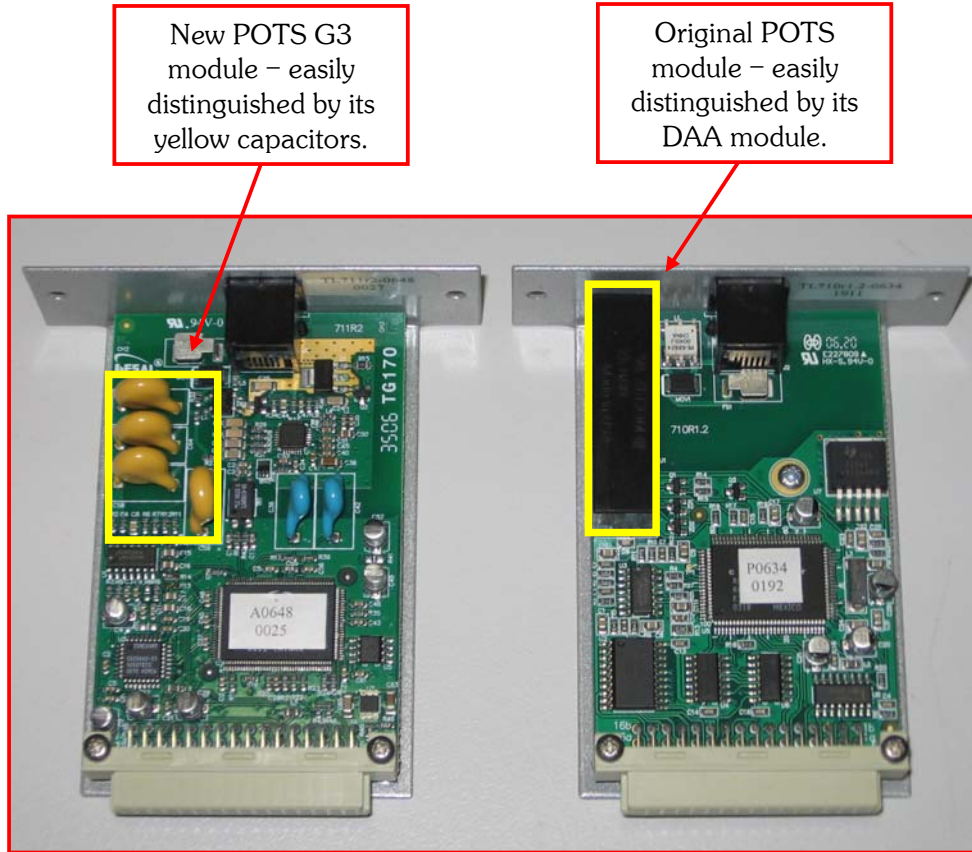# POTS versus new POTS G3 Modules

Tieline has a new POTS module called a POTS G3 module. The new module is distinguishable from the old one because the original DAA module has been removed – as displayed in the following image.

New POTS G3 module – easily distinguished by its yellow capacitors.

Original POTS module – easily distinguished by its DAA module.

The modules are also named 'POTS' and 'POTS G3' on the front of the module, to distinguish one module from the other. This is displayed in the following images.

Figure 1: Original POTS Module

Figure 2: New POTS G3 Module

Stability of Tieline POTS Modules

Both **Tieline** POTS modules create stable connections because they measure the amount of fluctuation in line quality before working out the optimal bit-rate setting to connect at. This provides very stable POTS connections.

Features of the POTS G3 Module

DAAs are required for codecs, and any other devices, that connect to POTS/PSTN networks. The new **Tieline** POTS G3 module contains a SmartDAA™ [1] (Smart Data Access Arrangement), which is different to the original **Tieline** POTS module DAA.

DAAs are line interfaces that isolate electronic devices from voltages on phone lines. The new SmartDAA is more tolerant of variations in line voltage. In addition, when you select the country that you are dialing from in your codec, the SmartDAA automatically adjusts for the line voltage present in each particular country.

Dialing from a POTS G3 Module to any other Module

The new POTS G3 module dials a little differently to the original POTS module. The dialing process explained in this section will occur when dialing from a POTS G3 module to a POTS module, or a new POTS G3 module.

