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COMM INIT (MTH)
                NCDOT
                Location And Surveys
                Traverse Program
                TRV48

                Version 4.31M
    
```

.....

COMM FILE

<<FILE OPTIONS>>	Basic file management routines
TRANSfer file	All options are chosen from the user
create NEW file	menu
enter EXISTing file	MENU OPTION:
ReMOVE file	TRANS Selects the file transfer menu
EXIT program	NEW Selects the create file menu
	EXIST Selects the existing file menu
ÉÍÍÍÍÍÑÍÍÍÍÍÑÍÍÍÍÍÑÍÍÍÍÍÑÍÍÍÍÍÑÍÍÍÍÍ»	RMOV Selects the remove file menu
°TRAN ³ ³ NEW ³EXIST³RMOV ³EXIT °	EXIT Exits from program
ÈÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍ¼	

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FILE TRAN <<DATA TRANSFER>>	Displays file transfer options
INto HP48 from PCorWS	MENU OPTION:
OUT of HP48 to PCorWS	IN To transfer a file from a computer
HP48 to HP48	OUT To transfer a file to a computer
	HPIN To transfer a file from a HP48
ÉÍÍÍÍÍÑÍÍÍÍÍÑÍÍÍÍÍÑÍÍÍÍÍÑÍÍÍÍÍÑÍÍÍÍÍ»	HPOUT To transfer a file to a HP48
° IN ³ OUT ³HPIN ³HPOUT³ ³ °	
ÈÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍ¼	

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TRAN IN	Computer to HP-48	Key in the file name on the computer
		NOTE: File name extensions may be used
		but are not a good idea !!
	:File Name:<	Press ENTER to continue

.....

TRAN OUT	HP-48 to Computer	Select the file to transfer from the
		user menu and press ENTER to continue
	:File Name:<	

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°FILE1³FILE2³FILE3³ ³ ³ °

ÈÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍ¼

.....

TRAN HPIN	Awaiting Server Cmd.	Align the triangles at the head of the
		HP-48's to transfer

.....

TRAN HPOUT	HP-48 to HP-48	Select the file to transfer from the
	:File Name:<	user menu and press ENTER to continue

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°FILE1³FILE2³FILE3³      3      3      0
ÈÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍ¼

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.....
FILE NEW      Creating New File      Creates a new file
              :File Name:<          Key in name for new file
                                           Press ENTER to continue

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KEY	PROMPT	TRVERSE PROGRAM	VER. 4.3M	PAGE 2 OF 9	EXPLANATION
---	-----				-----
COMM SETUP	:TRV-48 Program Setup:				MENU OPTIONS:
(')					
	Overwrite Pro.:	ON	OVER		TOGGLES ON & OFF OVERWRITE
	Print :	OFF			PROTECTION
	Zenith Angle :	OFF	PRINT		TOGGLES FROM OFF SERIAL & IR
	SC CON PT STO :	ON	ZA		TOGGLES ON & OFF ZENITH ANGLE
			CON		TOGGLES ON & OFF CONTROL POINT
					STORING (ex. TS,SC,...) IN SC

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ÉÍÍÍÍÍÑÍÍÍÍÍÑÍÍÍÍÍÑÍÍÍÍÍÑÍÍÍÍÍÑÍÍÍÍÍ»
°      ³OVER ³PRINT³  ZA ³ CON ³      0
ÈÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍ¼

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.....
              Places the user into the new file
              Select a routine
              Press ENTER to continue
              F(F)D(F)What Now ?E&A

```

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.....
FILE EXIST      Enter File Name      Select file name from user menu
                                           Press ENTER to continue

```

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              :File Name:<
ÉÍÍÍÍÍÑÍÍÍÍÍÑÍÍÍÍÍÑÍÍÍÍÍÑÍÍÍÍÍÑÍÍÍÍÍ»
°FILE1³FILE2³FILE3³      3      3      0
ÈÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍ¼

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.....
              :TRV-48 Program Setup:
              SEE NEW

```

```

.....
              Places the user into the file
              Select a routine
              Press ENTER to continue
              F(F)D(F)What Now ?POB

```

```

.....
FILE RMOV      Name of Data File      Select file to remove from the user
              To Remove                menu
                                           Press ENTER to continue

```

```

              :File Name:<
ÉÍÍÍÍÍÑÍÍÍÍÍÑÍÍÍÍÍÑÍÍÍÍÍÑÍÍÍÍÍÑÍÍÍÍÍ»
°FILE1³FILE2³FILE3³      3      3      0
ÈÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍ¼

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.....
FILE EXIT      Exits from program
COMM EXIT
(SIN)          Kills pending processes and returns to
              the HOME directory

