KDPLDR
Load/Verify Utility for KMC11

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1.0 INTRODUCTION

KDPLDR applies only to a KS10, and must be on SYS:. Use KDPLDR to load the KMC11. The KMC11-A is an auxiliary processor designed for use on a UNIBUS-based PDP-11 computer system. On the 2020 (KS10), the KMC11 drives the DUP11 synchronous line interface. Operating in parallel with the main CPU, it performs data movement, character processing, address arithmetic, and other functions to control I/O devices, format data, and process communications protocols.

The microprogram in the KMC11-A control memory determines the functions performed by the KMC11-A. The control memory is volatile and can be changed by the PDP-11 processor whenever necessary. Normally, the operating system loads the microprogram into the KMC11-A control memory as part of system initialization. The microprogram remains in control memory until the processor is reinitialized.

KDPLDR does the following:

- starts, stops, and master-clears a KMC11 synchronous-line controller that is attached to a KS10 processor with a KS10 UNIBUS adapter.
- loads and verifies KMC11 microcode
- initializes or halts DDCMP on the DUP11 synchronous lines that the KMC-11 controls

2.0 KDPLDR SWITCHES

KDPLDR switches take several arguments. In the description below, **KMC-no.** indicates the KMC11 controller number (always zero in the current implementation), and **DUP-no.** indicates the DUP11 line number (0 or 1 in the current implementation.)

You can use the following switches with KDPLDR:

/AUTO		The most-used KDPLDR switch does the following: /MCLEAR:ALL (initializes the KMC11) /LOAD:ALL (loads the microcode) /VERIFY:ALL (checks the CRAM) /USTART:ALL (starts the microcode) /START:ALL/KMC:ALL (starts DDCMP on all DUP11s)
/BFILE:file-id		Directs KDPLDR to use microcode in the given file instead of its own "assembled in" version of the microcode. Can modify the /LOAD or /VERIFY switch.
/KMC:	{ALL KMC-no.}	Required with /START/STOP switch; KMC-no. is a KMC11 controller number (always 0).
/LOAD:	{ALL KMC-no.}	Directs KDPLDR to load the control RAMs of the specified KMC11 controllers. KDPLDR loads its own "assembled in" version of the COMIOP/DUP microcode unless a /BFILE switch is given.

/MCLEAR:	{ALL / KMC-no.}	Directs KDPLDR to "master clear" the specified KMC11 controllers.
/START:	{ALL / DUP-no.}	Must occur with a /KMC switch that gives a KMC11 controller number. Directs KDPLDR to initiate DDCMP on the specified line(s).
/STOP:	{ALL / DUP-no.}	Must occur with a /KMC switch. Directs KDPLDR to terminate DDCMP on the specified lines.
/USTART:	{ALL / KMC-no.}	Directs KDPLDR to start the microcode of the specified KMC11s.
/VERIFY:	{ALL / KMC-no.}	Directs KDPLDR to compare the microcode in the CRAM of the given KMC11 with either the internal copy in KDPLDR or with a version given in a BFILE switch. KDPLDR outputs any differences on the terminal from which the user runs KDPLDR.

Examples:

/MCLEAR:ALL	Clears all KMC11s on the KS10.
/VERIFY:0/BFILE:COMIOP	Compares microcode in CRAM of KMC11 number 0 with microcode SYS:COMIOP.BIN. Any differences are output on the user's terminal.
/START:ALL/KMC:0	KDPLDR initiates DDCMP on all DUP11 lines controlled by KMC11 number 0.
/STOP:1/KMC:ALL	Halts DDCMP on line number 1 on each KMC11 controller.

3.0 ERROR MESSAGES

KDPLDR produces the following hardware, software, or user error messages.

Message	Cause and Corrective Action
CRF,KMC-11 CRAM failed	Hardware - call Field Service.
CUF,Core UUO failed	Hardware - call Field Service.
CWF,KMC-11 CRAM write failed	Hardware - call Field Service.
KDLAOR Cram address out of range	Software or user - use another file in your manual reload or reenter command.
KDLBCE Binary file checksum error	Software or user - use another file in your manual reload or reenter command.
KDLBFE Binary file format error	Software or user - use another file in your manual reload or reenter command.

KDLCVE CRAM verify error	Hardware - call Field Service.
KDLFSE Binary file-spec error	Software or user - use correct filespec, or reenter command.
KDLIDN Illegal DUP-11 number on switch	User - reenter command. DUP11 number can be 0 or 1.
KDLIFE Input file error	Software or user - use another file in your manual reload or reenter command.
KDLIKN Illegal KMC-11 number on switch	User - reenter command. KMC11 number must be 0.
KDLNER No end record on binary file	Software or user - use another file in your manual reload or reenter command.
KDLPEF Premature end of binary file file	Software or user - use another in your manual reload or reenter command.
KND,KDP, UUO not defined	Software - you are not using the correct system software. Your TOPS-10 monitor must be version 7.01 or later and you must be running on a 2020 (KS10).
LFS,Line failed to start DDCMP	User - reenter command.
MCF,Master clear of the KMC-11 failed	Hardware - call Field Service.
MSF,Microde start failed	Hardware - call Field Service.
NKS,This system has no KMC-11s	Hardware - call Field Service.
RDF,Read of the number of DUP-11s failed	Software - a monitor or MONGEN error.
SLF,Stop DDCMP on line failed	User - reenter command.

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