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## Electronic Message Centers (EMCs)

The U.S. Small Business Administration and the  
Signage Foundation For Communication Excellence, Inc.



## Signage for Your Business.

The U.S. Small Business Administration and the  
Signage Foundation For Communication Excellence, Inc.,  
have joined together to create this information for you, the  
business owner.

Effective signage is a critical component of your retail business'  
success, and can contribute to the success of all businesses.

In today's very competitive business environment,  
good on-premise signage is essential to helping achieve  
business vitality.

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50 YEARS OF SERVICE  
To  
AMERICA'S SMALL BUSINESS  
THE U.S. SMALL BUSINESS ADMINISTRATION, 1953-2003

***Since its founding on July 30, 1953, the U.S. Small Business Administration has delivered about 20 million loans, loan guarantees, contracts, counseling sessions and other forms of assistance to small businesses.***

### Mission

Maintain and strengthen the nation's economy by aiding, counseling, assisting and protecting the interests of small businesses and by helping families and businesses recover from national disasters

More Information About SBA  
and the content from this paper may be found on the  
United States Small Business Administrative Web Site.

[www.SBA.gov](http://www.SBA.gov)

<http://www.sba.gov/starting/signage/text/emc.html>

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## Electronic Message Centers (EMCs)

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### What are EMCs?

Electronic variable message centers are computerized programmable electronic visual communication devices. They are capable of storing and displaying multiple messages in dozens of formats and at varying intervals. Similar to reader boards, they allow their owners to change copy frequently, but without the cost of replacing missing or broken letters, and without the physical labor involved in changing copy.

### An Answer to the Challenge of Changing Demographics

The public - your existing and potential customers - is on the move, both literally and figuratively, and sometimes catching their attention is like hitting a moving target. Consider that approximately 18.6% of Americans move every year. Whether they move a short or long distance, they usually change their basic trade area. Add to that the fact that 15-35% of the traffic on a given street is "just passing through" (vacation travelers and such), and you can see the great potential for single stops by those unfamiliar with the area.

An electronic or variable message center offers a unique way to capture the attention of these passers-by. An EMC allows you to communicate more effectively with the typical person passing by at a particular time day by changing the message and graphic of your sign to match the profile on the street.

This kind of flexibility increases the readership of a message unit, as it can correspond to the traffic profile by the day of the week, the time of day, or the season. With the right software,

virtually any message can be created and displayed.

The demand by businesses for these electronic or variable message centers is increasing because these signs improve the economic viability of difficult commercial sites with limited space. Municipalities that wish to prevent urban sprawl or deterioration of urban land are passing enabling acts that require optimization of urban space, and thus are more willing to look at EMCs as a signage option for businesses.

### Features and Advantages of EMCs

- Unlimited number of message changes and variable controls result in lower labor cost and elimination of the physical liabilities often associated with copy changes on traditional reader boards.
- Variable messages as people pass by, allowing greater flexibility in communicating to the public.
- Flexibility means your business can advertise specials while also displaying public service information or other items of public interest.
- These signs can quickly "brand" your business site in the local community.
- Investment in your business and provide the best and most cost-effective forms of paid advertising. The only form of advertising that may be more powerful is word of mouth (although it can be neither purchased nor controlled).
- Effectiveness of an EMC not limited by space or surface area constraints as with a reader-board.
- EMCs act as your "salesman on the street," attracting new customers to your business location.
- Allows you to market your products and services to your immediate trade area and prevent wasteful advertising expenses.
- Business owners can change the message as needed to provide information to specific retail customers, and can be used for political, social or community events.
- Software is available that enables business owners to display sophisticated logos or images on the EMC precisely as planned.

In summary... Although they may require a greater initial investment, electronic message centers offer many different advantages for the business owner to consider.

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### Frequently Asked Questions

#### *How are message centers used?*

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Message centers are used by businesses that want the flexibility to control their own graphics and message unit and be able to change their communication to meet their needs and the needs of their customers.

- Large Corporations - have used such devices for years, in forums ranging from sports stadiums to Times Square. They like the ability to advertise their products in a dynamic format in which they can change their messages frequently and easily.
- State Highway Departments have also realized the value of electronic message centers, and are increasingly using them to inform and direct traffic in large metropolitan areas, thereby easing traffic congestion and increasing traffic safety. Large-scale urban studies are currently being done to expand message center use in this area, with other "intelligent" components, to create integrated intelligent transportation systems. Under the Manual on Uniform Traffic Control Devices (MUTCD), they are used for regulatory, warning, and guidance purposes related to traffic control.
- Local Banks have for years used the familiar time and temperature units.
- Small Businesses are quickly realizing the advertising power of these dynamic visual communications devices as most people in a community look at the signs frequently. Although EMCs have been quite expensive in the past, often costing around \$30,000 or more for a small, simple unit, recent technological breakthroughs have drastically reduced production and operating costs, bringing them within an affordable range.
- Entertainment establishments, restaurants, casinos, and theme parks use EMCs extensively to create a district or zone effect.

