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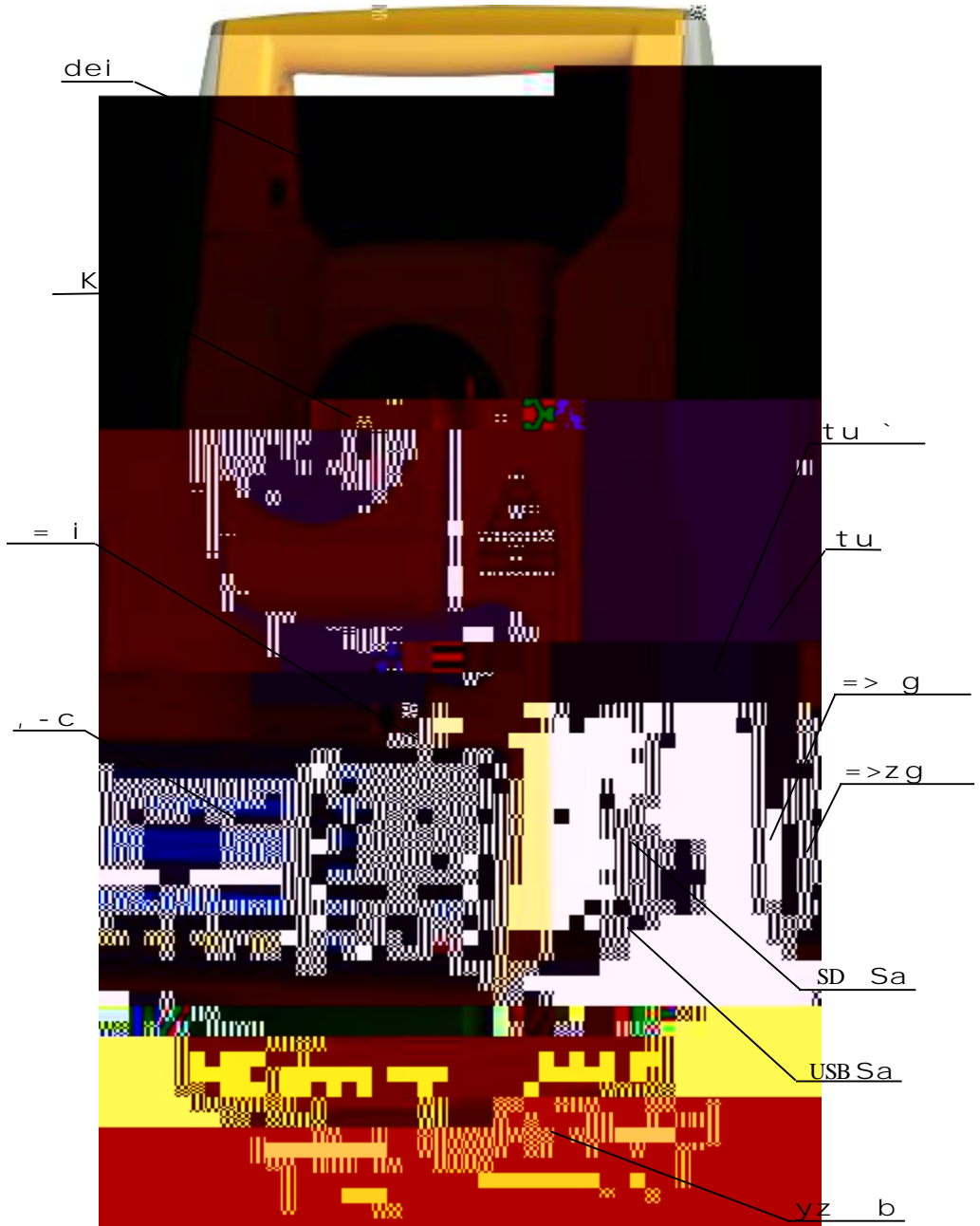


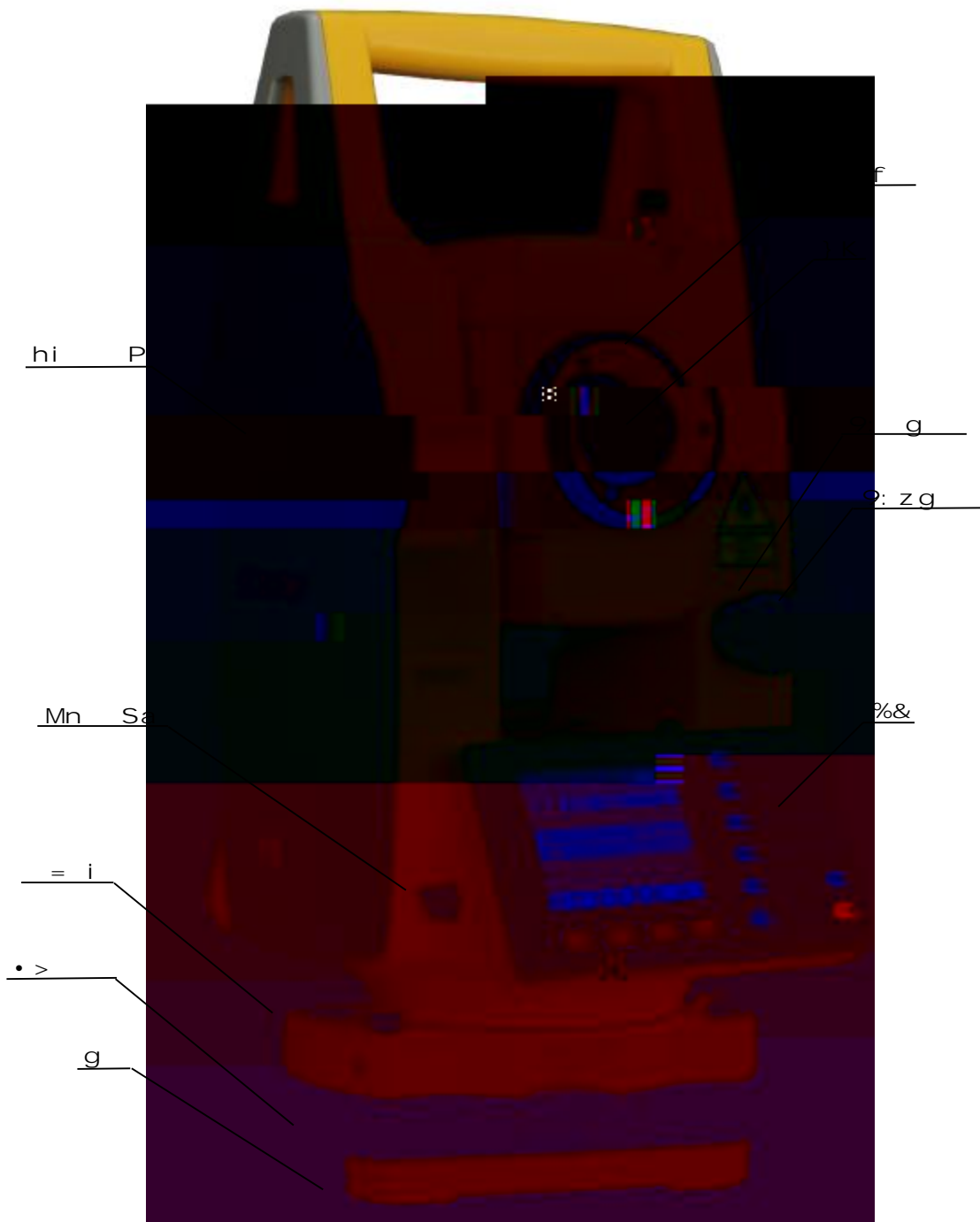
b KL 7MD ONO P
c: *Q Rk st: O% O hi #. O%
d S*Q O k? & ?TU VW O% O%X (K
L(&Ec*) 7 k g p@YQ O%
e O%? p@78 " k?
f O~S Z[qr \CyG?k]
g: *Q O%) I > KXCDZ X45 O: e > KX^
K?Z
* &Ecr _ O%F 2 O% k; <&?dQEc

92 Class 3R / , a () &8%46A%: ; <2=AB1 1000m(3300ft)<>?AB
@A<() B=CDE Class 1(FGHI) J sKLMN=)O

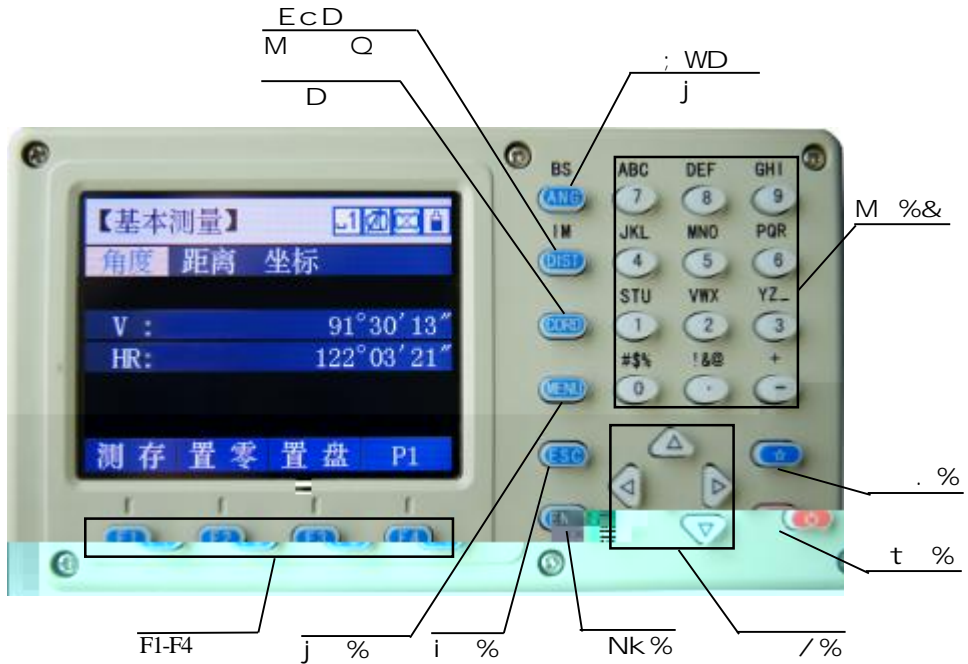
\$P%&' () * +, - . /

1.1





1.2



QRST

h %	# \$	' (
ANG	; WD %	; WD 23(i)
DIST	EcD %	EcD 23(Q M /)
CORD	D %	D 23
MENU	j %	j 23
ENT	Nk%	f yMn q Mn
ESC	i %	Ul c mN c , - c c 23
i	t %	t ? 4/5
F1nF4	%	' (op, -? * +
0n9	M %	M < j Uj g
Un -	j P%	j PXeM XCqP
★	. %	hi . %L ' (?

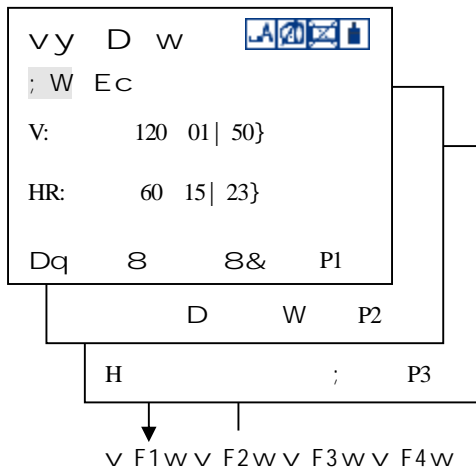
VWSTh

, - j P	
V%	9: ; (W, -)
HR	=>; (;)

HR	=> (;)
HD	=>Ec
VD	
SD	AE
N	r /
E	s /
Z	
m	
ft	
fi)

1.3

; WD 23 (t u j)



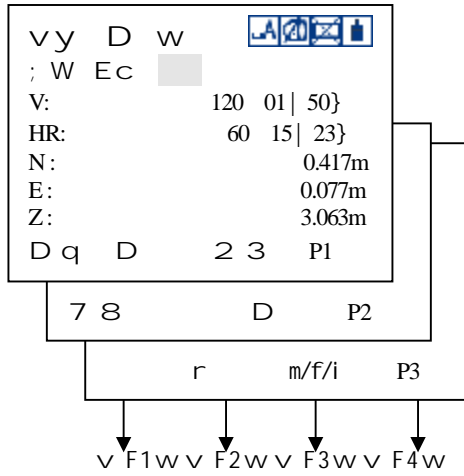
xM	%	, - j P	' (
y 1x (P1)	F1	Dq	g; WD D Mn D ?o" (D o" < o" Mn '(j)
	F2	8	=>; 8
	F3	8&	%& 78 =>;
	F4	P1	, - y 2x '% (
y 2x (P2)	F1		=>; TM
	F2	D	=>; D
	F3	W	9: ; /z { W?Q
	F4	P2	, - y 3x '% (
	F1	H	hi g2=>; 0 90 180 270 r ? 78

y 3x
(P3)

F2
F3

=> ; / ; ?

D 23(t u j)



xM	%	, - j P	' (
y 1 x (P1)	F1	Dq	g D D Mn D ?o" (D o" < o" Mn ' (j)
	F2	D	g D
	F3	23	78DE23 D/N D/ D/• ? , 78HI FG<JKLM
	F4	P1	, - y 2x %' (
y 2 x (P2)	F1	78	78} <hi
	F2		78 ?
	F3	D	78D ?
	F4	P2	, - y 3x %' (
y 3 x (P3)	F1		D 23
	F2	r	r 23
	F3	m/f/i	78Ec / /
	F4	P3	, - y 1x %' (

1.4 ()

h (O)% c , -

[. %(O) hi 78

1X h[◀] [▶]% ~ K ? W

2X ⊗ TD (~) Tj /F4+7 1 i

/F4+4 10. 44 Tf9. 6 O TD (S) Tj 2 Tj /. tTD (4. /9. 6 O TD 6

O<1 234

2.1 /

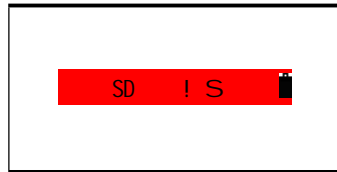
%

84t hi , - p-



h
[POWER]

SD hi SD D

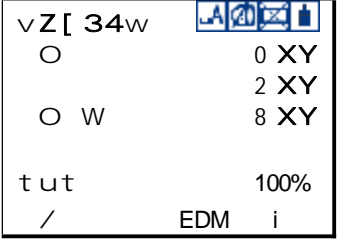




vy D w

D U fg D 23

BC9: ; < @A => ; ? g (| - (5p@O• >hi
BC9: ; 9: ; (H | -
5 i 5
hi ' a R,9: ; , - r ? ,
i 5 gEF? i ,hi | - * +
D

[] " 78@ABC

	%	, -
. (O)%23	[O]	
h[F2]%, 78' (	[F2]	
. hi @A BC •>hi h 3.2Xs8hi ? , - c , - 1) : 9: ; 9: ; <=>;		

h[F2](78)

y
1 [O] . %(O)23 h[F3]%
[F3]

√ EDM 78w	
EDM 23	D XY
HI	J KXY
J KLM	0.0 mm
R	7 P1

√ EDM 78w 78i

y h[]% g, J KLM? M
2 [] h[◀ ▶]%~ J K23
78J KLM

y 1	[O]	. %23	<div style="border: 1px solid black; padding: 5px;"> vL 78w O 0 XY 2 XY O W 8 XY tut 100% / EDM i </div>
y 2	[F3] [F4]	h[F3](M)% M78 h[F4]/P11 x	<div style="border: 1px solid black; padding: 5px;"> vEDM 78w EDM 23 D XY H I J KXY J KLM 0.0 mm * P LM P2 </div>
y 3	[F1]	h[F1]/*P1 , - HI O? W(*P) hi S ? O W c Z- 1 1)	<div style="border: 1px solid black; padding: 5px;"> vEDM * Pw EDM FG RX <div style="background-color: black; width: 50%; height: 15px; margin: 5px 0;"></div> 50% mN </div>
1)h[ESC]% mN. %23			

2.6

EcD EcZ D QR " ? !
S QR " ? ! EcD @ R BC M BC
VW hi ? RVW
RY hi ? QRY
PPM Z \] < D ? R BC
NTS h R " (hi R BCZ 0 ? R ")
RY 1013hPa
VW 20 C
QRBC ? \]
S = 278.44 0.294922 P / (1 + 0.003661T) (ppm)





3

S

P RY (hPa)
 . ?RY r mmHg h 1hPa = 0.75mmHg]
 T VW (C)

2.6.1

i D VW<RY hi nBC 3] QRBCZ (PPM)

	%		
y 1	[O] [F3]	. %23 h[F3](EDM)%	<div style="border: 1px solid black; padding: 5px;"> vEDM 78w  EDM 23 D XY HI JKXY JKLM 0.0 mm R 7 P1 </div>
y 2	[F1]	h[F1]%(R) R M n78	<div style="border: 1px solid black; padding: 5px;"> vR Mnw  ^O M 0.14 V W 20.0 R Y 1013.0hPa R BC 0.0PPM mN i PPM=0 7 </div>
y 3	[F2] [◀ ▶] [F3]	h[F2]%(i) i 78, i h[◀ ▶]% j k i 4 h[F3]%(T U) c , - VW<RYZ	<div style="border: 1px solid black; padding: 5px;"> v i w  i 4 XY V W Z 20.0 R Y Z 1013.0hPa mN TU 7 </div>
y 3	[F4]	h[F4](7) c mN R M nu hi ! fg\] PPM Z 1)	<div style="border: 1px solid black; padding: 5px;"> vR Mnw  ^O M 0.16 V W 27.0 R Y 1008.0hPa R BC 7.9PPM mN i TU 7 </div>

1) i 4 R Mnu [F3] 8, - TU Ju h[F3]% fg U
34?VWXRY<R BCZ

2.6.2

OD] D ?VW<RY VW+25 RY 1017.5

	%		, -
y 1	[O]	. %23	<div style="float: right; text-align: right;"> </div> vL 78w O 0 XY 2 XY O W 8 XY tut 100% / EDM i
y 2	[F3]	h[F3](EDM)% EDM 78' (.)	<div style="float: right; text-align: right;"> </div> vEDM 78w EDM 23 D XY HI J KXY J KLM 0.0 mm R 7 P1
y 3	[F1] [F4]	h[F1](R)% R Mn VW <RY n ?VW<RY \] PPM Z 1) 78 h ENT 5h [F4](7)% c mN EDM 78	<div style="float: right; text-align: right;"> </div> vR Mnw ^O M 0.15 V W 20.0 R Y 1013.0hPa R BC 1.0PPM mN i PPM=0 7
(	1): VW RY n ?VW<RY] Mn	i 5 H(g VW<RY1 \] PPM Z 3.7 M ? -99.9 n+99.9 (0.1) -99.9n+99.9 (0.1) 0n1066hPa(0.1hPa) 0n1066mmHg(0.1 mmHg) 0n1066i nHg(0.1 inHg) ?QRBCZ 999.9ppm mN y 2	

