



VIRTUAL TALKSHOW PRODUCTION

NOW HERE CAN BE ANYWHERE

THE TELOS ALLIANCE®

VIRTUAL TALKSHOW PRODUCTION:

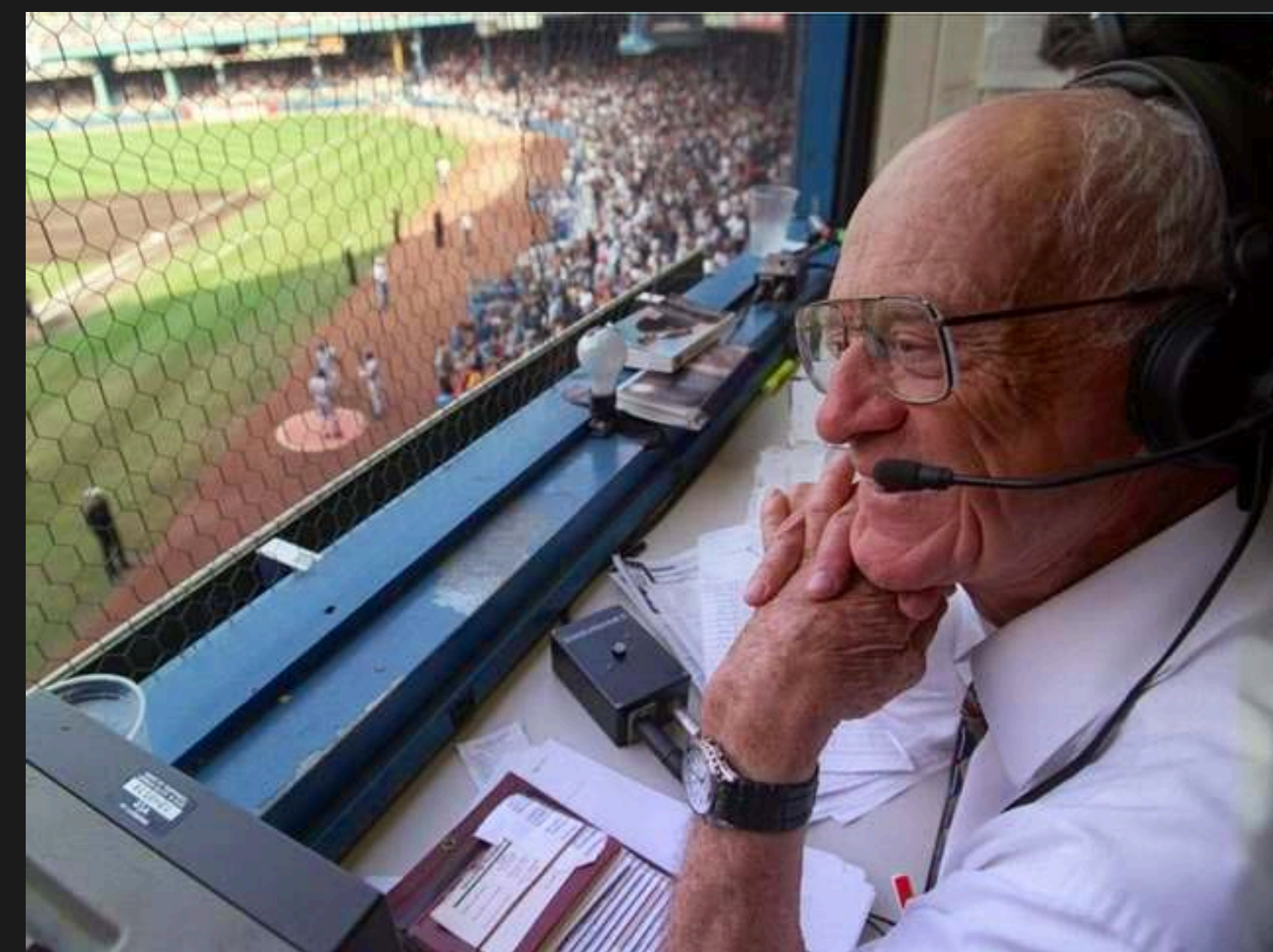
NOW HERE CAN BE ANYWHERE

Joe Talbot
Kirk Harnack

The Telos Alliance
Cleveland, Ohio, USA



STUCK AT THE STUDIO
after all, this is where we do radio.



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TRIED AND TRUE - BUT NO LONGER COMPETITIVE



“We’ve always done remotes this way.”