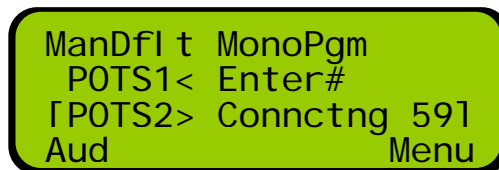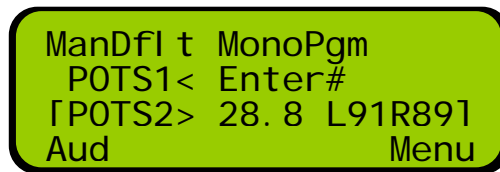When dialing is initiated from the codec the screen displays as shown in the following image.

Figure 3: New POTS G3 Module Connecting

The codec dials out and displays a countdown timer and the word 'Connecting' until a call has been established, and retraining and

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[1] SmartDAA is a trademark, patent pending, of Conexant Systems, Inc in the United States and/or other countries.
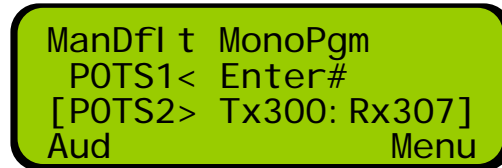
renegotiation has been completed. Once this process is completed the standard connection screen is displayed.

```
ManDflt MonoPgm
 POTS1< Enter#
[POTS2> 28.8 L91R89]
Aud            Menu
```

Figure 4: Standard POTS Connection Screen

This is a little different to dialing with the original **Tieline** POTS module. When dialing with this module the codec displays intermediate connection states such as answering, negotiating and stabilizing in real-time for each connection, as well as Rx and Tx numbers - as shown in the right-hand image.

```
ManDflt MonoPgm
 POTS1< Enter#
[POTS2> Tx300:Rx307]
Aud            Menu
```

When initially connecting, **Tieline** POTS G3 modules will by default initially attempt to establish a link at 28,800 bps. They will then renegotiate a link downwards to the highest possible bit rate if 28.8 kbps is not achievable.

Very Important Renegotiation Note:

After initially connecting, if you attempt to shift the connection bit-rate **upwards locally** with a POTS G3 module, the codec will '**retrain**' **upwards, not renegotiate** like the original POTS modules. Retraining takes significantly longer than renegotiation – up to 30 seconds.

Connection Tip:

If you are connecting a POTS module to a new POTS G3 module, use the POTS module in the local codec. This will allow you to renegotiate the connection upwards seamlessly if required, without the delay of retraining.

Dialing from a POTS Module to a POTS or POTS G3 Module

Tieline POTS modules initially attempt to establish a link at 19,200 bps. They will then renegotiate the link to the highest possible bit rate, either up or down.

The codec modem can also be set for Quick Negotiation in the main codec POTS menu, which will more quickly negotiate a connection at the codec bit rate setting within this menu.

Once the connection process has completed, the main connection screen will be displayed. The bit- rate of the connection and the Line Quality of both codecs will be displayed.

```
ManDflt MonoPgm
 POTS1< Enter#
⌈POTS2> 28.8 L91R89⌉
Aud          Menu
```

Troubleshooting

If audio levels are low once two codecs have connected, adjust audio input levels as per step 6 in the '10 Step Connection Guide'. If no audio is metering check that your Input Gains settings are correct, inputs are switched on, the input gain is turned up and that you are supplying power to microphones if required. The default phantom power setting is off. Phantom power of 15 volts is always switched on for the TLR300B analog microphone input.

To adjust input gain or phantom power settings on the remote codec during a broadcast it is necessary to use ToolBox software. For more information on ToolBox please see the sections in each codec's reference manual titled 'ToolBox Software Operation' and 'Configuration File System'.

Please Note:
1/ Quick Negotiation is not necessary on the NEW POTS G3 Module and has been removed from the POTS G3 Module menus.
2/ The Reneg (Fast) menu options: Auto and Up have also been removed from the POTS G3 Module menus.