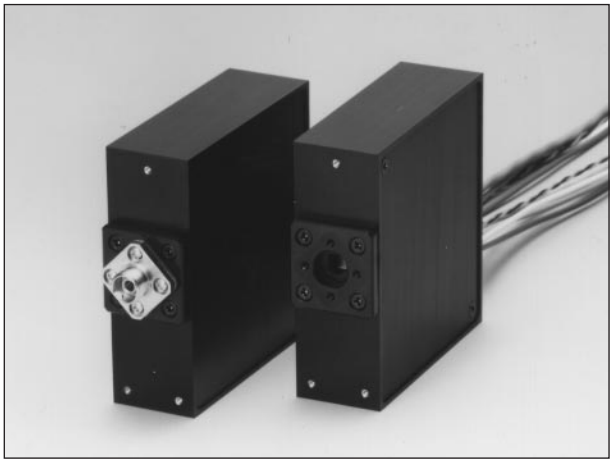
HAMAMATSU

MODULATED PHOTOMULTIPLIER TUBE MODULE H6573

FEATURES

- Easy modulation
- High frequency modulation
- Fast time resolution
- Built-in high voltage power supply



TAPPF0121

APPLICATIONS

- Biochemical fluorescence decay time measurement
- LASER range finder
  - Distance measurement
  - 3-D imaging
  - Laser doppler velocimeter
- Near infrared tissue measurement

MAXIMUM RATINGS (Absolute Maximum Values)

Parameter	Value	Unit
Supply Voltage	±15.6	V
Maximum Control Voltage	+1.2	V
Maximum Anode Output Current	10	μA
Operating Temperature	0 to +50	℃
Storage Temperature	-20 to +50	℃

SPECIFICATIONS (at 25 ℃)

Parameter	Value	Unit
Spectral Response	185 to 850	nm
Photocathode Minimum Effective Area	2 × 3	mm
Modulation Frequency Ⓐ	1 to 400	MHz
High Voltage Settling Time (Vcont. 1.0 V to 0.5 V)	2	s
Supply Current Requirement	+12 mA / -1 mA (±15 V operation)	–

NOTE Ⓐ :at 0.4 Modulation Factor

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Figure 1: Typical Spectral Response