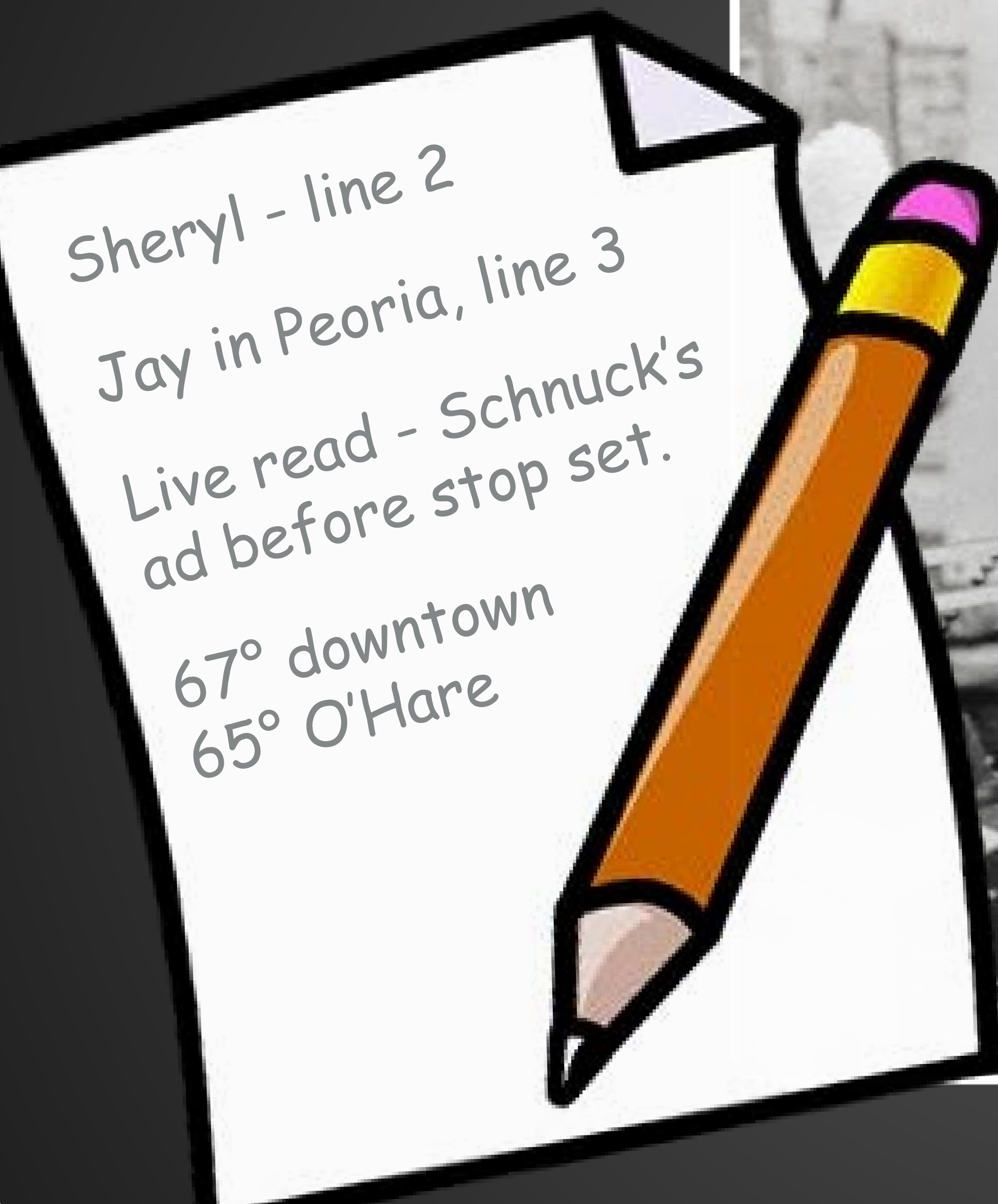


A CLOSER LOOK

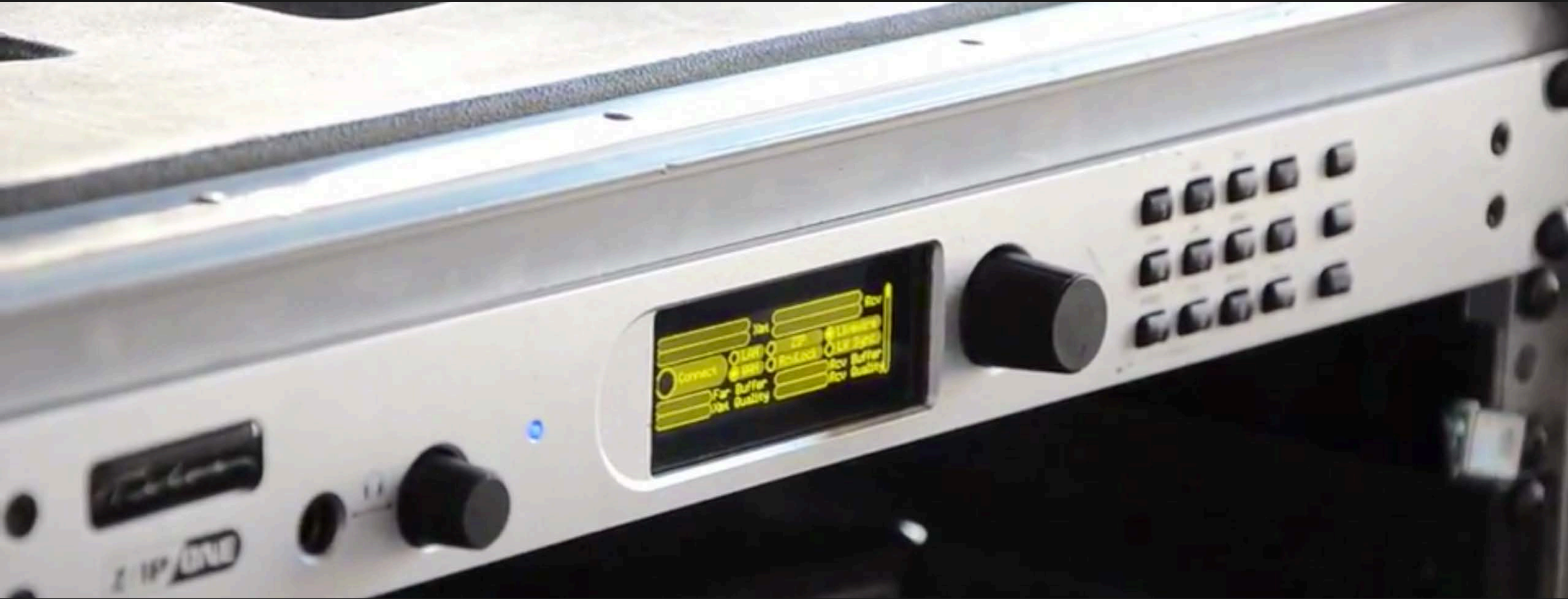
ISDN CODECS FOR REMOTES

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ANALOG REMOTES



IP - INTERNET REMOTE BROADCASTS



