

FARNEL

VIA FRATELLI CERNUSCHI , 22

MERATE (Como)

tel 039 - 9907612

fax .

**FIBER OPTIC
POWER METERS
MODEL 16XT
MODEL 17XT
MODEL 18XT**

557

This document contains information proprietary to PHOTODYNE. It is supplied in confidence solely for the purpose of evaluating or maintaining PHOTODYNE apparatus and may not be used for any other purpose without the prior written consent of PHOTODYNE, INC.

© COPYRIGHT 1985, PHOTODYNE, INC.
FIRST PRINTING, SEPT. 1985, NEWBURY PARK, CALIFORNIA
UNITED STATES OF AMERICA

TABLE OF CONTENTS

<u>SECTION</u>	<u>PAGE</u>
List of Figures	iv
List of Tables	v
Specifications	vi
1. GENERAL INFORMATION	1-1
1.1 Introduction	1-1
1.2 Features	1-2
1.3 Applications	1-2
1.4 Warranty	1-6
2. INITIAL PREPARATION	2-1
2.1 General	2-1
2.2 Inspection	2-1
2.3 Contents	2-2
2.4 Accessories	2-3
2.5 Preparation For Use	2-4
2.6 Battery Installment/Replacement	2-5
2.7 How To Check The Battery	2-5
2.8 External Power Supply Hookup	2-6
3. OPERATING INSTRUCTIONS	3-1
3.1 General	3-1
3.2 Principles of Measurement	3-1
3.3 How to Turn On and Off.....	3-2

TABLE OF CONTENTS (cont.)

3.4 How To Zero	3-2
3.4.A. Zero Drift, Warmup, and Minimum Light Detection .	3-3
3.5 How To Measure Power	3-4
3.6 How To Measure Attenuation	3-4
3.7 How To Make Output Connections	3-6
4. APPLICATIONS	4-1
4.1 General	4-1
4.2 Optical Fiber Continuity Test	4-1
4.3 Optical Power Measurement	4-2
4.4 Loss Measurement	4-2
4.5 Connector and Component Loss Measurement	4-9
5. THEORY OF OPERATION	5-1
5.1 General	5-1
5.2 Optical Input Configuration	5-1
5.3 Electronic Configuration	5-2
5.4 Spectral Response	5-4
6. ACCESSORIES	6-1
6.1 General	6-1
6.2 Battery Chargers	6-1
6.3 Battery	6-2
6.4 Fiber Optic Adaptors for the 17XT and 18XT	6-2

TABLE OF CONTENTS (cont.)

7. MAINTENANCE	7-1
7.1 General	7-1
7.2 Required Test Equipment	7-1
7.3 Performance Verification and Calibration	7-2
7.4 Adjustment/Check Procedures	7-11
8. REPLACEABLE PARTS	8-1
8.1 General	8-1
8.2 Ordering Information	8-1
8.3 Schematics	8-1

LIST OF FIGURES

<u>NO.</u>		<u>PAGE</u>
2.1	Photograph of XT Series Instrument Case	2-2
2.2	Typical Adaptor Caps for 17XT and 18XT Instrument .	2-3
2.3	Battery Replacement	2-4
2.4	Power Supply Connected to the XT Instruments	2-7
4.1	Block Diagram if Fiber Continuity Test	4-1
4.2	Block Diagrams of Loss Measurement Methods	4-5
4.3	Block Diagram of Beam Optic Approach	4-7
4.4	Block Diagram of Mode Filter Technique	4-9
4.5	Typical Set-up for Connector Loss Measurement	4-10
5.1	Block Diagram of XT Series Instrument	5-3
5.2	Spectral Sensitivity Characteristic of Photodiodes Used in 16XT	5-5
5.3	Spectral Sensitivity Characteristic of Photodiodes Used in 17XT	5-6
5.4	Spectral Sensitivity Characteristic of Photodiodes Used in 18XT	5-7
6.1	Battery Chargers for XT Series Instruments	6-1
6.2	A Battery for XT Series Instruments	6-2
6.3	Threaded Adaptors for Sensor Heads	6-3

LIST OF TABLES

2-1 External Power Supply Selection Chart	2-6
3-1 Sensitivity Levels of the 16XT, 17XT, and 18XT Instruments	3-3
7-1 Recommended Test Equipment for Performance Verification	7-1
7-2 Input Current vs. Output Min./Max. dBm Values For Calibration Check	7-4
7-3 Input Current vs. Output Min./Max. dB Values For Calibration Check	7-6
7-4 Input Current vs. Output Min./Max. Watt Values For Calibration Check	7-8
7-5 Circuit Board Potentiometer Designation vs. Wavelength Calibration	7-11