2.7

hi >ED < D QR^O<_` ab? ! fgBC
QR^O<_` ab?BCA p ? 3\]

\q[] 8^Ah

$$D=S * [\cos + \sin * S * \cos (K-2) / 2Re]$$

\q[] 8_` h

$$H= S * [\sin + \cos * S * \cos (1-K) / 2Re]$$

asnobcd) efghi q[,j ab^Ae_` 8k?I :

$$D=S \cos$$

$$H=S \sin$$

?mh

$$K=0.14$$

$$Re=6370 \text{ km}$$

()

S


QR^O M

_` ab

=> F] ? ; (9: ;)

AE

	%		
y 1	[O]	. %23	<div style="border: 1px solid black; padding: 5px;"> vL 78w O 0 XY 2 XY O W 8 XY tut 100% / EDM i </div>
y 2	[F3]	h[F3](EDM)% EDM 78' (.)	<div style="border: 1px solid black; padding: 5px;"> vEDM 78w EDM 23 D XY HI JKXY JKLM 0.0 mm R 7 P1 </div>

y 3	[F1] [F4]	h[F1](R)% R Mn ^O M 1) 78 h ENT 5h [F4](7)% c mN EDM 78	 vR Mnw ^O M 0.15 V W 20.0 R Y 1013.0hPa R BC 1.0PPM mN i PPM=0 7
(	1)	3.7 M ? hi ?QR^O M 78 K=0.14 KZ 0.0 0.2 j	


2.8 /

deTM? 78, j k; W/EcD ?, -

hi FG	; W	Ec
NTS-380R	1} /5} /10} /0.1}	1mm /0.1mm

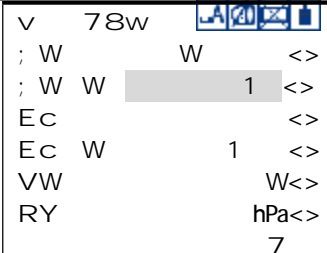
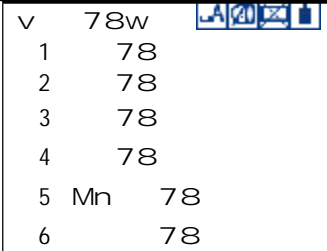
[]; WdeTM 0.1}

h[MENU]%, j 5hM %[5]([MENU]
78) [5]

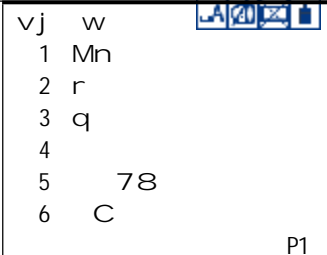
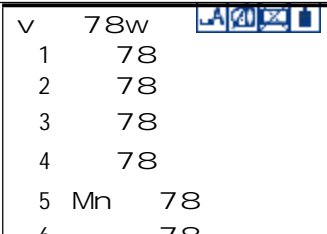
vj w	
1 Mn	
2 r	
3 q	
4	
5 78	
6 C	
	P1




v 78w 

h[1]%(78) [1]

<p>hh[]%j k 78; W Wj g h[◀ ▶]%~ , h[F4](7)</p>	<p>/% [F4]</p>	
<p>c mN 78j</p>		

2.9

<p>7 Rh% C ?D hi fg56</p>	<p>%</p>	<p>, -</p>
<p>h[MENU]%, j ,5hM %[5](78)</p>	<p>[MENU] [5]</p>	
<p>78u</p>		

h[4]%(R78)	[4]	 v R78w 9; 23 <> DE 4 <> h% 4 <> 4623 Ec<> fg56 5 <> 23 SD/HD<> 7
h[◀ ▶]% fg56 7 10 /20 /30 /5 j k 5h [F4](7)%	/ [F4]	 v R78w 9; 23 <> DE 4 <> h% 4 <> 4623 Ec<> fg56 5 <> 23 SD/HD<> 7
c mN 78j		 v 78w 1 78 2 78 3 78 4 78 5 . Mn 78 6 . 78

2.10



h 12.9 hi LM ?] hi LMZ hi LM78?

%

, -

vL 78w 

[O]% j ,h[F3]%, /EDM1 7 [O]
8u [F3]




<p>[EDM]78u h[F4](P1)% o[LM]j g h[F2](LM)%</p>	<p>[P1] [F2]</p>	<p>vEDM 78w  EDM 23 D XY HI JKXY J KLM 0.0 mm * P LM P2</p>
<p>[LM78]u [LM]<[L M] 78 78 U h [F4]7 % u mN[EDM]78</p>	<p>LM [F4]</p>	<p>vLM78w  L M 0.0mm L M 0.0 ppm mN 7</p>
<p>1) 3.7 M ? 2)h[ESC]% UI 78 ! " # \$%&' () * + , - . / 0 1 2 3 4 5 6 7 8 9 : ; < = > ? @ A B 3 4 C D 7 8 - . / & O 1 (D) E F G H I J K L M O N O O 1) P ? Q R S 3 4 , 6 T U V A B 3 4 C</p>		

2.11

%

vj w

[MENU]% j h[F4](P1)% , - [MENU]
j ,5hM [1]% [F4]
[1]

<p>h[F1](~)% , - cpj ?l m o" Z 2)</p>	<p>[F1]</p>	<p>vj ko" w  C001.SCO | m C002.SCO | m C003.SCO | m D P1</p>
<p>h[]% o" Z/ / g j l mMno" h[◀ ▶] x</p>	<p>[]</p>	<p>vj ko" w  C001.SCO | m C002.SCO | m C003.SCO | m D P1</p>
<p>h[ENT](NK)% ~ o" ' ,mN j 2/2</p>	<p>[ENT]</p>	<p>vj w  1 j k l m Mno" P2</p>
<p>1) 3.7 M ? 2) & Z2 11.1.1 q < 3\$ &</p>		

5P67" 89:

3.1

no

_r p = 84p ? 4p U hi

SL

{ | KK ! ? 9: g < yz ? = i hi > ({ | K
KU) r p ` 9: g p , 5

3.2

hi sv t; A f • > < GD ? W(?
! S ? t; A)

UpqRr h

hi sv t; A f • > < GD ? W

1 Py [s g m m Y t ^

1) A 7 t; A

O t; A 8 4 t; A ? t E => ` t

t; A ?) D ! "

` t; A \$ _ % & _

2) hi s 8 t; A

hi e _ s 8 t; A : ' Whi (: 4 ! S

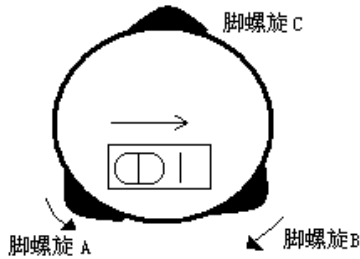
AM hi : " ` D P ? ` ! S

3)) = i d > hi

~ | ((((!) > hi

~

~



hi - 90 5 (C = i R*



5 hi 90 , X : . 8 R* Q

2Py[) umm&mm

1) A7t; A

t; A/ W f t X84 t; A => 7 D
?C t; A %& _

2) s8hi <

hie _s8 t; A ` !S ~•O i OH
1 'W(~ \ ?A O i?#\$~ ~ ? 8
O iQ D t; At i _ ~ h?t
O i f D

3)) = i d>hi

~•t; At ? W h = R*

4)) = i >hi

4=> g ghi = i > , AXB?!

AXB = i R*

hi 90 9: AXB?! C = i *

5) f) •>

O i?#\$ z 4 !S > hi (hi) hi
f D 5 ` !S 5 >hi
Jg 2hi f D Q

3.3

vwx y

-----t x
-----2 J*+ tu3 4e 4. (5' l 6?
?tu xt 5
-----t C 7 B 8% tu xt
9: l --_9: ;t56Q< ="> tu t M tu
xt

(tu ? ?U@ 34 " VWXxt <xt?
M s Fo |cxt x t? tu
tu , -vO) c?D 23 5 ;WD 23 tu
A (A Gtu EcD 23 (EcD 236t
; WD

SL~g•t h

xttu xt 300-500 tu rt l? JK
_]tu?d JK G 8xt

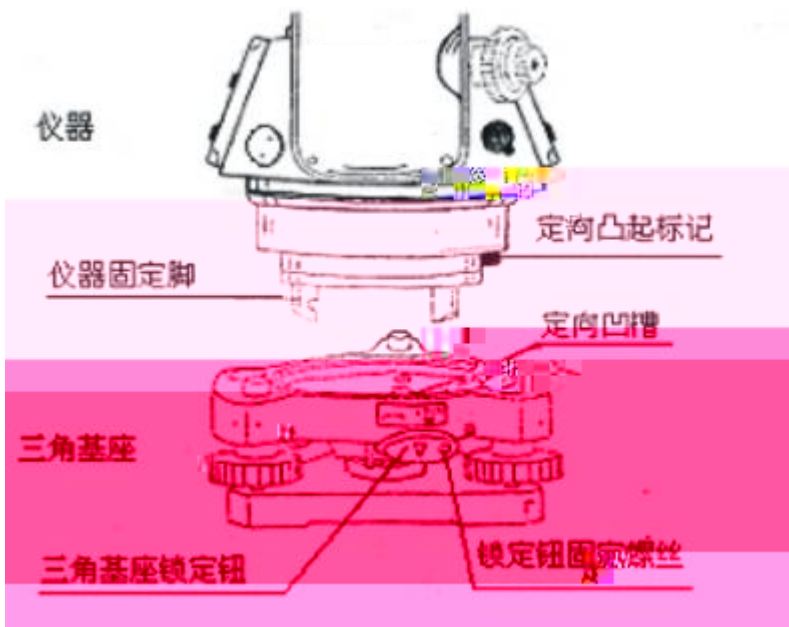
3.4

h O D Ec @ } 'r8HI JK HI JK
(L)JK yz! Si JK !S yz s8 t A :
Ss8 JK [5 n :f u8
DMhi Npo~?JK p-



3.5

!
: t; yz _hi (D yz?HI JKyz! Si) w O
O 4yz b P Q g b



!"
hi ? /R)yz / ^ S fhi ?t r yz?
T hi v t; yz U Q g b 180 hi) yz 5 O
b

3.6

e } ? (V W)
{ | K } KX ~Y. H (O f Z / } KX5
[[~YH\)4
) de i ?t; P?]e } st)e i 1
Ec4
) { | K~Y } OH1
st } KU g 2 ~Y } K^OW~
! #D? W de~Y ~ } KXI

3.7

NTS-380R h%&f j M % J 5 :S M < j
*# \$G%


```
h[.] |
h[2] 2 4h[0] 0
h[F4] 7
J =>; WM 90 10| 20}
*# $%S
[ 3] Mn 23 ?D l m SOUTH1
1X [F4]%, Mn u
```

2X Mn u hM %[1] 78D

3X h[DIST]% Q 3 h [DIST] 3 M <
Q

gh&' (mVW) %* +~, &# \$G%< VW) G%+~, &# \$%* O
- [ANG](. /)Q<&O1 # \$8%SO
&2# \$8%* m23456%* > 7\$Q8<># \$- m8906%* ~ <
) E: ; <: E<

; P<=67>?

4.1

=>; ; <9: ; ?D

f y' ; WD 23

e } ? (V W)

{ | K } KX ~Y. H (O f Z / } KX5

[[~YH\)4

) de i ?t; P?]e } st)e i 1

Ec4

) { | K~Y } OH1

st } KU } 1] £> (1) Tj /F4+1 1O. 44 Tf9. ðhj

4.2 (/)

f y' ; WD 23

% , -

) =>zg p: 78?=>
h[P1]% [P2]x

, - ; W


vy	D	w	
; W Ec			
V :		120 01 | 50}	
HR:		90 09 | 30}	
Dq	8	8&	P1

vy D w
; W Ec

V : 120 01 | 50}

H 5

[P2]x , ; []' (%

} h[F3](8&)%	[F3]	vy D w  ; W Ec V : 120 01 | 50} HR: 90 09 | 30} Dq 8 8& P1
%& p ?=>; TM h[F4] 7 % 1) 150 10 | 20}	[F4]	v 8=>; w  =>; 150 10 | 20} mN 7
=>; W\ 78 e _p: ?=>; CL?D		vy D w  ; W Ec V : 120 01 | 50} HR: 150 10 | 20} Dq 8 8& P1

4.4 (%)


f y' ; WD 23

%

vy D w 

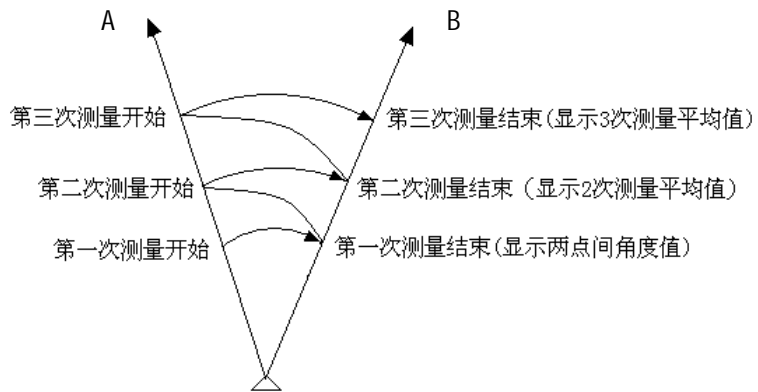
① [F4] x%[P1] [P2]

[F4]

h[F3](W)% 1)	[F3]	<div style="border: 1px solid black; padding: 5px;"> vy D w  ; W Ec V : -57.84% HR: 120 09 | 30 } D W x </div>
1) h[F3](W)% , - 23 dQ WS 90 (fQ) , - 4 | - ( ( D))		

4.5

=>; (;)D 23 ; W D
 f y' =>; (;)D 23












%

vy D w 

h[P1]% [P2]' (j

[F4]

<p>h[F2](D)% ; W D23</p>	<p>[F2]</p>	<p>v; W Dw </p> <p>M 0</p> <p><Z 0 00| 00}</p> <p>i Z 0 00| 00}</p> <p>HR: 120 09| 30}</p> <p>i</p>
<p>} A h[F1]()%</p>	<p>} A [F1]</p>	<p>v; W Dw </p> <p>f D b</p> <p>r</p>
<p>h[F3](f)% D' (u</p>	<p>[F3]</p>	<p>v; W Dw </p> <p>M 0</p> <p><Z 0 00| 00}</p> <p>i Z 0 00| 00}</p> <p>HR: 0 00| 00}</p> <p>i</p>
<p>=> g<zg } B h [F4]()%</p>	<p>} B [F4]</p>	<p>v; W Dw </p> <p>M 1</p> <p><Z 120 20| 00}</p> <p>i Z 120 20| 00}</p> <p>HR: 120 20| 00}</p> <p>i</p>
<p>g => g<zg 5 } A h[F4](h)%</p>	<p>} A [F4]</p>	<p>v; W Dw </p> <p>M 1</p> <p><Z 120 20| 00}</p> <p>i Z 120 20| 00}</p> <p>HR: 0 00| 03}</p> <p>i h</p>
<p>i => g<zg 5 } B h[F4]()%</p>	<p>} B [F4]</p>	<p>v; W Dw </p> <p>M 2</p> <p><Z 240 40| 02}</p> <p>i Z 120 20| 01}</p> <p>HR: 120 20| 05}</p> <p>i</p>




<p>j gni : p : ?D M 6 1) 2)</p>		<p>v; W Dw  M 6 <Z 722 00| 06} i Z 120 20| 01} HR: 120 20| 00} i h</p>
<p>k. : i ; W D h[F2](i) h [F3](f) c mNCLD; 23</p>	<p>[F2] [F3]</p>	<p>v; W Dw  f i ; W Db r vy D w  ; W Ec V : 120 01| 50} HR: 120 09| 30} D W P2</p>
<p>1)=>; | \ (3600 00| 00} - deTM) =>; (;)?m deTM 5 ?m =>; | \ 3599 59| 55} 2). ; W#D8) #DZD 30} , - * +</p>		

4.6 90

=>; n 0 (90 X180 270) 4 30| ! F. S 15}
oQ Jg7856 1 fy' ; WD 23

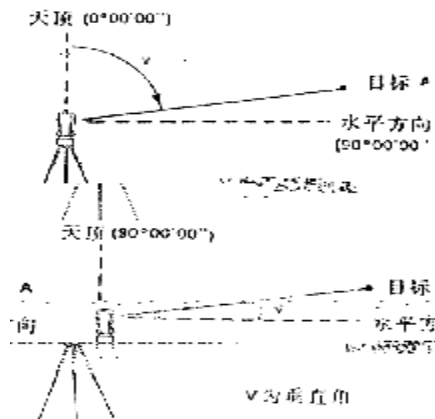
% , -
vy D w 



[F4](P1)%~ [P3]' (x [F4]
~

<p>h[F1](H)% , - 78</p>	<p>[F1]</p>	<p>vHA w </p> <p>45 5 < ></p> <p>mN 7</p>
<p>h[◀ ▶]% j k i ? 4/5 78 U h7 mNy D u</p>	<p>[◀ ▶]</p>	<p>vHA w </p> <p>45 4 < ></p> <p>mN 7</p>
<p>78 U h[7] mNy D u</p>	<p>[F4]</p>	<p>vy D w </p> <p>; W Ec</p> <p>V: 10.30%</p> <p>HR: 120 09 | 30}</p> <p>H ; P3</p>

4.7

9: ; , - p-



	%	, -
h[P1]~ [P3]' (u	[F4] ~	<div style="border: 1px solid black; padding: 5px;"> vy D w  ; W Ec V: 19 51 | 27} HR: 120 09 | 30} Dq 8 8& P1 </div>
h[F3](;)% 1)	[F3]	<div style="border: 1px solid black; padding: 5px;"> vy D w  ; W Ec V: 70 08 | 33} HR: 120 09 | 30} Dq ; P3 </div>
1) h[F3](;)% , - 23 dQ		

@PAB67>?

