

Ø£Ø³ØªÙfØ´Ø§Ù◊ Ø£Ø®Ø·Ø§Ø; Ø§Ù,,Ù...Ù†Ø§Ù◊Ø° Ø§Ù,,ØªÙ†Ø§Ø,Ø±ÙšØ© Ù^Ø¥ØµÙ,,Ø§ØÙ‡Ø§ Ù^Ù...Ø±Ø§Ù,Ø¨ ØªÙ‡Ø§

Ø§Ù,,Ù...ØªÙ^ÙšØ§Øª

[Ø§Ù,,Ù...Ù,Ø-Ù...Ø©](#)  
[Ø§Ù,,Ù...ØªØ·Ù,,Ø¨Ø§Øª Ø§Ù,,Ø£Ø³Ø§Ø³ÙšØ©](#)  
[Ø§Ù,,Ù...ØªØ·Ù,,Ø¨Ø§Øª](#)  
[Ø§Ù,,Ù...ÙfÙ^Ù†Ø§Øª Ø§Ù,,Ù...Ø³ØªØ®Ø-Ù...Ø©](#)  
[FXS/FXOFundamentals](#)  
[Ø¨Ù^Ø±ØªÙšÙ†Ø§Ø³ÙšÙfØ³](#)  
[ØªØ-Ù◊Ù, Ø§Ù,,Ù...ÙfØ§Ù,,Ù...Ø§Øª Ø§Ù,,Ø£Ø³Ø§Ø³Ùš](#)  
[Ø¥Ø±Ø³Ø§Ù,, Ø¥Ø´Ø§Ø±Ø§Øª Ø´Ø-Ø; Ø§Ù,,ØªÙfØ±Ø§Ø± Ø§Ù,,ØÙ,,Ù,Ùš](#)  
[Ø¥Ø±Ø³Ø§Ù,, Ø¥Ø´Ø§Ø±Ø§Øª VPM Ù,,Ù,,Ù...ÙfØ§Ù,,Ù...Ø© Ø§Ù,,Ø§Ø-Ø±Ø©](#)  
[Ø¥Ø±Ø³Ø§Ù,, Ø¥Ø´Ø§Ø±Ø§Øª VPM Ù,,Ù,,Ù...Ø§Ø³ØªØ-Ø¹Ø§Ø; Ø§Ù,,Ù^Ø§Ø±Ø-](#)  
[Ø£Ø³ØªÙfØ´Ø§Ù◊ Ø£Ø®Ø·Ø§Ø; Ù...Ù†Ø§Ù◊Ø° FXS Ù^ FXO Ù^Ø¥ØµÙ,,Ø§ØÙ‡Ø§](#)  
[Ø£Ù^Ø§Ù...Ø± Ø£Ø³ØªÙfØ´Ø§Ù◊ Ø§Ù,,Ø£Ø®Ø·Ø§Ø; Ù^Ø¥ØµÙ,,Ø§ØÙ‡Ø§](#)  
[Ø¥Ø´Ù†Ø§Ø± Ø§Ù,,Ø£Ù^Ø§Ù...Ø±](#)  
[Ø£Ù^Ø§Ù...Ø± Ø¥Ø®ØªØ¨Ø§Ø± Ø§Ù,,Ù...Ù†Ù◊Ø° Ø§Ù,,ØµÙ^ØªÙš](#)  
[Ø¥Ø®ØªØ¨Ø§Ø±Ø§Øª Ù^Ø´ÙšÙ◊Ø© Ø§Ù,,Ø§Ø³ØªØ±Ø-Ø§Ø¹](#)  
[Ø¥Ø®ØªØ¨Ø§Ø±Ø§Øª ØÙ,Ù† Ø§Ù,,Ø¨±Ø-Ø© Ø§Ù,,Ù,,Ù^Ù†ÙšØ©](#)  
[Ø¥Ø®ØªØ¨Ø§Ø±Ø§Øª Ø§Ù,,Ù^Ø´Ø§Ø;ØÙ◊ Ø§Ù,,Ù...Ø±ØªØ¨·Ø© Ø¨ªØ±ØÙšÙ,,](#)  
[Ø§Ù,,Ø¨ÙšØ§Ù†Ø§Øª](#)  
[Ø¥Ø®ØªØ¨Ø§Ø±Ø§Øª Ù^Ø¶Ø¹ Ø§Ù,,Ù◊Ø§ÙfØ³/Ø§Ù,,ØµÙ^Øª](#)  
[ØªÙ... Ø§Ù,,Ø¹Ø«Ù^Ø± Ø¹Ù,,Ù% Ù...Ø³Ø§Ø;Ù,, Ù...Ø´ØªÙfØ©](#)  
[ØªÙ... Ø§ÙfØªØ´Ø§Ù◊ ØØ±Ù...Ø§Ù† Ù...Ù† Ø·Ø§Ù,Ø© FXO](#)  
[Ù...Ø´ÙfÙ,,Ø§Øª Ø£Ø®Ø±Ù%](#)

Ø§Ù,,Ù...Ù,Ø-Ù...Ø©

ÙšÙ^Ø¶Ø Ù‡Ø°Ø§ Ø§Ù,,Ù...Ø³ØªÙ†Ø- Ù...Ù†Ø§Ù◊Ø° FXS Ù^ FXO Ù^Ù^Ø,Ø§Ø;Ù◊Ù‡Ø§ØCE ÙfÙ...Ø§ ÙšØ¹Ù^ Ø¥Ù,,Ù% Ø¥Ø¹Ø-Ø§Ø- Ø§Ù,,Ù...ÙfØ§Ù,,Ù...Ø§Øª Ù^Ø¥Ù†Ù‡Ø§Ø;Ù‡Ø§ Ù^Ù...ÙfÙ^Ù†Ø§Øª Ø§Ù,,ØªÙfÙ^ÙšÙ† Ù^ØªÙ,,Ù...ÙšØ§Øª Ø£Ø³ØªÙfØ´Ø§Ù◊ Ø§Ù,,Ø£Ø®Ø·Ø§Ø; Ù^Ø¥ØµÙ,,Ø§ØÙ‡Ø§.

Ø§Ù,,Ù...ØªØ·Ù,,Ø¨Ø§Øª Ø§Ù,,Ø£Ø³Ø§Ø³ÙšØ©

Ø§Ù,,Ù...ØªØ·Ù,,Ø¨Ø§Øª

ØªÙ^Ø¶š Cisco Ø¨Ø£Ù† ØªÙfÙ^Ù† Ù,,Ø-ÙšÙf Ù...Ø¹Ø±Ù◊Ø© Ø¨Ø£Ø³Ø§Ø³ÙšØ§Øª Ø§Ù,,Ù^Ø§Ø-Ù‡Ø© Ø§Ù,,ØªÙ†Ø§Ø,Ø±ÙšØ©.

# Ø§Ù,,Ù...ÙfÙ^Ù†Ø§Øª Ø§Ù,,Ù...Ø³ØªØ®Ø-Ù...Ø©

ØªØ³ØªÙ†Ø- Ø§Ù,,Ù...Ø¹Ù,,Ù^Ù...Ø§Øª Ø§Ù,,Ù^Ø§Ø±Ø-Ø© Ù♦ÙŠ Ù†Ø°Ø§ Ø§Ù,,Ù...Ø³ØªÙ†Ø- Ø¥Ù,,Ù% Ø¥ØµØ-Ø§Ø±Ø§Øª Ø§Ù,,Ù...ÙfÙ^Ù†Ø§Øª Ø§Ù,,Ù...Ø§Ø-ÙŠØ© Ù^Ø§Ù,,Ø- Ø±Ø§Ù...Ø- Ø§Ù,,ØªØ§Ù,,ÙŠØ©:

- ISR4451-X/K9
- NIM-2FXSP
- NIM-2FXO
- Cisco IOS® XEØCE Ø§Ù,,Ø¥ØØ-Ø§Ø± 16.8.2

ØªÙ... Ø¥Ù†Ø-Ø§Ø; Ø§Ù,,Ù...Ø¹Ù,,Ù^Ù...Ø§Øª Ø§Ù,,Ù^Ø§Ø±Ø-Ø© Ù♦ÙŠ Ù†Ø°Ø§ Ø§Ù,,Ù...Ø³ØªÙ†Ø- Ù...Ù† Ø§Ù,,Ø£Ø-Ù†Ø²Ø© Ø§Ù,,Ù...Ù^Ø-Ù^Ø-Ø© Ù♦ÙŠ Ø-ÙŠØ|Ø© Ù...Ø¹Ù...Ù,,ÙŠØ© Ø®Ø§ØµØ©. Ø-Ø-Ø£Øª Ø-Ù...ÙŠØ¹ Ø§Ù,,Ø£Ø-Ù†Ø²Ø© Ø§Ù,,Ù...Ù♦Ø³ØªØ®Ø-Ù...Ø© Ù♦ÙŠ Ù†Ø°Ø§ Ø§Ù,,Ù...Ø³ØªÙ†Ø- Ø-ØªÙfÙ^ÙŠÙ† Ù...Ù...Ø³Ù^Ø (Ø§Ù♦ØªØ±Ø§Ø¶ÙŠ). Ø¥Ø°Ø§ ÙfØ§Ù†Øª Ø-Ø-ÙfØªÙf Ù,ÙŠØ- Ø§Ù,,ØªØ°Ø°ÙŠÙ,,ØCE Ù♦ØªØ£ÙfØ- Ù...Ù† Ù♦Ù†Ù...Ùf Ù,,Ù,,ØªØ£Ø«ÙŠØ± Ø§Ù,,Ù...ØªÙ...Ù,, Ù,,Ø£ÙŠ Ø£Ù...Ø±.

## Ø£Ø³Ø§Ø³ÙŠØ§Øª FXS/FXO

### Ø-Ø±ÙfØ© Port Fundamentals

Ø¥Ù† Ù...ØØ-Ø© ØØ±Ù♦ Ø§Ù,,Ø¹Ù...Ù,,Ø§Øª Ø§Ù,,Ø£Ø-Ù†Ø-ÙŠØ© (FXS)/Ù...ÙfØªØ- ØµØ±Ù♦ Ø§Ù,,Ø¹Ù...Ù,,Ø§Øª Ø§Ù,,Ø£Ø-Ù†Ø-ÙŠØ© (FXO) Ù†ÙŠ Ø§Ù,,Ø-Ø§Ø|Ø±Ø© Ø§Ù,,ØªÙ†Ø§Ø,Ø±ÙŠØ© Ø§Ù,,Ù†Ù...Ù^ØØ-ÙŠØ© Ø§Ù,,Ù...Ø³ØªØ®Ø-Ù...Ø© Ù,,ØªÙ^ØµÙŠÙ,, Ø®Ø- Ù†Ø§ØªÙ♦ ØªÙ†Ø§Ø,Ø±ÙŠ Ù^Ø§ØØ- Ø¥Ù,,Ù% Ù...Ù†Ø²Ù,,Ùf.

FXOport (Ø£Ù^ Ø§Ù,,Ø-Ù†Ø§Ø²) Ù†Ù^ Ø§Ù,,Ù...Ù†Ù♦Ø° Ø§Ù,,Ø°ÙŠ ÙŠØªØµÙ,, Ø-Ø§Ù,,Ø-Ø§Ø|Ø±Ø©ØCE Ù^Ø§Ù,,ØªÙŠ Ù,,Ø-ÙŠÙ†Ø§ Ø§Ù,,Ù,Ø-Ø±Ø© Ø¹Ù,,Ù% ØªØ°Ø°ÙŠÙ,,/Ø¥ÙŠÙ,Ø§Ù♦ Ø§Ù,,Ø§ØªØµØ§Ù,, Ù^Ø¥Ø±Ø³Ø§Ù,, Ø£Ø±Ù,Ø§Ù... Ø¹Ù†Ø-Ù...Ø§ ØªÙfÙ^Ù† Ø®Ø§Ø±Ø- Ø§Ù,,Ù...Ø³Ø§Ø± Ù,,Ø-Ø-Ø; Ù...ÙfØ§Ù,,Ù...Ø©. Ù^Ù†Ù^ ÙŠØ³ØªØ®Ø-Ù... ØªØªØ§Ø-Ø¹ Ø¹Ù†Ø-Ù...Ø§ ÙŠÙfÙ^Ù† Ø§Ù,,Ù...Ù†Ù♦Ø° Ù♦ÙŠ Ù^Ø¶Ø¹ Ø¹Ø-Ù... Ø§Ù,,Ù^ØµÙ^Ù,, ØªØ°Ù,,Ù, Ø§Ù,,Ø-Ø§Ø|Ø±Ø©ØCE Ù^Ø¹Ù†Ø-Ù...Ø§ ÙŠÙfÙ^Ù† Ø§Ù,,Ù...Ù†Ù♦Ø° Ù♦ÙŠ Ù^Ø¶Ø¹ Ø§Ù,,Ø§Ø³ØªØ¹Ø-Ø§Ø- ØªÙfÙ^Ù† Ø§Ù,,Ø-Ø§Ø|Ø±Ø© Ù...Ù♦ØªÙ^Ø©. Ø¥Ù†Ù† ÙŠØªØµ,, Ù...Ø¹ FXS Ø¹Ù,,Ù% Ø§Ù,,Ø-Ø§Ù†Ø- Ø§Ù,,ØçØ®Ø±.