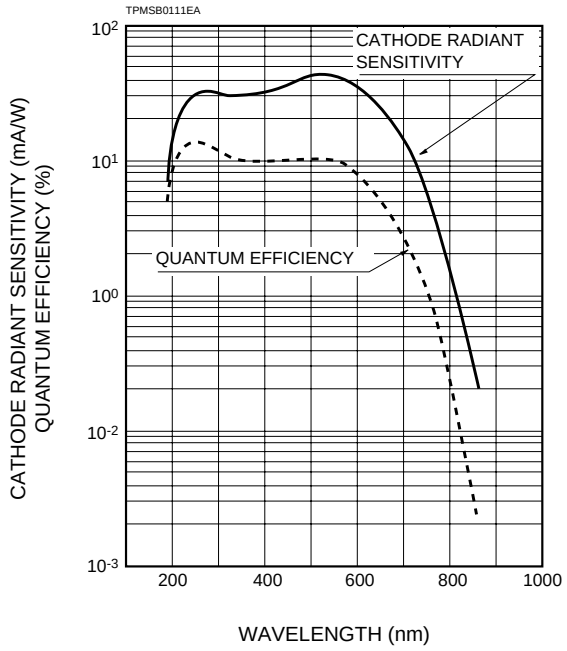


Figure 2: Typical Modulation Factor vs. Frequency

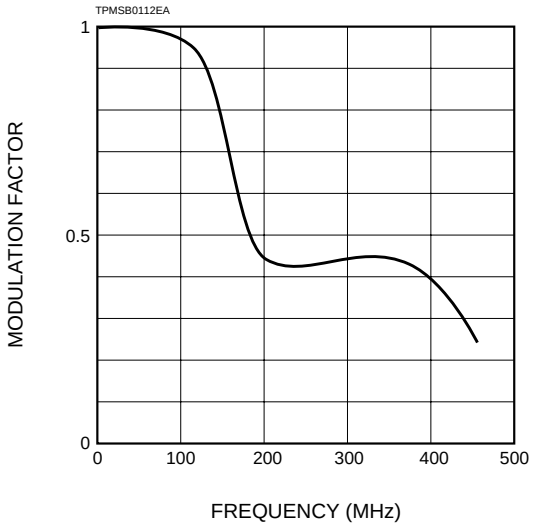


Figure 3: Typical Gain vs. Control Voltage

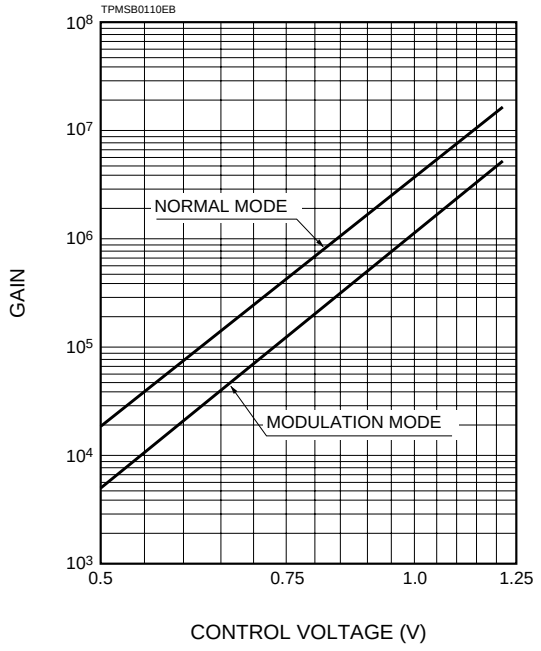


Figure 4: Block Diagram

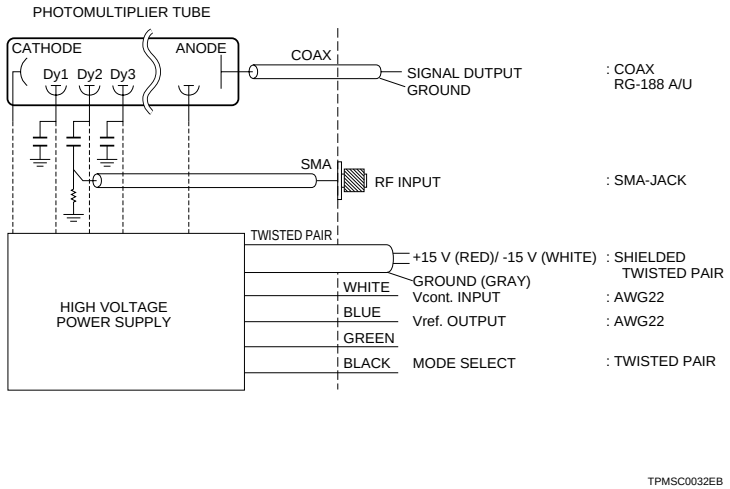
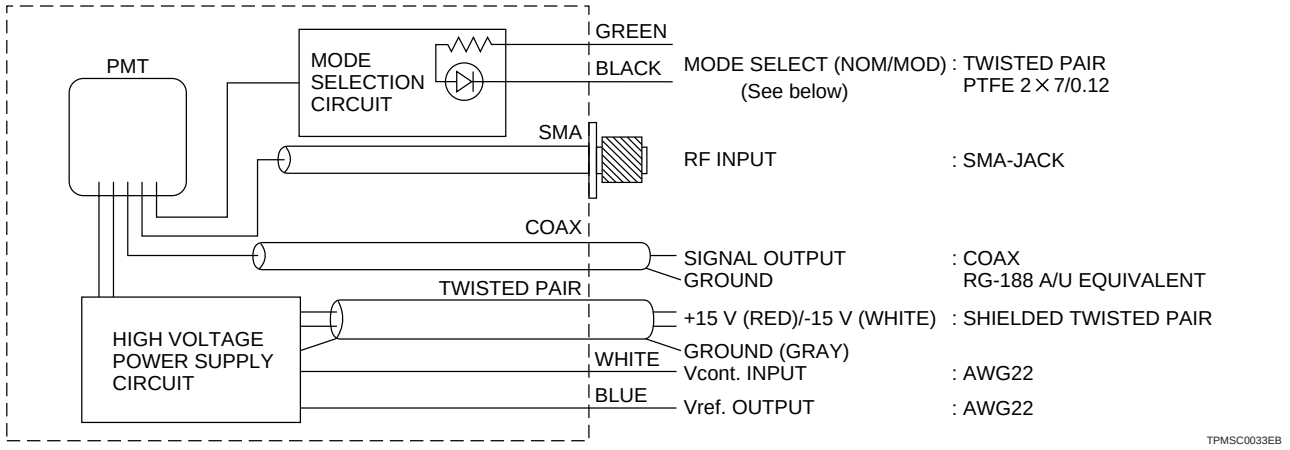