NTS-380R h D DE23 ODE "
 HI } (F) EcD pD ?Ec: p : p f
 &- / 67 Q~<%&>m>) d%8 EnoAB67O
 DE kXqkXg Xrg?st DEO ! O%
 HI Nhi _ Ec8 ? f
 HI i D 23 u HI D 23 D : O%\uV%v

?@A6A

f O% \w O ? R HI b? HI
 gEcD EDM O ? DE J O x yz
 (?qk Q] X{ r | } - ~) EDMpD ?Ecr d yz ?E
 c
 EcD O% c !D W r •? O%
 ?HI () ? J 5 f~• f O%)
 (o 12.11 JKDE !)
 : ~ hi } D

m@ABC6ADI [E9>?(@A>?)O

EF() 9GHI J 6A

O HI DE GD W : O%9: HI 7
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Kks7HI @A8[K^LZGO

EcD c L : fyQRBC?78<JKLM?78 5 EcD
 5 QRBC<JKLM?78 cXh 78

5.1

--	--	--

h [DIST] % DEu EcD [DIST]
4 1)

vy	D	w		
; W		Ec		
V:	87	25 25}		
HR:	120	09 30}		
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>E:	----.----m			
:	----.----m			
Dq	D	23	P1	

[F2]D

vy	D	w		
; W		Ec		
V:	87	25 25}		
HR:	120	09 30}		
AE:	241.551m			
>E:	235.343m			
:	36.551m			
Dq	D	23	P2	

vy D w

D U , - pDEc
D ?u 2) 3)

1)	Ot DE (EDM)C	D u	[F4][oQ]%i	D u
2)	Ec?	Z-	m ()X ft ()X fi ()	e- EcM
	n			
3)	D 8	QR g?	! hi fg	D
4)	3	7.6Mn	78	

5.2

NTS-380R h|V D / D2 / D3 / D4 / D5 / D!
" /• D D 23 5 n : j k

%

vy D w 

h[DIST]% DEu EcD [DIST]
4

%

, -

vy D w

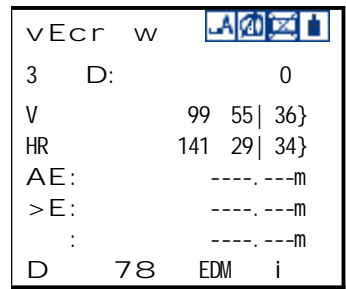


① [P1]% [P2]' (u

[F4]

h[F2](r)%

[F2]



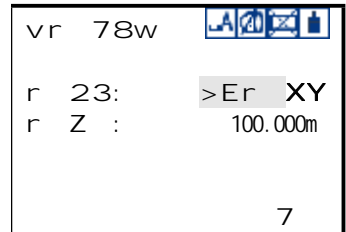
h[F2](78)78r D 23 h

%j k>Er r AEr t D [F2]

23,h/ %78 r MZ 1). U [◀ ▶]

h[F4](7)% q. ,78 > [F4]

Er 23.



vEcr w

N Ecr u

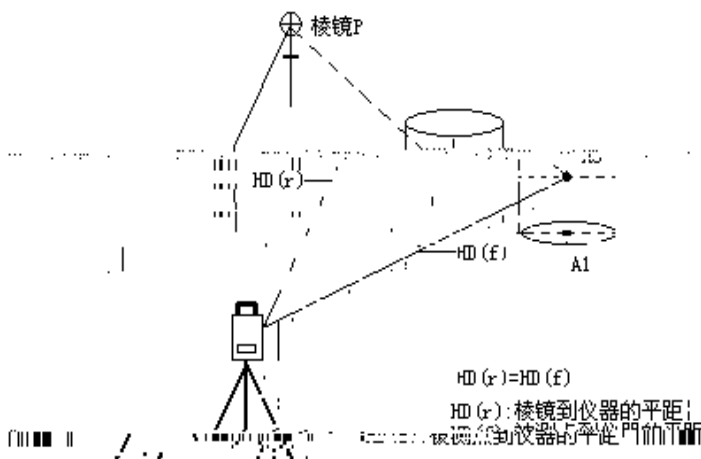
<p>g g} JK : 2>E, - 0m Q</p>	<table border="1"> <tr> <td>vEcr w</td> <td colspan="3"> </td> </tr> <tr> <td>3 D:</td> <td colspan="3">0</td> </tr> <tr> <td>V</td> <td>99</td> <td>55</td> <td>36}</td> </tr> <tr> <td>HR</td> <td>141</td> <td>29</td> <td>34}</td> </tr> <tr> <td>AE:</td> <td colspan="3">2.164m</td> </tr> <tr> <td>dHd:</td> <td colspan="3">0m</td> </tr> <tr> <td>:</td> <td colspan="3">1.250m</td> </tr> <tr> <td>D</td> <td>78</td> <td>EDM</td> <td>i</td> </tr> </table>	vEcr w				3 D:	0			V	99	55	36}	HR	141	29	34}	AE:	2.164m			dHd:	0m			:	1.250m			D	78	EDM	i
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5.5

- . D 23
- 1q; W D
- 2qEc D
- 3q> D
- 4q D

5.5.1

JK: SA7 J 23r ? s ? : : s8JK
 <hi >ED ? P 78hi W/} D] \ D
 8?
 D A0? — A1? 78hi /}
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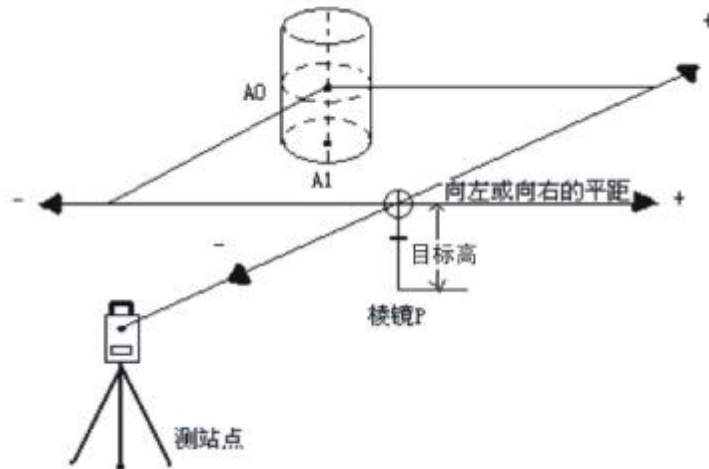
D c 78hi /}
78D ? 6.2D ?78

	%	, -																														
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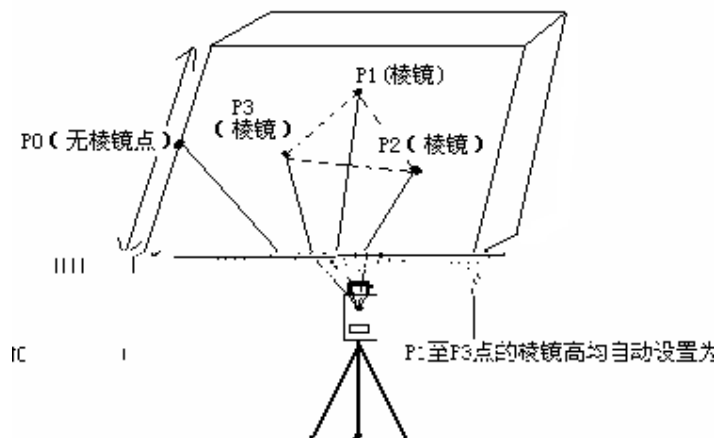
<p>) => g) z g A0 , - hi A0 ? AEX > EX</p>	<p>A0</p>	<table border="1"> <tr> <td>v; W</td> <td>w</td> <td></td> </tr> <tr> <td>V</td> <td>99 55 36}</td> <td></td> </tr> <tr> <td>HR</td> <td>141 29 34}</td> <td></td> </tr> <tr> <td>AE</td> <td>3.564 m</td> <td></td> </tr> <tr> <td>>E</td> <td>2.175 m</td> <td></td> </tr> <tr> <td></td> <td>1.278 m</td> <td></td> </tr> <tr> <td>Ec</td> <td>D</td> <td></td> </tr> </table>	v; W	w		V	99 55 36}		HR	141 29 34}		AE	3.564 m		>E	2.175 m			1.278 m		Ec	D	
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<p>g, - A0 A1 ? h[] 2)</p>	<p>[]</p>	<table border="1"> <tr> <td>v; W</td> <td>w</td> <td></td> </tr> <tr> <td>V</td> <td>99 55 36}</td> <td></td> </tr> <tr> <td>HR</td> <td>141 29 34}</td> <td></td> </tr> <tr> <td>N</td> <td>0.257 m</td> <td></td> </tr> <tr> <td>E</td> <td>0.165 m</td> <td></td> </tr> <tr> <td>Z</td> <td>-0.802 m</td> <td></td> </tr> <tr> <td>Ec</td> <td>D</td> <td></td> </tr> </table>	v; W	w		V	99 55 36}		HR	141 29 34}		N	0.257 m		E	0.165 m		Z	-0.802 m		Ec	D	
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HR	141 29 34}																						
N	0.257 m																						
E	0.165 m																						
Z	-0.802 m																						
Ec	D																						
<p>1) h[F1] () % mN 4 2) h[ESC] % mN D u</p>																							

5.5.2

s u ? : D ? Ec < D P0 ? Ec
p - ? E oHD Ec D 23 D P1 , - c
, - P0 ? Ec <



JKP1 h[F1](D)%4 D
 . D23 h[F4](oQ)%8
 %D P1
 [F1]
 DE 8% , - EBC
 ?D 8



78D

6.2D

? 78

%

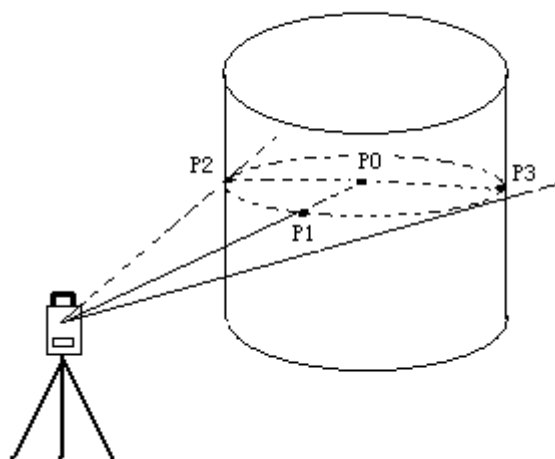
, -

DE23 h[F4](P1)% /P21'
(u

[

<p>h yc <yt D</p>	<p>P2 [F1]</p> <p>P3 [F1]</p>	<div style="border: 1px solid black; padding: 5px;"> <p>v> w </p> <p>P 1</p> <p>V 99 55| 36}</p> <p>HR 141 29| 34}</p> <p>AE: 0.556m</p> <p>>E: 0.588m</p> <p>: -0.534m</p> <p>D f</p> </div> <div style="border: 1px solid black; padding: 5px; margin-top: 5px;"> <p>v> w </p> <p>P 2</p> <p>V 108 23| 34}</p> <p>HR 141 29| 34}</p> <p>AE: 0.378m</p> <p>>E: 0.358m</p> <p>: -0.119m</p> <p>D f</p> </div>
<p>ghi \] , -) ></p> <p>? <EcZ</p>		<div style="border: 1px solid black; padding: 5px;"> <p>v> w </p> <p>P 3</p> <p>V 108 23| 34}</p> <p>HR 141 29| 34}</p> <p>AE: 0.378m</p> <p>>E: 0.358m</p> <p>: -0.119m</p> <p>D f</p> </div>
<p>i] P3 h[f]% ></p> <p>(P0)</p>	<p>P0</p>	<div style="border: 1px solid black; padding: 5px;"> <p>v> w </p> <p>V 93 49| 37}</p> <p>HR 90 09| 34}</p> <p>AE: 0.457m</p> <p>>E: 0.456m</p> <p>: -0.030m</p> <p>mN Ec i</p> </div>
<p>j h[]% , - P0 ?</p> <p>1)</p>	<p>[]</p>	<div style="border: 1px solid black; padding: 5px;"> <p>v> w </p> <p>V 93 49| 37}</p> <p>HR 90 09| 34}</p> <p>N: -0.001m</p> <p>E: 0.456m</p> <p>Z: -0.031m</p> <p>mN Ec i</p> </div>
<p>1)h[ESC]% mN D u D h()% N _ 4 D</p>		

5.5.4



hM %[4)] (

v

w



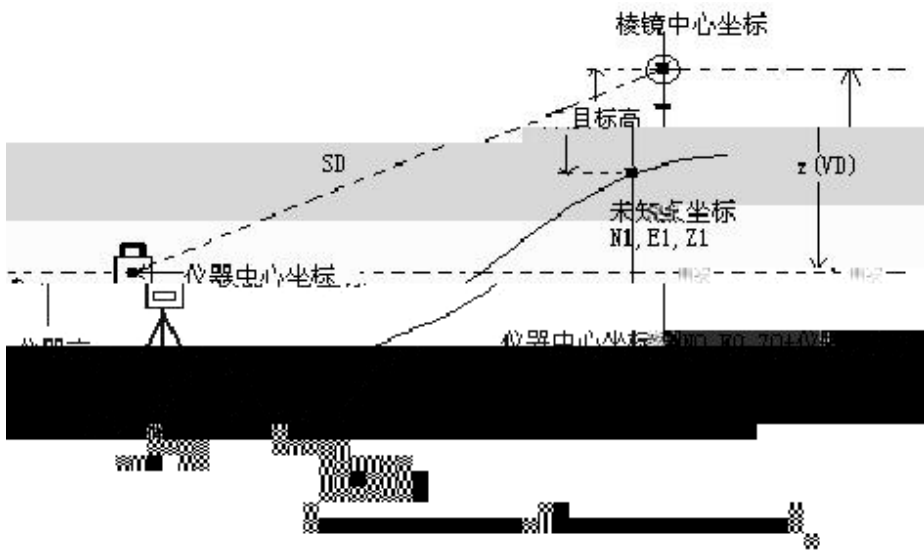
i . : , - P0 ? h[]% []
1)

CPDE 67 > ?






6.1

$hi = \sqrt{D^2 - SD^2}$
 $SD = \sqrt{D^2 - hi^2}$
 $SD = D \cdot \sin(\alpha)$
 $hi = D \cdot \cos(\alpha)$

$N_1 = N_0 + n$
 $E_1 = E_0 + e$
 $Z_1 = Z_0 + h + z$
 $hi = \sqrt{(N_1 - N_0)^2 + (E_1 - E_0)^2}$
 $z = Z_1 - Z_0 - h$
 $hi = \sqrt{(N_0 + n - N_0)^2 + (E_0 + e - E_0)^2}$
 $hi = \sqrt{n^2 + e^2}$



$D = \sqrt{h^2 + u^2}$ $MDE = \frac{h}{D}$ $E = \frac{u}{D}$ $N_0 = \dots$

<p>① } A h[F2](D)% D % [F1](Dq) D q 7 ?D 8 % #fg+1 Dq l m 2H? 4 D</p>	<p>JK [F2] [F1]</p>	<p>, - vy D w  ; W Ec  V 99 55| 36} HR 141 29| 34} N: ----.---m E: ----.---m Z: ----.---m Dq D 23 P1</p> <hr/> <p>vEcDqw  #: 1 l m: SOUTH } : 0.000m N: ----.---m E: ----.---m Z: ----.---m ` a l m D</p>
<p>, - pD</p>		<p>vy D w  ; W Ec  V 99 55| 36} HR 141 29| 34} N 36.001 m E 49.180 m Z 23.834 m Dq D 23 P1</p>

6.2

78hi (D)D ? hi fg <, - \ (})
?


h[F4] %
D 23 h[F4](P1)% / P21
' (u [F4]

vy	D	w	
; W Ec <input type="text"/>			
V	99	55 | 36}	
HR	141	29 | 34}	
N:	----.----m		
E:	----.----m		
Z:	----.----m		
Dq	D	23	P1
78	D	P2	

h[F3](D)% [F3]

v 78D w

NO 0.000 m
EO 0.000 m 0 m 0 m 0m0mf

Uh[F4]/7 1% c mN D 23	vy D w  ; W Ec V 99 55| 36} HR 141 29| 34} N: ----, ---m E: ----, ---m Z: ----, ---m 78 D P2
1) o 3.7 M ? -99999999.9999 NXEXZ +99999999.9999 m -99999999.9999 NXEXZ +99999999.9999 ft -99999999.11.7 NXEXZ +99999999.11.7 ft+inch	

6.3

注: t 5 qhi




% , -
vy D w

D 23 h[F4](P1)% (P2)' [F4]
(u

1)	3.7	M ?	
	-9999.9999	hi	+9999.9999 m
	-9999.9999	hi	+9999.9999 ft
	-9999.11.7	hi	+9999.11.7 ft+inch

6.4

Jg' (UZ Z t 5 q}

	%		
① D 23 h[F4]% /P21 ' (	[F4]	<div style="border: 1px solid black; padding: 5px;"> vy D w  ; W Ec V 99 55 | 36} HR 141 29 | 34} N: ----,---m E: ----,---m Z: ----,---m 78 D P2 </div>
h[F1](78)% , - c?hi <} ,h/ % O }	[F1]	<div style="border: 1px solid black; padding: 5px;"> v 78 Ww  hi 1.453 m } 2.000 m mN 7 </div>	
} h[F4](7)% } 78 1)	[F4]	<div style="border: 1px solid black; padding: 5px;"> v 78 Ww  hi 1.453 m } 2.000 m mN 7 </div>	
1)	3.7	M ?	
	-9999.9999	}	+9999.9999 m
	-9999.9999	}	+9999.9999 ft
	-9999.11.7	}	+9999.11.7 ft+inch

FPGHI J

Mn j ? h h [MENU]% hi j 1/2 23
h M %[1](Mn)

CLD 23

[ESC]

[MENU]

vj	w	
1	Mn	
2	r	
3	q	
4		
5	78	
6	C	

P1

v84o" w

78o"


NTS-380R D Mnq q
q D Mno" < Mno"

7.1

1X j k Mn o" p Mnq o"
 2X j k q o" Mn ? Mnq o"
 3X j k ~ Mn o" D Mn Mn? ~ (~
 Mn , J)
 4X 8D hi <D P
 5X 8 D / f ;
 6X 8 D ?} 4 q Mn

7.2

7.2.1

Op@j Mn o" gMn 23 o" j k , -
 c [J j o"
 o" j k 23 ?Mn j
 %
 vj w 






h [MENU]% hi j y x hM [MENU]
 %[1](Mn) [1]

vj ko" w 

h[]% o" Z/ g j
o" 3) []

v84o" w

h 7.2.1Mn o" ?j k ? j
k o"

<p>[Mn j hM %[1](78D), , - Mn</p>	<p>[1]</p>	<p>vMn w  1q78D 2q78 3qD 4qj ko" 5q` aMn</p>
<p>h[F3]()%</p>	<p>[F3]</p>	<p>v78D w  D StrName l m StrCode hi 0.000m NO 100.000m EO 100.000m ZO 100.000m ` a l m</p>
<p>. q [F4]()% h[F4]()% M</p>	<p>[F1] [F4] #Xl m < [ENT]</p>	<p>v Zw  1 2 3 4</p> <hr/> <p>v w  # 5 l m Code N 36.001 m E 49.180 m Z 23.834 m mN l m</p> <hr/> <p>v Zw  1 2 3 4 5</p>

v78D w 

%j k) [F2]()%j k
h[ENT](f)% j kD [F4]
1)4 Ju 78hi

h [F3]()%

[F3]

v78	w	
		BsName
| m		Code
}		2.000m
NBS		0.000m
EBS		0.000m
ZBS		0.000m
NE/AZ	| m	D

v Zw



q

[F4]()%

h [F4]()% M

[F1]