#### *We have a sign; why does my business need a message center?*

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Consider for a moment the speed at which traffic passes by the average business. A motorist has only a few seconds to see and comprehend any given sign. For example, on a street with traffic passing at 45 miles per hour, a car that is 500 feet in front of a given sign will have only 7.6 seconds to read the sign before it passes, under normal driving conditions. A business' sign must be conspicuous if it is to catch the attention of passing motorists within the limited amount of time available.

Motorists often spot electronic message centers quickly because the copy changes, the letters are illuminated, and the signs have traditionally been used as public service devices. Additionally, electronic message centers may have greater visibility from further distances, especially in poor lighting conditions, giving the motorist additional time to read the message

displayed while safely maneuvering his or her vehicle.

Message Centers act as a consolidating type of advertising. In other words, they offer businesses a way of posting a variety of information in one place rather than relying on numerous signs and banners displayed in windows, for example. This can be a real advantage for a business located in a district with strict rules about temporary signs.

Most importantly, the electronic message center almost always increases a business's share of revenue. This is a result of the "branding" of the site through the use of specific logos, reinforcement of other advertising messages, allowing for public service notices, generating exact impulse stops, and helping to change customers' buying habits once they have stopped.

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### Frequently Asked Questions

#### *How will an electronic message display work best for my business?*

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The growth in number of media options in recent years is good news for businesses because of the variety available to meet individual business communication needs. However, each new advertising option draws its audience away from

other existing audiences. This is not true with EMCs. The display's audience is determined by the sign's message, its location, and the number of vehicles that pass it each day, and its audience continually grows.

The electronic message display rapidly becomes a landmark in a business's local community, because it offers a valuable public service to the entire community by displaying:

- Public service information
- Civic events
- Personal and holiday greetings
- Current time and temperature
- Specific advertising messages

Passing viewers often look forward to reading clever new messages, and may even come to rely upon the message service in some settings. But most importantly to the business owner, the passing viewers will remember:

- What the business is, and
- Where the business is located.

#### *Is an electronic message center a cost-effective advertising medium?*

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Yes. Businesses often select their advertising medium, and messages, based upon the cost per thousand exposures of their message to the public. ON this basis, no other form of advertising comes close to matching the efficiency and cost-effectiveness, dollar for dollar, of an electronic message display. Compare the figures below:

- Newspaper advertising - the cost on average is about \$7.39 for 1000 exposures within a 10-mile radius of the business location.
- Television advertising - The cost on average is approximately \$6.26 per 1000 exposures.
- Radio advertising - The cost is about \$5.47 per 1000 exposures.
- New LED electronic message center display - The cost is less than \$0.15 per 1000 exposures. How? Assume, for example, that you spend \$30,000.00 on this type of system, and that its useful life is about ten years. The amortized daily cost of the message center would equal about \$2.74. Add to this the daily cost of electricity for this new LED unit (approximately \$0.20), thus giving your business a daily message center expense total of \$8.82. With a daily traffic count of 20,000 vehicles passing your business, you would have a cost of less than \$0.45 per thousand exposures (counting drivers only)!

Best of all, with an electronic message center, a business does not have to worry about missing its target audience, becoming "yesterday's news," or facing expensive production costs for changing its message, as happens frequently with the other forms of advertising mentioned.

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### Frequently Asked Questions

#### *What level of return on investment can I expect?*

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For businesses that choose to enhance their signage with an electronic message display, the owners typically see an increase in business of 15% to 150%. Using the smaller number, consider the following example.

A small business generating \$1,000.00 a day in revenue adds an electronic message center. The business soon increases by 15%, adding another \$150 per day in total revenue. That translates into an additional \$1,050.00 a week in revenue, or \$54,600.00 per year. It has been said that in retailing, "the last dollars are the best dollars," meaning that each additional customer adds a greater marginal percentage to the business's bottom line profit. In the foregoing example, we can only speculate upon the actual

impact upon profit, but assuming that the business was at or above its "break-even" point before adding the electronic message center, the addition of \$54,600.00 per year in revenue would clearly add to the business's profit.

Keep in mind that with this example, the investment in the electronic message center unit would likely be about one-third of the additional revenue generated in the first year of its operation alone

#### *How much can I expect to spend on an electronic message center?*

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Before you wonder how much a business will spend on an electronic message center, first determine how much will be spent overall on marketing and advertising. It is not uncommon for a business that is already using a variety of media advertising without an electronic message center to divert some of those advertising dollars to an investment in one of these displays, greatly increasing exposure, business volume and customer acquisition - all without spending any additional revenue.

Technological breakthroughs have reduced the costs of producing these communications devices and have considerably reduced the previous level of expense for operating message centers. New technology is available that allows message centers to:

- operate 24 hours a day continuously for many years with minimal bulb or LED replacement; and
- consume electricity at a daily cost of as little as \$0.20 for a small LED display, or approximately \$74.00 per year.

Best of all, these new message centers can be purchased for much less than their predecessors. Even small and medium-sized companies are finding an investment in a changeable electronic sign is worthwhile. Technological advancements are occurring so

rapidly that a greater variety of these signs is within financial reach, offering the small business a tremendous on-site advertising tool that ties the advertised product directly to the location where it can be purchased.