Figure 5: Module Functional Diagram



MODE

There are two operation modes in this module. They are the MODULATING(MOD) MODE and NORMAL(NOM) OPERATING MODE. The mode selection is made by the input voltage of 5 V to the NOM/MOD switch circuit.

1) MODULATING MODE(NOM/MOD=0 V; Either short or open circuit)
The MODULATING MODE is used for PMT modulating operation.
The voltage distribution to dynodes in the MODULATING MODE is different from NORMAL OPERATING MODE.
Therefore, the gain is lower than NORMAL OPERATING MODE. Refer Fig. 3

2) NORMAL OPERATING MODE(NOM/MOD=5 V, +5 V between Green and Black cable)
This is for a normal PMT operation. +5 V from an external power supply is needed to be operated at this mode.

Figure 6: Dimensional Outline (Unit: mm)

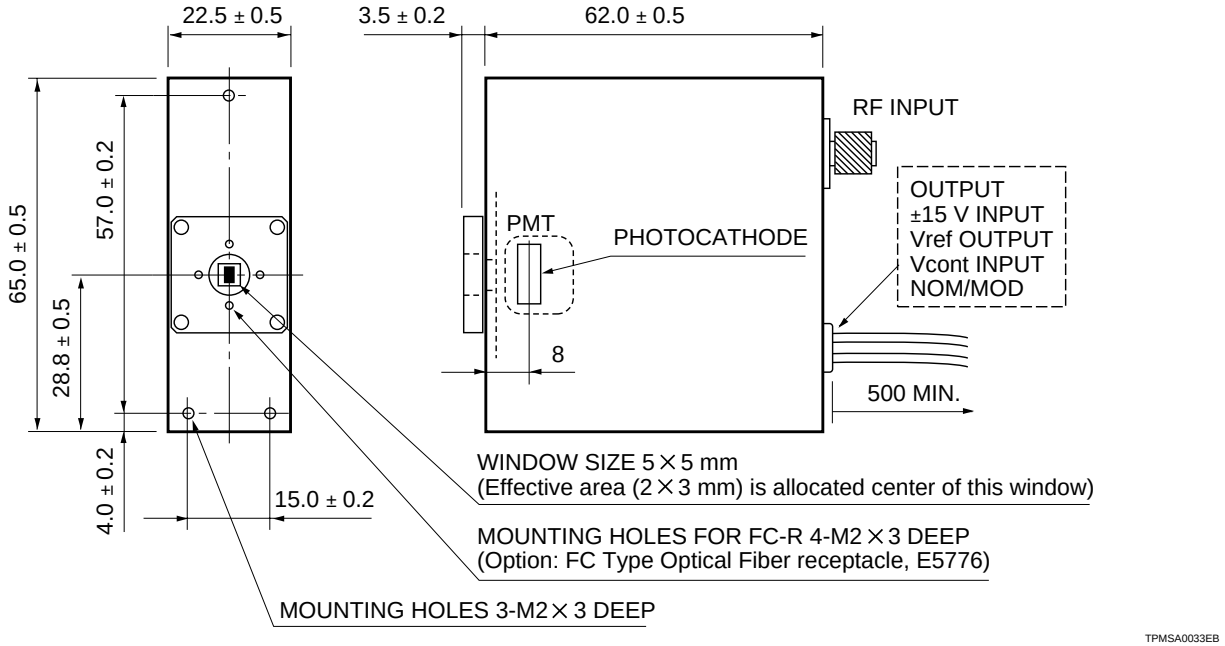
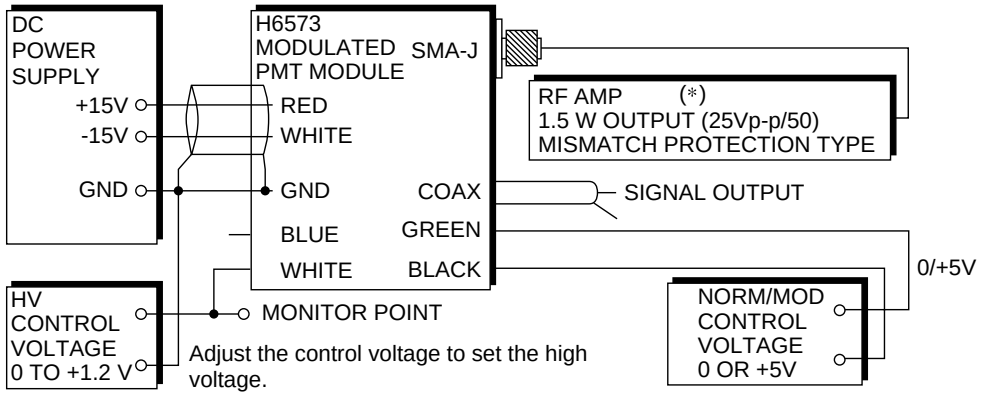