[F4]

#X| m

<

[ENT]

vD wu D #XI m
<hi [23] j kD 23
O D } ? /; XEc<
j kD Ec23

vD w
D




gD U Mn\q
h[ESC]% 8%Mn 23


7.4.2

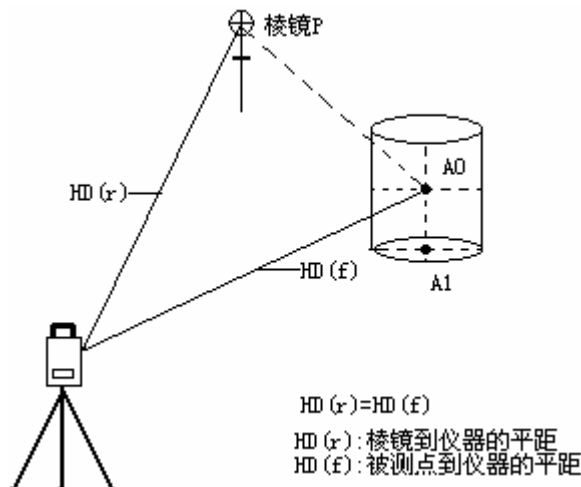
9 Mn 236 : S l m

%

vD w 
 D 8
 l m Code
 hi 0.000m
 23 DEc<>

D 23 h[]% g l m
 l m

l m ` a l m D
 vD w 



JKs8 chi } A0D =>Ec?(?} D

D _ A1? hi /}
D A0? : hi (78} 0)

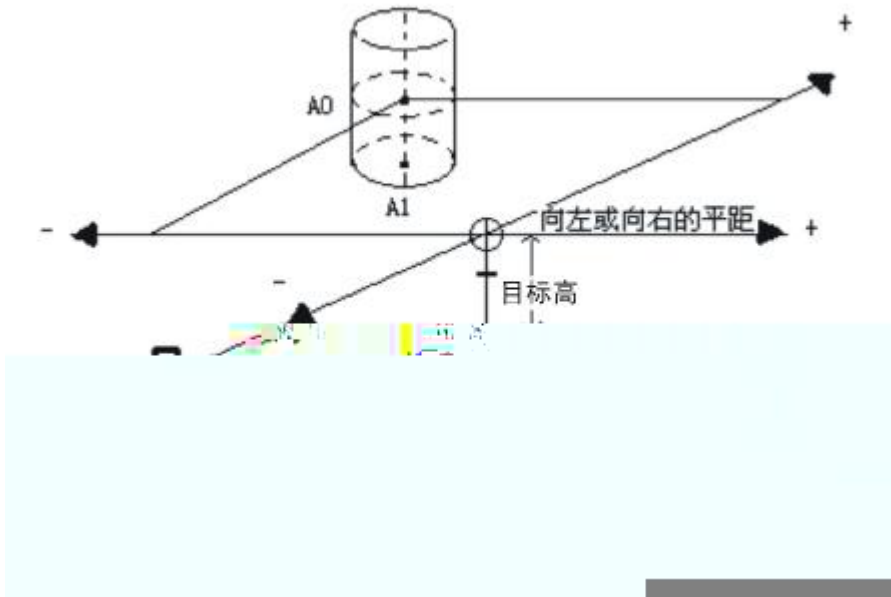
% , -

Mn D 23 h[3](D
?

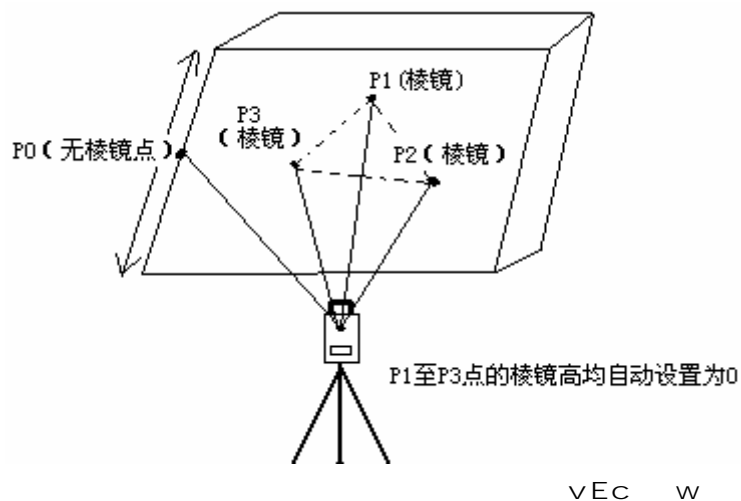
v; W w



g=> Xz g } A0 , - A0 A0
?



	%	, -
Mn D 23 h[3](D ?' (j h[F3]()%)	[3] [F3]	<div style="border: 1px solid black; padding: 5px;"> vD w # 5 l m SOUTH } 1.000 m 23 DEc<> ` a l m D </div>
hM %[2](Ec)	[2]	<div style="border: 1px solid black; padding: 5px;"> v D w 1q; W 2qEc 3q> 4q </div>
M % / X/ <c E h [F4](f y)	E [F4]	<div style="border: 1px solid black; padding: 5px;"> vEc w E 1.000m c E 2.000m f </div>



③ } ,h[F4](D)% A0
[F4]

' (D : SD ? D > ?Ec
J O 23 D > ?) t (P1 P2 P3) f \D>
D P0 hi \] , -) > Ec<

<p>4 D . D h[F4] (oQ) %</p>	<p>[F4]</p>	<table border="1"> <tr> <td>V ></td> <td>w</td> <td></td> </tr> <tr> <td>P</td> <td></td> <td>1</td> </tr> <tr> <td>V</td> <td>99 55 36}</td> <td></td> </tr> <tr> <td>HR</td> <td>141 29 34}</td> <td></td> </tr> <tr> <td>AE:</td> <td>-----m</td> <td></td> </tr> <tr> <td>>E:</td> <td>-----m</td> <td></td> </tr> <tr> <td>:</td> <td>-----m</td> <td></td> </tr> <tr> <td></td> <td></td> <td>oQ</td> </tr> </table>	V >	w		P		1	V	99 55 36}		HR	141 29 34}		AE:	-----m		>E:	-----m		:	-----m				oQ																								
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<p>D 8%, - c - yc D h yc <yt D</p>	<p>P2 [F1] P3 [F1]</p>	<table border="1"> <tr> <td>V ></td> <td>w</td> <td></td> </tr> <tr> <td>P</td> <td></td> <td>2</td> </tr> <tr> <td>V</td> <td>99 55 36}</td> <td></td> </tr> <tr> <td>HR</td> <td>141 29 34}</td> <td></td> </tr> <tr> <td>AE:</td> <td>0.556m</td> <td></td> </tr> <tr> <td>>E:</td> <td>0.588m</td> <td></td> </tr> <tr> <td>:</td> <td>-0.534m</td> <td></td> </tr> <tr> <td>D</td> <td></td> <td>f</td> </tr> </table> <table border="1"> <tr> <td>V ></td> <td>w</td> <td></td> </tr> <tr> <td>P</td> <td></td> <td>3</td> </tr> <tr> <td>V</td> <td>108 23 34}</td> <td></td> </tr> <tr> <td>HR</td> <td>141 29 34}</td> <td></td> </tr> <tr> <td>AE:</td> <td>0.378m</td> <td></td> </tr> <tr> <td>>E:</td> <td>0.358m</td> <td></td> </tr> <tr> <td>:</td> <td>-0.119m</td> <td></td> </tr> <tr> <td>D</td> <td></td> <td>f</td> </tr> </table>	V >	w		P		2	V	99 55 36}		HR	141 29 34}		AE:	0.556m		>E:	0.588m		:	-0.534m		D		f	V >	w		P		3	V	108 23 34}		HR	141 29 34}		AE:	0.378m		>E:	0.358m		:	-0.119m		D		f
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<p>g 8% > S D Mn\ h[F4](f)% c , - - D > ? > (P0) h[F4](D) 3)</p>	<p>P0 [F4]</p>	<table border="1"> <tr> <td>V ></td> <td>w</td> <td></td> </tr> <tr> <td>V</td> <td>93 49 37}</td> <td></td> </tr> <tr> <td>HR</td> <td>90 09 34}</td> <td></td> </tr> <tr> <td>AE:</td> <td>0.457m</td> <td></td> </tr> <tr> <td>>E:</td> <td>0.456m</td> <td></td> </tr> <tr> <td>:</td> <td>-0.030m</td> <td></td> </tr> <tr> <td>mN</td> <td>Ec</td> <td>i</td> </tr> </table>	V >	w		V	93 49 37}		HR	90 09 34}		AE:	0.457m		>E:	0.456m		:	-0.030m		mN	Ec	i																											
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mN	Ec	i																																																
<p>i D 8% , - 8</p>		<table border="1"> <tr> <td>V ></td> <td>w</td> <td></td> </tr> <tr> <td>V</td> <td>93 49 37}</td> <td></td> </tr> <tr> <td>HR</td> <td>90 09 34}</td> <td></td> </tr> <tr> <td>AE:</td> <td>0.457m</td> <td></td> </tr> <tr> <td>>E:</td> <td>0.456m</td> <td></td> </tr> <tr> <td>:</td> <td>-0.030m</td> <td></td> </tr> <tr> <td></td> <td>Ec</td> <td>i</td> </tr> </table>	V >	w		V	93 49 37}		HR	90 09 34}		AE:	0.457m		>E:	0.456m		:	-0.030m			Ec	i																											
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	Ec	i																																																

78D

6.2D

? 78

%

, -

Mn D 23 h[3](D
?' (j h[F3]()%

[3]
[F3]

vD	w	
#		5
l	m	SOUTH
}		1.000 m
23		DEC<>
` a	l m	D



v

w



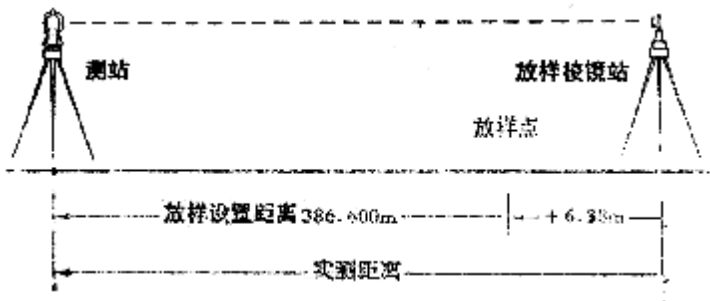
D 8% , - c | - (P3)? ; P3
W#D [F4]
(P3) h[F4](f)%

		? #Xl m } l
Mn fy	1q4 2q5	Mn 45? 78 4 | - )

Mn : B >g78 O M78

KPLM

r 23 ~ '(D r <) q ? Mn78 r
 ? Mn r q ? r_%& ? Mn t
 _\] 6v hi q
 NTS-380R h? q D Mn<Vr ? Mn Mn\q
 Mno" 5 qe o Xq 23



8.1

r ? >
 1q j kr o" D MnX Mn<r Mn? ~
 2q 78D
 3q 78 f ;
 4q p ?r 4 r

8.2



8.2.1


\] 3

1)




$=R/(R+)$
 $R _` >i ab$
 $>i = ?$
 2){
 { D ?{
 3)
 = {
 Ec\
 1) Ec
 HDg=HD
 HDg Ec
 HD _ ?Ec
 2)_ ?Ec
 HD= HDg/

PW34DEXYZ [

	%	, -
h[O] vL 78w h[F3](EDM) v EDM 78w	. %23 v EDM 78w	<div style="border: 1px solid black; padding: 5px;"> vL 78w  O 8 XY O W 0 XY 2 XY tut 100% / EDM i v EDM 78w  EDM 23 D XY HI J KXY J KLM 0.0 mm R 7 P1 </div>

h F2	78	8	7	<div style="border: 1px solid black; padding: 5px;"> v w  { 1.000000 >i 0.000m 1.000000 mN 8 7 </div>
1) 3.7 M ? -9999 2+9999m(-32805 2+32805ft) { 0.990000 ≥ 1.010000				

8.2.2
9 r 23 O: j k Mno" D Mnq pj ?
Mno"
r 23 9 h j ko"

	%	, -
[vj wy x hM %[2](r)	[2]	<div style="border: 1px solid black; padding: 5px;"> vj w  1qMn 2qr 3qq 4q 5q 78 6q C P1 </div>
h[F1](~)% 1)	[F1]	<div style="border: 1px solid black; padding: 5px;"> v84o" w  o" # south2 ~ fy </div>
, - o" Z 2)		<div style="border: 1px solid black; padding: 5px;"> vj ko" w  SOUTH1.SCD [] SOUTH2.SCD [] D P1 </div>

h[] []% o" Z/ g j
o" [] []

vj ko" w	
SOUTH.SCD	[]
SOUTH2.SCD	[]
D	x

vr w

h[ENT](NK)% o" \j k c mNr
j [ENT]

<p>: S D 1) h[F3]()%~ hi h[F4](7)%8%D 78</p>	<p>[F3] [F4]</p>	<table border="1"> <tr> <td>v</td> <td>Zw</td> <td></td> </tr> <tr> <td>1</td> <td></td> <td></td> </tr> <tr> <td>2</td> <td></td> <td></td> </tr> <tr> <td>3</td> <td></td> <td></td> </tr> <tr> <td>4</td> <td></td> <td></td> </tr> <tr> <td>vr</td> <td>D w</td> <td></td> </tr> <tr> <td>NO</td> <td></td> <td>50.000m</td> </tr> <tr> <td>E0</td> <td></td> <td>50.000m</td> </tr> <tr> <td>Z0</td> <td></td> <td>50.000m</td> </tr> <tr> <td>hi</td> <td></td> <td>1.450m</td> </tr> <tr> <td></td> <td></td> <td>7</td> </tr> </table>	v	Zw		1			2			3			4			vr	D w		NO		50.000m	E0		50.000m	Z0		50.000m	hi		1.450m			7
v	Zw																																		
1																																			
2																																			
3																																			
4																																			
vr	D w																																		
NO		50.000m																																	
E0		50.000m																																	
Z0		50.000m																																	
hi		1.450m																																	
		7																																	
<p>1) o 3.7 M ?</p>																																			

8.2

: S 1) h
 [F3]()%~ 4 h [F1]
 /NE/AZ1% Q : S /; 23/
 p- 1
 h[F4](7)% v wu
 JKr 8 hi JK
 h[F4]/f 1

vr w 
 BSN 10.000m
 BSE 10.000m
 BSZ 99.000m

NE/AZ 7
 v Zw 
 1
 2
 3
 4



[F3][F4][ENT]
 [F1][F4]
 [F4]

vr w 

v78r w78r 

h[1]j k o" r vo" r wu [1]

g vr Zwu h[F3]/ 1, v

v r w 
N: 50.000m
E: 50.000m
Z: 99.500m
} 1.500m
7
vr Zw 






vo" r w	
}	1.500m
#	0
l m	south
N:	0.000m
E:	0.000m
Z:	0.000m
	7

v Zw

1
2
3
4

o" r 23 h[F3]()% c , -
qo" ? PZ j p r P h [F3]
[ENT]% r [ENT]

vo" r w

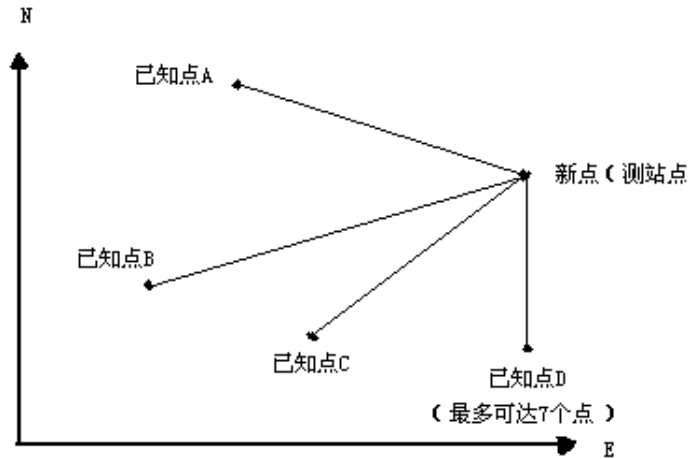
<p>j kq p ? o" 1)</p>	<p>j Uo"</p>	<p>v84o" w </p> <p>o" # south1</p> <p>& ~ f y</p> <hr/> <p>v w </p> <p># 6</p> <p>l m</p> <p>} 1.500m</p> <p>N: ----.---m</p> <p>E: ----.---m</p> <p>Z: ----.---m</p> <p>D l m</p>
<p>#Xl m<} } gi</p>	<p>#Xl m <} }</p>	<p>v w </p> <p># J1</p> <p>l m</p> <p>} 1.630m</p> <p>N: ----.---m</p> <p>E: ----.---m</p> <p>Z: ----.---m</p> <p>D l m</p>
<p>h[F1](D)% D D 8 % h[F4]() #fg 1</p>	<p>[F1] [F4]</p>	<p>v w </p> <p># J1</p> <p>l m</p> <p>} 1.630m</p> <p>N: 99.098m</p> <p>E: 98.787m</p> <p>Z: 101.257m</p> <p>D l m</p> <hr/> <p>v w </p> <p># J2</p> <p>l m</p> <p>} 1.630m</p> <p>N: 99.098m</p> <p>E: 98.787m</p> <p>Z: 101.257m</p> <p>D l m</p>

1) : S o" # h[F4](fy)% o" \fy4 h[F]j k &Xh[F2]~ o"
oy q


8.4.2

```

s8hi d7 7 ? < ?D Mn\]
?#D
EcD D 2 7?
;WD D 3 7?
D hdec h]( ;WD . : #D3
dec \])
    
```



<p>r j hM %[5]()</p>	<p>%</p> <p>[5]</p>	<p>v r w </p> <p>1q78D</p> <p>2q78</p> <p>3q78r</p> <p>4q</p> <p>5q</p> <hr/> <p>v w </p> <p>D STN1</p> <p>l m</p> <p>hi 1.450m</p> <p>~ l m f</p>
<p>D #Xl m<hi h[F4](f)</p> <p>h[F3]()j k D # J</p> <p>D D 8% \ q</p>	<p>#</p> <p>[F4] [F3]</p>	<p>v w </p> <p>D H1</p> <p>l m</p> <p>hi 1.200m</p> <p>~ l m f</p> <hr/> <p>v w </p> <p>y</p> <p>N 0.000m</p> <p>E 0.000m</p> <p>Z 0.000m</p> <p>} 2.000m</p> <p style="text-align:right">7</p>

					v	w	
						y	
					N		9.169m
					E		7.851m
					Z		12.312m
					}		1.200
							7
y	?	h[F1]/	1~		v	w	
U		h[F4]/	7 1	[F1]			
fy				[F4]			

, - Z (mm)

V	W	
SD(n) =	4 mm	
SD(e) =	-6 mm	
SD(z) =	1 mm	
		\]

gh[F4] (\]) D h[F4]
 (7)X[F3] (r)




