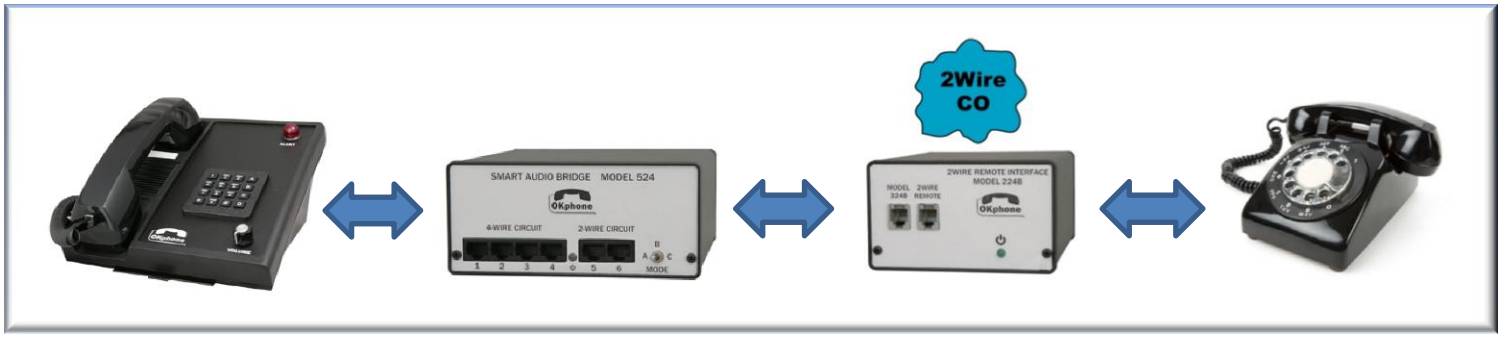


@ MODEL 524 SMART AUDIO BRIDGE

1. MODE SWITCH toggled from {A} TO {C} will connect the ***524*** to the 2W 224 REMOTE INTERFACE OR THE CO (Central Office). The 4Wire circuit doesn't hear any of the 2wire audio (DTMF signaling, dial tones, and busy signals.) until step 4.

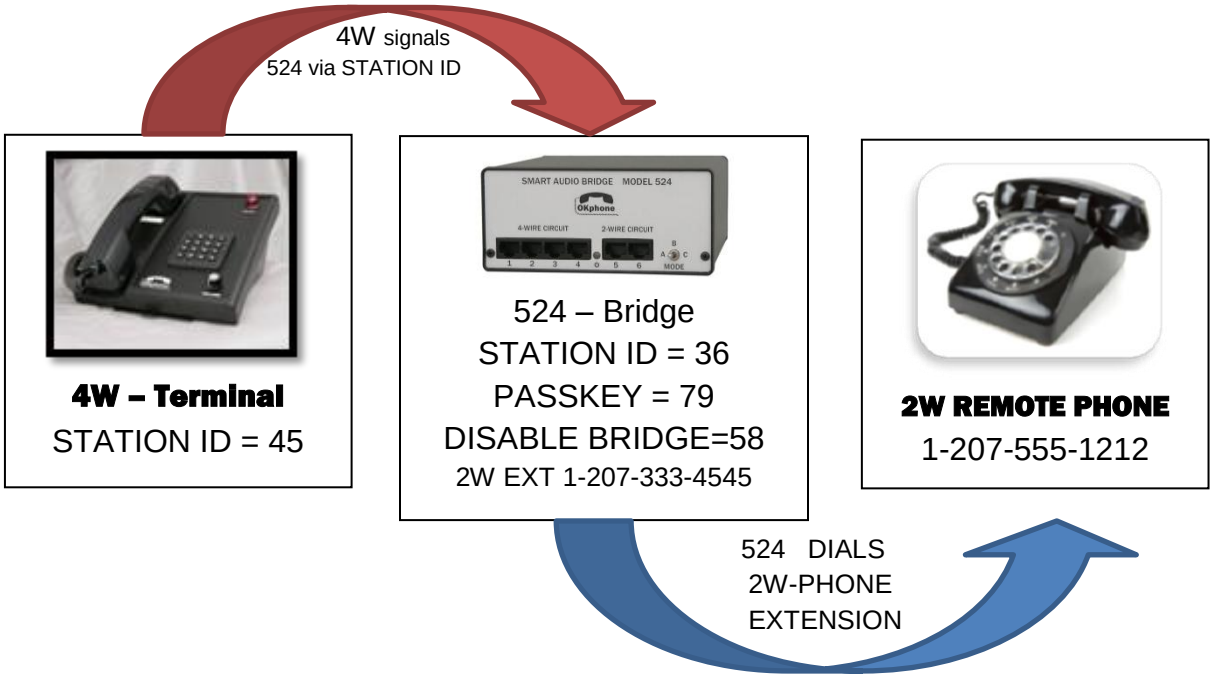
2. The ***524*** dials the stored telephone number saved in programing step (D# 15n #). If the line is busy or if the operator wishes to terminate the call, toggle the MODE switch back to {A}.