Ù†Ø,Ø±Ø§ Ù,,Ø£Ù† Ù...Ù†Ø§Ù^Ø° FXO ØªÙ,Ù^Ù... Ø-Ø¥Ù†Ù†Ø§Ø; Ø§Ù,,Ø®Ø-Ù^Ø- Ù...Ù† Ø-Ø±ÙfØ© Ø§Ù,,Ø§ØªØµØ§Ù,,Ø§Øª Ø§Ù,,Ø®Ø§ØµØ© Ø-ÙfØCE ÙŠÙ...ÙfÙ†Ùf Ø£ÙŠØ¶Ø§ Ø§Ù,,ØªÙ^ÙfÙŠØ± Ù♦ÙŠ Ø°Ù,,Ùf Ø¹Ù,,Ù% Ø£Ù†Ù†Ø³Ù...Ø§Ø¹Ø© Ø§Ù,,Ù†Ø§ØªÙ♦ Ø§Ù,,ØªÙ†Ø§Ø,Ø±ÙŠØ© Ø£Ù^ Ø-Ù†Ø§Ø² Ø§Ù,,Ù♦Ø§ÙfØ³/Ø§Ù,,Ù...Ù^Ø-Ù....

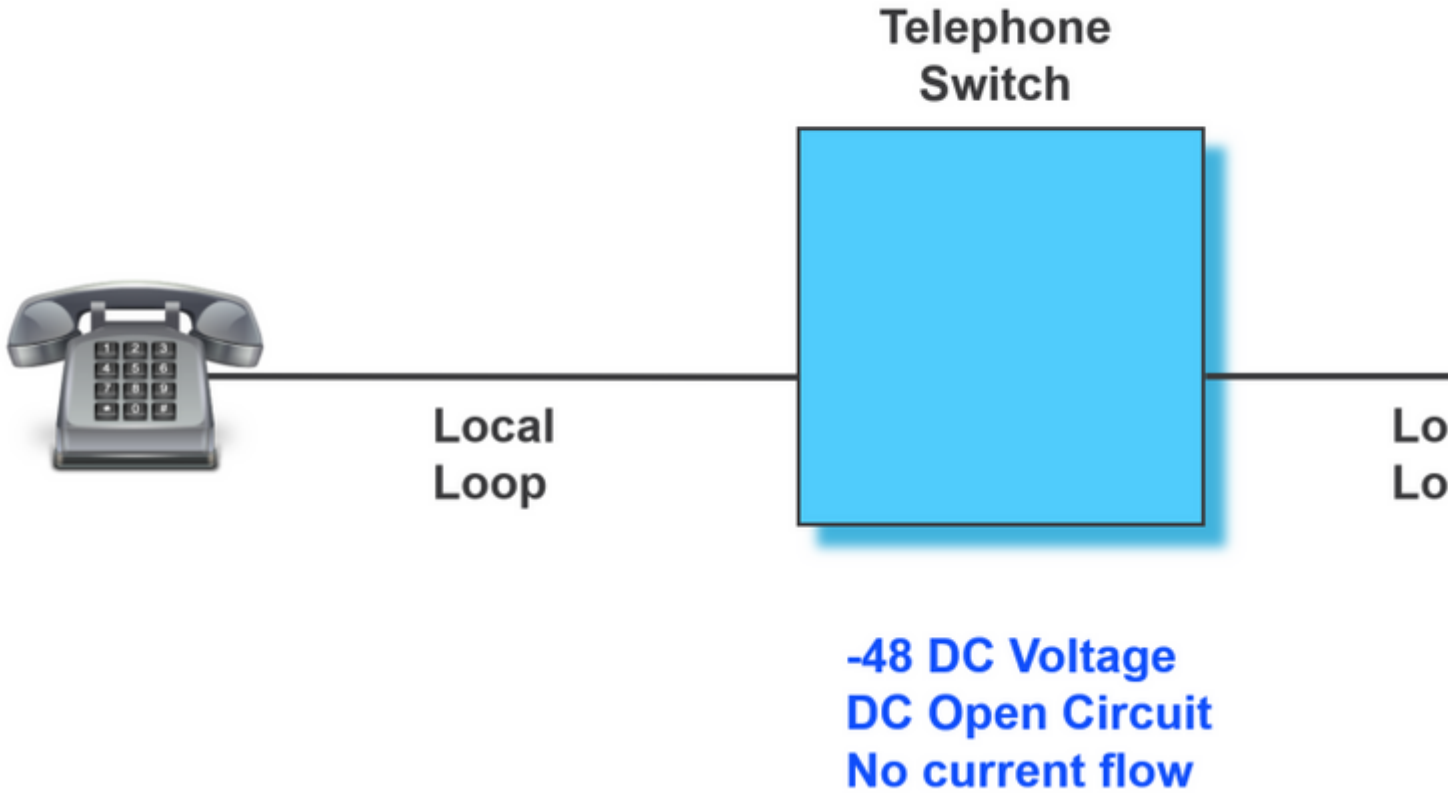
Ù...Ù†Ù♦Ø° FXS Ù†Ù^ Ø§Ù,,Ø-Ù†Ø§Ø² Ø§Ù,,Ø°ÙŠ ÙŠØªØµÙ,, Ø-Ø§Ù,,Ø-Ø§Ø|Ø±Ø© Ù^ÙŠÙ^Ù^Ø± Ù†Ø°Ù...Ø© Ø§Ù,,Ø-Ù,,Ø- Ù^Ù^Ù^Ù,,ØªÙŠØ© Ø§Ù,,Ø±Ù†ÙŠÙ† Ù,,Ø-Ù†Ø§Ø² FXO. ÙŠØ±Ø-Ø- Ù...Ù†Ù♦Ø° FXS Ø-Ù^Ø§Ø-Ø© Ø-Ù...Ø¹Ø-Ø§Øª Ù...Ø«Ù,, Ø§Ù,,Ù†Ù^Ø§ØªÙ♦ Ù^Ø£Ø-Ù†Ø²Ø© Ø§Ù,,Ù♦Ø§ÙfØ³ Ù^Ø§Ù,,Ù...Ù^Ø-Ù... ÙŠØ³ØªØ®Ø-Ù... Ù...Ù†Ù^Ø° FXS Ø³Ù,,ÙfÙŠÙ† Ù♦Ù,Ø- (Tip Ù^ Ring) Ù,,Ø¥Ø±Ø³Ø§Ù,, Ø§Ù,,Ø¥Ø°Ø§Ø±Ø§Øª Ù^Ù...Ø³Ø§Ø±

Ø§Ù,,ØµÙ^Øª ÙØÙŠ Ù...Ù¸Ø§Ù,,Ù...Ø© Ù...Ø¹ÙŠÙ†Ø©. ÙŠÙ...Ù¸Ù† Ø¸Ù† ÙŠÙ^ÙØ± Ù¸Ø°Ø§ Ø§Ù,,Ø«Ù†Ø§Ø!ÙŠ Ù...Ù† Ø§Ù,,Ø³Ù,,Ù¸ Ø§Ù,,ØÙ,,Ù,Ø© Ù^Ø§Ù,,ÙØÙ^Ù,,ØªÙŠØ© Ù^Ù†Ø°Ù...Ø© Ø§Ù,,Ø·Ù,,Ø´ Ù,,Ù,,Ù...ØØ·Ø©.

**ØªØ-ÙØÙ, Ø§Ù,,Ù...Ù¸Ø§Ù,,Ù...Ø§Øª Ø§Ù,,Ø¸Ø³Ø§Ø³ÙŠ**

Ù...Ù† Ø¸Ø-Ù,, ÙØÙ¸Ù... Ø¸ÙØØÙÙ,, Ù,,Ù¸ÙŠÙØÙŠØ© Ø¸Ø³ØªÙ¸Ø¸ÙØÙØ Ø¸Ø®Ø·Ø§Ø; Ù¸Ø°ÙŠÙ† Ø§Ù,,Ù†Ù^Ø¹ÙŠÙ† Ù...Ù† Ø§Ù,,Ù^Ø¹Ø§Ø; Ù^Ø¥ØµÙ,,Ø§ØÙ¸Ø§Ø¸ÙŠØ-Ø´ Ø¸Ù^Ù,,Ø§ Ø§Ù,,Ù†Ø,Ø± ÙØÙŠ Ù¸ÙŠÙØÙŠØ© Ø¥Ø¹Ø¹Ø-Ø§Ø¹Ø§Ù,,Ù...Ù¸Ø§Ù,,Ù...Ø© Ù,,Ù¸Ù...Ø§. ÙŠÙ^ØÙØ Ù¸Ø°Ø§ Ø§Ù,,Ù,Ø³Ù... Ø¹Ù...Ù,,ÙŠØ© Ø§Ù,,Ù...Ù¸Ø§Ù,,Ù...Ø© Ø§Ù,,ØªÙ†Ø§Ø,Ø±ÙŠØ© Ù...Ù† Ø§Ù,,Ù^Ù,Øª Ø§Ù,,Ø°ÙŠ ØªÙ¸Ù^Ù† ÙØÙŠÙ¸ Ù†Ù,Ø·ØªØ§ Ø§Ù,,Ù†Ù¸Ø§ÙŠØ© Ø¹Ù,,Ù% Ø§Ù,,Ø§ØªØµØ§Ù,,Ø¸ Ø¥Ù,,Ù% Ø§Ù,,Ù†Ù,Ø·Ø© Ø§Ù,,ØªÙŠ ÙŠÙ¸Ù^Ù† ÙØÙŠÙ¸Ø§ Ø§Ù,,ØµÙ^Øª Ø«Ù†Ø§Ø!ÙŠ Ø§Ù,,Ø¥ØªØ-Ø§Ù¸.

Ù¸Ù...Ø§ Ù¸Ù^ Ø§Ù,,Ø§Ù,, Ù...Ø¹ Ø-Ù...ÙŠØ¹ Ø§Ù,,Ù...Ù¸Ø§Ù,,Ù...Ø§ØªØ¸ÙŠØ-Ø¸ Ù...Ù†ÙØ° FXS ÙØÙŠ Ù¸Ø³Ù...Ø¹Ù... Ø§Ù,,Ø§ØªØµØ§Ù,, Ø´ÙŠÙ†Ù...Ø§ Ù,,Ø§ ØªÙ¸Ù^Ù† Ù†Ù,Ø·ØªØ§ Ø§Ù,,Ù†Ù¸Ø§ÙŠØ© Ù,ÙŠØ¹ Ø§Ù,,Ø§Ø³ØªØ®Ø¹Ø§Ù...:



ØªÙ†Ø-Ù...Ø§ ÙŠÙ†Ù,Ø·Ø¹ Ø¸ØØ-Ø§Ù,,Ù¸Ù^Ø§ØªÙØÙØÙ¸Ù¸ÙŠÙ¸Ù... Ø¥Ø°Ù,,Ø§Ù,, Ø§Ù,,Ø¹Ø§Ø!Ø±Ø© Ù^ÙŠØªÙ... ØªÙ^ÙØÙŠØ± Ù†Ø°Ù...Ø© Ø§Ù,,Ø·Ù,,Ø´ Ø´Ù^Ø§Ø³Ø·Ø© Ù...Ù†ÙØ° FXS Ø¥Ù,,Ù% Ø-Ù¸Ø§Ø² FXO.

**Off-Hook  
Closed Circuit**

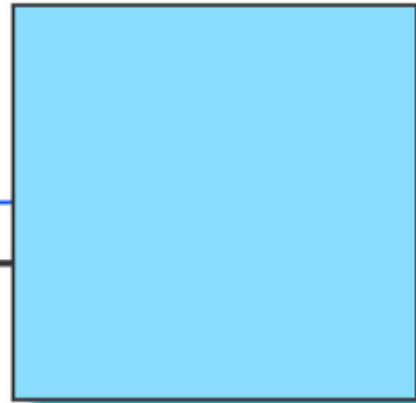


**DC Current  
Dial Tone**



**Local  
Loop**

**Telephone  
Switch**



**Lo  
Lo**

Ø·Ù...Ø-Ø±Ø- Ø£Ù† ÙŠÙ†Ù^Ù† Ø§Ù,,Ø-Ù‡Ø§Ø² Ø§Ù,,Ø°ÙŠ Ù,,Ø§Ù... Ø·Ø·Ø·Ø; Ø§Ù,,Ù...Ù†Ø§Ù,,Ù...Ø© Ù‡ÙŠ Ù^Ø¶Ø¹ Ø¥ÙŠÙ,,Ø§Ù‡ Ø§Ù,,ØªØ´Ø°ÙŠÙ,,Ø£ Ù‡Ø¥Ù†Ù‡ ÙŠØ·Ø´Ø£ Ù‡ÙŠ Ø·Ù,,Ø´ Ø§Ù,,Ø±Ù,,Ù... Ø·Ù^Ø§Ø³Ø·Ø© Ù†Ø´Ø¶Ø§Øª Ø£Ù^ Ù†Ø°Ù...Ø§Øª.