NP67OP>?

h[MENU]% hi j 23 J23 78)

9.1

S] (r8JK?} W :@ JKA7 } p ! 9 ?
D

1^ 2 E_(h)#\$8_` (ahh=1.3m)


<p>} K , - JK } ? 2)</p>	<p>K</p>	<table border="1"> <tr> <td>v</td> <td>D</td> <td>w</td> <td></td> </tr> <tr> <td>}</td> <td></td> <td></td> <td>1.300m</td> </tr> <tr> <td>V :</td> <td>94</td> <td>59 57}</td> <td></td> </tr> <tr> <td>HR:</td> <td>85</td> <td>44 24}</td> <td></td> </tr> <tr> <td>>E</td> <td></td> <td></td> <td>11.548m</td> </tr> <tr> <td></td> <td></td> <td></td> <td>1.300m</td> </tr> <tr> <td>D</td> <td></td> <td></td> <td>i</td> </tr> </table>	v	D	w		}			1.300m	V :	94	59 57}		HR:	85	44 24}		>E			11.548m				1.300m	D			i
v	D	w																												
}			1.300m																											
V :	94	59 57}																												
HR:	85	44 24}																												
>E			11.548m																											
			1.300m																											
D			i																											
<p>1) 3.7 M ? 2)h[F2]()%,mN h[F3](>E)% mN</p>																														

2^ b2 E_#\$8_`

%

, -

hM %[2]j k } ? D ' ([2]






v	D	w	
1q	}		
2q	}		

v D W 

} K , -JK } ?9:
Ec() 1) [F4]

[] MLM-1(A-B A-C)

MLM-2(A-B B-C)23? D) MLM-123 D

	%	, -
j hM %[2](D)	[2]	 v w 1q D 2q D 3qZ D 4q 5q : D 6q
j kp ? o"	[F4]	 v84o" w o" # south & ~ f y
hM %[1] j k A-B A-C? D ' (	[1]	 v D w 1q A-B A-C 2q A-B B-C
JKA h[F1](D)% 1)	A [F1]	 vA-B A-Cw y N : 0.000m E : 0.000m Z : 0.000m } : 1.500m D 7
D 8% , - A h[F4]/7 1	[F4]	 vA-B A-Cw y N : 100.164m E : 100.144m Z : 99.908m } : 1.500m D 7

g JKB h[F1](

%




, -

√A-B	A-Cw	
	y	
N :		0.000m
E :		0.000m
Z :		0.000m
}	:	1.500m
D		7



y h F3]()%~ A

[F3]

√ Zw

j kp ? o"		<div style="border: 1px solid black; padding: 5px;"> v84o" w  o" # <input type="text" value="south"/> & ~ fy </div>
hM %[1](78D)	[1]	<div style="border: 1px solid black; padding: 5px;"> vZ w  1.78D 2.y D </div>
~ D hi h[F4] /f 1 D 78 1)	[F1] P [F4]	<div style="border: 1px solid black; padding: 5px;"> v78D w  D StnName l m StnCode hi 1.450m NO 100.000m EO 100.000m ZO 100.000m i f </div>

2)[dw| 67GHab ZDE
[] Mno"

	%	, -
j hM %[3](Z D)	[3]	<div style="border: 1px solid black; padding: 5px;"> v w  1q D 2q D 3qZ D 4q 5q : D 6q </div>
h[ENT] [ESC]% j kr o" [h[ESC]%, o" Mn]	[ESC]	<div style="border: 1px solid black; padding: 5px;"> v84o" w  o" # SOUTH & ~ fy </div>

hM %[2](y D)

[2]

Z	D
1q	78D
2q	y D

D h[F4] (fy)%

[F4]

Z	D
	y 1
N	0.000 m
E	0.000 m
Z	0.000 m
Ni	fy

}

k, - / D c h[F4](r)% = HR 45 00| 00}
> ; \78 [F4]
[] [r]

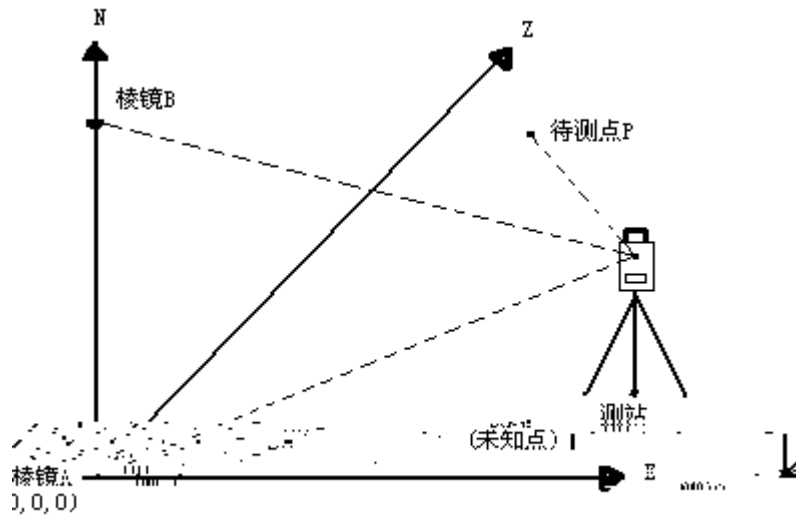
<p>D ' (h[F3]()~U 1? h[F4](\])</p>	<p>[F3] [F4]</p>	<table border="1"> <tr> <td>v</td> <td>D</td> <td>w</td> <td></td> </tr> <tr> <td>M</td> <td></td> <td></td> <td>0</td> </tr> <tr> <td></td> <td></td> <td></td> <td>0.000m^2</td> </tr> <tr> <td></td> <td></td> <td></td> <td>0.000m</td> </tr> <tr> <td></td> <td>N</td> <td></td> <td>0.000m</td> </tr> <tr> <td></td> <td>E</td> <td></td> <td>0.000m</td> </tr> <tr> <td></td> <td>Z</td> <td></td> <td>0.000m</td> </tr> <tr> <td>D</td> <td></td> <td></td> <td>\]</td> </tr> </table> <table border="1"> <tr> <td>v</td> <td>D</td> <td>w</td> <td></td> </tr> <tr> <td>M</td> <td></td> <td></td> <td>1</td> </tr> <tr> <td></td> <td></td> <td></td> <td>0.000m^2</td> </tr> <tr> <td></td> <td></td> <td></td> <td>0.000m</td> </tr> <tr> <td></td> <td>N</td> <td></td> <td>100.000m</td> </tr> <tr> <td></td> <td>E</td> <td></td> <td>100.000m</td> </tr> <tr> <td></td> <td>Z</td> <td></td> <td>100.000m</td> </tr> <tr> <td>D</td> <td></td> <td></td> <td>\]</td> </tr> </table>	v	D	w		M			0				0.000m^2				0.000m		N		0.000m		E		0.000m		Z		0.000m	D			\]	v	D	w		M			1				0.000m^2				0.000m		N		100.000m		E		100.000m		Z		100.000m	D			\]
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D			\]																																																															
<p>~U2 ! Sp ?7 ? \] 4 ~U 3 ! Sp ?7 ? \]</p>		<table border="1"> <tr> <td>v</td> <td>D</td> <td>w</td> <td></td> </tr> <tr> <td>M</td> <td></td> <td></td> <td>3</td> </tr> <tr> <td></td> <td></td> <td></td> <td>516.000m^2</td> </tr> <tr> <td></td> <td></td> <td></td> <td>123.637m</td> </tr> <tr> <td></td> <td>N</td> <td></td> <td>145.000m</td> </tr> <tr> <td></td> <td>E</td> <td></td> <td>134.000m</td> </tr> <tr> <td></td> <td>Z</td> <td></td> <td>102.000m</td> </tr> <tr> <td>D</td> <td></td> <td></td> <td>\]</td> </tr> </table>	v	D	w		M			3				516.000m^2				123.637m		N		145.000m		E		134.000m		Z		102.000m	D			\]																																
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D			\]																																																															
<p>1) h[F2](~)%_ q ~ o" 2)h[F2]()% j k</p>																																																																		

9.4.2

	%	, -
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D ' (y } 1 1
h[F1](D) 1 [F1]



	%	, -
h[MENU]%, - j 1/2,5hM %[4],	[MENU] [4]	
hM %[5](: D)	[5]	
j UD p : ?o"	[F4]	

h hi <} JK P1()
h[F1](D)% D

hi <}

P1

[F1

v	:	w	
		y	
HR		0 00 | 00}	
AE		0.000m	
>E		0.000m	
hi		1.450m	
}		1.500m	
D		f	

D U D D P1 ?
; XAE<>E h[F4](f)%

[F4]

v	:	w	
		y	
HR		246 45 | 12}	
AE		4.562m	
>E		4.013	
hi		1.450m	
}		1.500m	
D		f	

hi <}







g D] D P2? ; XAE<>
E h[F4](f)%

j . h[F4](D) , - D

. h[F1]()% JK h[F1](D) [F4] [F1]

D } 1)

v	:	w	
		D	
NO		4.315m	
EO:		5.110m	
ZO:		-11.035m	
		mN	
v	:	w	

<p>hM %[6]()</p>	<p>[6]</p>	<p>v w </p> <p>1q D</p> <p>2q D</p> <p>3qZ D</p> <p>4q</p> <p>5q : D</p> <p>6q</p>
<p>7\ j j k M %[1] => , - & Z,j k ?o" p ? &,5h[F4](f y) [ENT](Nk)%</p>	<p>[1] [F4]</p>	<p>v 7\w </p> <p>1q=></p> <p>2q9:</p> <p>3q r</p>
<p>j k => o" h[ENT](Nk)%</p>	<p>[ENT]</p>	<p>vj ko" w </p> <p>SOUTH. SHL =></p> <p>D P2</p>
<p>, - => Z/ J Z 1h [F4]()%</p>	<p>[F4]</p>	<p>v=> Zw </p>
<p>g F ? PX <E h[F4](7)</p>	<p>PX NXE</p>	<p>v F w </p> <p>F 1</p> <p>P 1000.000m</p> <p>N 1.500m</p> <p>E 2.000m</p> <p>7</p>
<p>i J c , - 1) h[F4] ()%</p>	<p>[F4]</p>	<p>v=> Zw </p> <p>F</p>

c	[F4]	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%;">v=></td> <td style="width: 30%;">w</td> <td style="width: 40%; text-align: right;">1</td> </tr> <tr> <td>P</td> <td></td> <td style="text-align: right;">1000.000m</td> </tr> <tr> <td>P</td> <td></td> <td style="text-align: right;">0 00 00}</td> </tr> <tr> <td>:</td> <td></td> <td style="text-align: right;">a</td> </tr> </table>	v=>	w	1	P		1000.000m	P		0 00 00}	:		a
v=>	w	1												
P		1000.000m												
P		0 00 00}												
:		a												
1)h[F2]% P? 3 Mn														

c , - c? P< P' Q ? ; < G?' (%
 | VS : X a X <a X . ' (j k ' (%
 P? e*+ o ? h[fy]% " \] ? P< ;
 mN c J R? G h[ESC]% i c 4 :
 Oc ? B p@ l j kg ? : (o"
 ? !

Hf
 F R G : : ; <Ec 7EcZ
 (qM

%

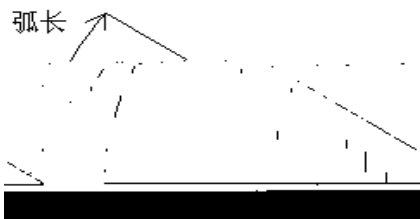
v=>	wc	h[F1](:)%
:	c	[F1]

v

:

: ? ; < W h[F4](fy)%
 <
 [F4]

Øm



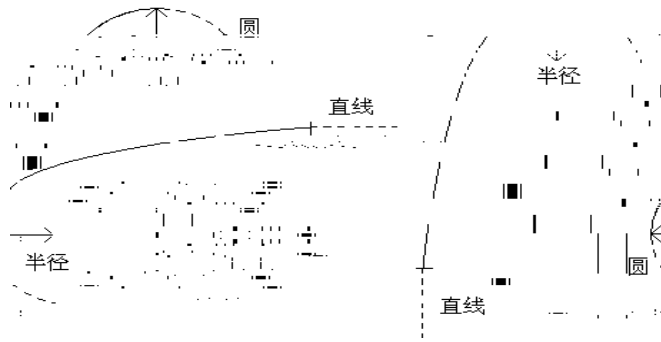
c h[F2]()% a a <
 Z? - a c ? / / CZ /
 qZ (qM

%

, -

v=> w 
 P 2
 P 1048.420m
 |f}_

a c c h[F2]()% [F2]



< c h[F3](a)%
Cq? < ?Cq?

<a <a de
(qM

%

c h[F3](a)%
<a c

[F3]

v=>	w	
P		3
P		1071.561m
:		91 17| 38}
:		a

<a ?de < h[F4](f
y)

de

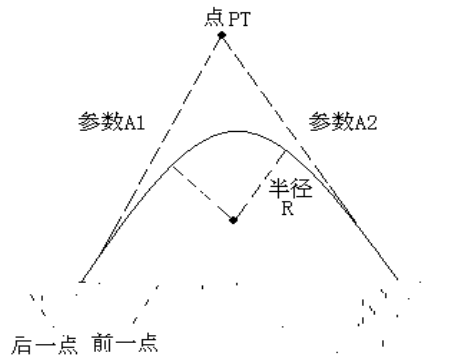
[F4]

v=>	w	
a		4
W		0.000m
		0.000m
		f y

v=> w

mN c

? <a



c h[F4]()% %

c [F4]

=>	
P	100.000
	0 00| 00}
	04
:	a

NXE X < A1XA2

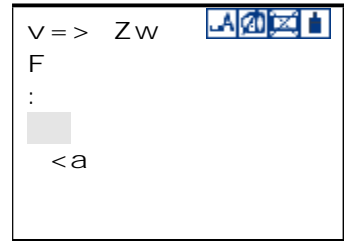
9.6.1.2

j => Mn B

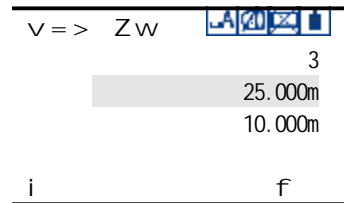
% , -

j k : l ?=> o" 5h [F1](
)% c , -j ?=> Mn

[F1]



h % : l ?=> Mn c
, -j k? q ?=> Mn



i f

P	1000	1300	1800	2300
	50	70	60	90
	0	300	300	0

9: c D h RU ?Mn h[f y)%
q ?Mn ? c 4h[ESC]% q Mn i 9: c

% , -

j h [2] 9: , -
& Z,j k ?o" p ? &,[ENT]
% , -o" Z,j k 9: o"
5h[ENT]% 1)

[2]

[F4]

[ENT]

v 7\w

1q=>

2q9:

3q r

vj ko" w

SOUTH .SVL 9:

D P1

v9: Zw

h[F4]()% 9: c
PX < h[F4](f
y)%

[F4]

PX

<

[F4]

v9: w

P	1
P	0.000m
	0.000m
	0.000m
	f

Mn

v9: w

q 9: Mn 9: Mn

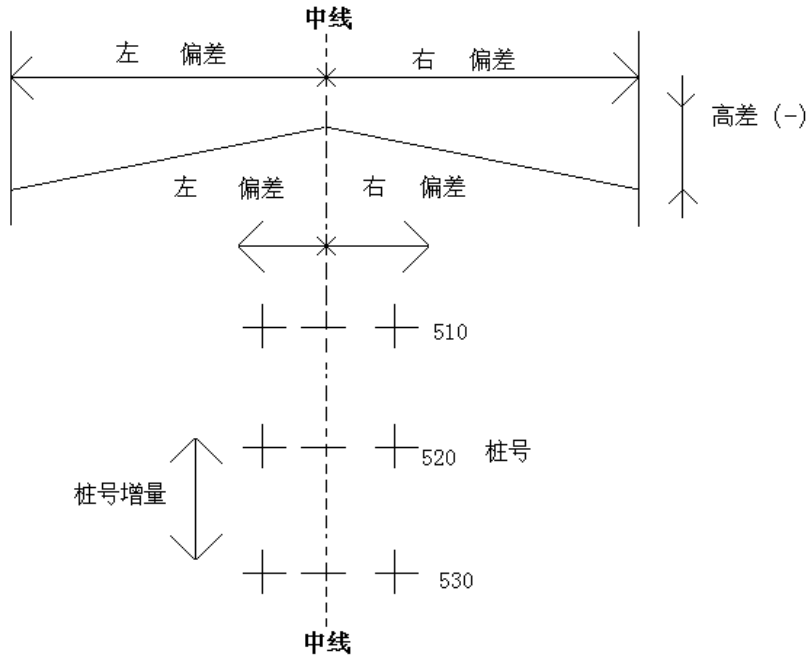
j Mn B <I => Mn

, -

h %% I ? Mn,
[F2]()%, I ?Mn
, I ? Mn? P, h[F1]%
/ 1

[F2]



[F1]? Mn



9-1

9.6.2.1

o j k o" V~ <q r Mn

		, -
7\ j j k [3] r r j j k [1] j ko"	[3]	<div style="border: 1px solid black; padding: 5px;"> v 7\w  1q=> 2q 9: 3q r </div>
	[1]	<div style="border: 1px solid black; padding: 5px;"> v r w  1q j ko" 2q 78D 3q 78 4q 78r </div>
, - j ko" FG h[3]%j kr o") 1)	[3]	<div style="border: 1px solid black; padding: 5px;"> j ko" 1qj k=> o" 2qj k 9: o" 3qj kr o" </div>

<p>, - j k r o" c : S : ~ Mn?o" # _ q ~ o"</p>		<p>j k r o" o" # SOUTH Ni ~ M fy</p>
<p>h[F2](~)% , - & Z,j k ? o" p ? &,h[F4] [ENT]% ,, - Mno" } 2) 3)</p>	<p>[F2] [F4]</p>	<p>SOUTH.SCD [] S0001 [DIR] DATA.SCD [] D i x</p>
<p>h[] []% o" Z/ / g j k o"</p>	<p>[] []</p>	<p>SOUTH.SCD [] S0001 [DIR] DATA.SCD [] D i x</p>
<p>gh[F4](fy)% o" \j k h[ESC]% mN r j</p>	<p>[F4]</p>	<p>r 1q j ko" 2q 78D 3q 78 4q 78r</p>
<p>1)h[1] [2]% ? j k: ?=> o" <9: o" 2) : S o" # 3)h[F4](x)% , -ycx' (, <l o"</p>		

9.6.2.2

D ? 78 %& _hi qTU? 3 %& r h PX
? 3 ? _ q TU?r NXEXZ 3
%

7\ j j k [3] r [3]
r j j k [2] 78D
[2]

v78D w



c. [redacted] 78D (50%) Tj / F4+2

78D c

j j k [3] r
r j j k [2] 78D

[3]

v 7\w
1q=>
2q9:
3q r

[2]

v r w
1q j k o"
2q 78D
3q 78
4q 78r

[F1]