3. Once the 2W Remote Phone operator knows that the ***524*** is trying to connect, HE or SHE MUST enter the BRIDGE PASSKEY (reference programming step DB1xxxx) within 30 seconds or the ***524*** will automatically terminate the call. BRIDGE PASSKEY is set as "79" for the DEMO.

4. Once the 2W Remote Phone has "picked-up", entered the PASSKEY # "79", the ***524*** will change the front LED to GREEN, deliver a HI/LO confirmation tone to both the 2W circuit and the 4W circuit, signifying that a [2W-4W BRIDGE] condition is enabled.

5. Terminating the 2W connection is accomplished 6 ways.

   A. Toggle the MODE SWITCH back to {A}.
   B. **2W REMOTE PHONE** is "hung-up", by replacing the handset ON-HOOK, or the circuit is interrupted by the Central Office (CO).
   C. **2W REMOTE PHONE** issues a 2 digit DTMF 2nd ALERT #, Our Example "58"
   D. 4W Terminal issues a 2 digit SS4 command, Our Ex. "58".
   E. SERIAL program – "^" will perform warm boot.
   F. Removing the power cord from the ***524***.



@ *REMOTE 4W TERMINAL*

1. With ***524 BRIDGE*** in an "unmanned" location, the REMOTE 4W Terminal can signal the ***524*** by issuing a SS4 STATION ID (36) command.