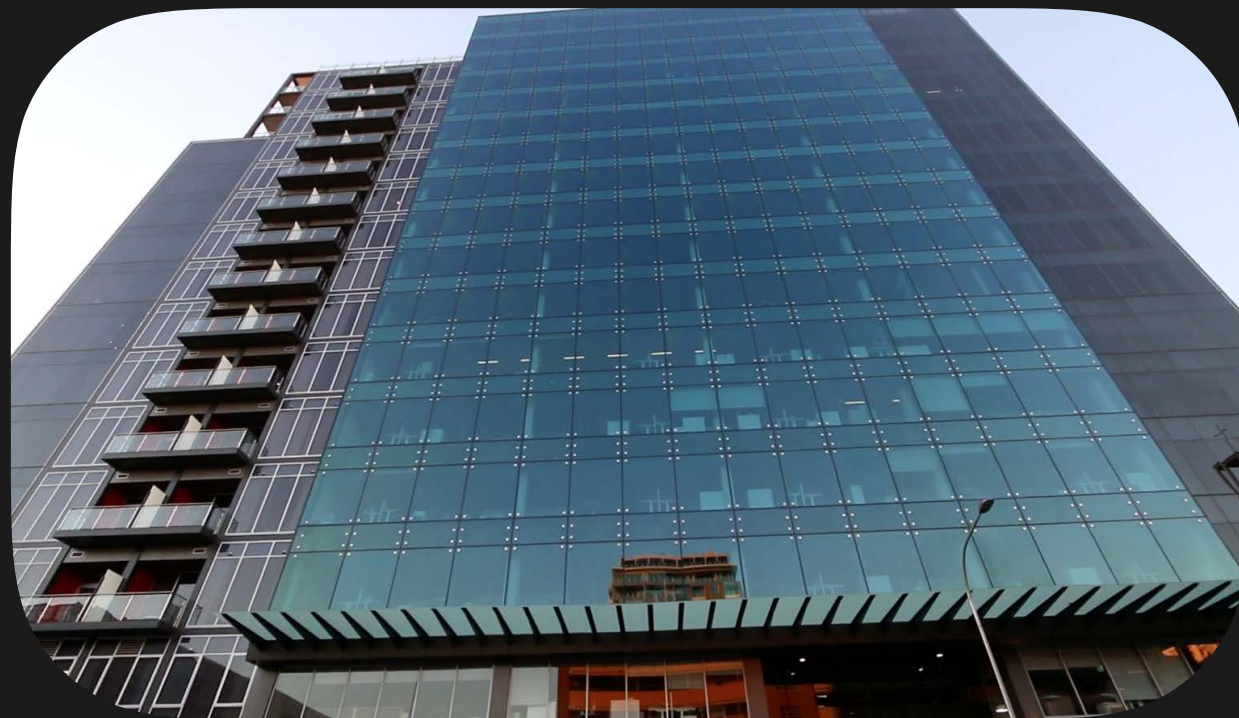
STUDIO-CENTRIC



TALK SHOWS = FIXED STUDIOS

- ▶ Fixed phone lines
- ▶ Fixed phone talkshow system
- ▶ Hardware talkshow wired connections
- ▶ Difficult or impossible to remote talkshow production