78D c h[F1]()

v 78D w

P 0.000 m
0.000 m
hi 0.000 m

f

j j k [3] r
r j j k [3] 78

[3]

[3]

v 7\w	
1q=>	
2q9:	
3q r	

v r w	
1q j ko"	
2q 78D	
3q 78	
4q 78r	

78 c h [F1](NE/AZ)

[F3]

v78 w	
P	0.000 m
	0.000 m
}	1.500 m
NE/AZ	f

v78 w

h[F2](; W)

2)y[DEe] N

78 ? D ?78 %& _hi qTU? 3
%& rh PX ? 3 ? _ q TU?r NXEXZ

3

v 7\w

[3]

j j k [3] r
r j j k [3] 78

[3]

78 c ~ 3 A
 ? PX <} h[F4](f
) hi n ? P< \] ?
 h[F3](f) B h[F1](NE/AZ)
 u : S
 h[F3]()~ h[F4](f
)

v78 w 

P 0.000 m
 0.000 m
 } 1.500 m

NE/AZ f

v78 w 

1000.000
 l m 0.000
 NBS 1.500 m
 EBS 2.000 m
 ZBS 0.000 m

` a l m f

v78 w 

P 0.000 m
 0.000 m
 } 1.500 m

NE/AZ f

v78 w 

NBS 0.0

9.6.2.4

78 D <

r S

%

r j j k [4] 78r

[4]

r Mnc F PX P

) ?>E>E

v	r	w	
1q	j	ko"	
2q	78D		
3q	78		
4q	78r		

q

E

i k

vr Zw



ghi 4 r ?\]

HR r ?=>; \] Z

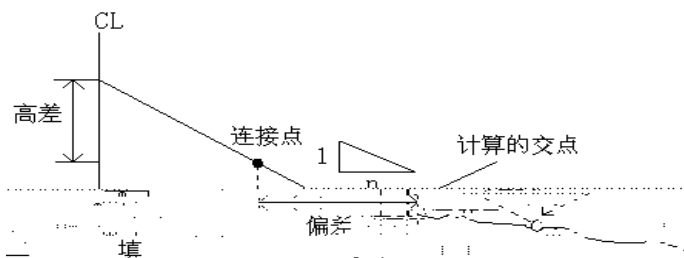
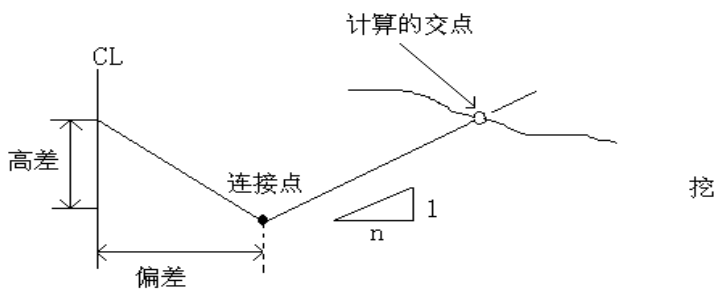
HD hi r ?=>Ec\] Z

$k = h' / (A \cdot r)$
 $h_{Cl} < ' (\% e P (e ? Mn c P P)$
 $mhnl < ' (\% Q P (Q ? Mn c P P)$
 $\blacktriangleleft hop < ' (\% r 4h \% , - ? X$
 $\blacktriangleright hqp < ' (\% r 4h \% , - ? X$

$R h[ESC]\%mN P < 78c \quad ?r$
 $4 Pc h[ESC]\%mN c$


9.6.2.5

$A r \quad r j kg? \quad 1 \quad 4p@O \quad j \quad 9:$
 $<=> \quad H(\quad A r$
 $\quad A 1 \quad < \quad CP \quad p: \quad ?A \quad "$
 $n \quad ? \quad 8_Z \quad j k \quad ? W$
 $\quad r[!S ? \quad \backslash \quad 1f \quad . \quad !S ? \quad A$
 A



	%	, -
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<p>r P< c h[F2](W)</p>	<p>[F2]</p>	<table border="1"> <tr> <td>v r w</td> <td></td> </tr> <tr> <td>P</td> <td>1000.000m</td> </tr> <tr> <td></td> <td>0.000 m</td> </tr> <tr> <td></td> <td>0.000 m</td> </tr> <tr> <td>}</td> <td>0.000 m</td> </tr> <tr> <td>l W r</td> <td></td> </tr> </table>	v r w		P	1000.000m		0.000 m		0.000 m	}	0.000 m	l W r	
v r w														
P	1000.000m													
	0.000 m													
	0.000 m													
}	0.000 m													
l W r														
<p>A A h[F4](f)% q Mn</p>	<p>[F4]</p>	<table border="1"> <tr> <td>vA r w</td> <td></td> </tr> <tr> <td></td> <td>0.000m</td> </tr> <tr> <td></td> <td>0.000m</td> </tr> <tr> <td></td> <td>0.000m</td> </tr> <tr> <td></td> <td>0.000m</td> </tr> <tr> <td>f</td> <td></td> </tr> </table>	vA r w			0.000m		0.000m		0.000m		0.000m	f	
vA r w														
	0.000m													
	0.000m													
	0.000m													
	0.000m													
f														
<p>' (%j k [F2]() [F3]()</p>	<p>[F2] [F3]</p>	<table border="1"> <tr> <td>vA r w</td> <td></td> </tr> <tr> <td></td> <td>2.150m</td> </tr> <tr> <td></td> <td>0.000m</td> </tr> <tr> <td></td> <td>2.150m</td> </tr> <tr> <td></td> <td>0.000m</td> </tr> </table>	vA r w			2.150m		0.000m		2.150m		0.000m		
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	2.150m													
	0.000m													
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	0.000m													
<p>A r c</p>		<table border="1"> <tr> <td>vA r w</td> <td></td> </tr> <tr> <td></td> <td>----.---m</td> </tr> <tr> <td>c</td> <td>----.---m</td> </tr> <tr> <td>>E</td> <td>----.---m</td> </tr> <tr> <td>HR</td> <td>180 13 25}</td> </tr> <tr> <td>23</td> <td>D</td> </tr> </table>	vA r w			----.---m	c	----.---m	>E	----.---m	HR	180 13 25}	23	D
vA r w														
	----.---m													
c	----.---m													
>E	----.---m													
HR	180 13 25}													
23	D													
<p>w A \ U? h[F4](D)% 4 A r _c ?Mn j k ?A , 7 \D => y ,\] U? 4Z , -_D \] ?</p>	<p>[F4]</p>	<table border="1"> <tr> <td>vA r w</td> <td></td> </tr> <tr> <td>/</td> <td>3.398 m</td> </tr> <tr> <td>/</td> <td>3.321 m</td> </tr> <tr> <td>>E</td> <td>2.546 m</td> </tr> <tr> <td>HR</td> <td>180 13 25}</td> </tr> <tr> <td>23</td> <td>D</td> </tr> </table>	vA r w		/	3.398 m	/	3.321 m	>E	2.546 m	HR	180 13 25}	23	D
vA r w														
/	3.398 m													
/	3.321 m													
>E	2.546 m													
HR	180 13 25}													
23	D													
<p>gh c - gJK h[F4](D) : / / ZS 0 Z- r</p>	<p>gJK [F4]</p>	<table border="1"> <tr> <td>vA r w</td> <td></td> </tr> <tr> <td>/</td> <td>0.000 m</td> </tr> <tr> <td>/</td> <td>0.001 m</td> </tr> <tr> <td>>E</td> <td>1.546 m</td> </tr> <tr> <td>HR</td> <td>140 13 25}</td> </tr> <tr> <td>23</td> <td>D</td> </tr> </table>	vA r w		/	0.000 m	/	0.001 m	>E	1.546 m	HR	140 13 25}	23	D
vA r w														
/	0.000 m													
/	0.001 m													
>E	1.546 m													
HR	140 13 25}													
23	D													

<p>i h[ESC]mNA j kc _y 4 r</p>		<p>vA r w </p> <p>2.150m 0.000m 2.150m 0.000m</p>
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- () 1) . _Z ! S \]
- 2) \] (, -

QPRG34

M78 D 23 78 j u hM %[5] M78

vA r w

1h(= 34 : 1m=3. 2803333333333ft

j	j kg	
; W	1qW(360) 2q (400G) 3q (6400M)	j kD; DEG/GON/MIL(W/ /)
Ec	1q 2q 3q	j kDE m / ft / ft+in (/ /)
VW<RY	1qVW C / F 2qRY hPa /mmHg/inHg	j kVW C / F j kRY hPa /mmHg/inHg

2hrs 34

j	j kg	
FG	1q 2q	j k M : 1m=3. 280839895013123ft : 1m=3. 2803333333333ft

3. DE 34

j	j kg	
, - U	1qNEZ 2qENZ	, - U N/E/Z E/N/Z

4. - t 34

j	j kg	
9; 23	1q 2q=>	j k9: ; TM_ / y => / y \M
DE	1. 5 2. 4	NO* P r

h% 1. 5
2. 4 h% ? 45
1q; WD
4623 2qEcD
3q

1. 5
22c ((45) Tj-215.76 -37.56 TD -0.84 Tc (4) Tj-1.f Tc
h3 TDMn




5. GHI J 34

6. uv 34

j kr 78

Q\$PSTUV>?



J 23 qg}
1)o" Bo" #/ o" ?Mn/ / /l o"
2)Mn D Mn/ Mn l m Mn/S Mn l m Mn
=>/9: 78 M
3)o" SD ?o" _ & SD
4)o" _ & SD ?o" SD



<p>h[F1](D)%, . pj <&? < &2</p>	<p>[F1]</p>	<p>v &D w  &l P A &FG _ & o" FAT12 0.06M 31.86M & 31.92M i</p>
<p>④ h[F2](3\$)% , pj & ?p Mn fy 3\$h[F3]% 3\$ U c , - 3\$ U hf % mN & Z 2)</p>	<p>[F2] [F3]</p>	<p>v84 &w  r 3\$ & r v84 &w  3\$ f</p>
<p>1)h[F4](fy) [ENT](Nk)% 84pj ? & o" Z (SD ?o" (USD Mn 2)h[F1](UI)% mN & Z</p>		

11.1.2

建

q o"

<p>[MENU]% hi vj wu h[3](q)% , -q j</p>	<p>% [MENU] [3]</p>	<p>vq w  1. o" 2. Mn 3. o" 4. o"</p>
<p>h[1](o")% , - o" FG h[1] [6]% j k o" ?FG h[2] o" hfy% j k o" u</p>	<p>[1] [2]</p>	<p>vo" w  1. D o" 2. o" 3. l mo" 4. => o" 5. 9: o" 6. p o"</p>

[o" Z h[F4](P1)% , -ycx' (	[F4]	vj ko" w 
		vj\k o" SOUTH.SMD [D] SOUTH2 [DIR] SOUTH3.SMD [D] B# P2
o" u , [◀] [▶]% D o" / o" /l mo" /= > /9: /o o" ?7 u %& o" # j k h[F4]%f	[F4]	v o" w  F G D o" <> o" # NewFile mN fy
1) 3.7 M ? 2) (?o" # 3)h[ESC]% mNo" Z		

11.1.3

l q o" #

%

, -
vj ko" w 

[o" j k h[] []% j k B# [] []
?o"

h[F2](B#)%

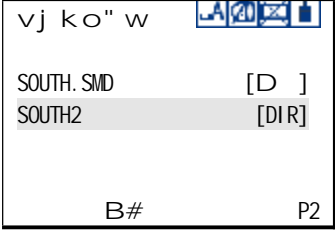
[F2]

v K#w	
o" #: <input type="text" value="S0010"/>	
Ni	f y

o" # h[F4](f y)%, Bo" #
1)n 3)

[F4]

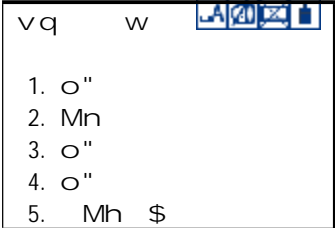
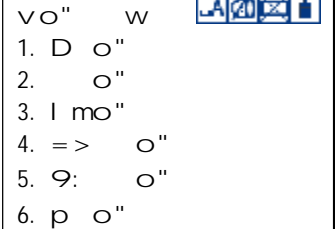
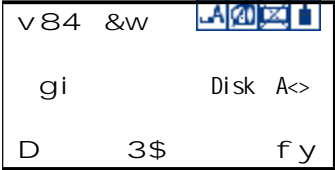
vj ko" w	
SOUTH.SMD	[D]
SOUTH2	[DIR]
S0010.SMD	[D]
B#	P2

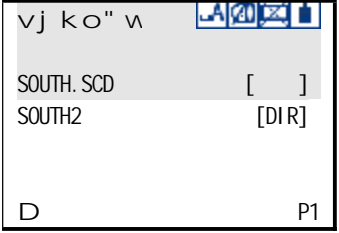
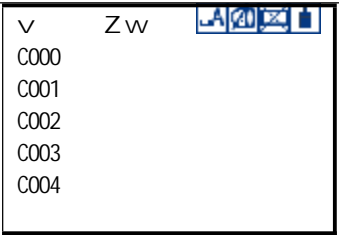
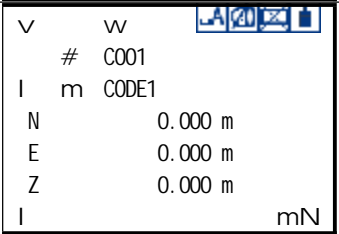
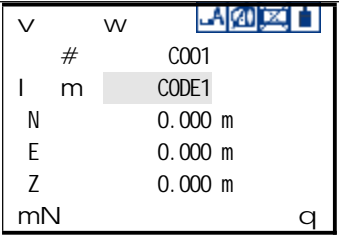
<p>fy o" h[F3](r)%</p>	<p>[F3]</p>	
<p>1)h[F1](UI)% mNo" Z</p>		

11.1.5

在 阅 下

J 23 D Mn? # wj l m<h X \ B #DZ
B

<p>h[MENU]% hi j 1/2 23 h [3](q)% , - q j</p>	<p>% [MENU] [3]</p>	
<p>h[1](o")%,c , - o" FG h[1] [6]% j k o" ?FG h[2] o"</p>	<p>[1] [2]</p>	
<p>& Z 1) Disk:A Z- _ & Disk:B Z- SD p ? g &(& A? K , - C/D & %= oo" #< o}) [◀] [▶]% Disk A< Disk B?Q</p>	<p>[F4]</p>	

<p>h[] [] j k : l ? o" ,5h [ENT](Nk)%</p>	<p>[ENT]</p>	
<p>j k : l ? Mn h [F1]()% 1)</p>	<p>[F1]</p>	
<p>gc , - pj ? Mn h [F1](l)%</p>	<p>[F1]</p>	
<p>i ? : l ? #Xl m< h [F2](~)%, ~ q ? l m U h [F4](q% l 3)</p>	<p>[F4]</p>	
<p>1)h[F2]()%, #? 3 Mn h[F3]()% pj ? Mn h[F4]()%, ? Mn 2)h[] []% ? Mn 3) 3.7 M</p>		

11.2

导

J 23 _ & ? o" D (>J

	%	, -
--	---	-----

vq w




[MENU]% hi vj wu h[3](q [MENU]
)% , -q j [3]

11.2.1: ewxy/z { X?

Jg78: (<S Mn23 78, - S / ? Mn
? #X l m?O U J (78~ j g r ? Mn
% , -

11.2o" y ,h[4](f)%,
f Mn?S 3 [4]

vMn	3w	
1.	300 3	
2.	660 3	
3.	f 3	
4.	f 378	

v U w 

, - S U j h[] []% r
D ?M %[1] [5]j k: 78?j g 5
h []X[]%,S U # /N/E/Z/
l m Q

[vmenuw% j u h[3](q)%
vq wu S wu

11.4

迅

: S q ?Mno" \] 6 _\] 6 Mno" <l
 m Mn 7\?=> Mn<9: Mn: Sv hi q 5 =>
 <9: Mn? e 3 o A
 NTS-380R h| t Mn 3? NTS300 3XNTS660 3<f
 3 5 n : f j k 5 Mn 3? e*+ o A
 Mn ?j

vMn	w	
1.	RS232	23
2.	USB	23
3.	qi	23

() Mn O: t ! Sr Cf z 6) h?
 M78r (: () Mn t Gh
 i A q SMn ? (

11.4.1

讯

RS232 23 78' b 4800

q j h[2](Mn)%	[2]	<table border="1"> <tr> <td>vq</td> <td>w</td> <td></td> </tr> <tr> <td>1.</td> <td>o"</td> <td></td> </tr> <tr> <td>2.</td> <td>Mn</td> <td></td> </tr> <tr> <td>3.</td> <td>o"</td> <td></td> </tr> <tr> <td>4.</td> <td>o"</td> <td></td> </tr> <tr> <td>5.</td> <td>Mh \$</td> <td></td> </tr> </table>	vq	w		1.	o"		2.	Mn		3.	o"		4.	o"		5.	Mh \$	
vq	w																			
1.	o"																			
2.	Mn																			
3.	o"																			
4.	o"																			
5.	Mh \$																			
h[1](RS232 23)%	[1]	<table border="1"> <tr> <td>vMn</td> <td>w</td> <td></td> </tr> <tr> <td>1.</td> <td>RS232</td> <td>23</td> </tr> <tr> <td>2.</td> <td>USB</td> <td>23</td> </tr> <tr> <td>3.</td> <td>qi</td> <td>23</td> </tr> </table>	vMn	w		1.	RS232	23	2.	USB	23	3.	qi	23						
vMn	w																			
1.	RS232	23																		
2.	USB	23																		
3.	qi	23																		
h[3](M)%	[3]	<table border="1"> <tr> <td>v a</td> <td>w</td> <td></td> </tr> <tr> <td>1.</td> <td>Mn</td> <td></td> </tr> <tr> <td>2.</td> <td>S Mn</td> <td></td> </tr> <tr> <td>3.</td> <td>M</td> <td></td> </tr> </table>	v a	w		1.	Mn		2.	S Mn		3.	M							
v a	w																			
1.	Mn																			
2.	S Mn																			
3.	M																			

<p>h[]%/ gO 2' bj g 5h [] [],j p M h[F4](78)% 1) 2)</p>	<p>[] [] [] [F4]</p>	<p>v Mw Ack/Nak ' b: 4800 b/s j 8 78</p>
<p>c mNRS232 23j</p>		<p>v a w [] [] [] [] 1. Mn 2. S Mn 3. M</p>
<p>1)h[] M M e4h[] M M Q UI 78 h[ESC]% 2) Ju 78 < j h[] []% 2p: B?j g 5h[] [],j p M</p>		

