MINIMUM BRIGHTNESS	120	LINES/INCH
MAXIMUM BRIGHTNESS	50	LINES/INCH
LIGHT OUTPUT	2800	FT. LAMBERTS
WRITING SPEED TO 90% BRIGHTNESS	40000	IN/SEC.
ERASE TIME (NOTE 3)	3	MILLISECONDS
VIEWING TIME (NOTE 4)	30	SECONDS

NOTES:

1. VISUAL CUTOFF OF THE STORED, FOCUSED, UNDEFLECTED SPOT.
2. RESOLUTION IS MEASURED BY THE SHRINKING RASTER METHOD AT THE CENTER OF THE VIEWING SCREEN.
3. ERASE TIME IS THE SHORTEST TIME IN WHICH INFORMATION CAN BE REMOVED FROM THE TUBE AFTER BEING STORED AT FULL BRIGHTNESS.
4. VIEWING TIME IS THE TIME THAT A SIGNAL STORED AT FULL BRIGHTNESS ANYWHERE IN THE DISPLAY AREA CAN BE VIEWED WITH ERASE PULSES APPLIED TO COUNTERACT ION WRITING.

* TRADEMARK OF ITT

SPECIAL PRECAUTIONS:

OBSERVE MAXIMUM RATINGS TO AVOID POSSIBLE DAMAGE TO THE TUBE. IN PARTICULAR THE VIEWING SCREEN VOLTAGE SHOULD BE LIMITED SO AS TO NEVER EXCEED 10 KV.

THE FULL VOLTAGE SHOULD NOT BE APPLIED TO THE VIEWING SCREEN INSTANTANEOUSLY. AN ORDINARY RC FILTER AT THE OUTPUT OF THE POWER SUPPLY WILL PROVIDE ADEQUATE ASSURANCE THAT THE VOLTAGE BUILD UP WILL NOT BE TOO ABRUPT. THE VIEWING SCREEN POWER SUPPLY SHOULD HAVE A SERIES RESISTANCE OF AT LEAST 1 MEG OHM.

REPEATED BOMBARDMENT WITH A HIGH CURRENT FOCUSED BEAM ON A SMALL AREA OF THE STORAGE SURFACE CAN BURN A DARK IMAGE INTO THE DISPLAY WHICH MAY REMAIN FOR SEVERAL HOURS OR EVEN PERMANENTLY. THEREFORE, THE DEFLECTION VOLTAGES SHOULD BE APPLIED BEFORE OPERATING THE WRITING BEAM.