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### Frequently Asked Questions

*What about safety? Aren't EMCs a distraction for drivers?*

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Over the last few decades, discussion pertaining to signage has centered on four fronts:

1. Maintaining the economic vitality of commercial districts through signage
2. the First Amendment (see this SBA site's "[Legal Considerations](#)" and the "[Legal Resources](#)" in the Glossary/Resources tab for in-depth detail about legal rights, protections and more)
3. community aesthetics; and
4. traffic safety.

Some might argue that signs cause traffic accidents by distracting the driver of a vehicle. However, this has never been proven to be the case with a well-designed sign. A well-designed sign has a brief, easy-to-read message, in lettering large enough to be easily seen and read by a driver. Further, the sign is illuminated to assist in its visibility and legibility. The sign is of a sufficient size and height that it is easily seen, as well as placed in a location where a driver would naturally look.

If anything, well-designed and placed signage can increase safety. As quoted in the article, "Traffic and On-Premise Sign Regulation"\* which speaks to this issue of safety in detail, "To facilitate safe movement and meet information

needs, roadside signs, both commercial and noncommercial, must provide drivers with clear messages that are visible under all environmental conditions." The article continues with, "Signs that do not optimally communicate ... can create driver frustration or disorientation." And finally, "These driver behaviors many times cause accidents - accidents which might have been avoided had the pertinent sign been visible and readable in sufficient time for the viewer/driver to process its message and safely respond."

Electronic message centers - like other types of signage - when properly designed, placed, maintained, and illuminated can actually promote greater traffic safety.

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### ***Electronic Message Centers: Safe and Legal***

The federal government recognizes the superior communication value of EMCs and uses electronic information panels on many freeways to warn drivers of possible hazards. Its use of portable electronic warning signs at construction or accident sites is also increasing.

The sophisticated hardware that is now available makes maximum readability possible for the driver. Airports and highway departments are developing expertise in positioning and sizing of these signs to enable the driver to read, react and move through traffic with optimum safety.

Electronic message centers are not a distraction to drivers; it is quite the contrary. Their exceptional readability and conspicuity means that EMCs actually increase driver safety. The federal government and other reviewers, after conducting numerous studies, analyzing court cases, and reviewing the available literature, have concluded that signs and electronic message centers, if used properly, are traffic safety enhancement devices.

The 1958 Federal-Aid Highway Act established federal controls for signs illuminated by flashing, moving or intermittent light. The Federal-Aid Highway 1965 Act did not contain any reference to lighting controls. However, Federal/State agreements were entered into with all States referencing lighting restrictions on signs in commercial or industrial areas, based on customary usage.

In 1978, the Surface Transportation Assistance Act amended the highway beautification law to allow on-premise electronic message centers along the Interstate and Federal Aid Primary road systems, subject to individual state law, so long as those signs do not contain flashing, intermittent, or moving lights. Variable message signs, whose content can be changed or altered on a fixed display surface, are recognized by the federal government as different from the regulated animated signage, which mimic movement or have high-intensity flashing lights in order to grab the viewer's attention.

In a 1980 study commissioned by the Federal Highway Administration, researchers Ross Netherton and Jerry Wachtel set out to prove electronic variable message signs were unsafe. They concluded, however, that no credible statistical evidence existed to support the conclusion that electronic or variable message centers negatively impacted road safety. Their report also said that roadside signs provided a stimulus that helped maintain driver alertness, and increased safety by combating "highway hypnosis."

Several states have conducted studies on the safety of roadside signs, including EMCs, and none have found an increase in traffic accidents - and in some cases found a significant decrease in accidents - related to the signs. Furthermore, nine leading insurance companies were surveyed, and all indicated that they had never received an accident claim involving an advertising sign.

Richard Schwab, former Federal Highway Administration program manager for research on highway visibility and night driving safety and Fellow of the Illuminating Engineering Society of North America, conducted an extensive study that concluded EMCs could not be linked to traffic accidents or any reduction in traffic safety.

In 1996, the Kentucky Supreme Court struck down a state statute that prohibited signs near highways if they contained or included "flashing, moving or intermittent lights except those displaying time, date, temperature or weather." "The court said the state had failed to demonstrate that a legitimate government interest was advanced by the prohibition, and said no evidence supported the notion that so limiting the content on the display had "anything to do with highway safety or aesthetics."

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### Electronic Message Centers: Safe and Legal

It is a testament to the safety of EMCs that, since 1979, the Federal Highway Administration has not seen any need to revise its recognition of the legality of on-premise commercial variable electronic message signage, provided that:

1. the displays are changed at reasonable intervals,
2. the signage does not violate the compliance agreement's definition of flashing lights, and
3. a state has accepted local controls in lieu of state controls and such signs are considered to have been in customary use within the locality, or a state court has determined that such signs do not constitute flashing, intermittent or moving lights.

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### Notes

A series of ten horizontal dotted lines provided for taking notes.