USB 23 78 None

Mn j h[2](USB 23)% [2]

vMn w [] [] [] []
1. RS232 23
2. USB 23
3. qi 23

h[3]

q j h[2](Mn)% [2]

vq w

1. o"
2. Mn
3. o"
4. o"
5. Mh \$

, - Mn ?t 23 RS232 23X
USB 23<q i 23 [1]
h[1]%j k(RS232 23)

vMn w

1. RS232 23
2. USB 23
3. qi 23

h[1]%j k(Mn),c MnF
G
h[2]%(Mn&232&

11.4.3

Mno" <l mMn [\] 6v hi q
USB 23S Mno"



q j h[2](Mn)% [2]

vq w

1. o"
2. Mn
3. o"
4. o"
5. Mh \$


, - Mn

<p>g S Mn8% ,c , - S Mn8%! mN S Mnj 3)</p>		<p>S Mn [USB] o" A: SOUTH.SCD 102 oQ</p>
<p>1) 3.7 M ? 2)h[F1]f S 3?78 o 11.2.1f S / 3 3)UI S Mn h[F4](oQ)%</p>		

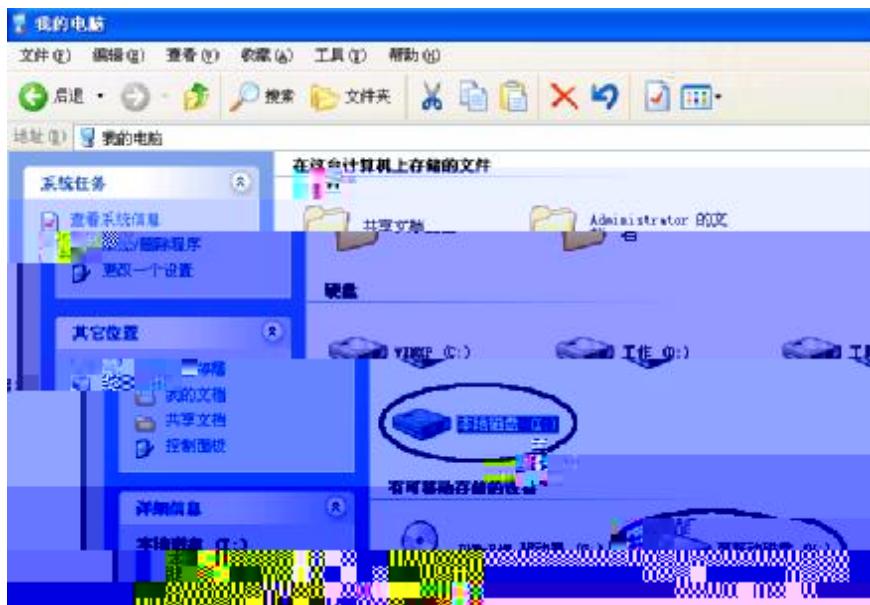
11.4.4

t >J <l o"

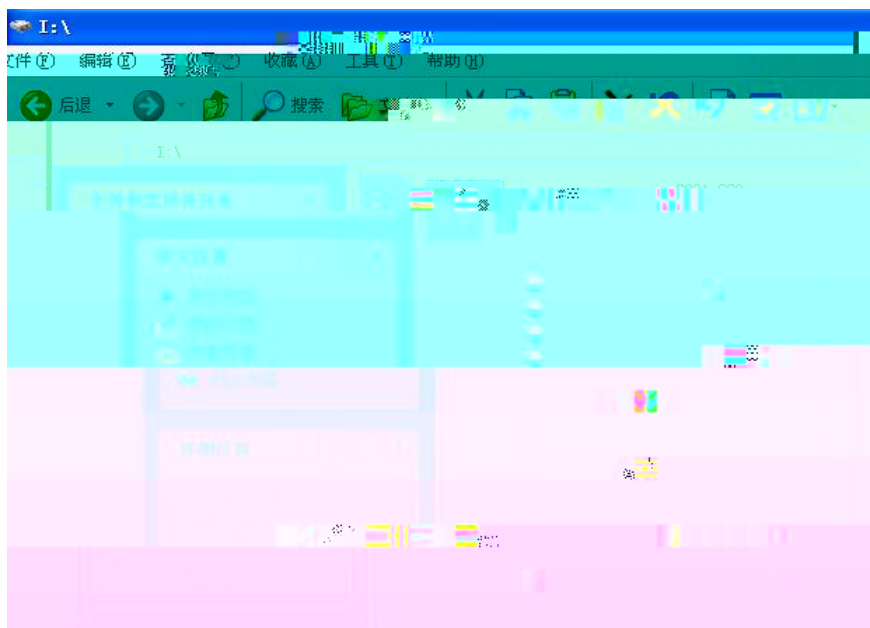
%

vq w 

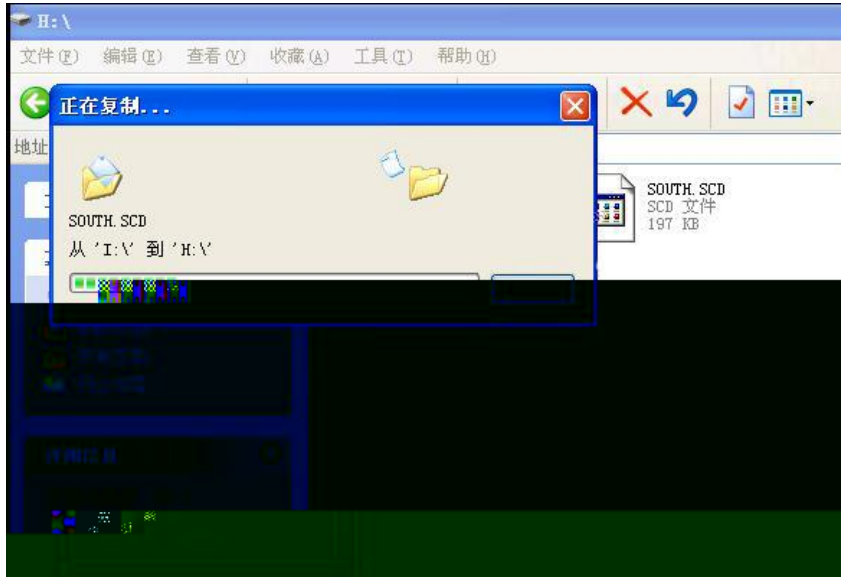
q j h[2](Mn)% [2]



_ &l g &H (_ &l) j :l ?o" Mn 5
?j j k



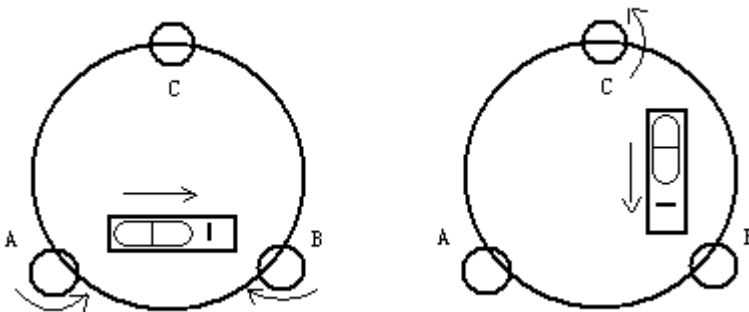
g g &H 84 & ?j j k { , p-
o" ?j o" <l o" # : mNMn j , hi
h[F4](i)%, 4St !S



QOPWXYZ [

hi i C ?) C j : hi C 9 3
 4 \$! 8 ! J hi DK ci
 hi ? g) C f W

12.1



UWX

o 3.2X = i f • > hi

UZ [

X . = i ? R* cS O) = i > ? ~•
 R* / ? c ? CQ g= i C (= i)
 ~• 2R*
 X hi 180 R* r R* () : 2R
 *
 ! X hi 90 yt ~• R*
) C : 2 ! 2 R / R* i Q

12.2

UWX

= i Cf . = i R* # p C

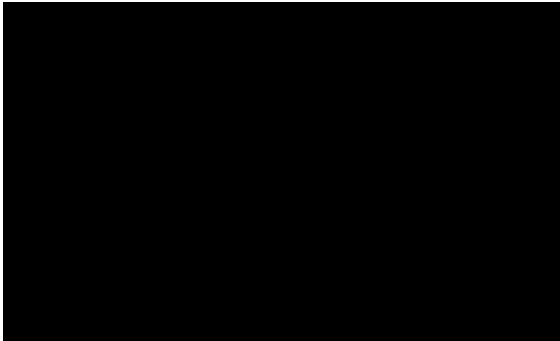
UZ[

. R* CQ " ; # ~• R* ? C R* C
 O 4R* / ? C () ` /? C R
 * R* t C ? ` \$i

12.3

UWX

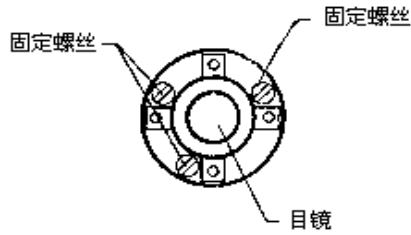
X• >hi { | K j } % % =>
 <9: g
 X g{ | K9: zg % g2 &? (%|)
 ! X % r ? g %| ? @A p C
 %| c @A C



UZ[

X OU { | K} K) ~Y ? z z

! Xi ' _ ` 5 + C8
(X svN



12.4 ()

UWX

1XEchi Q< 100 ? | ' 78} % } 9: ; 3 f • >hi
84t

2X & 8 { | K } % TU=>;
=>;) * 10 13 | 10}

3X 49: => g { | K ! & % c ` =
> 9: g TU=>;
=>; + * 190 13 | 40}

(X , *) - (+ 180) * - 30} . 20} C

UZ[

Aht C

	%	, -
• >hi 46 h [MENU] % h [6] Cu	[MENU] [6]	<div style="border: 1px solid black; padding: 5px;"> vj w 1 Mn 2 r 3 q 4 5 78 6 C P1 </div>
hM %[6] (C) 5j k [2] (C)	[1] [2]	<div style="border: 1px solid black; padding: 5px;"> v j w 1. C 2. C 3. 78 4. , - </div>

v w



CK(&) 8 f } h[F4](D [F4]
)%

3X /[[g X21044 ? E , -? :; [D e-
\$ I 5 *+ Z- hi @A Q ! | & i?7\
H/ hi 6 :; xu 8 H I # \$ Z-
& i CL

U8

<pre>{ | K / K (&) 8 f } h[F4](D %)%</pre>	<p>[F4]</p>	<pre>v w yc /K & V 96 03| 15} HR 45 45| 49} l; 0 00| 00 } 7 8 D</pre>
<pre>c | - l; \] h7 % c fgmN Cj</pre>		<pre>v j w 1. C 2. C 3. 78 4. , -</pre>

(1X D (8;) . j : C(78)?t ? r } r f h: 5 78 2XCH j : 78 p, - ? : ; r C < C?Z : V78 W (R

12.7

[: ! ? ; W : (# D , " hi W?} 1f .: ? ! p@ c 3 C ?f : e JK } > J R Jg C j k Echi d|? QQ " hi? wO? f f_~ e

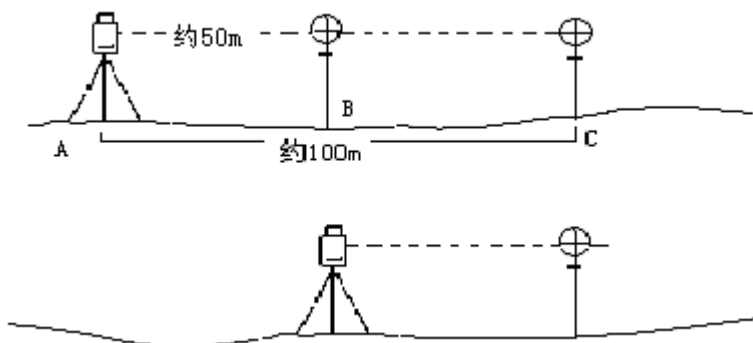
% , - vj w 1 Mn 2 r 3 q 4 UV

• >hi 46 h[MENU]% h[6] [MENU] [6] Cu

v j w



hM %[6](C) 5j k [3] (7 [1]
8) [2]



UZ[

C G hi LMK S 7 o \$ 5 @ C hi LM
hE LMKZ 78

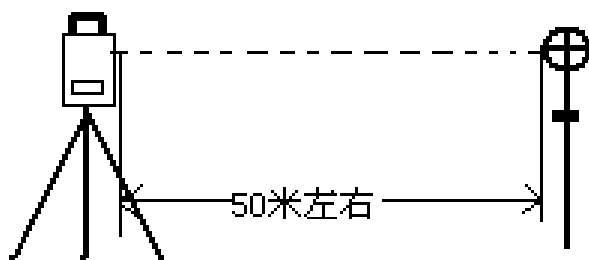
hi ? / %X=X, t : = _ : \$

H1?

= JK) hi r r G D W? : 3 J d =
t A<~ (?yz tF3JK! Si yz t A<y
z = g JK<hi ?yz !

12.10

发



UWX

1X Ehi 50 ' s8HI JK

2X { | K f HI JK

3X84t DE23h[AE]([h[DE2\$

DE23 3/ F 4+2 10. 44 Tf9

% L<M O% ?N<O ~•L,M? W = i R*
 | ?% s88>hi ,] => g
P{ | K ! > => /I % L > g2
 J , X>~ i

 hi s8 (?= ? J /I % M
?> , ?

 C hi %=~ ? 9: . J ? = i ?R* c
~• = i ?t BC R* ?2
5 : 2 ~ / 9: 7 R*# Q

Q5P\] RG

AB67(6

FG NTS-382/5R4/68/10/12
o o
Q' 0.650 0.690 Rm
EDM FG
de, - 0.1mm
OOS 23 < 7T 14 T /20m
23 < 10 T 20 T /50m
R C MfgBC9 i f gBC
QR^O<_` abBC MfgBC
JKLM C MfgBC
Ec 9 / / - j
M , - dQ 99999999.999 m de 0.1 mm
>i D M j U2n5 ?>i Z

9K=

@/ | } mNTS-382/5R4u ~

23
DE 3 DE D
JK D (202 10⁻⁶ D)44 20.3s
JK• (502 10⁻⁶ D)44 20.1s
HI (202 10⁻⁶ D)44 20.3s
23{} U [: 90%HI b)
DE 3 D DE D
D <200m (302 10⁻⁶ D)44 J 0.3-3 -3
D <200m (502 10⁻⁶ D)44

23()	U [:	90%HI b)		
DE 3	D	DE	D	
D	<300m	(302 10 ⁻⁶ D)4.4	J 0.3-3	dQe 10
D	>300m	(502 10 ⁻⁶ D)4.4	dQe	10
•	<300m	(1002 10 ⁻⁶ D)4.4	J 0.3-3	dQe 10
•	>300m	(1002 10 ⁻⁶ D)4.4	dQe	10
@/ | } mNTS-382/5Rs u ~				
23				
DE 3		DE	D	
J K D		(202 10 ⁻⁶ D)4.4		20.3s
J K •		(502 10 ⁻⁶ D)4.4		20.1s
HI		(202 10 ⁻⁶ D)4.4		20.3s
23()	U [:	90%HI b)		
DE 3	D	DE	D	
D	<400m	(302 10 ⁻⁶ D)4.4	J 0.3-3	dQe 10
D	>400m	(502 10 ⁻⁶ D)4.4	dQe	10
•	<400m	(1002 10 ⁻⁶ D)4.4	J 0.3-3	dQe 10
•	>400m	(1002 10 ⁻⁶ D)4.4	dQe	10

DE 3		DE	D
JK D		(202 10 ⁻⁶ D)44	20.3s
JK•		(502 10 ⁻⁶ D)44	20.1s
HI		(202 10 ⁻⁶ D)44	20.3s
23{} U [: 90%HI b)			
DE 3	D	DE	D
D	<600m	(302 10 ⁻⁶ D)44	J 0.3-3 dQe 10
D	>600m	(502 10 ⁻⁶ D)44	dQe 10
•	<600m	(1002 10 ⁻⁶ D)44	J 0.3-3 dQe 10
•	>600m	(1002 10 ⁻⁶ D)44	dQe 10
60			
@/ | } mNTS-382/5R4u~			
23			
QR "		JK	HI (60*60)mm
V ~ QR g (oW< 40		5000m	400m
23			
QR "		HI i /: 1 1	HI i [W0.18 2
V ~ QR g (oW< 40		400m	200m
@/ | } mNTS-382/5R6u~			
23			
QR "		JK	HI (60*60)mm
V ~ QR g (oW< 40		5000m	600m
23			
QR "		HI i /: 1 1	HI i [W0.18 2
V ~ QR g (oW< 40		600m	300m
@/ | } mNTS-382/5R8u~			
23			
QR "		JK	HI (60*60)mm
V ~ QR g (oW< 40		5000m	800m
23			
QR "		HI i /: 1 1	HI i [W0.18 2
V ~ QR g (oW< 40		800m	400m
@/ | } mNTS-382/5R10u~			
23			
QR "		JK	HI (60*60)mm
V ~ QR g (oW< 40		5000m	1000m

23		
QR "	HI i /: 1 1	HI i [W0.18 2
V ~ QR g (oW< 40	1000m	500m
@/ | } mNTS-382/5R12 u ~		
23		
QR "	JK	HI (60*60)mm
V ~ QR g (oW< 40	5000m	1200m
23		
QR "	HI i /: 1 1	HI i [W0.18 2
V ~ QR g (oW< 40	1200m	600m
1U [: 90%HI b	2U [[18%HI b	

RG

	NTS-382R4/6/8/10/12	NTS-385R4/6/8/10/12
<=67		
D; 3	! " 3	
m&:	79mm	
de, - TM	0.1} / 1} / 5} j	
f W	2}	5}
WD 3	= > &	9: &
• 补A		
O	CO	
K 3T	4844	
r Q+b	! 7	
&;	! 7 |	
de YEc	1.24	
: ; 供水&		
	Ot 3	
	3 |	
x b	1}	
(9&		
= i	30} 9244	
= i	8 | 9244	
) umm&		
O	CO	
r Q+b	3	
~Y	0.54nX	