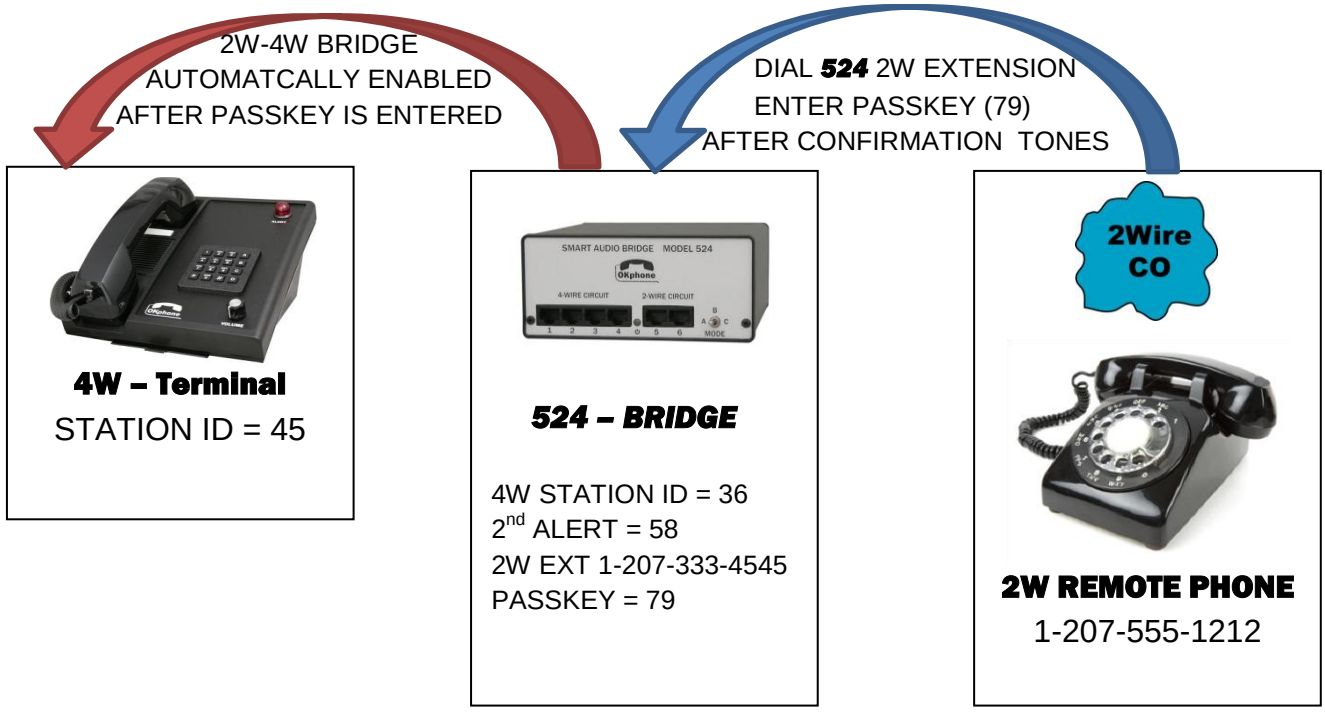
2. The ***524 BRIDGE*** acknowledges the STATION ID by sending back to the 4W circuit two 2 600Hz confirmation tones.

3. The ***524*** automatically draws line current on the 2W line and dials the stored number (ref. program step (D# 15n #)).

4. The ***524*** begins a 30 second timer that will ABORT the 2W connection attempt and return four confirmation tones if the 2W called party:
   A. fails to pickup the 2W REMOTE phone.
   B. picks up the 2W REMOTE phone, but fails to enter the required PASSKEY to shutdown the ABORT timer and enable the 2w<>4w audio paths. This PASSKEY is determined by two programming steps, [D0x where x = number of digits in the STATION ID command string (either 2,3,4), and DB1xxxx where xxxx is an unused ID on the 4W circuit. For our example 4W circuit, the number of digits in the STATION ID = 2, and the PASSKEY is set to (79).

5. Once the Passkey is entered, the ***524*** will issue a single (HI / LO) confirmation tone and ENABLE the [2W-4W BRIDGE], illuminating the LED to a GREEN color.

6. To terminate the [2W-4W BRIDGE], please reference Page 1, Section 5.



@ *REMOTE 2W PHONE*

1. Even if the ***524 BRIDGE*** is in an “unmanned” location, the REMOTE 2W PHONE can DIAL the ***524*** by calling the 2W exchange number assigned to the ***524*** (our example 1-207-333-4545).

2. The MODE SWITCH should be left in the {A} position.

3. The ***524 BRIDGE*** will answer the incoming RINGing after the assigned number of rings (reference programming step DC5x, where x=number of rings), issue two 600Hz confirmation tones, commence the 30 second timer, waiting to decode the xxxx digit PASSKEY sent by the REMOTE 2W phone (via DTMF).

4. The PASSKEY command string is entered by the 2W REMOTE PHONE, Our example “79”.

5. As in PAGE 2 Section 4, the ***524*** will ABORT the 2W connection attempt and return four confirmation tones if the 30 second timer elapses without a valid PASSKEY.

6. Once the Passkey is entered, the ***524*** will issue a single (HI / LO) confirmation tone and ENABLE the [2W-4W BRIDGE], illuminating the front LED to a GREEN color.

7. To terminate the [2W-4W BRIDGE], please reference Page 1, Section 5.

8. It is recommended that the 2W REMOTE PHONE be outfitted with a PTT type handset to prevent ambient noise from being transmitted to the 4W circuit.