**Off-Hook  
Closed Circuit**



**Dialed Digits  
Pulses or Tones**



**DC Current**

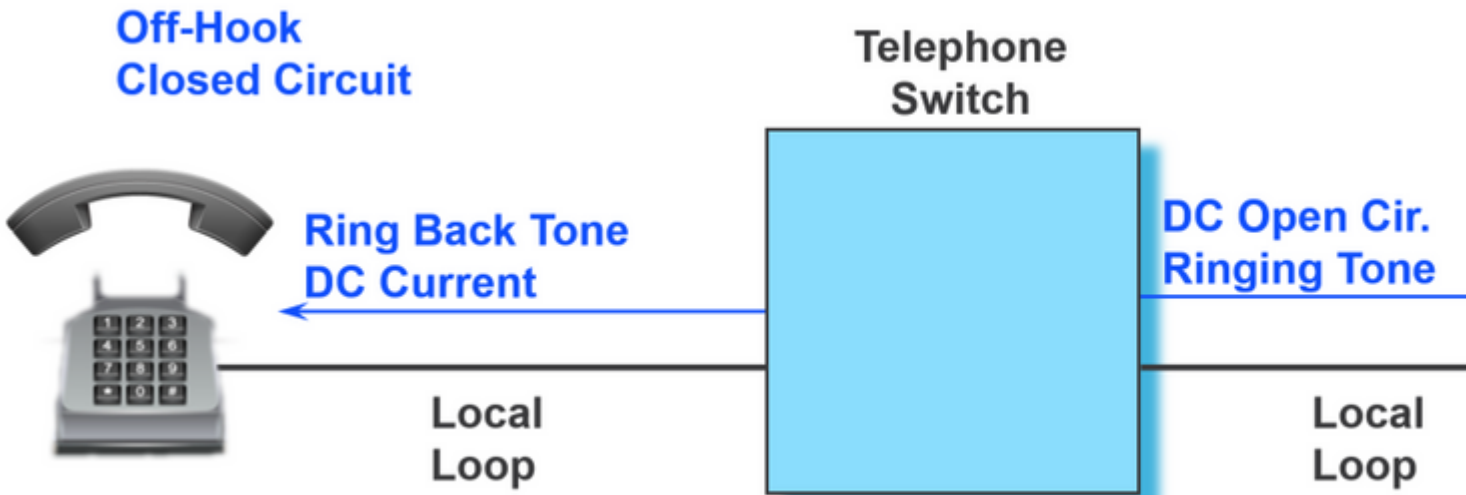


**Telephone  
Switch**

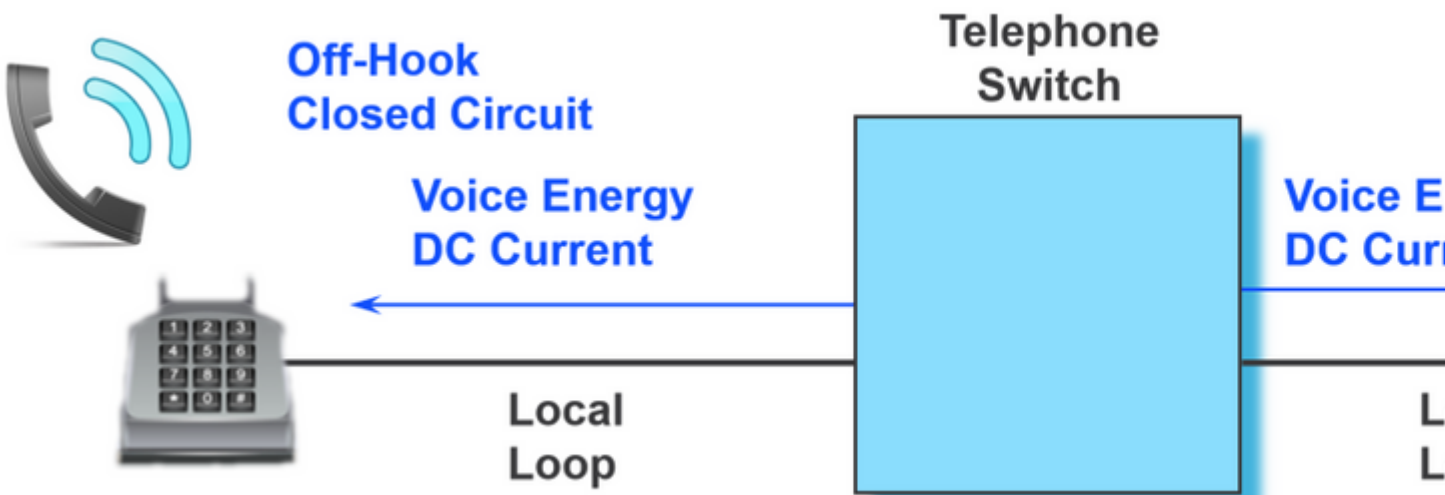


**Lo  
Lo**

Ø·Ù...Ø-Ø±Ø- Ø·Ù,,Ø´ Ø§Ù,,Ø±Ù,,Ù...Ø£ ÙŠÙ,,Ù^Ù... Ø§Ù,,Ø-Ù‡Ø§Ø² Ø§Ù,,Ø°ÙŠ ÙŠÙ,,Ù^Ù... Ø·Ù...Ø¹Ø§Ù,,Ø-Ø© Ù‡Ø°Ù‡ Ø§Ù,,Ù...Ù†Ø§Ù,,Ù...Ø© Ø·ØªØ®Ø·ÙŠØ·Ù‡ Ù^Ù‡Ù,,Ø§Ù,,Ø°Ù,,Ù†. Ø·Ù...Ø-Ø±Ø- ØªÙ^Ø-ÙŠÙ‡ Ø§Ù,,Ù...Ù†Ø§Ù,,Ù...Ø©Ø£ Ø·ÙŠÙ†Ù...Ø§ ÙŠØªÙ... ØªÙ†Ø´ ÙŠÙ‡ Ø§Ù,,Ø-Ù‡Ø§Ø² Ø§Ù,,Ø·Ø±Ù‡ÙŠ Ø§Ù,,Ø´Ø¹ÙŠØ´ Ø·Ù...Ù†Ø§Ù,,Ù...Ø© Ø§Ù,,ØªÙŠ ÙŠØªÙ,,Ù,,Ø§Ù‡Ø§Ø£ Ù‡Ø¥Ù† Ø§Ù,,Ø-Ù‡Ø§Ø² Ø§Ù,,Ø°ÙŠ ØªÙ†Ø´Ø£ Ù...Ù†Ù‡ Ø§Ù,,Ù...Ù†Ø§Ù,,Ù...Ø© ÙŠØªÙ... ØªØ´Ø°ÙŠÙ,,Ù‡ Ù...Ø¹ Ø¥Ø¹Ø§Ø´Ø© ØªÙ^Ø-ÙŠÙ‡ Ù†Ø°Ù...Ø© Ø§Ù,,Ø§ØªØµØ§Ù,,.



Ø·Ù...Ø-Ø±Ø- Ø£Ù† ÙŠÙ, Ù·Ù... Ø§Ù,,Ø-Ù‡Ø§Ø² Ø§Ù,,Ø·Ø±Ù◊ÙŠ Ø§Ù,,Ø·Ø¹ÙŠØ<sup>-</sup>  
 Ø· Ø§Ù,,ØªÙ^Ø§ØµÙ,,Ø£ ÙŠØªÙ... Ø¥Ø°Ù,,Ø§Ù, Ø§Ù,,Ø-Ø§Ø! Ø±Ø© Ø£ÙŠØ¶Ø§Ø£  
 Ù^Ø¹Ù†Ø<sup>-</sup> Ù‡Ø°Ù‡ Ø§Ù,,Ù†Ù,Ø·Ø© ÙŠØªÙ... ØªÙ^ØµÙŠÙ,, Ø§Ù,,Ù...Ù†Ø§Ù,,Ù...Ø©  
 Ø· Ø§Ù,,ØµÙ^Øª Ø«Ù†Ø§Ø! ÙŠ Ø§Ù,,Ø¥ØªØ-Ø§Ù‡:



Ø§Ù,,Ù...Ø«Ø§Ù,, Ø§Ù,,Ø³Ø§Ø·Ù, Ù‡Ù^ ØªØ-Ù◊Ù, Ø£Ø³Ø§Ø³ÙŠ Ù,,Ù...Ø§ ÙŠØØ<sup>-</sup>Ø« Ù...Ù†  
 Ø· Ø-Ø§ÙŠØ© Ø§Ù,,Ù...Ù†Ø§Ù,,Ù...Ø© Ø¥Ù,,Ù% Ù†Ù‡Ø§ÙŠØªÙ‡Ø§. Ù^Ù...Ø¹ Ø°Ù,,Ù†Ø£  
 Ù‡Ù†Ø§Ù†Ø§Ù,,Ù...Ø²ÙŠØ<sup>-</sup> Ù...Ù† Ø§Ù,,Ø£Ù...Ù^Ø± Ø§Ù,,ØªÙŠ ØªØØ<sup>-</sup>Ø« Ø@Ù,,Ù◊  
 Ø§Ù,,Ù†Ù^Ø§Ù,,ÙŠ³ Ø· Ø§Ù,,Ù†Ø³Ø<sup>-</sup>Ø© Ù,,Ù...Ù†Ù◊Ø° FXS Ù‡Ø°Ø§ Ù,,Ù,,Ø¥Ø'Ø§Ø±Ø©  
 Ø¥Ù,,Ù% Ø§Ù,,Ù‡Ø§ØªÙ◊ ØÙ^Ù,, Ù†Ù,, Ø§Ù,,Ø© Ù...Ù† Ø§Ù,,Ø§Øª Ø§Ù,,Ø§ØªØµØ§Ù,,  
 Ø§Ù,,Ø©Ø§ØµØ© Ø·Ù‡. ÙŠØØ·ÙŠ Ø§Ù,,Ù,Ø³Ù... Ø§Ù,,ØªØ§Ù,,ÙŠØ£ Ø·Ø±ÙŠÙ,ØªÙŠ<sup>-</sup>  
 Ø¥Ø±Ø³Ø§Ù,, Ø§Ù,,Ø¥Ø'Ø§Ø±Ø§Øª Ø§Ù,,Ø£Ù†Ø«Ø± Ø¹ÙŠÙ^Ø¹Ø§  
 Ø§Ù,,Ù...Ø³ØªØ@Ø-Ù...ÙŠÙ† Ù...Ø¹ Ù...Ù†Ø§Ù◊Ø° FXS Ø¹Ù,,Ù% Ø¹Ø<sup>-</sup> Ø§Ø±Ø§Øª Cisco  
 Ø§Ù,,ØªÙ†Ø§Ø,Ø±ÙŠØ©.

Ø¥Ø±Ø³Ø§Ù,, Ø¥Ø'Ø§Ø±Ø§Øª Ø·Ø-Ø; Ø§Ù,,ØªÙ†Ø±Ø§Ø±



007587: Jul 2 09:16:03.438: htsp\_digit\_ready(0/3/0): digit = 2  
007588: Jul 2 09:16:03.439: htsp\_process\_event: [0/3/0, FXSLS\_OFFHOOK, E\_HTSP\_PROCEEDING]htsp\_alert\_noti  
  
007589: Jul 2 09:16:08.241: %SYS-7-USERLOG\_DEBUG: Message from tty867(user id: ): RING BACK  
  
007590: Jul 2 09:16:10.621: htsp\_call\_bridged invoked  
007591: Jul 2 09:16:10.665: htsp\_process\_event: [0/3/0, FXSLS\_OFFHOOK, E\_HTSP\_CONNECT]fxsls\_offhook\_con  
007592: Jul 2 09:16:10.665: [0/3/0] nim\_set\_sig\_state: ABCD=6, timestamp=0, sys\_time=6972391  
007593: Jul 2 09:16:10.665: [0/3/0] set signal state = 0x6 timestamp = 0  
007594: Jul 2 09:16:10.667: htsp\_process\_event: [0/3/0, FXSLS\_CONNECT, E\_HTSP\_VOICE\_CUT\_THROUGH]fxsls\_vo  
  
007595: Jul 2 09:16:20.815: %SYS-7-USERLOG\_DEBUG: Message from tty867(user id: ): TWO WAY AUDIO  
  
007596: Jul 2 09:16:37.503: %SYS-7-USERLOG\_DEBUG: Message from tty867(user id: ): HANGING UP  
  
007597: Jul 2 09:16:39.794: htsp\_dsp\_message: SEND\_SIG\_STATUS: state=0x4 timestamp=45260 systime=6975304  
007598: Jul 2 09:16:39.794: htsp\_process\_event: [0/3/0, FXSLS\_CONNECT, E\_DSP\_SIG\_0100]fxsls\_offhook\_onho  
007599: Jul 2 09:16:39.794: htsp\_timer - 1000 msec  
007600: Jul 2 09:16:40.795: htsp\_process\_event: [0/3/0, FXSLS\_CONNECT, E\_HTSP\_EVENT\_TIMER]fxsls\_connect  
007601: Jul 2 09:16:40.795: htsp\_timer\_stop  
007602: Jul 2 09:16:40.796: htsp\_timer\_stop3  
007603: Jul 2 09:16:40.878: htsp\_process\_event: [0/3/0, FXSLS\_WAIT\_RELEASE\_REQ, E\_HTSP\_RELEASE\_REQ]fxsls  
007604: Jul 2 09:16:40.878: [0/3/0] nim\_set\_sig\_state: ABCD=4, timestamp=0, sys\_time=6975412  
007605: Jul 2 09:16:40.878: [0/3/0] set signal state = 0x4 timestamp = 0  
007606: Jul 2 09:16:40.878: [0/3/0] nim\_set\_sig\_state: ABCD=4, timestamp=0, sys\_time=6975412  
007607: Jul 2 09:16:40.878: [0/3/0] set signal state = 0x4 timestamp = 0  
007608: Jul 2 09:16:40.898: htsp\_dsp\_message: RESP\_SIG\_STATUS: state=0x4 timestamp=0 systime=6975414  
007609: Jul 2 09:16:40.898: htsp\_process\_event: [0/3/0, FXSLS\_ONHOOK, E\_DSP\_SIG\_0100]fxsls\_onhook\_onhook

0Y0±0³0\$Ù,, 0Y0'0\$0±0\$0ª VPM Ù,,Ù,,0\$0³0ª0-0¹0\$0; 0\$Ù,,Ù^0\$0±0-

Ùš0ª0¶Ù...Ù† Ù‡Ù°0\$ 0\$Ù,,Ù...0³0ªÙ†0- 0£Ùš0¶0\$ Ù...0\$ Ùš0·0-Ù^ 0¹Ù,,ÙšÙ‡ 0Y0±0³0\$Ù,,  
0\$Ù,,0Y0'0\$0±0\$0ª Ù,,Ù...Ùf0\$Ù,,Ù...0© Ù^0\$0±0-0© 0£Ùš0¶0\$. 0ªÙ... Ù^0¶0¹  
0ª0¹Ù,,ÙšÙ,0\$0ª 0¹Ù,,Ù%o 0\$Ù,,0³0-Ù,,0\$0ª Ù,,Ù◆Ù‡Ù... ÙfÙ,, 0®0·Ù^0© Ù◆Ùš  
0\$Ù,,0¹Ù...Ù,,Ùš0© 0·0³Ù‡Ù^Ù,,0©.