```

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*****
COMM UNIT   :Program Unit Setup:           MENU OPTIONS:
        FILE UNIT       :    FEET           FILE       TOGGLES FROM FEET TO METER
        DISPLAY UNIT    :    FEET           FOR FILE UNITS
        STATION         :SS+SS.SS          DIS        TOGGLES FROM FEET TO METER
                                                FOR INPUT AND OUTPUT UNITS
EÍÍÍÍÍÑÍÍÍÍÍÑÍÍÍÍÍÑÍÍÍÍÍÑÍÍÍÍÍÑÍÍÍÍÍ» STA    TOGGLES FROM SS+SS.SS TO
°FILE 3 DIS 3 STA 3          3          3          0    SS+SSS.SS
EÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍ¼

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TRVERSE PROGRAM   VER. 4.3M           PAGE 3 OF 9
KEY               PROMPT              EXPLANATION
---             -----             -
STORE E&A         Enter Coord          Always EXIT to leave the program "clean"
(PRG)             :Point No.: <        Enter a known coordinate into the file.
                 :N:                  Use the cursor keys to move to each
                 :E:                  field of entry. Press ENTER to continue
*****          Press ENTER again for another E&A
STORE TSO         Prompt for a station on a tangent to be
(STO)             :STA:<              defined. Key in station value and press
                 :STA:<              ENTER. No station entry for 0
.....
                 Enter direction of tangent.
                 SEE TRAV FOR BEARING INPUT
.....
                 N 00 00 00.0 E      enter station and offset
                 :Station:<          Press enter to continue
                 :Offset:0
*****
STORE DEL         DEL  COR             Delets a series of points
                 :FROM:<            Key in first point to delet
                 :TO:               Key in second point to delet
                 Use the cursor keys to move between
                 fields
*****
COGO POB          Point of Beginning   Enter the point number of a known
(COS)             :Point No.:1<       point from which to do computations
                 Defaults to #1 Press ENTER to continue
                 Press ENTER again to go to TRAV
*****
COGO TRAV        Traversing From Pt 1   Enter a traverse bearing for the first
(CST)             Ref Brg N 00 00 00.0 E or a bearing or angle for any other
                 :Brg or <: <       traverse leg. Use the cursor keys to
                 :Code:1            to move to the code field.
                 Angle Codes (0=Pt to Pt bearing recall
                 1=NE 2=SE 3=SW 4=NW 5=AZ

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6=AL 7=AR 8=DL 9=DR)

Press ENTER to continue
or

ÉÍÍÍÍÍÑÍÍÍÍÍÑÍÍÍÍÍÑÍÍÍÍÍÑÍÍÍÍÍÑÍÍÍÍÍ»
° HMS+³ HMS-³ WHAT³ 3 3 °
ÈÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍ¼

MENU OPTIONS:
HMS+ will add two angles or bearings at the bearing prompt ex. (10^23' + 34^43') enter as 10.23 (SPACE) 34.43 (HMS+)(ENTER)
HMS- same as above
!!!! An angle code MUST be entered !!!!
WHAT Will take you back to the What Now prompt
Press ENTER to continue

.....
Traversing
N 00 00 00.0 E
:Dist ?:<

Enter distance to traverse
Press ENTER to continue
MENU OPTIONS:
ZA Zenith angle toggle key
Press ZA and ENTER to toggle from Horizontal to slope distances

ÉÍÍÍÍÍÑÍÍÍÍÍÑÍÍÍÍÍÑÍÍÍÍÍÑÍÍÍÍÍÑÍÍÍÍÍ»
° ZA ³DC->R³ 3 ³STAC ³WHAT °
ÈÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍ¼

DC>R
Convert a degree of curve to a radius ex. (5^30'=1041.74145)
enter as 5.30 (DC > R) (ENTER)

KEY TRAVERSE PROGRAM PROMPT

VER. 4.3M PAGE 4 OF 9
EXPLANATION

ÉÍÍÍÍÍÑÍÍÍÍÍÑÍÍÍÍÍÑÍÍÍÍÍÑÍÍÍÍÍÑÍÍÍÍÍ»
°CONT 3 3 3 3 3 °
ÈÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍ¼

STACK
Halt program and break out to the stack for keyed in comps and brings up another menu
CONT
Continues program execution using the distance in the stack
Press ENTER to continue

.....
PT 1
N 00 00 00.0 E
HD 000.000
:Point No.:2<

Prompts with the next sequential point number. Press ENTER to accept or key in the number you want and then press ENTER.
.....
PT 2
N 0000.0000
E 0000.0000
Displays coordinates of computed point
Press ENTER to continue traverse
or
select next routine from menu

F(F)D(D)What Now ?TRAV

COGO AREA Total HD 0000.000
(EVAL)

Displays total horizontal distance traversed or inversed and prompts for the beginning point of the closed figure. Key in point and press ENTER

:Close to Point:1<
.....

N 00 00 00.0 E	Displays closing bearing
HD 0.000	closing distance
N 0.000	N error
E 0.000	E error
1: 100000	Precision ratio
43560 Sq Ft	Area in square feet
1.000 Ac	Area in acres

Then press ENTER to continue

COGO INVER	Inversing from Pt 1	Displays next sequential point to
(TAN)		inverse to or key in next point number
		Press ENTER to continue
		Press (+/-) to close to point with out
	:Point No.:2<	changing current point

.....

