

D:CNM (CONNECT A PROGRAM TO A TIMER - LKM10)

Calling Sequence

Entry Point: D:CNM

A7: address of program name block.

A8: address of 2-word parameter block, which may be of one of the following two formats:

Standard Connection:

0	1	3	4	5	15
0	TIMER NUMBER		W G T	PULSE RATE (PR)	
NUMBER OF CYCLES BEFORE FIRST ACTIVATION (NC)					

where

TIMER NUMBER is the timer to which the program specified via A7 must be connected.

PR is a value from 0 to 2047.

NC is a value from 0 to 32677.

Bit 4 is set to 0 by the system (calling level \neq 48) and its use is reserved to the 'Wait for a given Time' module (D:WGT).

Absolute Time Connection:

0	1	3	4	8	9	15
1	TIMER NUMBER		HOURS		PULSE RATE	
MINUTES				SECONDS		

where

PR is a value from 0 to 127.

The program specified via A7 is connected to the absolute time chain. At the time defined by the user (HH MM SS), it is started, disconnected from this chain and connected to the chain on the timer defined by the user in bits 1 to 3. This is managed by the M:DCK module.

Note: When PR=0, only one program activation takes place and the program is automatically disconnected from the timer. This is managed by the M:DCK module.

Work Areas and Tables

H:POIN Chain Pointer

When a connection is requested from D:CNTM, a 4-word block is automatically reserved in the dynamic allocation area. The format of such a block is as follows:

- Standard Connection

CHAINING LINK
NEGATIVE NC
POSITIVE PR
PROGRAM PCT ADDRESS

After the first program activation, the block format is as follows (unless PR was 0, in which case automatic disconnection will follow):

CHAINING LINK
POSITIVE PR
NEGATIVE PR
PROGRAM PCT ADDRESS

where the third word contains the PR value as updated by M:DCK.

- Absolute Time Connection

CHAINING LINK			
T.N.	HOURS	PULSE RATE	
MINUTES		SECONDS	
PROGRAM PCT ADDRESS			

After the first program activation, this block is reinitialized in standard format.

- 'Wait for a Given Time' Connection

CHAINING LINK			
NEGATIVE NC			
F	F	F	F
ECB FOR WHICH PROGRAM IS WAITING			

Input/Output Files

None.

Functional Description

This request builds and initializes a timer block, to establish a link between a timer and the calling program. It is started by the LKM request, which activates D:RMAC if it is core resident or D:USV2 if the request handler is disc resident.

First, D:CNTM checks the type of request in order to set or reset the WGT flag in the two-word parameter block. Then program name and timer number are checked and a request is given for a four-word block in the dynamic allocation area via the M:DMA module. If an error is detected at this point, it is set in the A7 register. If not, a timer block is initialized and connected to the timer chain defined by the calling block (see Work Areas and Tables).

At the end of this process D:CNTM returns to D:RMAC or D:USV2 with the Status set. One of the following values is returned to the

