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****************************************************************
 ****************************************************************
  **                                                        **
 *    WW      WW     WW        A        NNN      NNN      GGGGG   *
 *     W      WW     W        A A       NN        N      GG    GG  *
**     W   W  W   W          A   A      N N       N      GG      G  **
**      W W    W W          A     A     N   N     N      GG         **
**      WW     WW         AAAAAAAAA     N      N  N      GG    GGG  **
 *      WW     WW        A         A    N        NN      GG     G   *
 *     WWWW   WWWW      AA          AA   NNN      NNN      GGGGG   *
  **                                                        **
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7500T SERIES 7574-1T PRINTER

Customer Engineering Maintenance Plan

Revision History
Rev. 2 - August 20, 1984

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7500T 7574-1T BAND PRINTER

CUSTOMER ENGINEERING MAINTENANCE PLAN

_____   _____ 1/2/85
        NEW PRODUCT ENGINEER   PRODUCT LINE MANAGER
        DENNIS GILMARTIN   MATT ZABOY

_____
        PRODUCT LINE DIRECTOR
        RICHARD PETZOLD

WANG CONFIDENTIAL

Preface

The Customer Engineering Policy and Procedures Document (6.1)
addresses the many special considerations necessary for performing field
maintenance on Wang secure products in the protected data processing market
and as such will serve as the core reference document for all 7500T products.
The attached document specifically discusses the 7574-1T Printer which is a
new product to the 7500T product line. All references, warnings, and
responsibilities mentioned in the Customer Engineering Policy and Procedures
Document (6.1) apply to this product and all future 7500T series products.
This addendum document should be filed with the core Maintenance Plan of the
7500T for purposes of correlation and reference.

INDEX

7574-1T Band Printer
Maintenance Plan

I. PRODUCT OVERVIEW

1.1 General Description

The 7574-1T is a general purpose, continuous steel band, impact printer. The printer is designed to provide a throughput of 600 LPM in a typical printing application, using a 64 character ASCII band. The 7574-1T is identical to the commercial 5574-1 with the exception that the T version uses the quietized cabinet as opposed to the pedestal used in the commercial unit.

1.2 Marketing Forecasts

Q2'85	Q3'85	Q4'85	Q1'86	Q2'86	TOTAL
20	50	50	50	50	220

1.3 First Customer Ship

FCS is planned for January 1985.

II. PRODUCT SPECIFICATIONS

2.1 Field replaceable electronic assemblies

Processor Module

This module provides the total computing power for the printer and is structered so that the other modules appear as peripheral devices.

Timing and Status Module

This module provides the fault monitoring circuits and generates the time base necessary for electrical/mechanical system synchronization.

Power Module

This module has the +5 volt and +12 volt regulators and voltage clamp to control the constant current relay drivers. Band drive, paper feed motor, paper clamp and control and hammer bank isolation relay drive circuits are also contained in the power module.

Hammer Drive Modules (2)

These modules use constant current hammer driver power amplifiers to control hammer firing.

Interface Module

This module contains circuitry to interface the Processor Module to the user input/output, control panel, printer interlocks and ribbon motion sensing.

2.2 Field replaceable mechanical assemblies

The mechanical assemblies are the same as the commercial version with the exception of the paper puller.

2.3 Media

The 7574-1T Printer uses pin feed, continuous fan fold forms from single to six parts.

Length

The standard top of form spacing should be set for 11 inches at 6 or 8 lines per inch with a 3 line perforation skipover. A 12 inch fixed form length and alternate skipover facilities are available options. When variable form lengths (3 to 14 inches) are required, the 12 channel direct access vertical format can be used.

Width

Form widths from 3 to 16 inches (7.62cm to 40.64cm) may be used.

Thickness

The minimum paper weight should be 15 pound (56gms) bond. The maximumform set thickness should be 0.020 inches (0.5mm).

Printable Forms

The following form data values are shown in grams/meter^2 (gms) and pounds and they represent maximum paper weights.

Bond paper with carbon using 8 lb. (30gms) single shot carbon:

Form	1	2	3	4	5	6	Forms mils	Thickness (mm)
2 PT	56/15	56/15					6	(.15)
3 PT	56/15	45/12	56/15				9	(.23)
4 PT	56/15	45/12	45/12	56/15			13	(.33)
5 PT	56/15	45/12	45/12	45/12	56/15		16	(.40)
6 PT	56/15	45/12	45/12	45/12	45/12	56/15	20	(.50)

Proper paper handling requires adequate tension strength of the perforation, at the fold, is required. The ratio of cut to uncut sections in the perforation should not exceed 2 to 1.

Fastening such as crimping, stitching or glueing should be used to fasten forms together. Fastening must occur on the right hand margin as a minimum.

Carbons may be attached by glueing in narrow width carbon or by using unattached full width carbon with margin holes.

2.3 Media (cont.)

Multiple part forms in which individual parts vary in size must be tested prior to quantity ordering

Forms should be fastened in the margins only, avoiding any hard fastening such as staples.

2.4 Operating System

The 7574-1T Printer will operate on 6.4 and above peripherals release on OIS, 4.J and above peripherals release on Alliance. The VS requires a 6.30 operating system, with 6.5E peripherals software and 1.63.11 IIS software.

