

## GSM discontinuation in the United States

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We recently discontinued production on our North American (850/1900 MHz) GSM Matrix module and many of our customers have been surprised and wanted to know why. We at Comrex try to be ahead of the game, and let our customers know the way of changing trends in technology in terms of using our products. We expected this technology to last for a longer period of time, but due to the ever changing demands of wireless data transfer the required standards are being abandoned much more rapidly than we could have anticipated. Our GSM Matrix modules rely on CSD (Circuit Switched Data) service in order to work. Recently, the only two major carriers in the US who fit this criterion (Cingular and T-Mobile) have quickly been discontinuing the service without warning. We make our products to work within the standards of service providers and if they decide to change or discontinue a service that we rely on, there is unfortunately not a lot we can do about it.

We have looked into the status of different PCS (Personal Call Service), and other forms of data service carried by other networks such as CDMA and TDMA. GSM is the only form of digital PCS that has a stable data specification suitable for audio codec use. CSD allows data to be sent in the same order that it was encoded, making full duplex codecs possible. CSD is available on CDMA, but we found that the stability of the service varies greatly at best, and cannot be relied upon in order to make a broadcast-friendly connection. Most other cellular services do not operate in real time transfer, which makes a codec call impossible, so that leaves out the other options.

Recently, most wireless services have been moving towards 3G (3rd Generation) wireless technology over GSM and CDMA, which has promised rates of 384kbps to 2Mbps. This service uses internet protocols in order to make calls and is still subject to network congestion and problems that can arise from using an internet connection. It was clear to us that adding the internet to real-time audio links required a "from the ground up" approach. This is how we started work on our BRIC (Broadcast Reliable Internet Codec) with the ACCESS. BRIC uses very small data streams and is ideal for a remote broadcast where poor data rates could be of great concern. We believe that the future in wireless codecs will be with our new ACCESS Portable that will allow for use with Wi-Fi networks, as well as cellular wireless internet services such as 3G and satellite based connections.

At this point, we can no longer recommend using our GSM modules in the United States. With the spotty state of service and no clear information from service providers, the ability to offer reliability with GSM has gone down a slippery slope. Services in the US are still available, but not as readily as in the past and shrinking. It's just a matter of time before the whole service will be ended completely. We are still producing our international GSM module (900/1800 MHz) and have no plans of discontinuing it anytime soon. We're seeing international GSM providers continue to supply GSM CSD while introducing higher speed GSM services, but we don't expect CSD to be offered forever. New customers would be better served considering our ACCESS solution for 3G data.