524 USB CONNECTION with a PC

1. First step is to determine which COM port the ***524*** will be communicating over. Power down the ***524*** and do not connect the USB cable yet. Start the PC serial application program *TERA TERM*. Choose SETUP on the MENU bar, Choose the PORT drop down box to see which ports are available BEFORE connecting the USB cable. Write down the current ports. Press the CANCEL button and EXIT the *TERA TERM* program.

2. With the ***524*** still powered down, plug in the USB cable from the PC to the ***524*** and allow Windows to initialize the USB buss.

3. Re-Start the serial application program *TERA TERM*, choosing SETUP as in STEP 1. and click PORT to choose the new COMx port (this port wasn't included in step one) that will be used for communication between the ***524*** and the CPU.

4. Plug in the ***524*** and allow it to initialize, RED/GREEN leds will flash, with solid RED indicating the initialization is over.

5. Press the ESC key on the keyboard of the CPU and the message (…RESET) should be displayed.

6. The 3 DIGIT PASSKEY needs to be entered before any programming can commence.

7. Contact OKphone for initial PASSKEY, this is in the format (#xxx). In other words press the # key and follow with 3 digits. The programming Parameter sheet delivered with the DEMO equipment contains the default passkey.

8. Press "**DD**" to **D**isplay **D**ata.

9. Reference SAT/SAB Programming Parameters v1.60 for setup of ***Model 524***.

524 MISCELLANEOUS

1. The ***Model 524*** has 4 ports for 4wire connection, and 2 ports for 2wire connection.

   The DEMO unit has only 2 ports activated, Ports 1 & 2, Port 3&4 are disabled.

   Port 1 is designated as the Circuit port, and ports 2-4 are designated for Terminal use.

   PORT 1 <> PORT2 is connected at all times, except for a brief duration, when the ***524*** is attempting to connect to the 2Wire Remote Phone. All 4wire ports are disabled until the PASSKEY has been entered to establish the BRIDGED condition. If the PASSKEY is not entered before the 30 second timeout occurs, then the BRIDGE attempt is aborted and the 4wire ports are renabled.

2. The ***Model 524*** only recognizes DTMF signals for dialing. Pulse dialing hasn't been configured.

3. Terminals can be powered off the LINE cord connection, if a separate 12-24vdc power supply is connected to the green connector on the back panel of the ***524.*** The DEMO has not enabled this feature.

4. The PORT1 RX/TX adjustment pots are enabled on the back panel of the ***524***.

   Port 1 RX is expecting a -8dBm signal, so by adjusting the {left pot} RX potentiometer, one can effect a boost/cut condition for PORT2 TX and the 2W remote terminal. Present factory settings gives -8dBm at TX out for PORT2 as well as -8dBm out for **2WIRE REMOTE PHONE**.

   Port 1 TX is also set for -8dBm, so adjusting {right pot} this potentiometer will boost/cut the audio signal from the **2WIRE REMOTE PHONE** and PORT2 RX on the ***524***.

5. Once the [2W-4W BRIDGE] has been established, the **2WIRE REMOTE PHONE** can contact terminals connected in the 4wire network. The DTMF "touch tones" get converted to SS4 signaling tones (2.4/2.6KHz) by the ***524*** and broadcasted to the 4w circuit on PORTS 1,2,3,4.

   Remember that the number "1" is a reset. Always good to proceed any contact with a "1" which enhances that the phones on the 4wire circuit have been initialized properly before accepting the station command to follow. A successful station transmission and reception is followed in the handset receiver by hearing two confirmation tones {Okphone brand terminals}.

224 2WIRE REMOTE INTERFACE

1. The **MODEL 224 2WIRE REMOTE** Interface senses line current being seized by the ***524*** and doesn't require any DTMF dialing from the ***524*** before ringing the 2wire remote phone.

2. The **MODEL 224 2WIRE REMOTE** Interface should NOT be connected to the CO. It is meant to be used as an interface between the ***524*** and a 2wire phone or CONSOLE, since it provides DC battery bias, dial tone, and ringing.

3. Practical max length of connections should be 1000 FT.