



The WAVE

Welcome to the Wave!

That's right, the "Wave of the Future" is here now from Motorola. What is that wave? It's Motorola's families of short-haul microwave products. And to keep you informed about these state-of-the-art systems, Motorola will be publishing *The Wave*, our short-haul microwave newsletter every quarter. In *The Wave* you'll find interesting articles on different applications, upcoming trade shows, new product announcements, value added reseller profiles, and general news from the ever changing world of communications. All this to help keep you informed about one of the fastest growing communications segments ever, short-haul microwave.

So sit back, relax and read on. If you have any questions or suggestions for future newsletters, please call Jack Edgerton at (312) 576-0445.

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First/Last Mile A Breeze With Short-Haul Microwave

Recently, several progressive inter-exchange carriers have discovered that the sales cycle for their point-to-point digital services can be greatly reduced. How? They discovered that when they provide the first/last mile connection to their system, they add a tangible benefit to their service, and customers are more likely to choose them as a carrier.

In many cases, the end user orders leased T1 service from the local telephone company for connection to the network. But, whether the service provider is a fiber optic carrier or uses long haul microwave, the integration of 18 and 23GHz microwave for these first/last mile links makes a lot of sense.

Carrier/End User Benefits

- The often long lead time for leased T1 service and the high "installation" charges can turn a potential user off quickly. 18 and 23GHz links minimize lead time while keeping costs low.
- By purchasing short haul microwave links, the carrier can resell, lease, or rent the service as a part of their total system package. In either case, the carrier provides the customer with "one stop shopping" and can assume turn-key responsibility.

• With increasing needs for T3 service, laying fiber optic cable right up to the customer's doorstep used to be the only solution; now there's short-haul microwave.

• Short-haul microwave provides a fiber optic carrier with an easy, inexpensive, and (if need be) temporary means of testing new markets. A DS3 radio link can be "shot" off the main fiber loop into a new industrial park or a rapidly growing suburb to provide quick start, high quality service before the costly decision to lay cable is made. DS1 or DS2 links are then run off the DS3 "pop" to the customer premises.

• Service to the customer is typically improved because one organization has total control over the entire route. No more arguing about restoration priorities or finger pointing about where the "break" is.

Motorola has access to towers, rooftops, and other antenna sites in every major city in the U.S. through its network services department. These sites are available for rental to our carrier customers to utilize in providing the first/last mile connection to their subscribers. For further information on these applications, call Jim Screeden at (312) 576-2623.

Twinaxial Cable Replacement With Microwave?

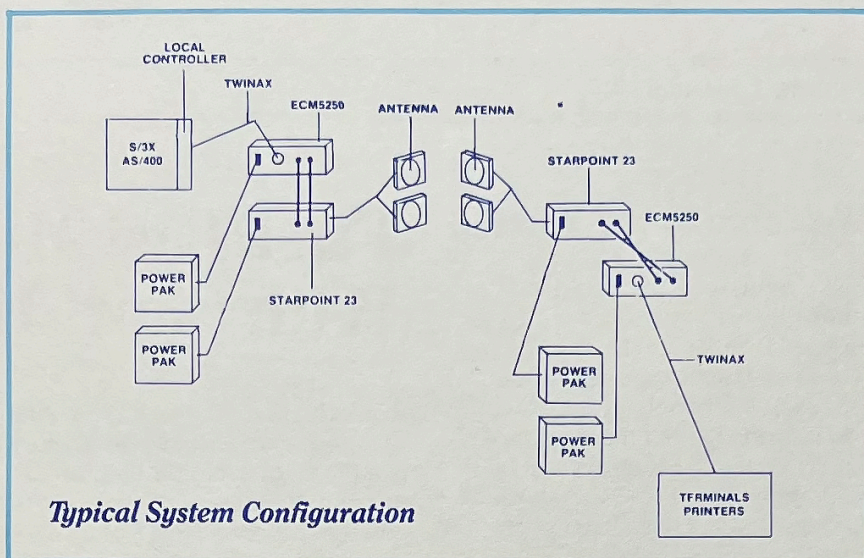
A unique application for short-haul microwave came up recently with the requirement to link an IBM System 36 with remote terminals and printers in an area where twinaxial cable could not be economically installed. The answer was an ECM5250 Twinax Converter from Ekris Cable Company, New Britain, CT, teamed up with Motorola's Starpoint 23 short-haul microwave radio.

The ECM5250 Converter is a direct link between a duplex microwave radio circuit and twinaxial host equipment such as the IBM System/34, System/36, System/38, and the AS/400 family. The maximum link will attach all twinaxial devices as though they were directly attached via local twinaxial lines. Such devices could be the IBM 51XX, 3196, 3198, as well as compatible terminals and printers.

This link acts as a full speed attachment for twinaxial devices to the host computer which can operate over a total distance of 5,000 feet. The host and terminal(s) see only twinaxial cables and do not realize the presence of the radio link. The method of configuring the terminal/prINTER network is exactly the same as before. The ECM5250 Converter is not identified to the network in any way.

Loss of power to the converter(s) or loss of signal path in the radio link will appear as a cable break. Re-powering or re-establishment of the link will allow operations to continue; however the sessions active at the point of loss will need to be re-established.

Motorola, through our network of authorized system integrators, provides a turn-key system to include all radio equipment, converters, frequency search, FCC license



application, and installation/optimization. A typical system will cost around \$18,000.

The next time you need to expand part of a twinaxial operation, to a building across the campus or down the street, think of the Twin-

axial Microwave Link for a reliable and cost effective transmission connection!

For more information on this or other data transmission solutions, call our Short-Haul Hotline: (312) 576-1960.

23 GHz LAN Extension Systems at Boston University, Princeton, Mass. General Hospital

Motorola's 23GHz microwave radios, configured for Ethernet LAN extension, are providing full 10 Mbps interconnection of computers throughout the campuses of Boston University, Princeton and Massachusetts General Hospital. The systems were designed (and sold) by Microwave Bypass (Systems) of Braintree, MA. (Microwave Bypass Systems is a "Part-ner in Technology" with Motorola for LAN Extension applications and is one of Motorola's leading VARs in terms of volume of short-haul 23GHz microwave radio sales).

As the systems are configured, the Motorola 23GHz microwave (link) sends data through the air over radio waves, instead of over fiber or T1

(land) lines. Using microwave, the end users avoided (costly and time consuming work of laying cable and resolving right of way issues). (Microwave provided transparent transmission of full bandwidth 10 Mbps Ethernet traffic and has proven itself as a highly reliable and efficient means of data transmission).

The growth in the local area network industry has been phenomenal in the last few years, and is expected to grow into the 1990's. The application above is just one of the solutions available using Motorola short-haul microwave products. For more information on LAN extension, contact Vince Gutowski at (602) 431-0130.