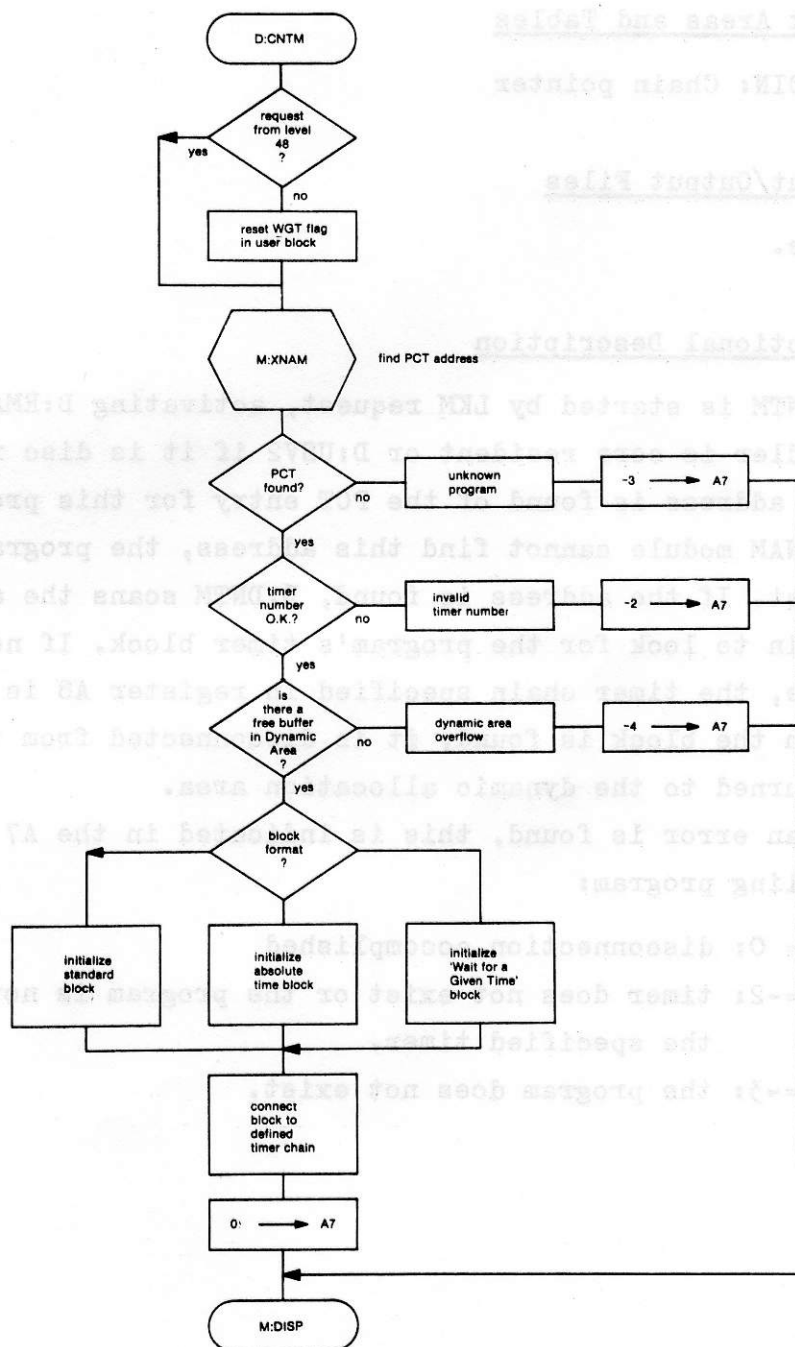
user in the A7 register:

A7 = 0: connection accomplished.

--2: timer does not exist.

--3: request to an unknown program.

--4: dynamic area overflow.



D:DNTM (DISCONNECT A PROGRAM FROM A TIMER - LKM11)

Calling Sequence

A7: address of program name block

A8: timer number.

Entry Point: D:DNTM

Work Areas and Tables

H:PCIN: Chain pointer

Input/Output Files

None.

Functional Description

D:DNTM is started by LKM request, activating D:RMAC if the request handler is core resident or D:USV2 if it is disc resident. First, the address is found of the PCT entry for this program. If the M:KNAM module cannot find this address, the program does not exist. If the address is found, D:DNTM scans the absolute time chain to look for the program's timer block. If no block is found here, the timer chain specified in register A8 is checked. When the block is found, it is disconnected from the chain and returned to the dynamic allocation area.

If an error is found, this is indicated in the A7 register of the calling program:

- A7 = 0: disconnection accomplished
- 2: timer does not exist or the program is not connected to the specified timer.
- 3: the program does not exist.

M:ACT (ACTIVATE - LKM12)

Calling Sequence

- If request comes via an LKM interrupt:
 - A7: address of program name block of program to be activated.
 - A8: ECB address.
- If request comes from D:ASYS (i.e. a system request for activation):
 - A3: system parameter
 - A4: return address
 - A5: 0
 - A6: 0
 - A7: address of program name block of program to be activated.
 - A8: ECB address.
 - CF D:ASYS

Work Areas and Tables

PCT of activated program.