3 IMPLEMENTATIONS

FLEXIBLE TALKSHOW TECHNOLOGY

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MIDNIGHT IN THE DESERT



ONE CONNECTION DOES EVERYTHING

NYE COUNTY, NEVADA

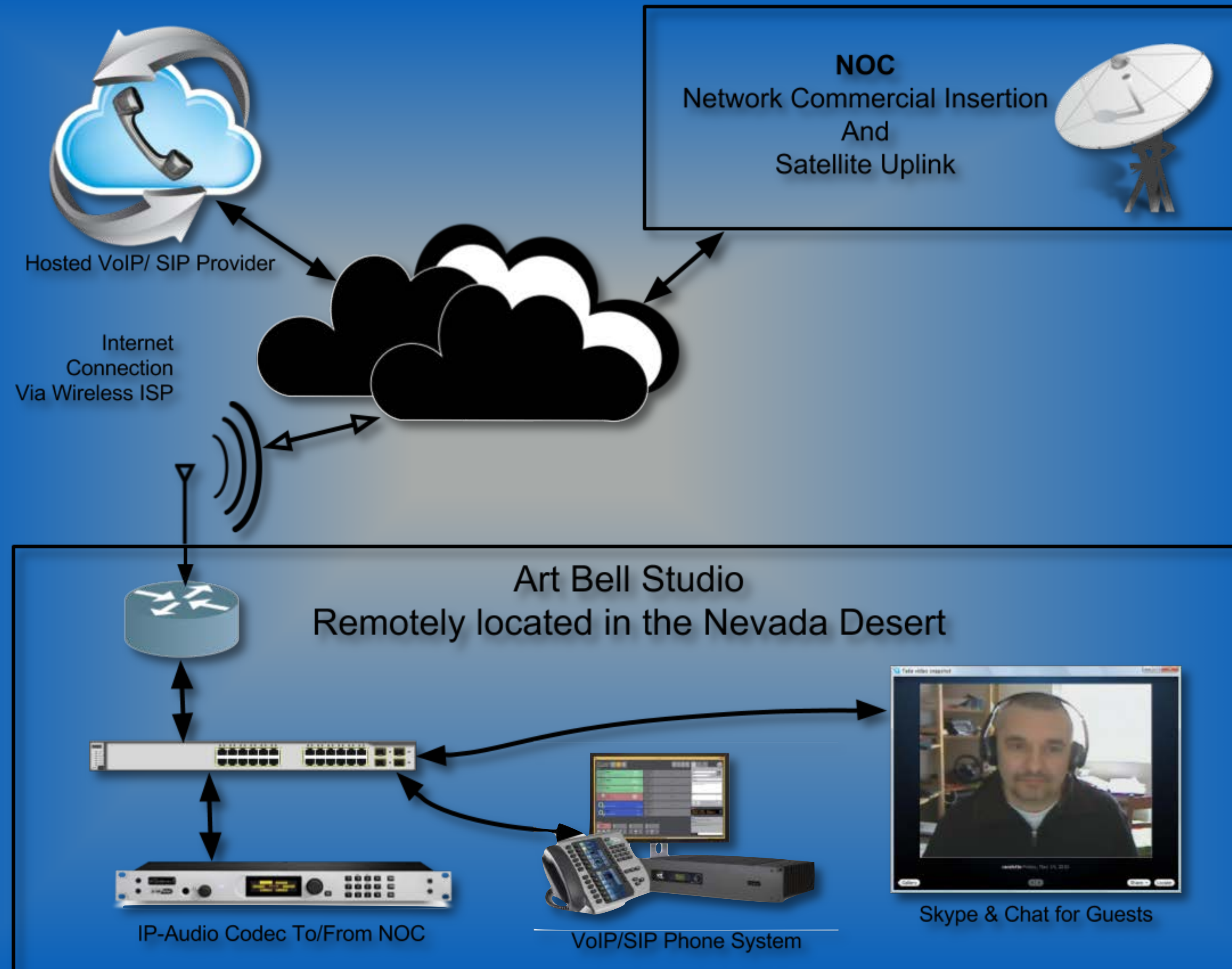


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ONE INTERNET CONNECTION MUST PROVIDE

1. SIP phone lines for listener/callers
2. Full-bandwidth audio program transport to NOC & uplink
3. Skype connection for special program guests
4. Web browsing, e-mail, & chat

ART BELL STUDIO - "MIDNIGHT IN THE DESERT"



- ▶ SIP/VoIP phone lines
- ▶ SIP/VoIP phone system
- ▶ Skype for guests
- ▶ Program backhaul
- ▶ Web browsing
- ▶ Chat with aliens ;-)

THE SHOW CONTINUES - OVER ONE, SOLID INTERNET CONNECTION



- ▶ Over 1,000 long-form episodes
- ▶ Phone calls from around the world
- ▶ Regular guests with excellent audio
- ▶ Consistent show execution