<#root>

008109: Jul 2 10:54:34.424: %SYS-7-USERLOG\_DEBUG: Message from tty867(user id: ): PHONE IS IN IDLE & ON  
  
008110: Jul 2 10:54:42.225: htsp\_timer\_stop3 htsp\_setup\_req  
008111: Jul 2 10:54:42.225: Orig called num:88777  
008112: Jul 2 10:54:42.225: htsp\_process\_event: [0/3/0, FXSLS\_ONHOOK, E\_HTSP\_SETUP\_REQ]fxsls\_onhook\_setu  
008113: Jul 2 10:54:42.225: [0/3/0] nim\_set\_sig\_state: ABCD=0, timestamp=0, sys\_time=7563547  
008114: Jul 2 10:54:42.225: [0/3/0] set signal state = 0x0 timestamp = 0  
008115: Jul 2 10:54:42.226: htsp\_call\_bridged invoked  
008116: Jul 2 10:54:42.227: htsp\_process\_event: [0/3/0, FXSLS\_WAIT\_OFFHOOK, E\_HTSP\_VOICE\_CUT\_THROUGH]fxs  
  
008117: Jul 2 10:54:52.960: %SYS-7-USERLOG\_DEBUG: Message from tty867(user id: ): PHONE GOES OFF HOOK  
  
008118: Jul 2 10:54:55.431: htsp\_dsp\_message: SEND\_SIG\_STATUS: state=0xC timestamp=42727 systime=7564868  
008119: Jul 2 10:54:55.431: htsp\_process\_event: [0/3/0, FXSLS\_WAIT\_OFFHOOK, E\_DSP\_SIG\_1100]fxsls\_waitoff  
008120: Jul 2 10:54:55.431: [0/3/0] nim\_set\_sig\_state: ABCD=4, timestamp=0, sys\_time=7564868  
008121: Jul 2 10:54:55.432: [0/3/0] set signal state = 0x4 timestamp = 0  
008122: Jul 2 10:54:55.432: [0/3/0] nim\_set\_sig\_state: ABCD=6, timestamp=200, sys\_time=7564868

008123: Jul 2 10:54:55.432: [0/3/0] set signal state = 0x6 timestamp = 200  
008124: Jul 2 10:54:55.432: htsp\_timer2 - 200 msec  
008125: Jul 2 10:54:55.631: htsp\_process\_event: [0/3/0, FXSLS\_WAIT\_OFFHOOK, E\_HTSP\_EVENT\_TIMER2]fxspls\_of  
008126: Jul 2 10:54:55.632: htsp\_process\_event: [0/3/0, FXSLS\_CONNECT, E\_DSP\_DIALING\_DONE]fxspls\_conn\_dia  
008127: Jul 2 10:54:55.640: htsp\_process\_event: [0/3/0, FXSLS\_CONNECT, E\_HTSP\_VOICE\_CUT\_THROUGH]fxspls\_vo  
  
008128: Jul 2 10:55:08.864: %SYS-7-USERLOG\_DEBUG: Message from tty867(user id: ): TWO WAY AUDIO  
  
008129: Jul 2 10:55:27.232: %SYS-7-USERLOG\_DEBUG: Message from tty867(user id: ): PHONE IS NOW DISCONN  
  
008130: Jul 2 10:55:29.798: htsp\_timer\_stop3  
008131: Jul 2 10:55:29.843: htsp\_process\_event: [0/3/0, FXSLS\_CONNECT, E\_HTSP\_RELEASE\_REQ]fxspls\_connect  
008132: Jul 2 10:55:29.843: htsp\_timer\_stop  
008133: Jul 2 10:55:29.843: [0/3/0] nim\_set\_sig\_state: ABCD=12, timestamp=0, sys\_time=7568309  
008134: Jul 2 10:55:29.843: [0/3/0] set signal state = 0xC timestamp = 0  
008135: Jul 2 10:55:29.843: [0/3/0] nim\_set\_sig\_state: ABCD=4, timestamp=750, sys\_time=7568309  
008136: Jul 2 10:55:29.843: [0/3/0] set signal state = 0x4 timestamp = 750  
008137: Jul 2 10:55:29.843: htsp\_timer - 950 msecfxspls\_simulate\_onhook  
008138: Jul 2 10:55:30.793: htsp\_process\_event: [0/3/0, FXSLS\_CPC, E\_HTSP\_EVENT\_TIMER]fxspls\_cpc\_timer  
008139: Jul 2 10:55:30.793: htsp\_timer - 60000 msec  
008140: Jul 2 10:55:30.808: htsp\_dsp\_message: RESP\_SIG\_STATUS: state=0xC timestamp=0 systime=7568405  
008141: Jul 2 10:55:30.808: htsp\_process\_event: [0/3/0, FXSLS\_WAIT\_ONHOOK, E\_DSP\_SIG\_1100]fxspls\_waitonho  
008142: Jul 2 10:55:37.525: htsp\_dsp\_message: SEND\_SIG\_STATUS: state=0x4 timestamp=19285 systime=7569077  
008143: Jul 2 10:55:37.525: htsp\_process\_event: [0/3/0, FXSLS\_WAIT\_ONHOOK, E\_DSP\_SIG\_0100]fxspls\_waitonho  
008144: Jul 2 10:55:37.525: htsp\_timer\_stop htsp\_report\_onhook\_sig  
  
008145: Jul 2 10:55:48.351: %SYS-7-USERLOG\_DEBUG: Message from tty867(user id: ): PHONE IS ON HOOK

# 0x030^Uf0'0\$U 0x0@0.0\$0; U...U+0\$U 0° FXS U^ FXO U^0¥0μU,,0\$0U±0\$

UŠ0'00« U±0°0\$ U^0«UŠU,0© 0\$U,,0.0±U, U...0@0^U,,U 0EÙ+ UŠ0^00±U%0  
0\$U,,U...UŠU+0\$0; 0^U+0\$0,0±UŠ U...0\$ 0¥U+ 0\$U,,0E0³0\$0³UŠ U...U+ U±U...  
U...0@0^U,,U 0-U^U,,0© U^ U...0«0\$U,,UŠ 0¥0³0^0-0¹0\$0; 0³UŠU+0\$0±UŠU^  
UŠ0^U,,U,U%0 UŠUfU^U+ 0°0.UŠ0^a. U^0'0-UfU,, 0EÙf0«0± 0^00-UŠ0-0\$0E U 0¥U+U±0\$  
0^U+0,0± 0¥U,,U%0 0`0¹0¶ 0EÙ^0\$U...0± show U^0³UŠU+0\$0±UŠU^U±0\$0^  
0\$U,,0E0¹0.0\$U,, 0\$U,,0'0\$0'0¹0©.

# 0EÙ^0\$U...0± 0x030^Uf0'0\$U 0\$U,,0E0@0.0\$0; U^0¥0μU,,0\$0U±0\$

0¥0,U±0\$0± 0\$U,,0EÙ^0\$U...0±

U,,U,,U...0³0\$0¹0-0© U 0Š UŠ 0E0³0^Uf0'0\$U 0E0@0.0\$0; 0\$U,,0© 0\$U,,U...U+U 0^  
U^0¥0μU,,0\$0U±0\$0E UŠU...UfU+Uf 0¥0³0^0@0-UŠU... 0EÙ^0\$U...0± U...0«U,, show voice  
port summary U^ show voice call summary. UŠ0'0-UŠ U±0°0\$ 0EÙ...0± 0\$U,,0\$U,,0© U...0@0^U,,U  
U...0«U,, 0¹U+0-U...0\$ 0\$U,,0\$0³0^0-0¹0\$0; UŠUfU^U+ 0¹U,,U%0 0\$U,,0±0`0. U^U,,0\$  
UŠ0³0^0¹U...U,,0E 0¥U,,U%0 0¹U+0-U...0\$ 0\$U,,U...UŠU+0\$0; UŠUfU^U+ 0@0\$0±0-  
0\$U,,0±0`0. U^U±U+0\$Uf U...Uf0\$U,,U...0© U+0'0. U±0°0\$ 0\$U,,0±U,U... UŠU^0¶0  
0`0¹0¶ 0\$U,,0\$U,,0\$0^ 0\$U,,U...0@0^U,,U 0©.



ÙŠ ØŠÙ,,ØØ·ØŠÙ:

ISR4451#show voice port sum

PORT	CH	SIG-TYPE	ADMIN	OPER	IN STATUS	OUT STATUS	EC
0/3/0	--	fxs-ls	up	dorm	on-hook	idle	y
0/3/1	--	fxs-ls	up	dorm	on-hook	idle	y

ISR4451#show voice call sum

PORT	CODEC	VAD	VTSP	STATE	VPM STATE
0/3/0	-	-	-		FXSLS_ONHOOK
0/3/1	-	-	-		FXSLS_ONHOOK

ØªÙ... ØªÙ†Ø·ÙŠÙ‡ ØŠÙ,,Ù‡ØŠØªÙ:

ISR4451#show voice port sum

PORT	CH	SIG-TYPE	ADMIN	OPER	IN STATUS	OUT STATUS	EC
0/3/0	--	fxs-ls	up	up	on-hook	ringing	y
0/3/1	--	fxs-ls	up	dorm	on-hook	idle	y

ISR4451#show voice call sum

PORT	CODEC	VAD	VTSP	STATE	VPM STATE
0/3/0	g711ulaw	n	S_SETUP_REQ_PROC		FXSLS_WAIT_OFFHOOK
0/3/1	-	-	-		FXSLS_ONHOOK

ØŠÙ,,ØŠØªØŠÙ,, Ù...ØªØµ,,:

ISR4451#show voice port sum

PORT	CH	SIG-TYPE	ADMIN	OPER	IN STATUS	OUT STATUS	EC
0/3/0	--	fxs-ls	up	up	off-hook	idle	y
0/3/1	--	fxs-ls	up	dorm	on-hook	idle	y

ISR4451#show voice call sum

PORT	CODEC	VAD	VTSP	STATE	VPM STATE
0/3/0	g711ulaw	n	S_CONNECT		FXSLS_CONNECT
0/3/1	-	-	-		FXSLS_ONHOOK

Ù...Ù† Ø·ÙŠÙ‡ Ø£Ù...Ø±ÙŠ ØŠÙ,,Ø¹Ø±Ø¶ ØŠÙ,,Ø³ØŠØ·Ù,ÙŠÙ†Ø£ Ù...Ù† ØŠÙ,,Ù...ØªÙ...Ù,, Ø£Ù† ØªÙ†Ù† Ù‡Ø°Ù‡ Ù...ÙŠØ-Ø© Ù,,Ù† ÙŠ ØŠÙ,,Ù...Ø³ØªÙ,Ø·Ù,,:

- show call active voice brief

- show voice call status
- **show voice dsp active**
- show voice dsp error
- show voice dsp group all

Ø£ÙˆØ§Ù...Ø± Ø¥Ø®ØªØ“Ø§Ø± Ø§Ù,,Ù...Ù†Ù◊Ø° Ø§Ù,,ØµÙˆØªÙš

Ø¥Ø®ØªØ“Ø§Ø±Ø§Øª Ø§Ù,,ÙˆØ,Ø§Ø:Ù◊ Ø§Ù,,Ù...ØªØ¹Ù,,Ù,Ø© Ø“Ø§Ù,,ÙƒØ´Ù◊

Ù...Ù† Ø®Ù,,Ø§Ù,, Ø£Ù...Ø± Ù...ÙƒØªØ´Ù◊ Ø§Ù,,Ù...Ù†Ù◊Ø° Ø§Ù,,ØµÙˆØªÙš  
 Ù,,Ù,,Ø§Ø®ØªØ“Ø§Ø±Ø±Ø± ÙšÙ...ÙƒÙ†Ùƒ Ù◊Ø±Ø¶ Ø-Ù†Ø§Ø² ÙƒØ´Ù◊ Ù...Ø¹ÙšÙ† Ù◊Ùš  
 ØØ§Ù,,Ø© ØªØ´Ø°ÙšÙ,, Ø£Ùˆ Ø¥ÙšÙ,Ø§Ù◊Ø± ÙˆØ¥Ø-Ø±Ø§Ø; Ø¥Ø®ØªØ“Ø§Ø±Ø§Øª  
 Ø¹Ù,,Ù% Ø-Ù†Ø§Ø² Ø§Ù,,ÙƒØ´Ù◊Ø± Ø«Ù... Ø¥Ø¹Ø§Ø²Ø© Ø-Ù†Ø§Ø² Ø§Ù,,ÙƒØ´Ù◊  
 Ø¥Ù,,Ù% ØØ§Ù,,ØªÙ† Ø§Ù,,Ø£ØµÙ,,ÙšØ©.