Save area of activated program.

Dynamic allocation area, if the activated program is active when this request is given.

Input/Output Files

None.

Functional Description

This request is handled at level 48.

First the PCT entry of the activated program is searched for in the PCT Pool. If no PCT is found, a specific module is activated to seek the required program on all the discs of this configuration (This module, D:ABCK, is part of the D:USV2 module and runs at level 49). If the PCT of the activated program is found, the Activate module initializes the corresponding save area if the program is not yet active and sets its status to active. If the program is already active, a request block is built and connected to the activated PCT

(stacked Activate). At the end of the process a status is set in register A7:

A7 = 0: activation accomplished.

=-2: called program has not been connected to a level

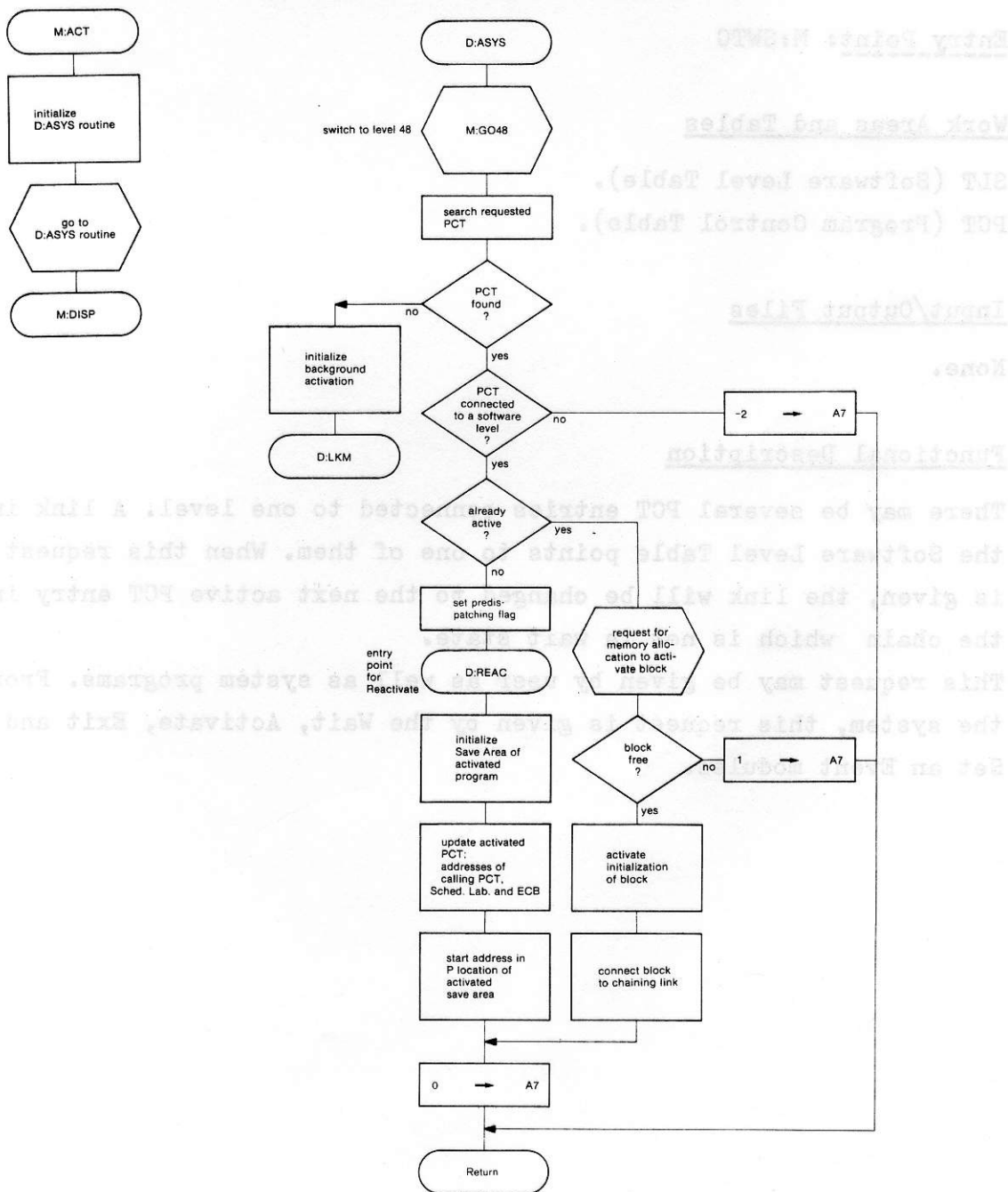
=-3: unknown program (set by D:ABCK)