HD VOICE REMOTES & REMOTE BOARD OP

KTOX, NEEDLES, CALIFORNIA

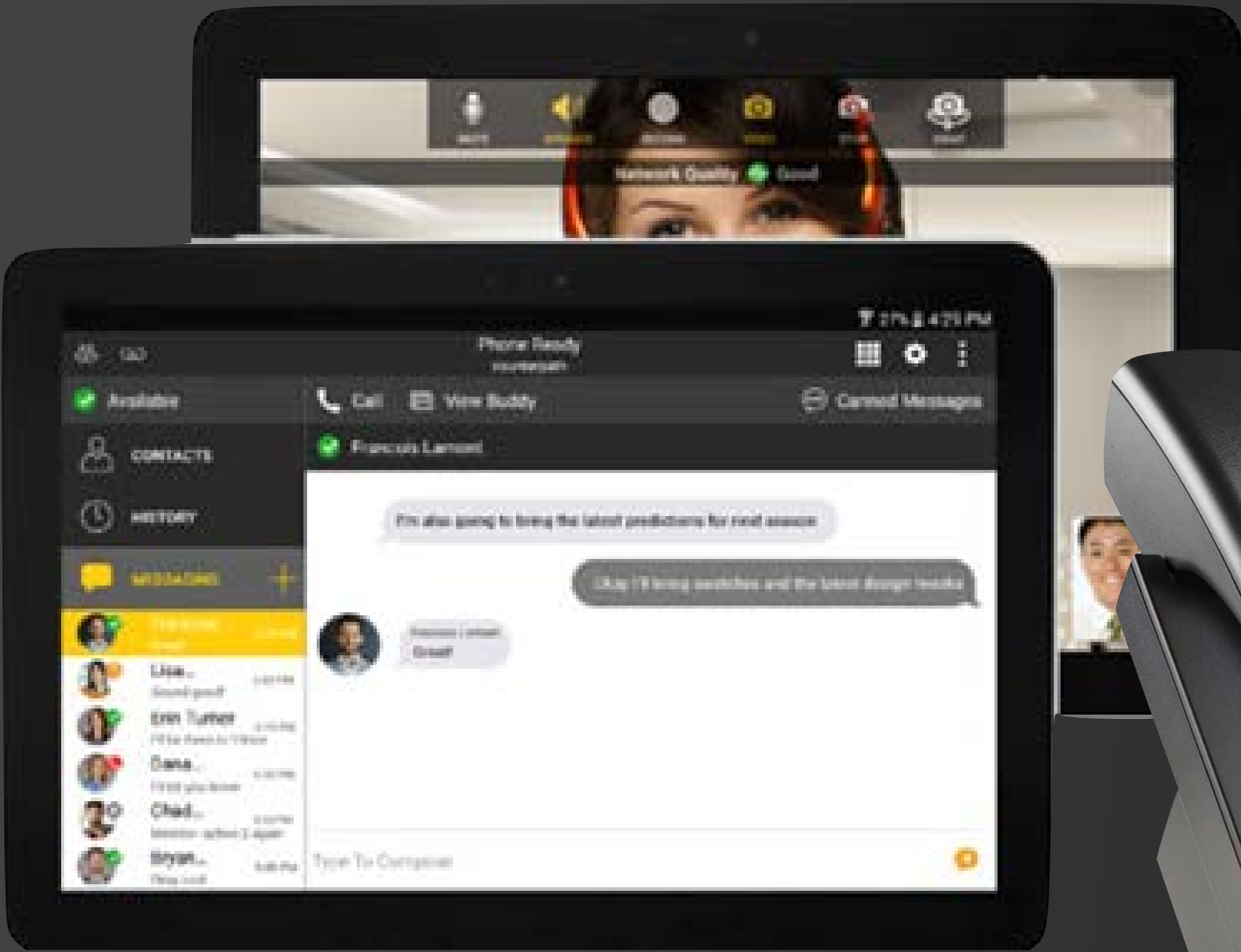
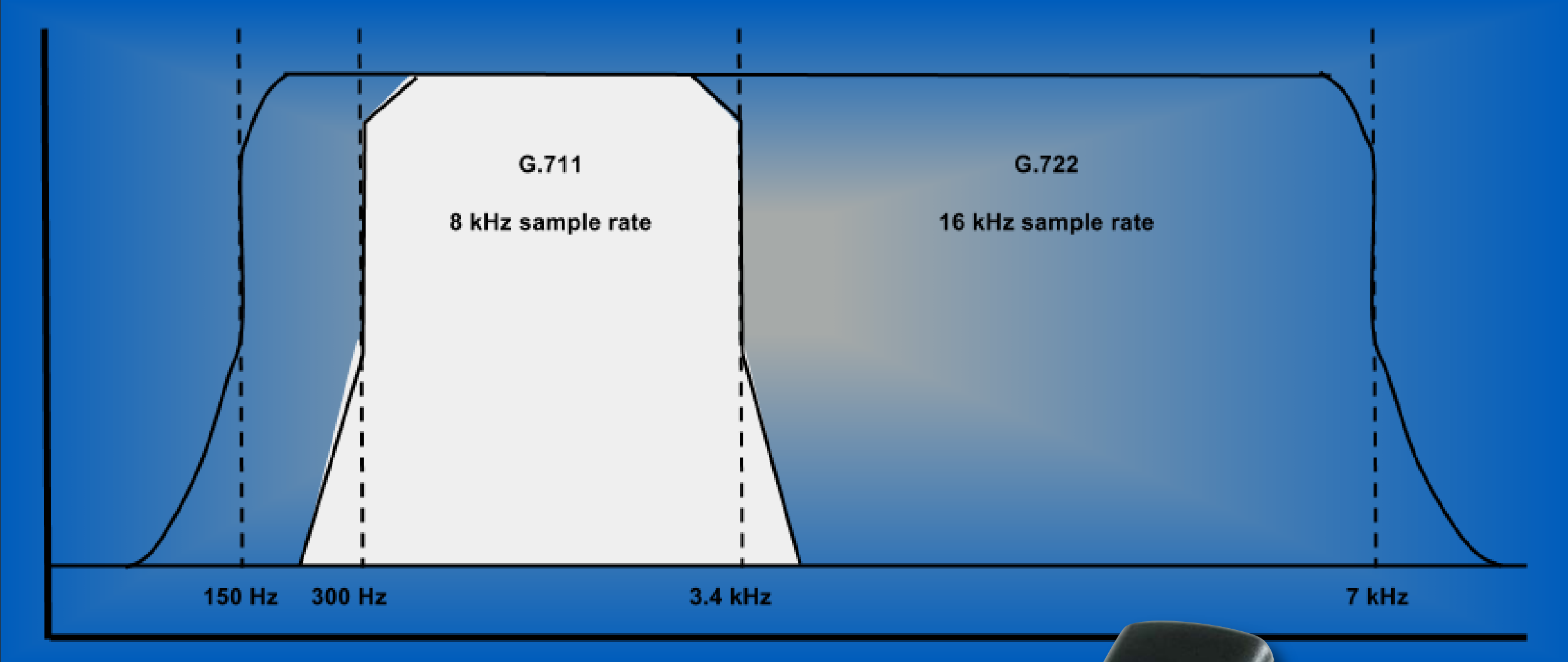