Ø“Ø®Ù,,Øª in order to Ø´ÙƒÙ,,Øª Ù†Ø°Ø§ Ø³Ù...Ø©Ø± Ù†Ø°Ø§ Ø£Ù...Ø± Ù◊Ùš Ø°Ùˆ  
 Ø§Ù...ØªÙšØ§Ø² EXEC Ø£Ø³Ù,,Ùˆ“:

	Ø§Ù,,Ø°Ø±Ø¶
<p>Ø§Ù,,Ù...ÙˆØ-Ù†# Ø¥Ø®ØªØ“Ø§Ø±            Ø§Ù,,Ù...Ù†Ù◊Ø° Ø§Ù,,ØµÙˆØªÙš  <b>slot/subunit/port detector {m-lead   Ø¹ÙƒØ³</b>  <b>Ø§Ù,,Ø“Ø·Ø§Ø±ÙšØ©   ØªÙšØ§Ø± ØÙ,,Ù,Ùš  </b>  <b>ØÙ,,Ù,Ø©   Ù...Ø¹Ù,,ÙˆÙ...Ø§Øª Ø£Ø³Ø§Ø³ÙšØ©  </b>  <b>ØØ§Ù,,Ø© ØÙ,,Ù,ÙšØ©   Ø±ØÙ,,Ø© ØÙ,,Ù,ÙšØ©}</b>  <b>{on   Ø¥ÙšÙ,Ø§Ù◊}</b></p>	<p>ÙšØ¹Ø±Ù◊ Ù...Ù†Ù◊Ø° Ø§Ù,,ØµÙˆØª            Ø§Ù,,Ø°Ùš ØªØ±ÙšØ²            Ø¥Ø®ØªØ“Ø§Ø±Ø±.</p> <p>Ø£Ø“Ø®Ù,, ÙƒÙ,,Ù...Ø© Ø£Ø³Ø§Ø³ÙšØ©            Ù,,Ù,,ÙƒØ§Ø´Ù◊ ØªØª            Ø§Ù,,Ø§Ø®ØªØ“Ø§Ø± ÙˆØØ²Ø²            Ù...Ø§ Ø¥Ø°Ø§ ÙƒØ§Ù† Ø³ÙšØªÙ...            Ø¥Ø±Ø°Ø§Ù...Ù†Ø§ Ø¹Ù,,Ù%            ØØ§Ù,,Ø© Ø§Ù,,ØªØ´Ø°ÙšÙ,, Ø£Ùˆ            Ø§Ù,,Ø¥ÙšÙ,Ø§Ù◊.</p> <p>Ù...Ù,,Ø§ØØ,Ø©: Ù,,ÙƒÙ,, Ù†ÙˆØ¹ Ù...Ù†            Ø£Ù†ÙˆØ§Ø¹ Ø¥Ø±Ø³Ø§Ù,,            Ø§Ù,,Ø¥Ø´Ø§Ø±Ø§Øª (E&amp;MØ±Ø±Ø±Ø±            FXS)Ø± ÙšØªÙ... Ø¹Ø±Ø¶            Ø§Ù,,ÙƒÙ,,Ù...Ø§Øª            Ø§Ù,,Ø£Ø³Ø§Ø³ÙšØ© Ø§Ù,,Ù,Ø§Ø´Ù,,Ø©            Ù,,Ù,,ØªØ·Ø´ÙšÙ, Ù◊Ù,Ø· ÙšØªÙ...            Ø¹Ø±Ø¶ Ø§Ù,,ÙƒÙ,,Ù...Ø©            Ø§Ù,,Ø£Ø³Ø§Ø³ÙšØ© disable Ù◊Ù,Ø·            Ø¹Ù†Ø²Ù...Ø§ ÙšÙƒÙˆÙ†            Ø§Ù,,ÙƒØ§Ø´Ù◊ Ù◊Ùš            Ø§Ù,,Ø§Ù,,Ø© Ø§Ù,,Ø¥Ø-Ø“Ø§Ø±Ùš.</p>

<p>Ø§Ù,,Ù...Ù`Ø-Ù‡# Ø¥Ø®ØªØ³Ø±  Ø§Ù,,Ù...Ù‡Ù`Ø° Ø§Ù,,ØµÙ`ØªÙš  <b>slot/subunit/port detector {m-lead   Ø¹Ù`fØ³</b>  Ø§Ù,,Ø³Ø·Ø§Ø±ÙšØ©   ØªÙšØ§Ø± ØÙ,,Ù,Ùš    ØÙ,,Ù,Ø©   Ù...Ø¹Ù,,Ù`Ù...Ø§Øª Ø£Ø³Ø§Ø³ÙšØ©    ØØ§Ù,,Ø© ØÙ,,Ù,ÙšØ©   ring-trip} ØªØ¹Ø·ÙšÙ,,</p>	<p>ÙšØ¹Ø±Ù`Ø° Ø§Ù,,Ù...Ù‡Ù`Ø°  Ø§Ù,,ØµÙ`ØªÙš Ø§Ù,,Ø°Ùš ØªØ±ÙšØ´  Ø¥Ù‡Ù‡Ø§Ø± Ø§Ù,,Ø§Ø®ØªØ³Ø± Ø§Ø±  Ø¹Ù,,ÙšÙ‡.</p> <p>Ø£Ø³Ø§Ø³ÙšØ©, Ù`fÙ,,Ù...Ø© Ø£Ø³Ø§Ø³ÙšØ©  Ù,,Ù,,Ù`fØ§Ø´Ù`Ø° Ø¶Ù...Ù‡  Ø§Ù,,Ø§Ø®ØªØ³Ø± Ø§Ø± Ù`ØªØ¹Ø-Ø²  Ø§Ù,,Ù`fÙ,,Ù...Ø©  Ø§Ù,,Ø£Ø³Ø§Ø³ÙšØ© Ù,,Ø¥Ù‡Ù‡Ø§Ø±  Ø§Ù,,Ø§Ø±,Ø©  Ø§Ù,,Ø¥Ø-Ø³ Ø§Ø±ÙšØ©.</p> <p>Ù...Ù,,Ø§ØØ,Ø©: Ù,,Ù`fÙ,, Ù‡Ù`Ø¹ Ù...Ù‡  Ø£Ù‡Ù`Ø³Ø¹ Ø¥Ø±Ø³Ø§Ù,,  Ø§Ù,,Ø¥Ø´Ø§Ø±Ø§Øª (E&amp;MØÆ FXØÆ  FXS)ØÆ ÙšØªÙ... Ø¹Ø±Ø¶  Ø§Ù,,Ù`fÙ,,Ù...Ø§Øª  Ø§Ù,,Ø£Ø³Ø§Ø³ÙšØ© Ø§Ù,,Ù,Ø§Ø´Ù,,Ø©  Ù,,Ù,,ØªØ·Ø·ÙšÙ, Ù`Ù,Ø· ÙšØªÙ...  Ø¹Ø±Ø¶ Ø§Ù,,Ù`fÙ,,Ù...Ø©  Ø§Ù,,Ø£Ø³Ø§Ø³ÙšØ© disable Ù`Ù,Ø·  Ø¹Ù‡Ù`Ù...Ø§ ÙšÙ`fÙ`Ù‡  Ø§Ù,,Ù`fØ§Ø´Ù`Ø° Ù`Ùš  Ø§Ù,,Ø§Ø±,Ø© Ø§Ù,,Ø¥Ø-Ø³ Ø§Ø±Ùš.</p>
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Ø¥Ø®ØªØ³Ø±Ø§Øª Ù`Ø·ÙšÙ`Ø° Ø§Ù,,Ø§Ø³ØªØ±Ø-Ø§Ø¹

Ø-Ø®Ù,,Øª in order to Ø®Ù,,Ù,Øª Ø£Ù‡Ù`Ø·Ù`Ø·Ø© Ø¹Ù,,Ù% Ø¶`Øª Ù...ÙšÙ‡Ø§Ø±ØÆ Ù‡Ø°Ø§  
Ø£Ù...Ø± Ù`Ùš Ø§Ù,,ØªÙšØ² EXEC Ø£Ø³Ù,,Ù`Ø´:

	Ø§Ù,,Ø°Ø±Ø¶
<p>Ø§Ù,,Ù...Ù`Ø-Ù‡# Ø¥Ø®ØªØ³Ø± Ù...Ù‡Ù`Ø°  Ø§Ù,,ØµÙ`Øª slot/Ù`ØØ-Ø©  Ù`Ø±Ø¹ÙšØ©/Ø¥Ø³ØªØ±Ø-Ø§Ø¹  Ø§Ù,,Ù...Ù‡Ù`Ø° {Ù...ØÙ,,Ùš   Ø§Ù,,Ø³Ø·Ù`fØ©}</p>	<p>ÙšØ¹Ø±Ù`Ø° Ø§Ù,,Ù...Ù‡Ù`Ø°  Ø§Ù,,ØµÙ`ØªÙš Ø§Ù,,Ø°Ùš ØªØ±ÙšØ´  Ø¥Ø®ØªØ³Ø± Ø§Ø±Ù‡ Ù`ÙšØ´Ø®Ù,,  Ù`fÙ,,Ù...Ø© Ø£Ø³Ø§Ø³ÙšØ©  Ù,,Ø§ØªØ-Ø§Ù‡  Ø§Ù,,Ø§Ø³ØªØ±Ø-Ø§Ø¹.</p> <p>Ù...Ù,,Ø§ØØ,Ø©: ÙšØ-Ø³ Ø¥Ø-Ø±Ø§Ø±  Ù...Ù`fØ§Ù,,Ù...Ø© Ø¹Ù,,Ù%  Ø§Ù,,Ù...Ù‡Ù`Ø° Ø§Ù,,ØµÙ`ØªÙš  Ù,ÙšØ´ Ø§Ù,,Ø§Ø®ØªØ³Ø± Ø§Ø±.</p>

<pre> Ø¹Ø¹Ø·ÙŠÙ,, Ø§Ù,,Ù...Ù¹Ø-Ù‡#Ø¥Ø®Ø¹Ø¹Ø§Ø± Ø§Ù,,Ù...Ù‡Ù◆Ø° Ø§Ù,,ØµÙ¹Ø¹ÙŠ <b>slot/subunit/port loopback</b> </pre>	<pre> ÙŠØ¹Ø¹Ø¹ Ø§Ù,,Ù...Ù‡Ù◆Ø° Ø§Ù,,ØµÙ¹Ø¹ÙŠ Ø§Ù,,Ø¹ÙŠ Ø¹Ø±ÙŠØ¹ Ø¥Ù‡Ù‡Ø§Ø§; Ø§Ù,,Ø§Ø®Ø¹Ø¹ Ø§Ø± Ø¹Ù,,ÙŠÙ‡ Ù¹Ø¥Ø¹Ø®Ø§Ù,, Ø§Ù,,ÙƒÙ,,Ù...Ø© Ø§Ù,,Ø£Ø³Ø§Ø³ÙŠØ© disable Ù,,Ø¥Ù‡Ù‡Ø§Ø§; Ø§Ù,,Ø§Ø³Ø¹Ø±Ø-Ø§Ø¹. </pre>
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Ø¥Ø®Ø¹Ø¹Ø§Ø±Ø§Ø¹ ØÙ,Ù‡ Ø§Ù,,Ø¹Ø±Ø¹Ø© Ø§Ù,,Ù,,Ù¹Ù‡ÙŠØ©

Ø¹Ø®Ù,,Ø¹ in order to Ø¹Ø®Ù,,Ø¹ Ø¥Ø®Ø¹Ø¹Ø§Ø± Ù‡Ø¹Ù...Ø© Ù◆ÙŠ ØµÙ¹Ø¹ Ù...ÙŠÙ‡Ø§Ø§;Ø£ Ù‡Ø¹Ø§ Ø£Ù...Ø± Ù◆ÙŠ Ø§Ù,,Ø¹Ù¹ Ø§Ù...Ø¹ÙŠØ§Ø² EXEC Ø£Ø³Ù,,Ù¹Ø¹:

	Ø§Ù,,Ø¹Ø±Ø¶
<pre> Router# Ø¥Ø®Ø¹Ø¹Ø§Ø± Ù...Ù‡Ù◆Ø° Ø§Ù,,ØµÙ¹Ø¹ <b>slot/subunit/port input-tone {local  </b> <b>Ø§Ù,,Ø¹Ø¹ÙƒØ©} {1000 Ù‡Ø±Ø¹Ø²   2000 Ù‡Ø±Ø¹Ø²  </b> <b>200 Ù‡Ø±Ø¹Ø²   3000 Ù‡Ø±Ø¹Ø²   300 Ù‡Ø±Ø¹Ø²   3200</b> <b>Ù‡Ø±Ø¹Ø²   3400 Ù‡Ø±Ø¹Ø²   500 Ù‡Ø±Ø¹Ø²  </b> <b>Ø§Ù...Ø¹}</b> </pre>	<pre> ÙŠØ¹Ø±Ù◆ Ù...Ù‡Ù◆Ø° Ø§Ù,,ØµÙ¹Ø¹ Ø§Ù,,Ø¹ÙŠ Ø¹Ø±ÙŠØ¹ Ø¥Ø®Ø¹Ø¹ Ø§Ø±Ù‡ Ù¹Ø¥Ø¹Ø®Ø§Ù,, ÙƒÙ,,Ù...Ø§Ø¹ Ø£Ø³Ø§Ø³ÙŠØ© Ù,,Ù,,Ø§Ø¹Ø¹Ø§Ù‡ Ù,,Ø¥Ø±Ø³Ø§Ù,, Ù‡Ø¹Ù...Ø© Ø§Ù,,Ø§Ø®Ø¹Ø¹ Ø§Ø± Ù¹Ù,,Ø¹Ø±Ø¹Ø¹ Ù‡Ø¹Ù...Ø© Ø§Ù,,Ø§Ø®Ø¹Ø¹ Ø§Ø±. Ù...Ù,,Ø§ØØ,Ø©: ÙŠØ¹Ø¹ Ø¥Ø¹Ø±Ø§Ø§; Ù...ÙƒØ§Ù,,Ù...Ø© Ø¹Ù,,Ù% Ø§Ù,,Ù...Ù‡Ù◆Ø° Ø§Ù,,ØµÙ¹Ø¹ÙŠ Ù,ÙŠØ¹ Ø§Ù,,Ø§Ø®Ø¹Ø¹ Ø§Ø±. </pre>
<pre> Router# Ø¥Ø®Ø¹Ø¹Ø§Ø± Ø§Ù,,Ù...Ù‡Ù◆Ø° Ø§Ù,,ØµÙ¹Ø¹ÙŠ <b>slot/subunit/port inject-tone</b> <b>disable</b> </pre>	<pre> ÙŠØ¹Ø±Ù◆ Ø§Ù,,Ù...ÙŠÙ‡Ø§Ø§; Ø§Ù,,ØµÙ¹Ø¹ÙŠ Ø§Ù,,Ø¹ÙŠ Ø¹Ø±ÙŠØ¹ Ø¥Ù‡Ù‡Ø§Ø§; Ø§Ù,,Ø§Ø®Ø¹Ø¹ Ø§Ø± Ø¹Ù,,ÙŠÙ‡ Ù¹ÙŠØ¹Ø®Ù,, Ø§Ù,,ÙƒÙ,,Ù...Ø© Ø§Ù,,Ø£Ø³Ø§Ø³ÙŠØ© Ø¹Ø¹Ø¹ÙŠÙ,, Ù,,Ø¥Ù‡Ù‡Ø§Ø§; Ù‡Ø¹Ù...Ø© Ø§Ù,,Ø§Ø®Ø¹Ø¹ Ø§Ø±. Ù...Ù,,Ø§ØØ,Ø©: Ø¹Ø¹Ù¹Ù◆Ø± Ø§Ù,,ÙƒÙ,,Ù...Ø© Ø§Ù,,Ø£Ø³Ø§Ø³ÙŠØ© <b>disable</b> Ù◆Ù,Ø. </pre>

Ù ◆ ÙŠ ØØ§Ù,,Ø© ØªÙ†Ø´ÙŠØ·  
Ø´Ø±Ø· Ø¥Ø®ØªØ¨ Ø§Ø±.

Ø¥Ø®ØªØ¨ Ø§Ø±Ø§Øª Ø§Ù,,ÙˆØ,Ø§Ø;Ù ◆ Ø§Ù,,Ù...Ø±ØªØ¨ Ø·Ø© Ø¨ ØªØ±ØÙŠÙ,,  
Ø§Ù,,Ø¨ ÙŠØ§Ù†Ø§Øª

ØˆØ®Ù,,Øª in order to Ø§Ø®ØªØ¨ Ø±Øª Ø¹Ù...Ù,, Ù...ØªØ¹Ù,,Ù, ØªØ±ØÙŠÙ,, Ø¹Ù,,Ù% ØµˆØª  
Ù...ÙŠÙ†Ø§Ø;Øœ Ù‡Ø°Ø§ Ø£Ù...Ø± Ù ◆ ÙŠ Ø§Ù...ØªÙŠØ§Ø² EXEC Ø£Ø³Ù,,ÙˆØ¨:

	Ø§Ù,,ØªØ±Ø¶
<p>Router# Ø¥Ø®ØªØ¨ Ø§Ø± Ø§Ù,,Ù...Ù†Ù ◆ Ø° Ø§Ù,,ØµÙˆØª ÙŠ slot/subunit/ØªØ±ØÙŠÙ,, Ø§Ù,,Ù...Ù†Ù ◆ Ø° {e-lead   Ø£Ù†Ø´ÙˆØ·Ø©   ØØ§Ù,,Ø© ØÙ,,Ù,ÙŠØ©   Ø¹Ù†Ø³ Ø§Ù,,Ø¨·Ø·Ø§Ø±ÙŠØ©   ØØ-Ø¨ Ø§Ù,,Ø·Ø§Ù,,Ø©   ØÙ,,Ù,Ø©   ØªÙ,,Ù...ÙŠØ-Ø§Ù,,Ø£Ø±Ø¶ÙŠØ©} {on off}</p>	<p>ÙŠØ¹Ø±Ù ◆ Ù...Ù†Ù ◆ Ø° Ø§Ù,,ØµÙˆØª Ø§Ù,,Ø°ÙŠ ØªØ±ÙŠØˆ Ø¥Ø®ØªØ¨ Ø§Ø±Ù‡.</p> <p>Ø£ØˆØ®Ù,, Ù†Ù,,Ù...Ø© Ø£Ø³Ø§Ø³ÙŠØ© Ù,,Ù,,ØªØ±ØÙŠÙ,, ØªØª Ø§Ù,,Ø§Ø®ØªØ¨ Ø§Ø± ÙˆØØˆ- Ù...Ø§ Ø¥Ø°Ø§ Ù†Ø§Ù† Ø³ÙŠØªÙ... Ù ◆ Ø±Ø¶Ù‡Ø§ Ø¹Ù,,Ù% ØØ§Ù,,Ø© Ø§Ù,,ØªØ´Ø°ÙŠÙ,, Ø£Ùˆˆ Ø§Ù,,Ø¥ÙŠÙ,Ø§Ù ◆.</p> <p>Ù...Ù,,Ø§ØØ,Ø©: Ù,,Ù†Ù,, Ù†Ùˆ¹ Ù...Ù† Ø£Ù†ÙˆØ§Ø¹ Ø¥Ø±Ø³Ø§Ù,, Ø§Ù,,Ø¥Ø´Ø§Ø±Ø§Øª (E&amp;MØœ FXØœ FXS)Øœ ÙŠØªÙ... Ø¹Ø±Ø¶ Ø§Ù,,Ù†Ù,,Ù...Ø§Øª Ø§Ù,,Ø£Ø³Ø§Ø³ÙŠØ© Ø§Ù,,Ù,Ø§ØˆÙ,,Ø© Ù,,Ù,,ØªØ·Ø¨ÙŠÙ, Ù ◆ Ù,Ø· ÙŠØªÙ... Ø¹Ø±Ø¶ Ø§Ù,,Ù†Ù,,Ù...Ø© Ø§Ù,,Ø£Ø³Ø§Ø³ÙŠØ© disable Ù ◆ Ù,Ø· Ø¹Ù†ØˆÙ...Ø§ ÙŠÙ†ÙˆÙ† ØªØ±ØÙŠÙ,, Ù ◆ ÙŠ Ø§Ù,,ØØ§Ù,,Ø© Ù...Ø-Ø¨ Ø±.</p>
<p>Router# Ø¥Ø®ØªØ¨ Ø§Ø± Ø§Ù,,Ù...Ù†Ù ◆ Ø° Ø§Ù,,ØµÙˆØª ÙŠ slot/subunit/ØªØ±ØÙŠÙ,, Ø§Ù,,Ù...Ù†Ù ◆ Ø° {e-lead   Ø£Ù†Ø´ÙˆØ·Ø©   ØØ§Ù,,Ø© ØÙ,,Ù,ÙŠØ©   Ø¹Ù†Ø³ Ø§Ù,,Ø¨·Ø·Ø§Ø±ÙŠØ©   ØØ-Ø¨ Ø§Ù,,Ø·Ø§Ù,,Ø©   ØÙ,,Ù,Ø©   tip-ground} disable</p>	<p>ÙŠØ¹Ø±Ù ◆ Ø§Ù,,Ù...Ù†Ù ◆ Ø° Ø§Ù,,ØµÙˆØª ÙŠ Ø§Ù,,Ø°ÙŠ ØªØ±ÙŠØˆ Ø¥Ù†Ù‡Ø§Ø;Ø;Ø;Ø;Ø;Ø; Ø§Ù,,Ø§Ø®ØªØ¨ Ø§Ø± Ø¹Ù,,ÙŠÙ‡.</p> <p>Ø£ØˆØ®Ù,, Ù†Ù,,Ù...Ø© Ø£Ø³Ø§Ø³ÙŠØ© Ù,,Ù,,ØªØ±ØÙŠÙ,, Ø¶Ù...Ù† Ø§Ù,,Ø§Ø®ØªØ¨ Ø§Ø±Øœ</p>

	<p>Ù`ø¹ø¹ø·ùšù,, øšù,,ùfù,,ù...ø©  øšù,,ø£ø³øšø³ùšø© ù,,ø¥ù†ù‡øšø;  øšù,,øøšù,,ø©  øšù,,ø¥ø-ø`øšø±ùšø©.</p> <p>ù...ù,,øšøøøøø: ù,,ùfù,, ù†ù`ø¹  ù...ù† ø£ù†ù`øšø¹ ø¥ø±ø³øšù,,  øšù,,ø¥ø´øšø±øšøª (E&amp;Møø  FXOøø FXS)øø ùšøªù... ø¹ø±ø¶  øšù,,ùfù,,ù...øšøª  øšù,,ø£ø³øšø³ùšø©  øšù,,ù,,øšø´ù,,ø© ù,,ù,,øªø·ø`ùšù,  ùøù,ø·. ùšøªù... ø¹ø±ø¶  øšù,,ùfù,,ù...ø©  øšù,,ø£ø³øšø³ùšø© disable  ùøù,ø· ø¹ù†ø-ù...øš ùšùfù`ù†  øªø±øùšù,, ùøùš øšù,,øøšù,,ø©  ù...ø-ø`ø±.</p>
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**ø¥øøøªø`øšø±øšøª ù`ø¶ø¹ øšù,,ùøøùfø³/øšù,,øµù`øª**

ùšø¹ø±ø¶ øšù,,ø£ù...ø± test voice port switch fax ùšùøø±ø¶ øšù,,ø£ù...ø± ù...ù†ùøøø øµù`øª  
ùøùš ù`ø¶ø¹ øšù,,ùøøùfø³ ù,,ù,,øšøøøªø`øšø±. ø`ø¹ø-ø¥ø-øøøù,, ù‡ø°øš  
øšù,,ø£ù...ø±øø ùšù...ùfù†ùf ø¥ø³øªøøø-øšù... show voice call ø£ù` show voice call  
summary ø£ù...ø± ù,,ù,,øªøù,ù, ù...ù...øš ø¥ø°øš ùføšù† øšù,,ù...ù†ùøøø øšù,,øµù`øªùš  
ù,,øšø-ø±øš ø¹ù,,ù%ø øšù,,ø¹ù...ù,, ùøùš ù`ø¶ø¹ øšù,,ùøøùfø³. ø¥ø°øš ù,,ù...  
ùšøªù... øšù,,ùfø´ùøø ø¹ù† ø£ùš ø`ùšøù†øšøª ùøøùfø³ ø`ù`øšø³ø·ø©  
øšù,,ù...ù†ùøøø øšù,,øµù`øªùšøø ùšø`ù,,ù%ø øšù,,ù...ù†ùøøø øšù,,øµù`øªùš ùøùš  
ù`ø¶ø¹ øšù,,ùøøùfø³ ù,,ù...ø-ø© 30 ø«øšù†ùšø© ø«ù... ùšø±ø-ø¹ øªù,,ù,,øšø|ùšøš  
ø¥ù,,ù%ø ù`ø¶ø¹ øšù,,øµù`øª.

øªù†ù‡ùš øšù,,ùfù,,ù...ø© øšù,,ø£ø³øšø³ùšø© **disable** ù...øù`ù,, øšù,,ù`ø¶ø¹  
øšù,,ø¥ø-ø`øšø±ùšøù ù`ù...ø¹ ø`ù,,ùføø ùšù†øªù‡ùš ù`ø¶ø¹ øšù,,ùøøùfø³  
øªù,,ù,,øšø|ùšøš ø`ø¹ø-30 ø«øšù†ùšø©. øªøªù`ùøø± øšù,,ùfù,,ù...ø©  
øšù,,ø£ø³øšø³ùšø© **disable** ùøù,ø· ø¹ù†ø-ù...øš ùšùfù`ù† øšù,,ù...ù†ùøøø  
øšù,,øµù`øªùš ùøùš ù`ø¶ø¹ øšù,,ùøøùfø³.