2.5 Configuration

The Wang compatible interface is configured to be electrically and mechanically compatible with the Wang printer controller. Data transfer is on a strobe acknowledge format.

III. DESIGN SPECIFICATIONS

3.1 Specifications

Print speed	646 LPM 64 Character Utility
	543 LPM 96 Character Upper/Lower Case
Line Advance	25 Milliseconds (Maximum)
Paper Slew	15 Inches/Second (Minimum)
Column width	10 pitch 132 columns
	12 pitch 158 columns

3.2 Physical Dimensions

Height	1217	mm	47.9	inches
Width	890	mm	35.0	inches
Depth	958	mm	37.7	inches
Weight	181.4	kg	400	lbs.
Shipping Weight	218.0	kg	480	lbs

3.3 Power / Environmental Requirements

The 7574-1T requires an isolated ground receptacle on a dedicated branch circuit.

input voltage	Domestic	93 to 132 VAC 60 HZ
	International	185 to 250 VAC 50 HZ
nominal power	standby	450 watts max
	printing	550 watts max
temperature range		
	operating	50^{0}F to 100^{0}F
		10^{0}C to 38^{0}C
	storage	14^{0}F to 127^{0}F
		-10^{0}C to 50^{0}C
	transit	-40^{0}F to 160^{0}F
		-40^{0}C to 71^{0}C
humidity range		
	operating	20% to 80% non-condensing
	storage	10% to 90%
	transit	95% maximum

3.3 Power / Environmental Requirements (cont.)

altitude

	operating	0 ft to 9842 ft
		0 to 3000 m
	storage	0 ft to 9842 ft
		0 to 3000 m
	transit	0 ft to 32,808 ft
		0 to 10,000 m
Heat dissipation		1700 btu/hr maximum
Electrostatic discharge		Wang SPI-10-623
Acoustical Noise		Wang SPI-10-708

3.4 Government / Industry Standards & Approvals

The 7574-1T printer has undergone approval testing for compliance with U. S. Government specifications. The specifications will not be discussed in this document. Compliance with the specifications among other things allows a vendor entering the protected data processing market to be placed on a U. S. Government listing.

3.5 Servicing Space Requirements

The 7574-1T Printer requires 18 inches in the front, 18 inches in the back and 12 inches on either side for servicing.

3.6 Special Considerations

There are no special considerations for this printer.

IV. MAINTENANCE

4.1 Maintenance Objectives

The maintenance objective for the 7574-1T will be to troubleshoot failures to the Optimum Field Replaceable Unit.

4.2 Calls per month

.3 calls per month.

4.3 Mean time to Repair.

The mean time to repair goal is 1.5 hours.
The MTTR calculations are based on historical data.

4.4 Preventive Maintenance

Preventive Maintenance (PM) is a very important issue with 7500T Products. Wang's preventive maintenance procedures stress proper critical features maintenance. Only by following these set procedures can the integrity of the 7574-1T printer be ensured. A major PM must be done every 180 days.

4.5 Special Tools and Test Equipment

There are no special tools required.

V. SUPPORT

5.1 Technical Documentation

The commercial 5574 printer maintenance manual will be reprinted
with additional Wang information included as an addendum which will
result in the 7574-1T maintenance manual. The maintenance manual
includes general information, principles of operation, assembly and
disassembly, troubleshooting, troubleshooting flow charts and
maintenance. This manual will explain how to access, remove, and
replace each assembly/subassembly and provide a checklist of
critical features which the CE must check after servicing the unit.

Distribution of manuals, for the 7500T products, is controlled.
Push distribution will not occur. Only Branches with 7500T products
can order these manuals. Instructions for ordering additional
product maintenance manuals are given during the 7500T Certification
courses and subsequent TAC newsletters.

5.2 Training

The 5574 training course will be utilized. All maintenance
procedures for the 7574-1T are the same as the 5574 commercial
version of the printer.

5.3 Logistics

Unique spares will be push distributed to the field at the echelon
level and sparing ratio determined by the MTBF data.

5.4 Repair

Return to vendor for repair.

5.5 Diagnostics

The same diagnostics which run on the 5574-1 will run on the 7574-1T.

5.6 Alpha / Beta Site Test Plan

No Alpha or Beta tests are planned on this unit.

VI.

6.1 Recommended Spares List as of 12/12/84.

Part Number	Description	Echelon
726-1565	CCA Timing and Status	Branch
726-1566	Connector Filter 40 Pin	Depot
726-1567	Control Panel	Branch
726-1568	Filter Assy. Line	Depot
726-1569	Gas Spring Assy.	Depot
726-1570	Spring Extension	Depot
726-1571	Switch Interlock	Branch
726-1572	Cable Assy. Power	Home office
726-1573	Circuit Breaker Assy.	Home office
726-1574	CCA Centronics Modified	Branch
726-1575	CCA Hammer Driver	Branch
726-1576	CCA Mother	Area
726-1577	CCA Power Supply	Branch
726-1578	CCA Processor	Branch
726-1579	CCA Rectifier Universal	Branch
to be determined	Paper Puller	

All other parts are common to the commercial 5574-1.