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POTS - G.711 300HZ - 3KHZ



G.722 - SAME BITRATE AS G.711



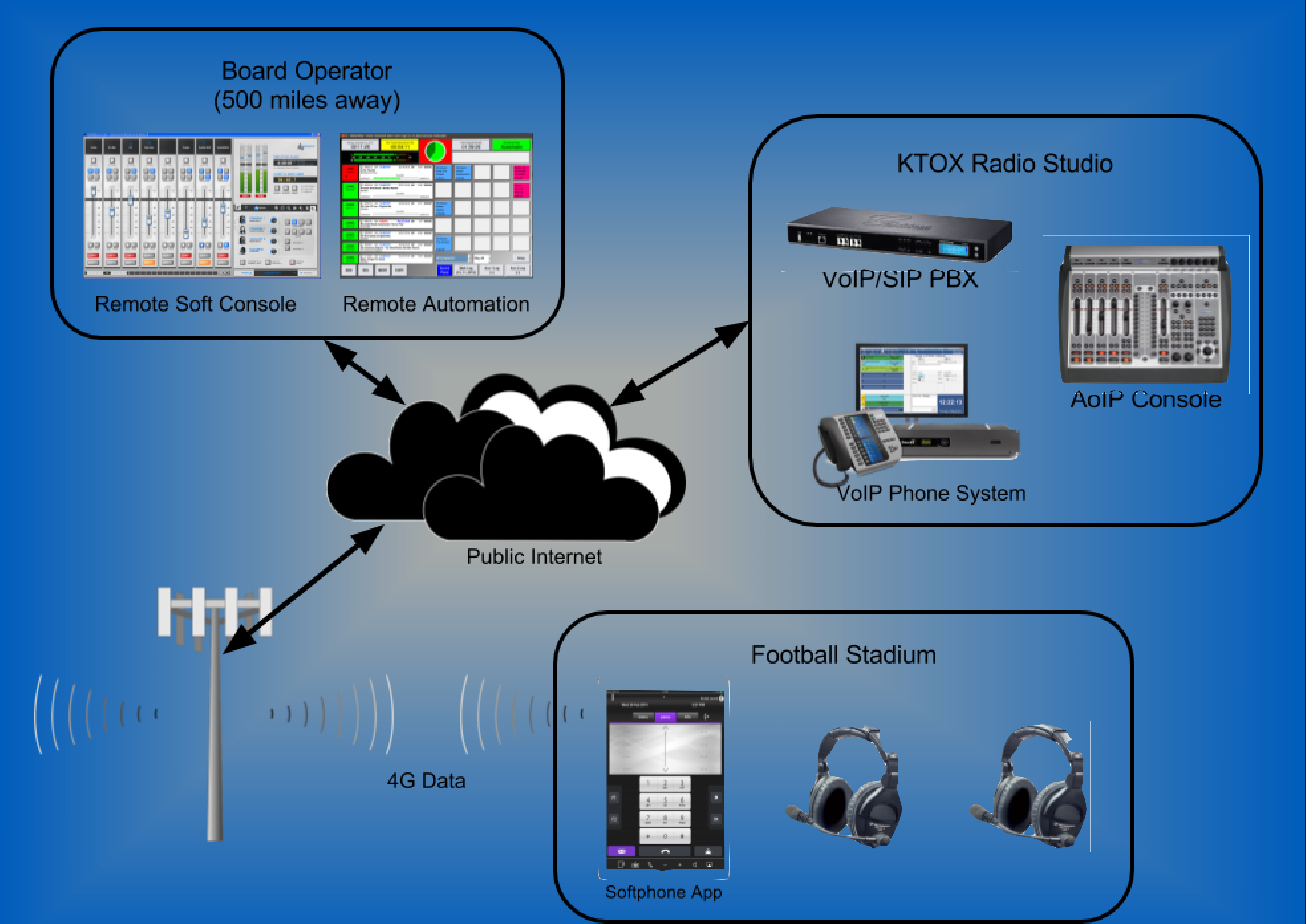
VOIP/SIP TELEPHONY - G.711 AND G.722

- ▶ Supports legacy G.711 PSTN codec
- ▶ Supports HD Voice with G.722 codec
 - ▶ G.722 is perfect for sports and other HD Voice-quality remote broadcasts
- ▶ Fully allowed by SIP
- ▶ Requires support from end point equipment

