

The ON HOOK, OFF HOOK, and RINGING states of each channel are represented by the A and B signaling bits. Use the A and B signaling bits to identify whether the channel is active, idle, or stuck.

Loop Start	Foreign Exchange						Digital Loop Carrier					
	CO Transmits			Station Transmits			CO Transmits			Station Transmits		
Central Office (CO) calling Station (oORHo)	Indicator	A	B	Indicator	A	B	Indicator	A	B	Indicator	A	B
Idle (on hook)	O	0	1	o	0	1	O	1	1	o	0	0
Seizure: ringing from CO (see NOTE)	R	0	0		0	1	R	1	1/0			0
Station answers (off hook)/conversation		0	1	h	1	1		1	1	h	1	0
Station hangs up (on hook)		0	1	o	0	1		1	1	o	0	0

NOTE: The state of the ringing bit represents its state during the 2 second "ringing on" interval of the ringing cycle. During the 4 second silent interval of the cycle, the ringing bit returns to its idle state.

Loop Start (cont.)	Foreign Exchange						Digital Loop Carrier					
	CO Transmits			Station Transmits			CO Transmits			Station Transmits		
Station calling CO (oOH#o)	Indicator	A	B	Indicator	A	B	Indicator	A	B	Indicator	A	B
Idle (on hook)	o	0	1	O	0	1	o	1	1	O	0	0
Seizure: loop closure from station (off hook)		0	1	H	1	1		1	1	H	1	0
Dial tone from CO (bits don't change)	t	0	1		1	1	t	1	1		1	0
Station sends digits/call established*		0	1	#	1	1		1	1	#	1	0
Conversation*		0	1		1	1		1	1		1	0
Station hangs up (on hook)		0	1	O	0	1		1	1	O	0	0

Ground Start

CO calling Station (oOHRHbo)	Foreign Exchange						Digital Loop Carrier					
	CO Transmits			Station Transmits			CO Transmits			Station Transmits		
Idle/open tip from CO (on hook)	Indicator	A	B	Indicator	A	B	Indicator	A	B	Indicator	A	B
Idle/open tip from CO (on hook)	O	1	1	o	0	1	O	0	0	o	0	0
Seizure: ground on tip from CO (off hook)	H	0	1		0	1	H	0	1/0			0
Ringing from CO (see NOTE)	R	0	0		0	1	R	1	1/0			0
Station answers (off hook)/conversation		0	1	h	1	1	H	0	1/0	h	1	0
Station hangs up (on hook)		0	1	o	0	1		0	1/0	o	0	0
CO hangs up/open tip from CO (on hook)	O	1	1		0	1	O	0	0			0

Station calling CO (oOGbH#Oo)	Foreign Exchange						Digital Loop Carrier					
	CO Transmits			Station Transmits			CO Transmits			Station Transmits		
Idle/open tip from CO (on hook)	Indicator	A	B	Indicator	A	B	Indicator	A	B	Indicator	A	B
Idle/open tip from CO (on hook)	o	1	1	O	0	1	o	0	0	O	0	0
Seizure: ground on ring from station		1	1	G	0	0		0	0	G	0	1
Ground on tip from CO (on hook)	h	0	1		0	0	h	0	1/0			0
Station removes ring ground, closes loop (off hook)		0	1	H	1	1		0	1/0	H	1	0
Dial tone from CO*	t	0	1		1	1	t	0	1/0		1	0
Station sends digits/call established*		0	1	#	1	1		0	1/0	#	1	0
Conversation*		0	1		1	1		0	1/0		1	0
Station hangs up (on hook)		0	1	O	0	1		0	1/0	O	0	0
CO hangs up/open tip from CO (on hook)	o	1	1		0	1	o	0	0			0

Wink Start

PBX calling CO (oOHw#bOo)**	Foreign Exchange						Digital Loop Carrier					
	CO Transmits			Station Transmits			CO Transmits			Station Transmits		
Idle (on hook)	Indicator	A	B	Indicator	A	B	Indicator	A	B	Indicator	A	B
Idle (on hook)	o	0	0	O	0	0						
Seizure (off hook)		0	0	H	1	1						
Wink from CO	w	1	1		1	1						
PBX transmits digits*		0	0	#	1	1						
CO answers/call established	h	1	1		1	1						
Conversation*		1	1		1	1						
PBX hangs up (on hook)		1	1	O	0	0						
CO hangs up (on hook)	o	0	0		0	0						

Key Originate Supervision

G Ground on Ring
H Off Hook
O On Hook
R Ring

Terminate Supervision

h off hook (ground on tip)
o on hook
w wink
t dial tone

digits
1/0 toggling bits

* bits don't change

** "CO calling PBX" works the same way

The "Indicator" section represents indication on T-BERD 224.

NOTE: The state of the ringing bit represents its state during the 2 second "ringing on" interval of the ringing cycle. During the 4 second silent interval of the cycle, the ringing bit returns to its idle state.