N 00 00 00.0 E	Displays bearing and distance between
HD 000.000	points and point number
PT 2	Press ENTER to inverse next point or
F(F)D(D)What Now ?INVER	Select routine from menu

COGO SS		Enter a side shot bearing or angle.
(+/-)		SEE TRAV FOR BEARING INPUT
		Enter distance of side shot
		SEE TRAV FOR DISTANCE INPUT

.....

PT 1	Prompts with the next sequential point
N 00 00 00.0 E	number. Press ENTER to accept or key
HD 000.000	in the number you want and then press
:Point No.:3<	ENTER.

.....

PT 2	Displays coordinates of computed point
N 00000.0000	Press ENTER to continue side shots
E 00000.0000	or
F(F)D(D)What Now ?SS	Select routine from menu

TRAVERSE PROGRAM VER. 4.3M PAGE 5 OF 9

KEY	PROMPT	EXPLANATION
---	-----	-----

INTER BB		Enter the first direction.
(VAR)		SEE TRAV FOR BEARING INPUT

.....

B-B	Key in point number for PI
:PI Point No.:<	Press ENTER to continue

.....

	Enter the second direction.
	SEE TRAV FOR BEARING INPUT

.....

B-B	Key in point number of a second point
	to hold the second direction from.
:To Point No.:<	Press ENTER to continue

.....

PT 1	Displays From first point number
N 00 00 00.0 E	Bearing to PI
HD 000.000	HD to PI
PT 3	PI point number

N 00 00 00.0 E Bearing from PI
 HD 000.000 HD from PI
 PT 2 To second point number

INTER BD Enter the known direction.
 (VAR) SEE TRAV FOR BEARING INPUT
 Enter distance to intersect from
 Second point.
 SEE TRAV FOR DISTANCE INPUT

.....
 B-D Key in point number of a second point
 to hold the distance from.
 :To Point No.:< Press ENTER to continue

.....
 PT 1 Displays From first point number
 N 00 00 00.0 E Bearing to PI
 HD 000.000 HD to PI
 PT 3 PI point number
 N 00 00 00.0 E Bearing from PI
 HD 000.000 HD from PI
 PT 2 To second point number

ÉÍÍÍÍÍÑÍÍÍÍÍÑÍÍÍÍÍÑÍÍÍÍÍÑÍÍÍÍÍÑÍÍÍÍÍ» MENU OPTIONS:
 °DIS1 ³DIS2 ³ ³ ³STO1 ³STO2 ° DIS1 SHOWS SOLUTION 1
 ÈÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍ¼ DIS2 SHOWS SOLUTION 2
 STO1 SHOWS AND STORES SOLUTION 1
 STO2 SHOWS AND STORES SOLUTION 2
 ENTER TO GET TO WHAT NOW

INTER DD Enter distance to intersect from
 (<-) First point.
 SEE TRAV FOR DISTANCE INPUT
 Enter distance to intersect from
 Second point.
 SEE TRAV FOR DISTANCE INPUT

.....
 D-D Key in point number of a second point
 to hold the distance from.
 :To Point No.:< Press ENTER to continue

..... SEE BD FOR DISPLAY AND PI STORING

KEY	TRAVERSE PROGRAM PROMPT	VER. 4.3M	PAGE 6 OF 9
---	-----	EXPLANATION	-----
REPO RSO (^)	Radial Stake Out from Point 2 :Back Sight:<		Key in the back sight point number Press ENTER to continue.
 N 00 00 00.0 E		Displays bearing from the back sight to the occupied point
	:Set Point:<		Key in the point number to stake out Press ENTER to continue.

LT 000.000

KEY	TRaverse PROGRAM PROMPT	VER. 4.3M EXPLANATION
---	-----	-----
	Rc 0000.0000	Press enter to continue
	Dc 1.000000	
	^c 00.000000	
	L 000.000	
	T 000.000	
	E 000.000	
.....		
	Ls+ 000.000	Press enter to continue
	0 1.00000	
	x 000.000	
	y 000.000	
	ST 000.000	
	LT 000.000	
.....		
	:PI STA:<	enter PI station or Press enter
	:TS PC STA:<	enter TS or PC station Press enter to continue
.....		
	:Point:<	enter point number of the station value you entered above
.....		
		enter back tangent bearing SEE TRAV FOR BEARING INPUT
.....		
	TS 000+00.000	enter point number for TS or PC
	N 0000.0000	
	E 0000.0000	Press enter to continue same for SC, RADIUS, CS, & ST or PC
	:Point No.:0<	or if CON PT STO IS OFF
	TS 000+00.000	
	SC 000+00.000	
	RADIUS	
	CS 000+00.000	
	ST 000+00.000	
	N 00.000000 E	

CURVE SO	Enter Station and Off.	
(->)	+/- for offset Left	
	:Station:<	Press enter to continue
	:Offset:0	
.....		
	POC 000+00.000	enter point number
	:Point No.:1<	Press enter to continue