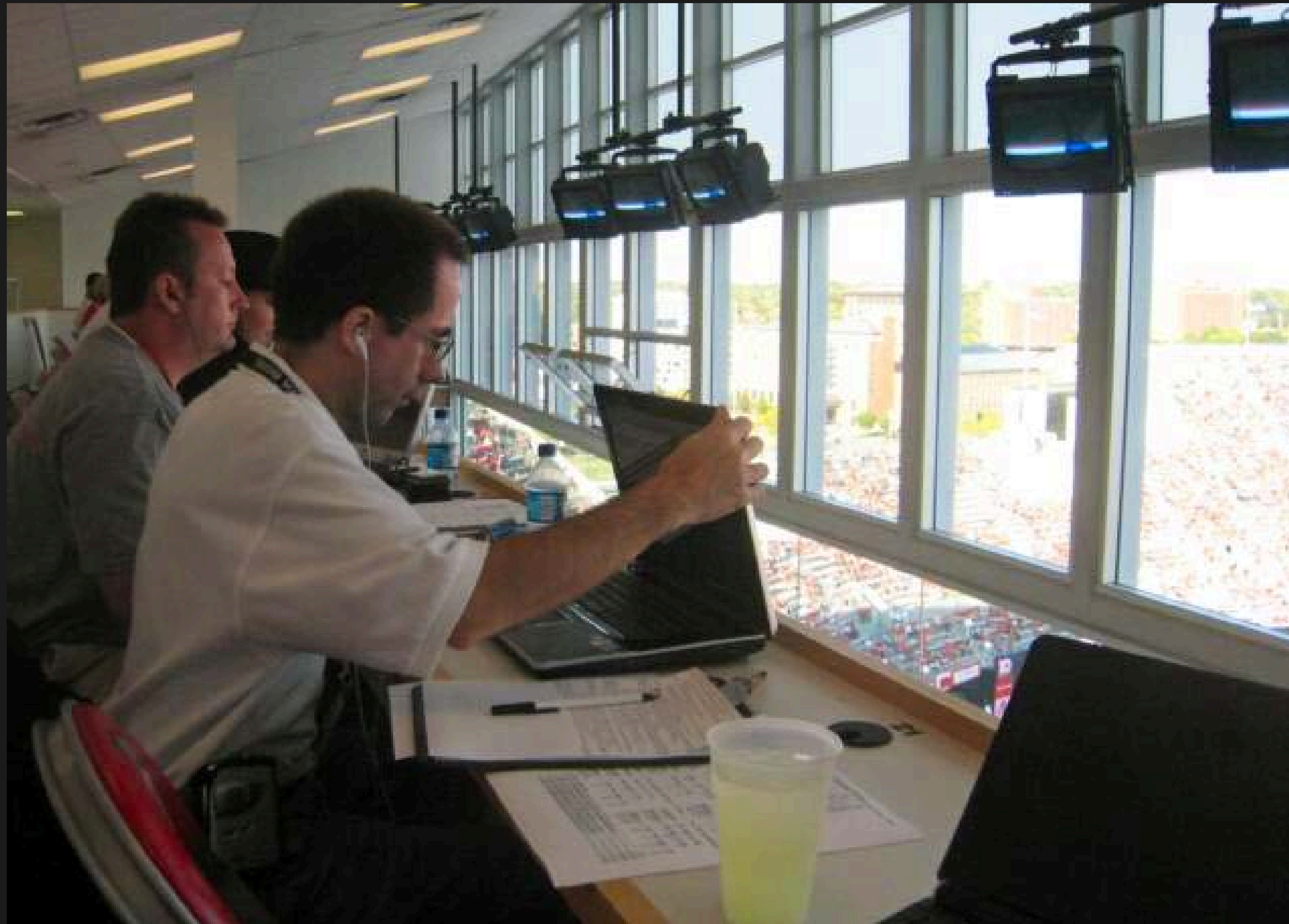


G.711 AND G.722

HD VOICE REMOTES & REMOTE BOARD OP



WIRED OR WIRELESS INTERNET AT THE GAME SITE



- ▶ Use wired Internet when available.
- ▶ WiFi OK - if not oversubscribed
- ▶ WiFi derived from 4G LTE can work well.
- ▶ Have 2 or 3 methods of Internet connection available.

REMOTE AUTOMATION AND BOARD OPERATION VIA IP



RUN THE GAME - FROM HUNDREDS OF MILES AWAY



Remote Control



Sports Venue



Main Studio Transmitter



Public Internet

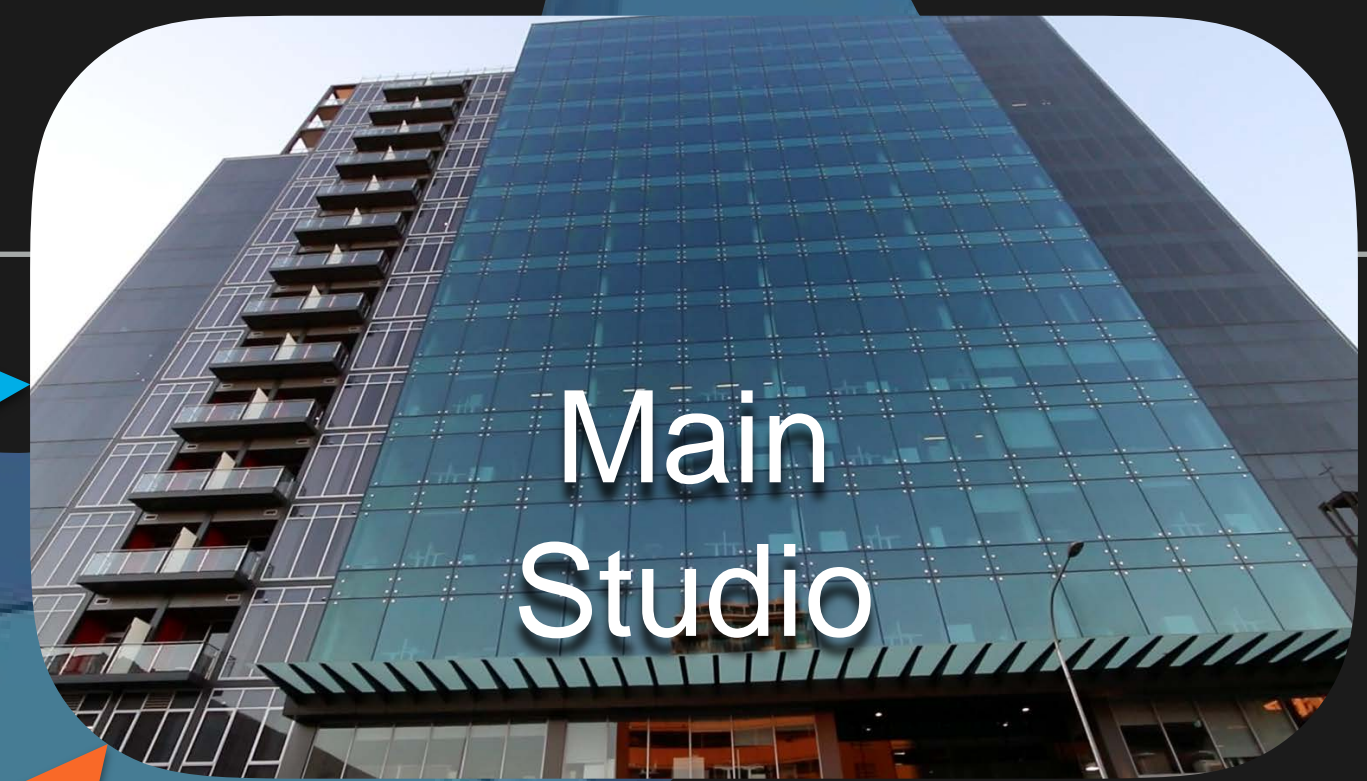
WOULDN'T EVERYONE LIKE TO WORK FROM HOME?

