



# DECUS

## PROGRAM LIBRARY

DECUS NO.	12-79
TITLE	MODIFIED ADTAPE
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SOURCE LANGUAGE	LAP6

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## MODIFIED ADTAPE

DECUS Program Library Write-up

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ADTAPE is a standard DEC program available on LINC-tape DEC-12-SE2E. A program documentation is also available and is designated DEC-12-UW2A-D. ADTAPE is a data acquisition and storage program for the PDP12. It allows the user to specify sampling rates for synchronous data acquisition on user specified A-D channels. The digitized data is stored on LINC-tape beginning in a block number also specified by the user. However, ADTAPE uses only 512 blocks.

This patch to ADTAPE allows data to be stored on an 896 block LINC-tape. Data files may begin in any block and may be continuous over blocks 511 & 512 (777g & 1000g). Experiment parameters may be stored in or retrieved from any of the 896 blocks. But for the tape length, modified ADTAPE functions identically to ADTAPE.

Whenever possible, labels in the source of the patch correspond with labels in the ADTAPE source listing (DEC-12-UW2A-D), June 1970.

The patch performs several functions:

1. Provides a new maximum tape block number for data storage (1577g)
2. Provides a table of starting locations for tape transfers to be used with the TMA instruction.
3. Modifies tape reading and writing sequences so as to use the extended addressing mode.
4. Modifies the QANDA frames to permit four digits for tape block numbers.
5. Checks the four digit tape block numbers brought in by QANDA for suitability.
  - a. stored parameters may be in blocks 0-1577g
  - b. starting tape block may be in range 0-1576g

NOTE: 1577g is unsuitable as a starting tape block because ADTAPE stores a header block before it stores any data. (See DEC-12-UW2A-D).

Suggested procedure for using modified ADTAPE:

Load DIAL  
Give the DIAL commands:

```
ZE
AB ADTAPE,0
AB PATCH,0
SB NGTAPE, 0, L
```

Modified ADTAPE can now be used as a utility program on unit 0 by giving the command

```
LONGTAPE, 0
```

and will self start in 4020.

0000			*20		
0001				ERRORX=1016	
0002				ERORX=604	
0003				PTBNSV=602	
0004				WRITE=1270	
0005				TBLK=105	
0006				C2000=121	
0007				PMODE	
0010			/		
0011				*177	
0012	0177	6200		-1600	/1600 BLKS/TAPE
0013			/		
0014				*1274	
0015	1274	1177		TAD 177	/CHECK BLK NUMBR
0016				*206	
0017	0206	1177		TAD 177	
0020			/		
0021				*507	
0022	0507	0130		130	/EXT OPS BUFFER
0023			/		
0024				*154	
0025	0154	2000		2000	/NEW QSTACK
0026	0155	2400		2400	/FOR START ADDR
0027	0156	3000		3000	/OF TAPE
0030	0157	3400		3400	/TRANSFER
0031	0160	4000		4000	
0032	0161	4400		4400	
0033	0162	5000		5000	
0034	0163	5400		5400	
0035	0164	6000		6000	
0036	0165	6400		6400	
0037	0166	7000		7000	
0040	0167	7400		7400	
0041			/		
0042				*1254	
0043	1254	6141		LINC	
0044				LMODE	
0045	1255	0023		TMA	
0046	1256	1000		LDA	
0047	1257	0105		TBLK	
0050	1260	5270		STC WRITE	
0051	1261	0006		DJR	
0052	1262	7267		JMP WRITE-1	
0053			/		
0054				PMODE	
0055			/QUANDA	CHANGES	
0056					
0057				*4661	
0060	4661	6443		6443	
0061				*4272	
0062	4272	6443		6443	
0063				*2276	
0064	2276	6443		6443	
0065				*2365	
0066	2365	6434		6434	
0067			/		
0070				*6500	

0071	6500	0016	16	/GET STORED PAR
0072	6501	0016	16	/IN EXT MODE
0073			*6573	
0074	6573	0016	16	/STORE
0075	6574	0016	16	/PARAMS
<hr/>				
0076			/	
0077			*6161	
0100	6161	6201	6201	/CHECK TBLK
0101			*6525	/AGAINST
0102	6525	6201	6201	/1576 MAX.
0103			/	
0104			/SET AXO,TMA,ESF AT START OF INITIALIZE	
0105			/	
0106			LMODE	
0107			SEGMNT 2	
0110			*20	
0111	0020	0603	LIF 3	
0112	0021	7500	JMP 1500	
0113			SEGMNT 3	
0114			*1500	/7500 IS FREE
0115	1500	1020	LDA I	
0116	1501	0020	0020	
0117	1502	0004	ESF	
0120	1503	0001	AXO	
0121	1504	0011	CLR	
0122	1505	0023	TMA	
0123	1506	0602	LIF 2	
0124	1507	6023	JMP 23	
0125			/TESTS FOR LIMIT ON TBLK FROM	
0126			/MESSAGE 3 AND MESSAGE 11,RESPECTIVELY	
0127			/RE. DOCUMENTATION,ADTAPE	
0130			/	
0131			SEGMNT 3	
0132			*453	
0133	0453	7600	JMP 1600	/7600 IS FREE
0134			*1600	
0135	1600	4602	STC PTBNSV	
0136	1601	2602	ADD PTBNSV	
0137	1602	1120	ADA I	
0140	1603	6200	6200	
0141	1604	0471	APO I	
0142	1605	6604	JMP ERORX	
0143	1606	6000	JMP 0	
0144			/	
0145			*546	
0146	0546	7700	JMP 1700	/7700 IS FREE
0147			*1700	
0150	1700	4602	STC PTBNSV	
0151	1701	2602	ADD PTBNSV	
0152	1702	1120	ADA I	
0153	1703	6200	6200	
0154	1704	0471	APO I	
0155	1705	7016	JMP ERRORX	
0156	1706	6000	JMP 0	
0157			/	
0160			/ MODIFIED SEQUENCE TO WRITE HEADER BLK	
0161			PMODE	
0162			*176	

0163	0176	0020	K20,	20	
0164				*1576	
0165	1576	6003	LD3,	6003	/3-2000
0166				*1533	
0167	1533	5170		JMP 170	
0170				*170	
0171	0170	7200		CLA	
0172	0171	1176		TAD K20	
0173	0172	6141		6141	/LINC
0174	0173	0001		0001	/AXO
0175	0174	0011		0011	/CLR
0176	0175	7536		6000 1536	/JMP 1536
0177				*1554	
0200	1554	1052		1052	/TAD STBLK
0201	1555	3362		3362	/DCA AL15
0202	1556	1121		TAD C2000	
0203	1557	6141		6141	/LINC
0204	1560	0023		0023	/TMA
0205				*1564	
0206	1564	1376		TAD LD3	

NO ERRORS

C2000 0121  
 ERRORX 0604  
 ERRORX 1016  
 K20 0176  
 LD3 1576  
 PTNSV 0602  
 TBLK 0105  
 WRITE 1270