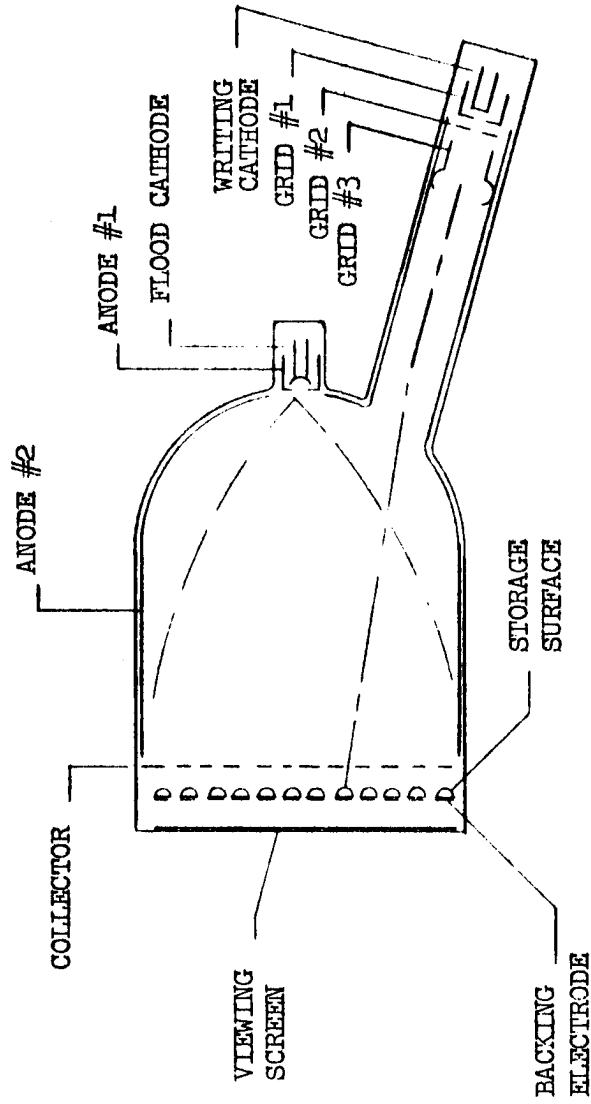
ADDITIONAL INFORMATION FOR SPECIFIC APPLICATIONS CAN BE OBTAINED FROM THE

ELECTRON TUBE APPLICATIONS SECTION
ITT COMPONENTS DIVISION
POST OFFICE BOX 412
CLIFTON, NEW JERSEY

* TRADEMARK OF ITT

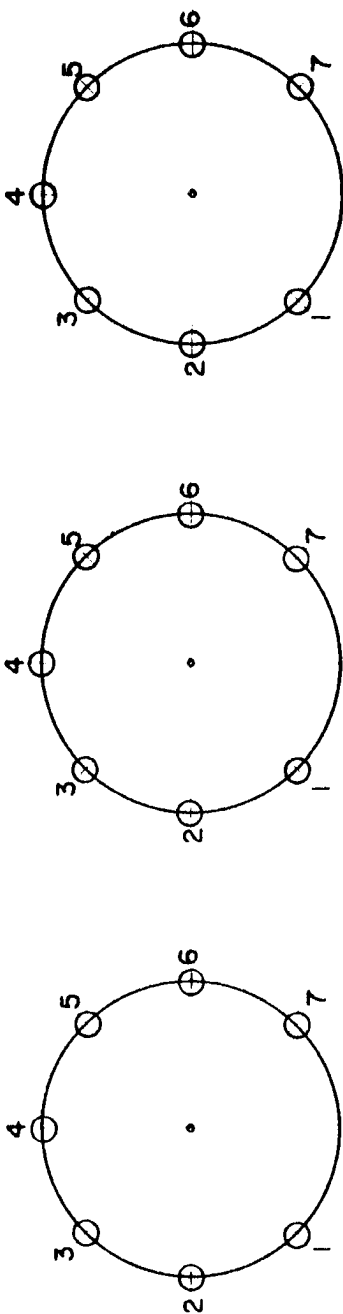


ELECTRON TUBE DEPARTMENT ■ **COMPONENTS DIVISION**
INTERNATIONAL TELEPHONE AND TELEGRAPH CORPORATION, CLIFTON, NEW JERSEY



FUNCTIONAL SCHEMATIC

F-7173



BOTTOM VIEW

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FLOOD GUN

Pin	Element
1	Anode #1
2	N/C
3	Heater
4	Heater
5	Anode #1
6	N/C
7	Cathode

WRITE GUN

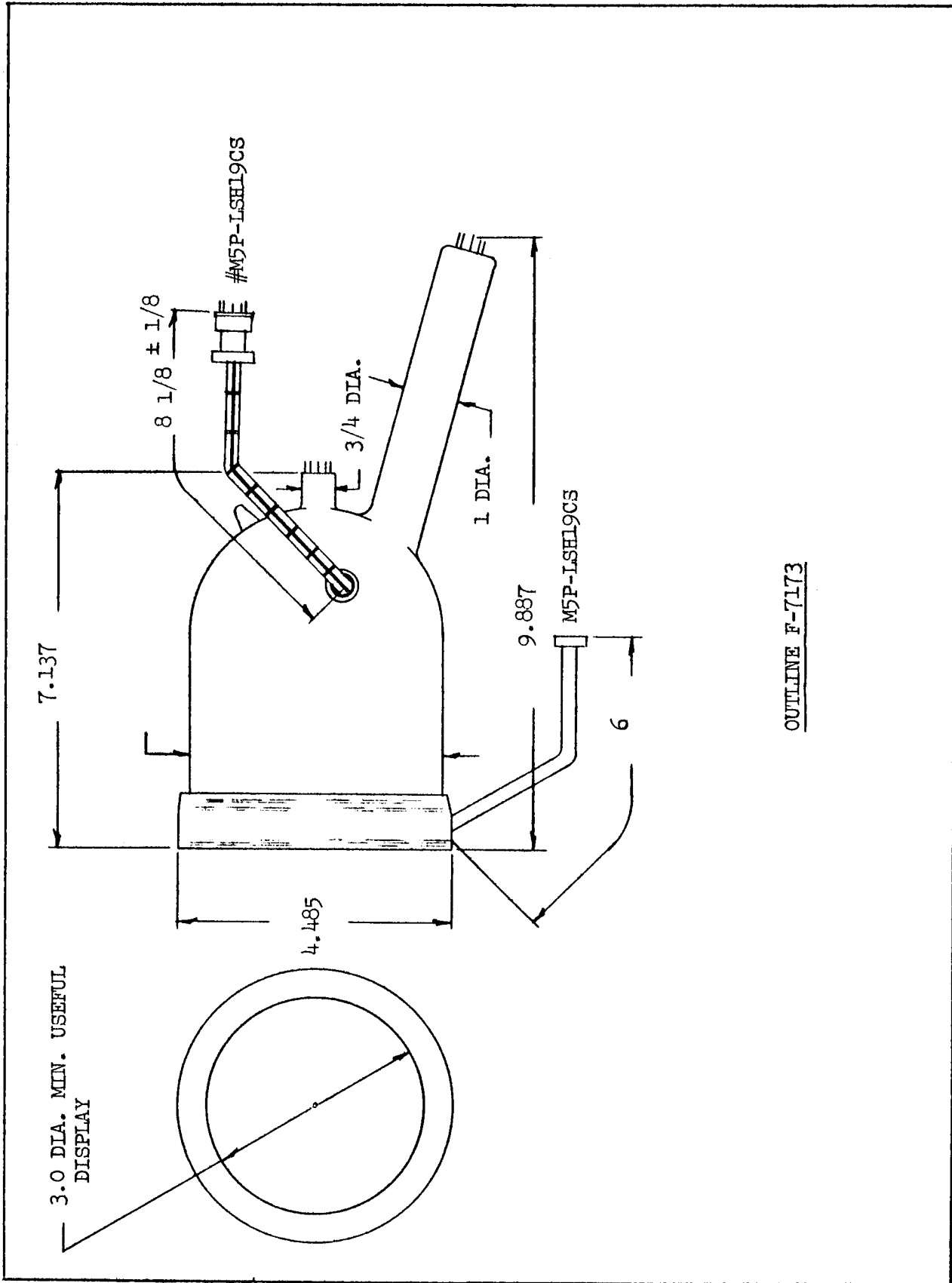
Pin	Element
1	Grid #1
2	N/C
3	Heater
4	Heater
5	Grid #3
6	Grid #2
7	Cathode

7 PIN PLUG FOR BULB CONNECTIONS

Pin	Element
1	Electrode
2	Backing Electrode
3	N/C
4	N/C
5	Anode #2
6	N/C
7	N/C
7	Collector

7L73 PIN CONNECTIONS





OUTLINE F-7173