DREAM JOB? OLD TECH SAID "NO"



THE TELOS ALLIANCE®

WOULDN'T EVERYONE LIKE TO WORK FROM HOME?



Main Studio



On—Air Talent



Show Producer

WOULDN'T EVERYONE LIKE TO WORK FROM HOME?

PRODUCER STUDIO - ALABAMA



WOULDN'T EVERYONE LIKE TO WORK FROM HOME

MASTER CONTROL ROOM (MCR) AUDIO, TELEPHONE, AND IFB CONNECTIONS

- ▶ PGM to Producer
- ▶ IFB - MCR, Producer, Talent
- ▶ Offline multi-line phone connections
- ▶ Control of phones on-air
- ▶ Call Screener software

PRODUCER



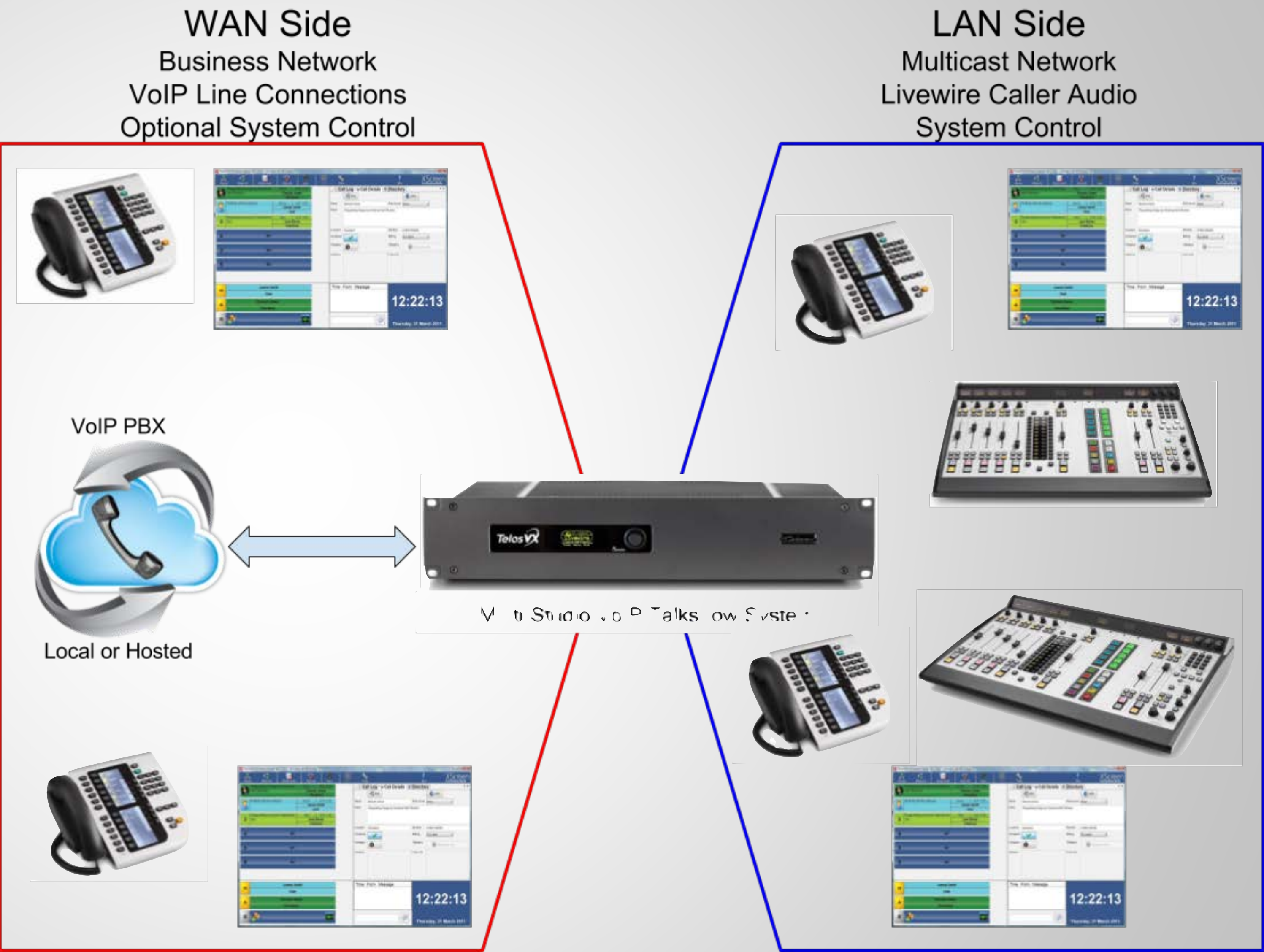
- ▶ Talent Voices to MCR
- ▶ Mix-Minus to Talent
- ▶ IFB - Producer & MCR
- ▶ Offline multi-line phone connections
- ▶ Control of phones on-air
- ▶ Call Screener software

TALENT

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WOULDN'T EVERYONE LIKE TO WORK FROM HOME

100% IP-
CONNECTED
SIP/VOIP TALKSHOW
SYSTEM



WOULDN'T EVERYONE LIKE TO WORK FROM HOME?

VPN
Tunnel



Fiber IP
Connection

WOULDN'T EVERYONE LIKE TO WORK FROM HOME

VPN Tunnel

Show Producer



WOULDN'T EVERYONE LIKE TO WORK FROM HOME

IP-CONNECTED FLEXIBILITY

- ▶ IP & ISDN distance connections are commonplace.
- ▶ First separation of talkshow system components to diverse work locations.
- ▶ VPN avoided NAT for equipment.
- ▶ All remote gear on same logical LAN



ALLIANCE®

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