SOFTWARE OPERATING PROCEDURES

BASIC BINARY LOADER-
BASIC BINARY DISC LOADER

PREREQUISITE SOP MODULES:

Front Panel Procedures Module

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BASIC BINARY LOADER (BBL) - BASIC BINARY DISC LOADER (BBDL)

This module consists of an introduction to the BBL and BBDL, a procedure for Examining and Modifying the BBL or BBDL and complete listings of the BBL and BBDL as they reside in memory.

INTRODUCTION

The BBL program resides in the last 64_{10} words of memory. The BBL is protected from examination or accidental modification by the computer LOADER switch. BBL can perform three tasks:

1. Load absolute binary program tapes into memory.
2. Read and compare a binary tape with the contents of memory without loading the tape into memory.
3. Perform a checksum operation on a binary program tape without loading the tape into memory.

The BBDL resides in the last 64_{10} words of memory. It is protected from examination or modification by the computer LOADER switch. The BBDL loads absolute binary program tapes into memory, or loads absolute binary programs from disc into memory.

Each computer is shipped with either the BBL or BBDL (but not both) in core, depending on the user needs and hardware configuration.

PROCEDURE 1
EXAMINING AND MODIFYING THE BBL OR BBDL

Examining

To examine either the BBL or BBDL to insure that it is in core or that it is intact, follow the steps outlined below: (A complete listing of the BBL and BBDL as it resides in core is shown in the BBL AND BBDL LISTING.)

1. Unprotect the BBL or BBDL.
2. Set the address of the desired memory location into the computer.
3. Display the address contents in the computer display registers in the same fashion as any other memory location.
4. Repeat steps 2 and 3 for as many memory locations as desired.
5. Protect the BBL or BBDL.

Modifying

To modify any of the BBL or BBDL instructions in core, follow the steps outlined below:

1. Unprotect the BBL or the BBDL.
2. Set the address of the desired memory location into the computer.
3. Load the modified instruction into the memory location specified in the same manner as any other memory location would be modified.
4. Repeat steps 2 and 3 for each memory location that requires modification.
5. Protect the BBL or BBDL.

BBL

MEMORY ADDRESS		INSTRUCTION	MEMORY ADDRESS		INSTRUCTION
0*x*7700	=	107700	0*x*7740	=	102000
0*x*7701	=	063770	0*x*7741	=	037775
0*x*7702	=	106501	0*x*7742	=	037774
0*x*7703	=	004010	0*x*7743	=	027730
0*x*7704	=	002400	0*x*7744	=	017753
0*x*7705	=	006020	0*x*7745	=	054000
0*x*7706	=	063771	0*x*7746	=	027711
0*x*7707	=	073736	0*x*7747	=	102011
0*x*7710	=	006401	0*x*7750	=	027700
0*x*7711	=	067773	0*x*7751	=	102055
0*x*7712	=	006006	0*x*7752	=	027700
0*x*7713	=	027717	0*x*7753	=	000000
0*x*7714	=	107700	0*x*7754	=	017762
0*x*7715	=	102077	0*x*7755	=	001727
0*x*7716	=	027700	0*x*7756	=	073776
0*x*7717	=	017762	0*x*7757	=	017762
0*x*7720	=	002003	0*x*7760	=	033776
0*x*7721	=	027712	0*x*7761	=	127753
0*x*7722	=	003104	0*x*7762	=	000000
0*x*7723	=	073774	0*x*7763	=	1037*cc*
0*x*7724	=	017762	0*x*7764	=	1023*cc*
0*x*7725	=	017753	0*x*7765	=	027764
0*x*7726	=	070001	0*x*7766	=	1025*cc*
0*x*7727	=	073775	0*x*7767	=	127762
0*x*7730	=	063775	0*x*7770	=	173775
0*x*7731	=	043772	0*x*7771	=	153775
0*x*7732	=	002040	0*x*7772	=	1*n*0100
0*x*7733	=	027751	0*x*7773	=	177765
0*x*7734	=	017753	0*x*7774	=	000000
0*x*7735	=	044000	0*x*7775	=	000000
0*x*7736	=	000000	0*x*7776	=	000000
0*x*7737	=	002101	0*x*7777	=	000000

x = 0 for 4K memory, 1 for 8K, 2 for 12K, 3 for 16K, 5 for 24K, 7 for 32K.

cc = punched tape reader or teleprinter address

n = 7 for 4K memory, 6 for 8K, 5 for 12K, 4 for 16K, 2 for 24K, 0 for 32K.

BBDL

MEMORY ADDRESS		INSTRUCTION	MEMORY ADDRESS		INSTRUCTION
0*x*7700	=	107700	0*x*7740	=	102055
0*x*7701	=	002401	0*x*7741	=	027700
0*x*7702	=	063726	0*x*7742	=	000000
0*x*7703	=	006700	0*x*7743	=	006600
0*x*7704	=	017742	0*x*7744	=	1037*cc*
0*x*7705	=	007306	0*x*7745	=	1023*cc*
0*x*7706	=	027713	0*x*7746	=	027745
0*x*7707	=	002006	0*x*7747	=	1074*cc*
0*x*7710	=	027703	0*x*7750	=	002041
0*x*7711	=	102077	0*x*7751	=	127742
0*x*7712	=	027700	0*x*7752	=	005767
0*x*7713	=	077754	0*x*7753	=	027744
0*x*7714	=	017742	0*x*7754	=	000000
0*x*7715	=	017742	0*x*7755	=	1*z*0100
0*x*7716	=	074000	0*x*7756	=	0200*nn*
0*x*7717	=	077757	0*x*7757	=	000000
0*x*7720	=	067757	0*x*7760	=	107700
0*x*7721	=	047755	0*x*7761	=	063756
0*x*7722	=	002040	0*x*7762	=	102606
0*x*7723	=	027740	0*x*7763	=	002700
0*x*7724	=	017742	0*x*7764	=	1027*qq*
0*x*7725	=	040001	0*x*7765	=	001500
0*x*7726	=	177757	0*x*7766	=	102602
0*x*7727	=	037757	0*x*7767	=	063777
0*x*7730	=	000040	0*x*7770	=	102702
0*x*7731	=	037754	0*x*7771	=	102602
0*x*7732	=	027720	0*x*7772	=	103706
0*x*7733	=	017742	0*x*7773	=	1027*nn*
0*x*7734	=	054000	0*x*7774	=	067776
0*x*7735	=	027702	0*x*7775	=	074077
0*x*7736	=	102011	0*x*7776	=	024077
0*x*7737	=	027700	0*x*7777	=	177700

x = 0 for 4K memory, 1 for 8K, 2 for 12K, 3 for 16K, 5 for 24K, 7 for 32K.

cc = punched tape reader or teleprinter address

z = 7 for 4K memory, 6 for 8K, 5 for 12K, 4 for 16K, 2 for 24K, 0 for 32K.

nn = first disc channel

qq = second disc channel