Figure 7: Wiring Examples

● VOLTAGE PROGRAMING



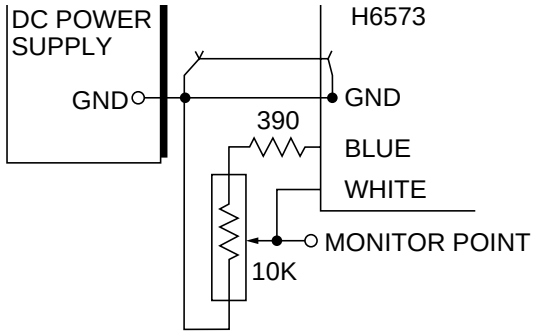
Adjust the control voltage to set the high voltage.
The monitor point indicates voltage applied to the PMT at 1/1000 ratio.
Insulate and store the blue lead.

+5 V : NORMAL OPERATING MODE
0 V : MODULATING MODE

(*) RF AMP. EXAMPLES
1) R & K (JAPAN) Model A1000-502-M (2Watt)
2) MINI CIRCUIT (U.S.A.) Model ZHL-1-2 (2Watt)

TPMSC0034EC

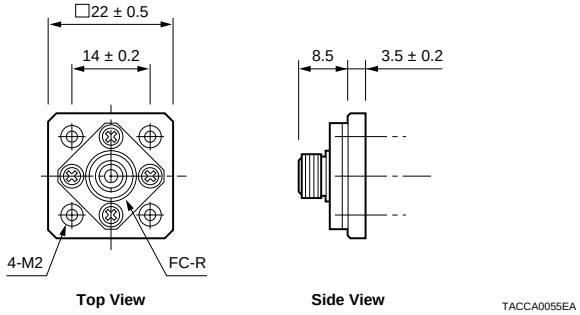
● RESISTANCE PROGRAMING



Adjust the variable resistor to set the high voltage.
The monitor point indicates voltage applied to the PMT at 1/1000 ratio.
Use a 10 kΩ low drift potentiometer.

TPMSC0035EA

E5776 Optical Fiber Adapter (FC Type) **OPTION**



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REFERENCE: Technical Information Modulated Photomultiplier Tube H6573 Mar. 1997

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