ù,,ùøø±ø¶ ù...ù†ùøøø øµù`øª ùøùš ù`ø¶ø¹ øšù,,ùøøùfø³ ù`ø¥ø¹øšø-øªù‡  
ø¥ù,,ù%ø ù`ø¶ø¹ øšù,,øµù`øªøø ù`ø£ø-øøù,, ù‡ø°ù‡ øšù,,ø£ù`øšù...ø± ùøùš  
ù`ø¶ø¹ EXEC ø°ùš øšù,,øšù...øªùšøø²øšøª:

	<b>øšù,,ø°ø±ø¶</b>
øšù,,ù...ù`ø-ù‡# ø¥øøøªø`øšø±	ùšø¹ø±ù

<p>Ù...Ù†Ù◊° Ø§Ù,,ØµÙ^Øª slot/Ù^ØØ^-Ø© Ù◊±Ø¹ÙŠØ©/Ù...Ù†Ù◊° Ù...ØµÙ,, Ø§Ù,,Ù◊Ø§ÙƒØ³</p>	<p>◊ Ù...Ù†Ù◊° Ø§Ù,,ØµÙ^Øª Ø§Ù,,Ø°ÙŠ ØªØ±ÙŠØ^-Ø¥Ø®ØªØ¨Ø§Ø±Ù‡.  Ø£Ø-Ø®Ù,, Ù◊Ø§ÙƒØ³ Ø§Ù,,ÙƒÙ,,Ù...Ø© Ø§Ù,,Ø£Ø³Ø§Ø³ÙŠØ© Ù,,Ø¥Ø-Ø¨Ø§Ø± Ø§Ù,,Ù...Ù†Ù◊° Ø§Ù,,ØµÙ^ØªÙŠ Ø¹Ù,,Ù% Ù^Ø¶Ø¹ Ø§Ù,,Ù◊Ø§ÙƒØ³.</p>
<p>Router# Ø¥Ø®ØªØ¨Ø§Ø± Ø§Ù,,Ù...Ù†Ù◊° Ø§Ù,,ØµÙ^ØªÙŠ slot/subunit/port switch disable</p>	<p>ÙŠØ¹Ø±Ù◊ Ø§Ù,,Ù...Ù†Ù◊° Ø§Ù,,ØµÙ^ØªÙŠ Ø§Ù,,Ø°ÙŠ ØªØ±ÙŠØ^- Ø¥Ù†Ù‡Ø§Ø; Ø§Ù,,Ø§Ø®ØªØ¨Ø§Ø± Ø¹Ù,,ÙŠÙ‡.  Ø£Ø-Ø®Ù,, Ø§Ù,,ÙƒÙ,,Ù...Ø© Ø§Ù,,Ø£Ø³Ø§Ø³ÙŠØ© disable Ù,,Ø¥Ø¹Ø§Ø-Ø© Ù...Ù†Ù◊° Ø§Ù,,ØµÙ^Øª Ø¥Ù,,Ù% Ù^Ø¶Ø¹ Ø§Ù,,ØµÙ^Øª.</p>

ØªÙ... Ø§Ù,,Ø¹Ø«Ù^Ø± Ø¹Ù,,Ù% Ù...Ø³Ø§Ø;Ù,, Ù...Ø´ØªØ±ÙƒØ©

Ù^ÙƒÙ...Ø§ Ø°ÙƒØ±Ù†Ø§Ø£ ÙŠØ°Ø-ÙŠ Ù‡Ø°Ø§ Ø§Ù,,Ù...Ø³ØªÙ†Ø- Ø´Ø¶ Ø§Ù,,Ù...Ø´Ø§ÙƒÙ,,  
Ø§Ù,,Ø´Ø§Ø¹Ø¹Ø© Ø§Ù,,ØªÙŠ ØªÙ... Ø§Ù,,Ø¹Ø«Ù^Ø± Ø¹Ù,,ÙŠÙ‡Ø§ Ø¹Ù†Ø- Ø£ØªØªÙƒØ´Ø§Ù◊  
Ø£Ø®Ø-Ø§Ø; FXO Ù^ FXS Ù^Ø¥ØµÙ,,Ø§ØÙ‡Ø§.

ØªÙ... Ø§ÙƒØªØ´Ø§Ù◊ ØØ±Ù...Ø§Ù† Ù...Ù† Ø·Ø§Ù,,Ø© FXO

ÙŠØ¹Ø- FXO Ù...Ø³ØªÙ^Ù,,Ø§ Ø¹Ù† Ø§ÙƒØªØ´Ø§Ù◊ Ù^Ù,,Øª ØØ^-Ù^Ø« Ø±Ù◊Ø¶  
Ø§Ù,,Ø·Ø§Ù,,Ø© Ø¨Ù^Ø§Ø³Ø·Ø© FXS ØªÙ% ÙŠØ¹Ø±Ù◊ Ù...ØªÙ% ÙŠÙ...ÙƒÙ†  
Ø¥Ø-Ø±Ø§Ø; Ø§Ù,,Ø§ØªØµØ§Ù,, Ù,,Ø³ÙŠÙ†Ø§Ø±ÙŠÙ^Ù‡Ø§Øª Ù,Ø·Ø¹ Ø§Ù,,Ø§ØªØµØ§Ù,,  
Ù...Ù† Ø-Ø§Ù†Ø¨ FXS.

```
005754: Nov 18 18:51:28.257: htsp_process_event: [0/2/3, FXOLS_ONHOOK, E_HTSP_SETUP_REQ]fxols_onhook_set
005755: Nov 18 18:51:28.257: [0/2/3] set signal state = 0xC timestamp = 0
005756: Nov 18 18:51:28.257: htsp_timer - 500 msec
005782: Nov 18 18:51:28.509: htsp_process_event: [0/2/3, FXOLS_WAIT_DIAL_TONE, E_DSP_SIG_1100]fxols_powe
005783: Nov 18 18:51:28.509: htsp_timer2 - 1000 msec
005784: Nov 18 18:51:28.509: htsp_timer_stop
005785: Nov 18 18:51:29.509: htsp_process_event: [0/2/3, FXOLS_WAIT_DIAL_TONE, E_HTSP_EVENT_TIMER2]fxols
005786: Nov 18 18:51:29.509: htsp_timer_stop
005787: Nov 18 18:51:29.509: htsp_timer_stop2
```

ÙŠØ¹Ø±Ø¶ Ø§Ù,,Ø£Ù...Ø± fxols\_power\_denial\_detected ÙŠØªÙ... ØªØ´Ø°ÙŠÙ,, Ø§Ù,,ØØ-Ø« Ø¹Ù†Ø-Ù...Ø§  
Ù,,Ø§ ÙŠÙ^Ø-Ø- ØªÙŠØ§Ø± ØªÙƒØ±Ø§Ø± ØÙ,,Ù,ÙŠ ØªÙ... Ø§Ù,,ÙƒØ^Ù◊ Ø¹Ù†Ù‡ Ø¹Ù,,Ù%  
Ø§Ù,,Ø³Ø-Ø±. Ø¨Ø´ÙƒÙ,, Ø§Ù◊ØªØ±Ø§Ø¶ÙŠØ£ ØªÙ... Ø¨Ø-Ø; Ù...ØªÙ,,Øª 750 Ù...Ù,,Ù,ÙŠ  
Ø«Ø§Ù†ÙŠØ©. Ø¥Ø°Ø§ Ù,,Ù... ÙŠÙƒØªØ^Ù◊ DSP Ø§Ù,,ØªÙŠØ§Ø± Ù,Ø¨Ù,, Ø§Ù†ØªÙ‡Ø§Ø;

ØµÙ,,Ø§ØÚÏØ© Ø§Ù,,Ù...ØµÙ,,ØªØƒ ÈϠØ¥Ù†Ù‡ ÙÏÙ^Ù,,ÙϠ Ø§Ù,,Ø§ØªØµØ§Ù,, ÙÏÙ...Ù†Ù† ØªØ¹Ø¹ÏÙ,, Ø§Ù,,Ù...ØµÙ,,Øª Ø¶Ù...Ù† Ù^Ø¶Ø¹ ØªÙ†Ù^ÙÏÙ† Ù...Ù†ÙϠ Ø§Ù,,ØµÙ^Øª Ø· Ø§Ø³ØªØ®Ø¹Ø§Ù... timeouts power-denial <0-2500ms> erasecat4000\_flash.: ÙÏØ-Ø· Ø†Ù† ÙÏØªØ·Ø§Ø¹Ù, Ù‡Ø¹Ø§ Ø§Ù,,Ù...ØµÙ,,Øª Ù...Ø¹ Ù...Ø§ Ù,,Ø§Ù... Ø-Ø§Ù†Ø· FXS Ø·ØªØØ-ÙÏØ-Ù‡ Ù,,Ù...Ø-Ø© Ø§Ù†Ù,,Ø·Ø§Ø¹ Ø§Ù,,Ø·Ø§Ù,,Ø© Ø§Ù,,Ø®Ø§Ø®Ø© Ø·Ù‡.

ÙÏØ-ÙÏØ± Ù‡Ø¹Ø§ Ø§Ù,,Ø³ÙÏÙ†Ø§Ø±ÙÏÙ^ Ø¥Ù,,Ù% Ø¥Ù...Ø§ Ù†Ø·Ù,, Ù...Ø¹ÙÏØ· Ø†Ù^ Ø-Ù‡Ø§Ø² Ø†Ù^ Ù†ÙØ¹ Ù...Ù†ÙϠ Ø° Ø°ÏÏØ± ØµØÙÏØ Ø¹Ù,,Ù% Ø§Ù,,Ø-Ø§Ù†Ø· Ø§Ù,,ØçØ®Ø±. ØØØ Ù...Ø§ Ø¥Ø°Ø§ Ù†Ø§Ù†Øª Ø§Ù,,Ù...Ø¹†Ù,,Ø© Ù...ØªÙ,,Ù,,Ø© Ø· Ø§Ù,,Ù...Ù†ÙϠ Ø†Ù^ Ø§Ù,,Ø®Ø·.

- Ø¥Ø°Ø§ Ù†Ø§Ù†Øª Ø§Ù,,Ù...Ø¹†Ù,,Ø© Ù...ØªÙ,,Ù,,Ø© Ø·Ø§Ù,,Ø®Ø·Øƒ ÈϠØªØÙ,, Ù...Ù† Ø§Ù,,Ù†Ø·Ù,,Ø§Øª ØªªÙ% Ø¹Ù,,Ø§Ù...Ø© Ø§Ù,,ØªÙ,,Ù†Ù^ Ø†Ø±Ù† ØªªØ±Ù†Ø© Ø§Ù,,Ø§ØªØµØ§Ù,,Ø§Øª Ù,,Ù,,ØØµÙ^Ù,, Ø¹Ù,,Ù% Ø§Ù,,Ù...Ø³Ø§Ø¹Ø¹Ø©.
- Ø¥Ø°Ø§ Ù†Ø§Ù†Øª Ø§Ù,,Ù...Ø¹†Ù,,Ø© Ù...ØªÙ,,Ù,,Ø© Ø·Ø§Ù,,Ù...Ù†ÙϠØ°Øƒ Ø·Ø¹Ø¹ Ø°Ù,,Ù† Ù‡Ù^ Ø¹Ù,,Ù% Ø§Ù,,Ø†Ø±Ø-Ø Ù...ÙÏÙ†Ø§Ø; ÙϠØ§Ø³Ø¹. Ù,Ø¹ ÙÏØªÙ†Ø¹ Ø§Ù,,Ù...Ø²ÙÏØ¹ Ù...Ù† Ø†Ø³ØªÙ†Ø¹Ø§ÙϠ Ø§Ù,,Ø†Ø®Ø·Ø§Ø; Ù^Ø¥ØµÙ,,Ø§ØÙ†Ø§ Ø°Ù,,Ù†.