=-4: dynamic area overflow

=-5: overflow of PCT Pool (set by D:ABCK)

=-6: overflow of Save Area (set by D:ABCK)

=-7: disc I/O error (set by D:ABCK)



M:SWTC (SWITCH INSIDE A SOFTWARE LEVEL - LKM13)

Calling Sequence

- A5: PCT address of calling program
- A6: Scheduled Label
- A7: Level to be switched. If this is zero, the level to be switched is equal to the level of the calling program + 1.

Entry Point: M:SWTC

Work Areas and Tables

- SLT (Software Level Table).
- PCT (Program Control Table).

Input/Output Files

None.

Functional Description

There may be several PCT entries connected to one level. A link in the Software Level Table points to one of them. When this request is given, the link will be changed to the next active PCT entry in the chain which is not in wait state.

This request may be given by user as well as system programs. From the system, this request is given by the Wait, Activate, Exit and Set an Event modules.

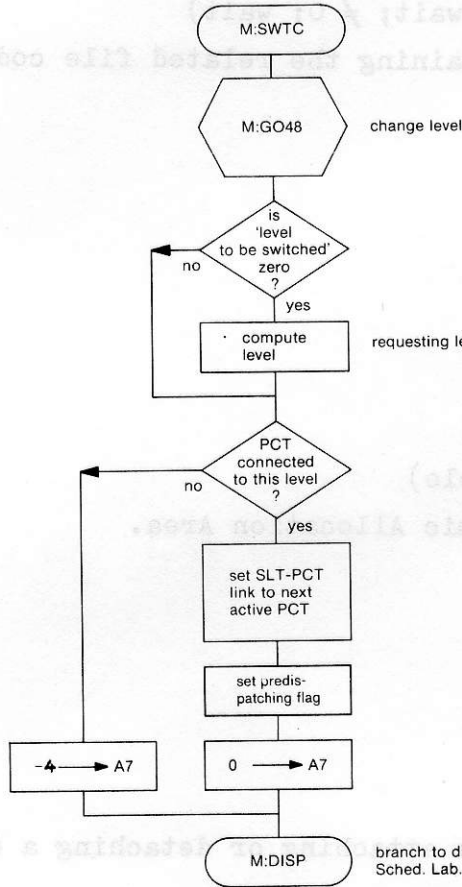
Calling Sequence

A5: PCT address of calling program

A6: Scheduled label, if any

A7: Wait flag (= 0: no wait)

A8: Address of PCB containing scheduled file code.



This routine provides a branch to dispatcher; Sched. Lab. parameters set.

If the device is already attached to another program, the requesting program may, depending on the value of the Wait flag in A7, be put into wait state (with reinitialization) until the device is detached.

Corresponding to the action to be taken, word 34 in the DWT (PCT address of program) is filled or set to 8000.

Note: The A8B is considered as 3 devices, so if the whole A8B is to be attached or detached, 3 requests must be given for the file codes corresponding to the A8B typewriter, A8B tape punch and A8B tape reader.