Q; P ^)

vp

6

6Qt u

x t i

SD / 64 64 1 1 •

USB t

" \

CQ %

XY

B_ f

" \ f

VW

%&a b

G •

hi

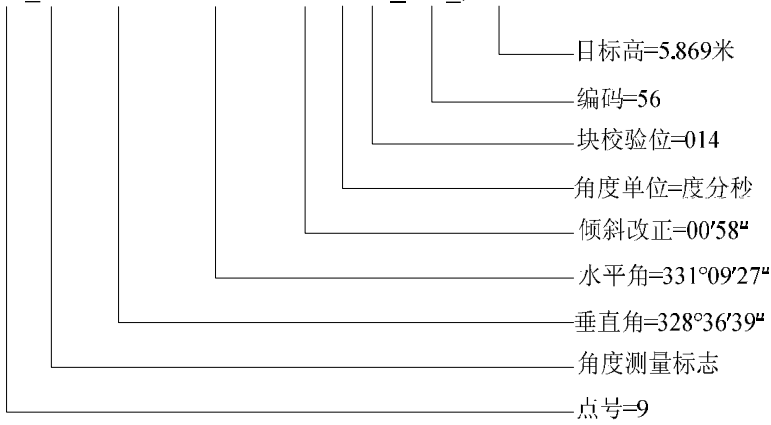
1 •

HI / 20 20 30 30,40 40,60 601 1

_ ^! A`

1

+9<3283639+3310927-00d014_*56_5.869

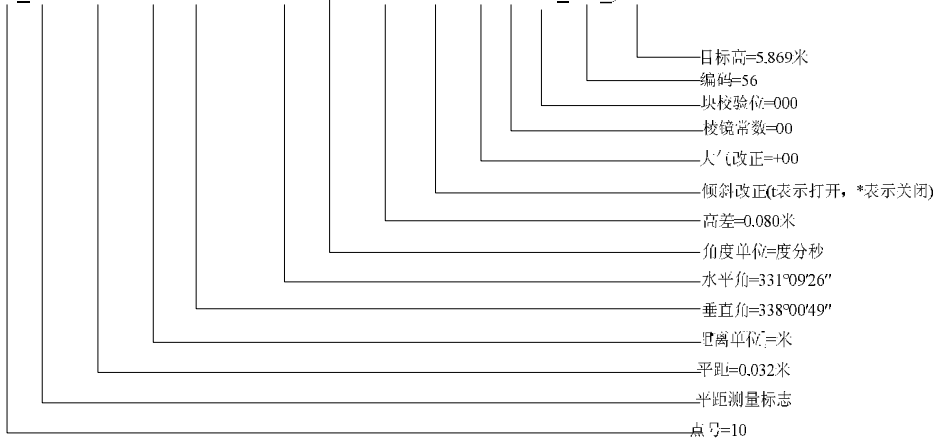


3XEcD Mn

>ED

_+10_R+00000032m3380049+3310926d+00000080t00+00+00000_*56_5.869

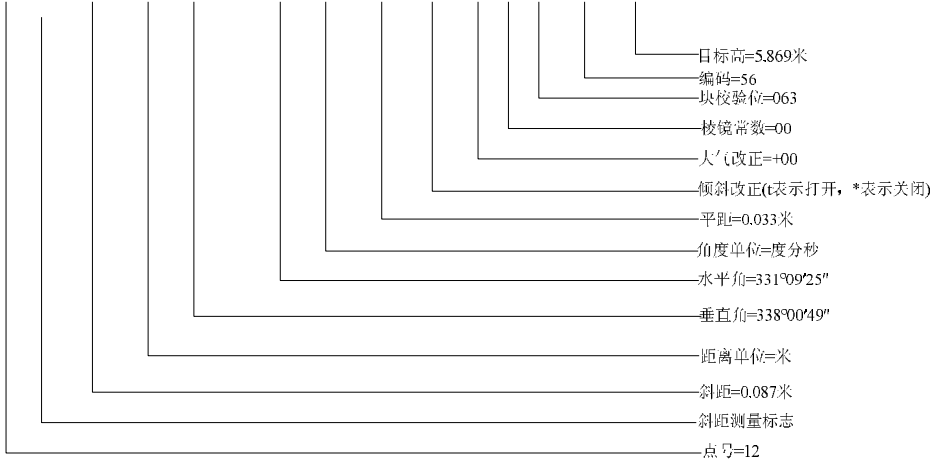
_+10_R+00000032m3380049+3310926d+00000080t00+00+00000_*56_5.869



AED

+12?+00000087m3380055+3310925d+00000033t00+00+00063_*56_5.869

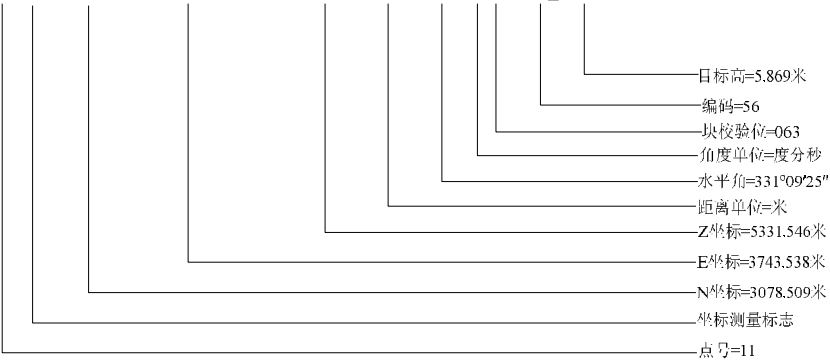
+12 ?+00000087m3380055+3310925d+00000033100+00+00063_*56_5.869



4X D Mn

+11 U+00003078509+00003743538+00005331546m+3310925d086_*56_5.869

+11 U+00003078509+00003743538+00005331546m+3310925d086_*56_5.869



2

/\]6 ? Mn 3

NTS660 X? h

P E N Z l m

- 1, 1000.000,1000.000,1000.000, STN
- 2, 990.000,1010.000,100.000, STN
- 101,994.890,1000.964,100.113, STN
- 102,993.936,1007.799,100.800, STN
- 103,998.515,1009.639,100.426, STN
- 104,1002.068,1002.568,100.342, STN
- 1001,1004.729,997.649,100.1153, PT

1002,1003.702,990.838,100.799, PT

1003,7911.990,990.358,100.403, PT

1004,997.311,998.236,100.354, PT

NTS300 X? h

_+1 _ x+01111107396_ y+00000005457_ z+00000003612_+2 _
x+01111107397_ y+00000005457_ z+00000003612_+3 _ x+01111107395_
y+00000005457_ z+00000003612_+4 _ x+00000108916_ y+00000101580_
z+00000100118_

3

v l m ? l mo" G l m Nk 1 YQ
: S d

START(F) P E N
 STRAIGHT(:) ; Ec
 ARC()
 SPIRAL() W
 PT() E N[A1 A2]
 (A1 A2: W)

1

START(F) 1000.000, 1050.000, 1100.000
 STRAIGHT(:) 25.000, 48.420
 SPIRAL() 20.000, 20.000
 ARC() 20.000, 23.141
 SPIRAL() 20.000, 20.000
 STRAIGHT(:) 148.300, 54.679

2

START(F) 1000.000, 1050.000, 1100.000
 PT() 1750.000, 1300.000, 100.000, 80.000, 80.000
 PT() 1400.000, 1750.000, 200
 PT() 1800.000, 2000.000

5

e < P_\] 6 v 9: a Mn 9: a Mn a
 W F <YQ ?a W
 Mn 3
 P W

1000.000, 50.000, 0.000
 1300.000, 70.000, 300.000
 1800.000, 70.000, 300.000
 2300.000, 90.000, 0.000

$_ \wedge ! B` \text{abcd4 Tc} \quad (a) \quad Tj Tc \quad 4` _ \wedge$

j j k ?=> (=>) h 3 Mn

P	0
N	1100.000
E	1050.000

h[ENT]% 5h[F4]()% h Mn

N	1300.000
E	1750.000
R	100.000
A1	80.000
A2	80.000

h + Mn

N	1750.000
E	1400.000
R	200.000
A1	0.000
A2	0.000

N	2000.000
E	1800.000
R	0.000
A1	0.000
A2	0.000

+Mn_hi \] 6 ? 3
 START 0.000 1050.000 1100.000 CRLF
 PT 1750.000 1300.000 100.000 80.000 80.000 CRLF
 PT 1400.000 1750.000 200.000 0.000 0.000 CRLF
 PT 1800.000 1800.000 2000.000 CRLF

2

g \] <a W

$$L_{1.2} = \frac{A_{1.2}^2}{R}$$

$L_{1.2} : <a W$

$A_{1.2} : <a M$

k \] l ΔR

$$\Delta R = E - R(1 - \cos t)$$

$$\Delta R = 6.777 - 100(1 - \cos 18.20 \mid 06 \})$$

$$= 1.700$$

$$\$ j a \quad \Delta R_1 = \Delta R_2$$

m \] j

$$N_m = N - R \sin t = 63.348 - 100 \sin 18.20 \mid 06 \} = 31.891$$

$$\$ j a \quad N_{m1} = N_{m2}$$

n \] Q

$$D_1 = R \tan\left(\frac{LA}{2}\right) + \Delta R_2 \operatorname{cosec}(LA) - \Delta R_1 \cot(LA) + N_{m1}$$

$$LA = + 111.55 \mid 47 \} \quad \operatorname{cosec} = \frac{1}{\sin}, \quad \cot = \frac{1}{\tan}$$

$$D_1 = 100 * \tan(111.55 \mid 47 \} / 2) + 1.7(1 / \sin 111.55 \mid 47 \})$$

$$1.7(1 / \tan 111.55 \mid 47 \}) + 31.891$$

$$= 148.06015 + 1.8326 + 0.6844 + 31.891$$

$$= 182.468$$

$$D_1 = D_2$$

o \] KA1 ?

$$N_{KA1} = N_{IP1} - D_1 \cdot \cos a_1$$

$$E_{KA1} = E_{IP1} - D_1 \cdot \sin a_1$$

_ BP IP1 ? ; $\Rightarrow a_1 = 74.03 \mid 16.6 \}$

$$N_{KA1} = 1300 - 182.468 * \cos 74.03 \mid 16.6 \} = 1249.872 \text{ m}$$

$$E_{KA1} = 1750 - 182.468 * \sin 74.03 = 16.6$$

$$2 \quad \cdot \sin a_3$$

: KA2 BC = $\sqrt{(1575.068-1444.032)^2 + (1536.058-1637.976)^2} = 166.005 \text{ m}$

:

EC EP = $\sqrt{(2000-1867.456)^2 + (1800-1587.929)^2} = 250.084 \text{ m}$

F (BP)

N 1100.000 m

E 1050.000 m

BP < KA1 ? :

; 74 03 | 16.6}

EC 545.543 m

KA1 < KE1 ? j a

-100 m (- Z- - Y ? / a /)

W 64 m

KE1 < KE2 ?

-100 m (- Z- - Y ? / a /)

W 131.354 m

KE2 < KA2 ? j a

-100 m (- Z- - Y ? / a /)

W 64 m

KA2 < BC ? :

; 322 07 | 30.1}

EC 166.004 m

BC < EC ?

200 (j PZ- - Y ? / a /)

W 334.648 m

EC < EP ? :

; 57 59 | 40.6}

EC 250.084 m

_^! C`

1 NTS

出

Ec 1mm 23 ? Mn 3

1) AE(SD)23

?+00002157m2675319+0320026d+00002156*00+00+00062EXT(CRLF)

ID	SD	m/f/i	V	H	d/g/m	HD	t/*L	P	O	BCC

块校验符=062
棱镜常数=+00
大气改正=+00
0值
倾斜改正(t表示打开, *表示关闭)
数据识别符=52H

角度单位=度分秒
水平角=32° 02' 19"
垂直角=22° 02' 19"
距离单位=m
斜距=2.157m
棱镜识别符=52H

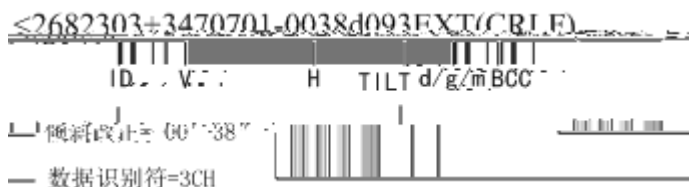
2) >E/ (HD/VD)23

R+00002175m2682307+3470701d-00000061t00+00+00008EXT(CRLF)

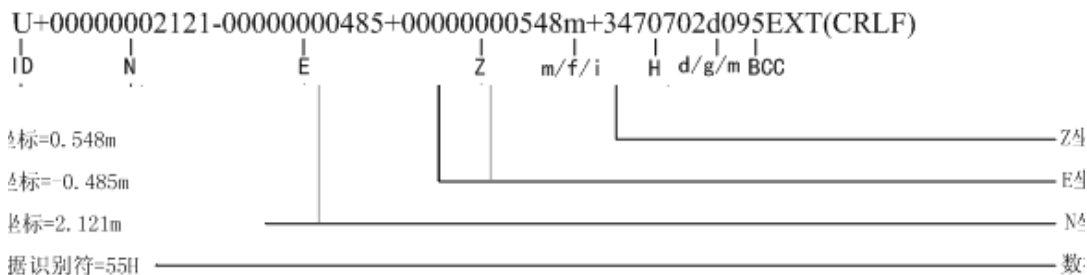
HD	m/f/i	V	H	d/g/m	VD	t/*L	P	O	BCC	ID

高差=-0.061m
数据识别符=52H

3) ; W(H/V 23)

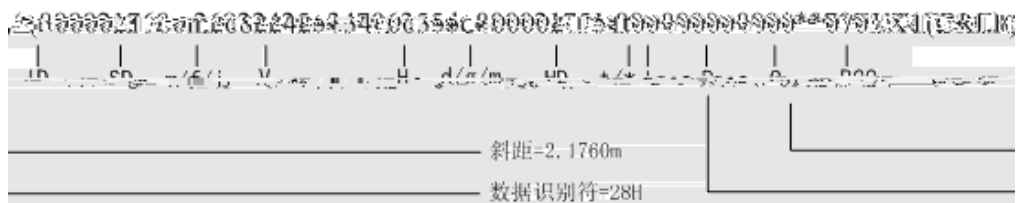


4) (N/E/Z) 23

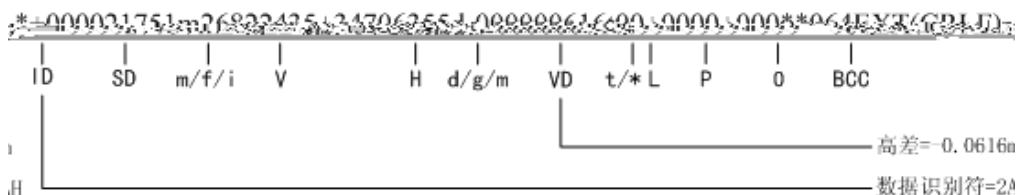


Ec 0.1mm 23 ? Mn 3

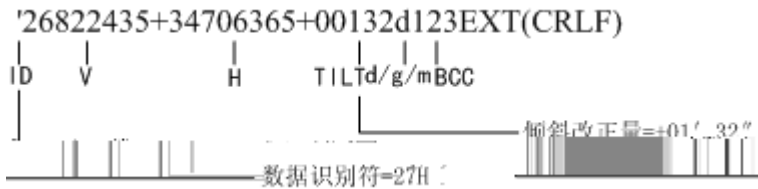
1) AE (SD) 23



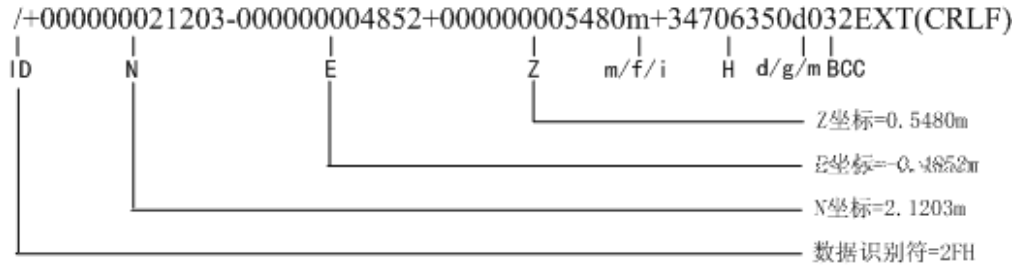
2) > E/ (HD/VD) 23



3); W(H/V) 23



4) (N/E/Z)23



2

```

y F      gD      Mn      \ ] 6
          C 067  ETX  CRLF
          ASCII m 43H 30H 36H 37H 03H 0DH 0AH
yc F      Nr S ?Mnr      3
          ACK 006  ETX  CRLF      3
          ASCII m 06H 30H 30H 36H 03H 0DH 0AH
          NAK 021  ETX  CRLF      3
          ASCII m 14H 30H 32H 31H 03H 0DH 0AH
yt F      B D 23

          23
          Z10 091  ETX  CRLF      H/V ; WD
ASCII m 5AH 31H 30H 30H 39H 31H 03H 0DH 0AH
          Z12 089  ETX  CRLF      HR ;
ASCII m 5AH 31H 32H 30H 39H 31H 03H 0DH 0AH
          Z13 088  ETX  CRLF      HL ;
ASCII m 5AH 31H 33H 30H 39H 31H 03H 0DH 0AH

          Z32 091  ETX  CRLF      SD d D
ASCII m 5AH 33H 32H 30H 39H 31H 03H 0DH 0AH
          Z34 093  ETX  CRLF      SD D
ASCII m 5AH 33H 34H 30H 39H 33H 03H 0DH 0AH
    
```

Z35 092 ETX CRLF SD D
ASCII m 5AH 33H 35H 30H 39H 32H 03H 0DH 0AH

Z42 092 ETX CRLF HD d D
ASCII m 5AH 34H 32H 30H 39H 32H 03H 0DH 0AH

Z44 090 ETX CRLF HD D
ASCII m 5AH 34H 34H 30H 39H 30H 03H 0DH 0AH

Z45 091 ETX CRLF HD D
ASCII m 5AH 34H 35H 30H 39H 31H 03H 0DH 0AH

Z62 094 ETX CRLF NEZ d D
ASCII m 5AH 36H 32H 30H 39H 34H 03H 0DH 0AH

Z64 088 ETX CRLF NEZ D
ASCII m 5AH 36H 34H 30H 38H 38H 03H 0DH 0AH

Z65 089 ETX CRLF NEZ D
ASCII m 5AH 36H 35H 30H 38H 39H 03H 0DH 0AH

3

r h) \] 6 ?* P! ()

元次并
次(复67>?e次 肩D补变② 崩②补变 补补重元补补变补②补补补② 肩代识补补补补② 肩代补变补②)

```

<--- C 067 ETX
      ( Nr )          --->
<--- C 067 ETX
      ( Nr )          --->
      t
      t
      d7
    
```

```

      D Mn    --->
<--- ( Nr )
      D Mn    --->
<--- ( Nr )
      t
      t
      d7
    
```

变讯67>?8v UO

- 1)\] 6/hi y*F
- 2)hi C ? BCC . S ? Cf 0.05 hi /\] 6 sy
* P ACK 4. S ? Cf hi /\] 6 Nr * P
- 3). \] 6 0.05 \ S 1fhi ?sy*P ACK \] 6p@5
D ?
- 4) 3)d7(10 J \] 6 , - * +

```

NTS          \] 6
<--- y*F
      ACK 006 ETX    --->
    
```

```

<--- y*F
      ( Nr )          --->
<--- y*F
      ( Nr )          --->
      t
      t
      d7
    
```

u v t 010-67805689
rwtXOthi (N