**Ù...Ø¹†Ù,,Ø§Øª Ø†Ø®Ø±Ù%**

- Ø§Ù,,Ø¥Ø¹Ø±Ø§ÙϠ Ø¹Ù,,Ù% Ù,,Ø·Ø¹ Ø§Ù,,Ø§ØªØµØ§Ù,,- Ù...Ø±Ø§Ø-Ø¹Ø© Ø§Ù,,Ù,,Ø³Ù... Ø§Ù,,Ù...ØØØ¹ Ù,,Ù†ÙÏÙ^ÙÏØ© Ù,,Ø·Ø¹ Ø§Ù,,Ø§ØªØµØ§Ù,, Ø· Ø§Ù,,Ø¥Ø¹Ø±Ø§ÙϠ Ø¹Ù,,Ù% Ø§Ù,,Ù...Ù†Ø§ÙϠ Ø§Ù,,ØªÙ†Ø§Ø,Ø±ÙÏØ©.
- ÙÏØ-Ø· Ø†Ù† ÙÏÙ†Ù†Ø§Ù,,Ø†Ø³Ù,,Ø§Ù† Ù...Ù† Ø³Ù,,Ù†ÙÏÙ† Ù...ØªÙ†Ø§Ø,Ø±ÙÏÙ† Ù...Ù† FXS Ø¥Ù,,Ù% FXO. Ø¥Ø°Ø§ ÙϠØ¹Ù,,Øª ÙϠÙÏ Ø§Ù,,ØØµÙ^Ù,, Ø¹Ù,,Ù% Ù†Ø°Ù...Ø© Ø·Ù,,Ø· Ù...Ø¹ Ù...Ø¹†Ù,,Ø© ÙϠÙÏ Ø·Ø¹ Ù†Ø© Ø§Ù,,Ø†Ø³Ù,,Ø§Ù†Øƒ ÙϠØ¹Ø§Ø¹Ø© Ù...Ø§ ØªªÙ...Ø¹ ØµÙ^ØªØ§ Ù...Ù†Ù,,Ø·Ø¹ Ø§Ù,,Ù†Ø,ÙÏØ± Ø¹Ù,,Ù% Ø§Ù,,Ø®Ø·. Ø¥Ø°Ø§ Ù†Ø§Ù†Ø§Ù,,Ù†Ø·Ù,, Ù...Ù^ØµÙ,,Ø§ Ø· Ø¹†Ù,, ØµØÙÏØƒ ÙÏÙ...Ù†Ù†Ù†Ø³Ù...Ø§Ø¹ Ø²ÙÏØ§Ø¹Ø© Ø·ÙϠÙÏÙϠØ© ÙϠÙÏ Ø†Ø±Ø¶ÙÏØ© Ø§Ù,,Ø¶Ù^Ø¶Ø§Ø; Ø¹Ù†Ø¹ Ø§Ù,,Ø®Ø±Ù^Ø- Ù...Ù† Ø§Ù,,Ø®Ø·Ø§ÙϠ.
- Ù...Ù†ÙϠØªØ§Ù,,ÙϠ- ÙÏÙ...Ù†Ù† Ø†Ù† ØªªÙ^Ø; Ø§Ù,,Ù...Ù†Ø§ÙϠØ°Øƒ Ù^ØªØ¹Ø-Ø² Ø¹Ù† Ø¥Ø¹Ø·Ø§Ø; Ù†Ø°Ù...Ø© Ø§Ù,,Ø·Ù,,Ø· Ù^Ø§Ù†ØªØ·Ø§ÙϠ Ø§Ù,,Ø-Ù‡Ø¹ Ø§Ù,,Ù†Ù‡Ø±Ø¹ ÙÏ Ù,,Ù,,Ø±Ù†Øƒ Ù^Ù...Ø§ Ø¥Ù,,Ù% Ø°Ù,,Ù†. Ø†Ø³ØªÙ†Ø¹Ø§ÙϠ Ø§Ù,,Ø†Ø®Ø·Ø§Ø; Ù^Ø¥ØµÙ,,Ø§ØÙ†Ø§ Ù,,Ø¹Ø²Ù,, Ø§Ù,,Ù...Ù†ÙϠØ° Ù...Ù† Ø-Ø§Ù†Ø· VoIP Ù^Ù...Ù† Ø-Ø§Ù†Ø· Ø§Ù,,Ù†Ø·Ù,,.
- Ù...Ø·Ø§Ù†Ù,, DSP- ÙÏØ-Ø· Ø†Ù† ÙÏØ³ØªØ®Ø¹Ù... Ø§Ù,,Ù...Ù†ÙϠØ° Ø·Ø±Ù^ØªÙ†Ù^Ù,, DSP Ù,,ØªØØ¹ÏØ¹ Ø§Ù,,Ø†ØØ¹Ø§Ø« Ø¹Ù,,Ù% Ø§Ù,,Ù...Ù†ÙϠØ°. Ù^Ø·Ø§Ù,,ØªØ§Ù,,ÙÏØƒ Øª®ØµØµ Ù...Ù†Ø§ÙϠØ° Ø§Ù,,ØµÙ^Øª Ù^ØØ¹Ø§Øª DSP Ù,,Ù,,Ø¥Ø¹Ø§Ø±Ø© Ø¹Ù†Ø¹ Ø§Ù,,ØªÙ...Ù‡ÙÏØ¹Øƒ ØªªÙ% Ø¥Ø°Ø§ Ù,,Ù... ÙÏÙ†Ù† Ø§Ù,,Ù...Ù†ÙϠØ° Ù,ÙÏØ¹ Ø§Ù,,Ø§Ø³ØªØ®Ø¹Ø§Ù... Ù^ØªÙ... Ø¥Ø°Ù,,Ø§Ù,,Ù‡. Ø¹Ù†Ø¹Ù...Ø§ ØªªÙ,,Ù^Ù... Ø· ØªªÙ^ØÏÏØ±Ø§Øª Ø¹Ù,,Ù% Ù...Ù†Ø§ÙϠØ° Ø§Ù,,ØµÙ^Øª Ø§Ù,,ØªÙ†Ø§Ø,Ø±ÙÏØ©Øƒ Ù,,Ù... Ø·Ø¥ÙÏÙ,,Ø§ÙϠ ØªØ¹Ø°ÙÏÙ,,Ø¹Ø¹Ù... Ø¥Ø°Ù,,Ø§Ù,, Ø§Ù,,Ù...Ù†ÙϠØ° Ù,,Ø·Ù,, Ø†Ù† ØªªÙ,,Ø§Ø®ØªØ·Ø§Ø± Ù...Ø±Ø© Ø†Ø®Ø±Ù%.
- ÙϠØªØ±Ø§Øª ØªØ¹Ø°ÙÏÙ,, Ø·Ù^ÙÏÙ,,Ø©/Ø³ÙÏØ;Ø© Ù^Ù...Ø¹†Ù,,Ø§Øª Ø¥Ø¹Ø§Ù,,Ø© -



Ù†Ø,Ø±Ø§ Ù,,Ø£Ù†Ù‡ ØµÙ^Øª ØªÙ†Ø§Ø,Ø±ÙŠ ÙŠØªÙ... Ù†Ù,Ù,,Ù‡Ø£ Ù◆Ø¥Ù†  
ØµØØ© Ø§Ù,,ØªØ-Ø§ØØÙ,, Ø§Ù,,Ù†Ù‡Ø±Ù^Ù...ØªÙ†Ø§Ø.ÙŠØ³ÙŠ (EMI) Ù◆ÙŠ  
Ø§Ù,,Ø³ ÙŠØ!Ø© Ø£Ù...Ø± Ù...Ù‡Ù... Ù,,Ø£Ù†Ù‡ ÙŠÙ...Ù†Ù† Ø£Ù† ÙŠØªØ«Ø± Ø¹Ù,,Ù%  
Ø-Ù^Ø-Ø© Ø§Ù,,ØµÙ^Øª. Ø¹Ù,,Ù% Ø³Ø³ ÙŠÙ,, Ø§Ù,,Ù...Ø«Ø§Ù,,Ø£ Ø¹Ù†Ø-Ù...Ø§  
ØªÙ,Ù^Ù... Ø³ØªØ³Ø³ÙŠ,, Ø§Ù,,Ø®Ø·Ù^Ø· Ø§Ù,,ØªÙ†Ø§Ø,Ø±ÙŠØ© Ø§Ù,,Ø®Ø§ØµØ©  
Ø³Ù†Ø¹Ù,,Ù% Ø¶Ù^Ø; Ù◆Ù,,Ù^Ø±Ø³Ù†Øª (Ø£Ù^ Ø³Ù,,Ù,Ø±Ø³ Ù...Ù†  
Ø®Ù,,Ø§Ø·/Ù...ØØ±Ù†/Ù...Ø§ Ø¥Ù,,Ù% Ø°Ù,,Ù†Ø£ Ù◆Ø¥Ù† Ø°Ù,,Ù† ÙŠÙ...Ù†Ù† Ø£Ù†  
ÙŠØ³Ø³ Ø³ Ø¶Ù-ÙŠØ-Ù...Ù◆Ø±Ø· Ø¹Ù,,Ù% Ø§Ù,,Ø®Ø·. ØªØ³Ø³ Ù◆ØªØ±Ø§Øª  
Ø§Ù,,ØªØ³Ø³ÙŠ,, Ø§Ù,,Ø·Ù^ÙŠÙ,,Ø© Ø³Ù†Ù,, Ø¹Ø§Ù... ØØ§Ù,,Ø© Ù...Ù† Ø¹Ø-Ù...  
Ø§Ù,,ØªØ·Ø§Ø³Ù, Ø³ÙŠÙ† Ø§Ù,,Ø¹Ù^Ø§Ø!Ù, Ù^Ø§Ù,,ØªÙ^Ù‡ÙŠÙ†. ÙŠØ-Ø³  
ØªØ¹ÙŠÙŠÙ† Ø§Ù,,Ù...Ø¹Ø§Ù^Ù,Ø© Ø§Ù,,Ù...Ù†Ø§Ø³Ø³Ø³ Ù,,Ø·Ù^Ù,, Ø§Ù,,ØªØ³Ø³ÙŠ,,  
• Ø²ÙŠØ§Ø-Ø© Ù...Ù◆Ø±Ø·Ø© Ù,,ØªØ¹Ù^ÙŠØ¶ Ø§Ù,,ØªØ®Ù◆ÙŠÙ◆- Ø¹Ù†Ø-Ù...Ø§  
ØªÙ,Ù^Ù... Ø³ØªØ³Ø³ ÙŠÙ, Ù†Ù...ÙŠØ§Øª Ù†Ø³ ÙŠØ±Ø© Ù...Ù† Ù†Ø³Ø³  
Ø§Ù,,Ù...Ø³Ø®Ù,,Ø§ØªØ£ Ù‡Ø°Ø§ ÙŠÙ...Ù†Ù† Ø£Ù† ÙŠØªØ³ÙŠ Ø¥Ù,,Ù%  
ØªÙ◆Ø§Ù,,Ù... Ù...Ø³Ø§Ù†Ù,, Ø§Ù,,Ø§Ø±ØªØ-Ø§Ø³ Ù†Ø,Ø±Ø§ Ù,,Ø£Ù†Ù‡ ÙŠØªØ³Ø³ Ø³  
Ù◆ÙŠ Ø§Ù†Ø®Ù◆Ø§Ø¶ Ù◆Ù,Ø³Ø§Ù† Ø§Ù,,Ø§Ø±ØªØ-Ø§Ø³ (ERL). ØØ§Ù^Ù,,Ù^Ø§  
ØªØ-Ù†Ø³ Ø°Ù,,Ù† Ø¹Ù†Ø-Ù...Ø§ ÙŠÙ†Ù^Ù† Ø°Ù,,Ù† Ù...Ù...Ù†Ù†Ø§.  
• ØªØ³Ù,,ÙŠÙ... Ø§Ù,,Ø±Ù,Ù...- Ù,,Ø§ ÙŠØªÙ... Ø¥Ø±Ø³Ø§Ù,, Ø§Ù,,Ø£Ø±Ù,Ø§Ù... Ù...Ù†  
Ø³Ø±Ù†Ø© Telco Ø¥Ù,,Ù% Ù...Ù†Ù◆Ø° FXO. ÙŠØ-Ø³ Ø¹Ù,,ÙŠÙ†Ø¥Ø³ØªØ®Ø-Ø§Ù...  
connection plar  
Ù...Ù† Ø£Ø-Ù,, ØªÙ^Ø-ÙŠÙ‡ Ø§Ù,,Ù...Ù†Ø§Ù,,Ù...Ø© Ù...Ù† Ø§Ù,,Ù...Ù†Ù◆Ø° Ø¥Ù,,Ù%  
Ù...Ù^Ø,Ù◆ Ø¥Ø³ØªÙ,Ø³ Ø§Ù,, Ø£Ù^ IVR/AA.  
• Ù◆Ø³Ù,, Ø§Ù,,Ù...Ù†Ø§Ù,,Ù...Ø§Øª Ø§Ù,,ØµØ§Ø³Ø±Ø© - Ø¥Ø°Ø§ Ù†Ø§Ù†Øª  
Ø§Ù,,Ø³Ø§Ø!Ø±Ø© FXOGS Ù^Ù,Ù...Øª Ø³ØªÙ†Ù^ÙŠÙ†Ù‡Ù,, FXOLSØ£ ÙŠØ¹Ù...Ù,,  
Ø§Ù,,Ù...Ù†Ø§Ù,,Ù...Ø§Øª Ø§Ù,,Ù^Ø§Ø±Ø³Ø©Ø£ Ù^Ù,Ù†Ù† ÙŠÙ◆Ø³Ù,,  
Ø§Ù,,ØµØ§Ø³Ø±. Ù†Ù...Ø§ Ø£Ù† Ø§Ù,,Ù,Ø·Ø³ ÙŠØ© Ù...Ù‡Ù...Ø©  
Ù,,Ù,,Ù...Ù†Ø§Ù,,Ù...Ø§Øª Ø§Ù,,ØµØ§Ø³Ø±Ø© Ø³Ø§Ø³ØªØ®Ø³Ø§Ù... GS.

ةمچرتل هذه لوج

ةللأل تاي نقتل نمة ومة مادختساب دن تسمل اذة Cisco تمةرت  
ملاعلاء انء مء مء نء مء دختسمل معد و تمة مء دقتل ةر شبل او  
امك ةق قء نوك ت نل ةللأل ةمچرت لصف أن ةظحال مء ءرء. ةصاأل مء تءل ب  
Cisco ةللخت. فرتمة مچرت مء مء دقء ةللأل ةل فارتحال ةمچرتل عم لاعل او  
ىل إلمءءاد ءوچرلاب ةصوء و تاملرتل هذه ةقء نء اهءل وئس م Cisco  
Systems (رفوتم طبارل) ةلصلأل ةزىلچنل اءل دن تسمل